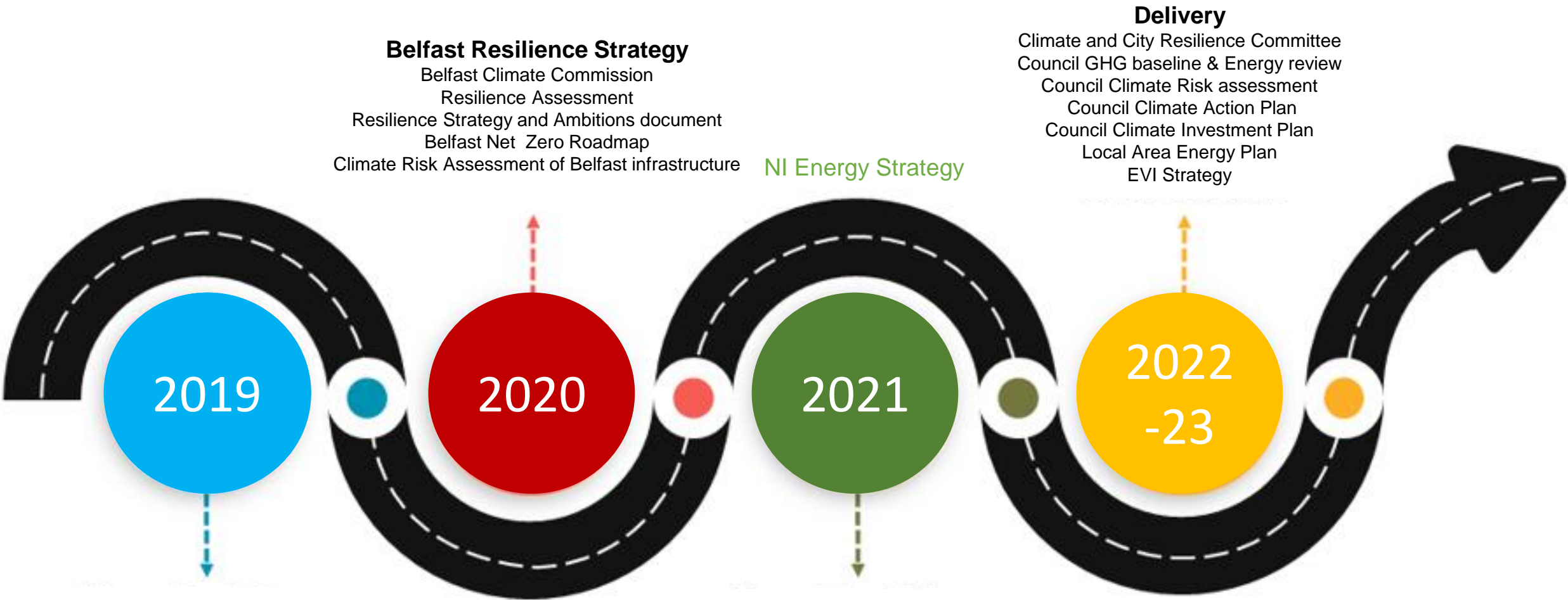




Supporting the transition to an inclusive, net zero-emissions, climate- resilient economy in Belfast

Debbie Caldwell, Climate Commissioner, Belfast City Council



Belfast Resilience Strategy

- Belfast Climate Commission
- Resilience Assessment
- Resilience Strategy and Ambitions document
- Belfast Net Zero Roadmap
- Climate Risk Assessment of Belfast infrastructure

NI Energy Strategy

Delivery

- Climate and City Resilience Committee
- Council GHG baseline & Energy review
- Council Climate Risk assessment
- Council Climate Action Plan
- Council Climate Investment Plan
- Local Area Energy Plan
- EVI Strategy

2019

2020

2021

2022
-23

Belfast declared a climate emergency

Resilience and Sustainability Board

COP26

- Living With Water in Belfast
- Carbon Disclosure Project, RTZ and RTR
- Established a £1m Climate Fund
- Sustainable Tourism Index

**NI Climate Change Act
Green Growth Strategy**

Belfast's Net Zero journey

An architectural rendering of a modern, multi-story residential or commercial building complex. The buildings feature large glass windows and balconies. The courtyard is lush with greenery, including trees, shrubs, and a large vegetable garden in the foreground. People are shown walking, gardening, and sitting on balconies, creating a vibrant, community-oriented atmosphere. The sky is blue with light clouds.

Keep it positive

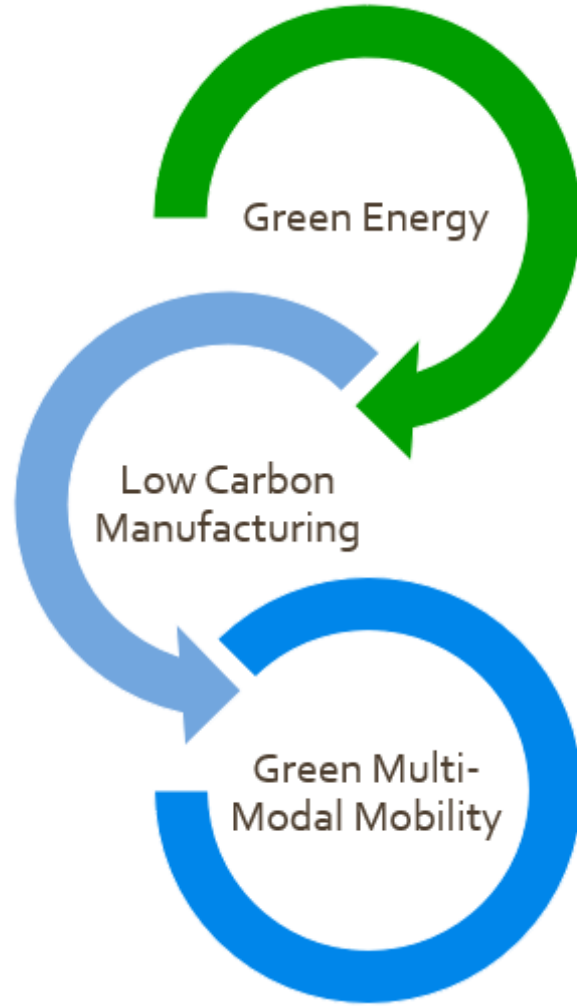
Focus in on the opportunities

And on unlocking the economic, social and environmental benefits

Create a value proposition for Belfast as a green city

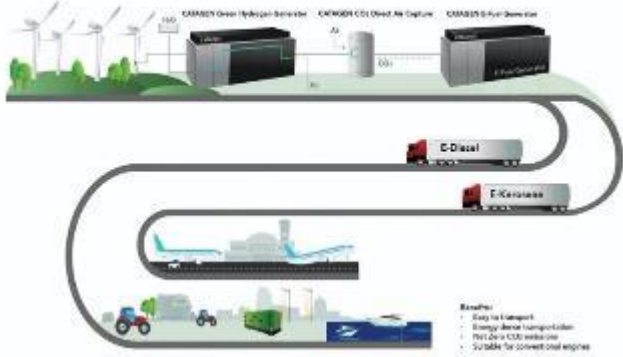


**INNOVATING
TO NET ZERO**



CATAGEN E-Fuel
Energy Vector

CATAGEN



Keeping the issue at the top of the agenda

Developing the evidence base
Measuring and disclosing progress



Measuring, monitoring and reporting



1.5C

The level of rise where we trigger dangerous climate change

14m

Tonnes. Belfast's share of the global carbon budget 2020-50

1.5m

Tonnes of carbon per year emitted by Belfast

2030

The year we will have used up our carbon budget

42%

Decline in Belfast's emissions since 2000

66% by 2025

80% by 2030

100% by 2050

Belfast - the road to

NET ZERO

18%

13%



39%

50%



20%

19%

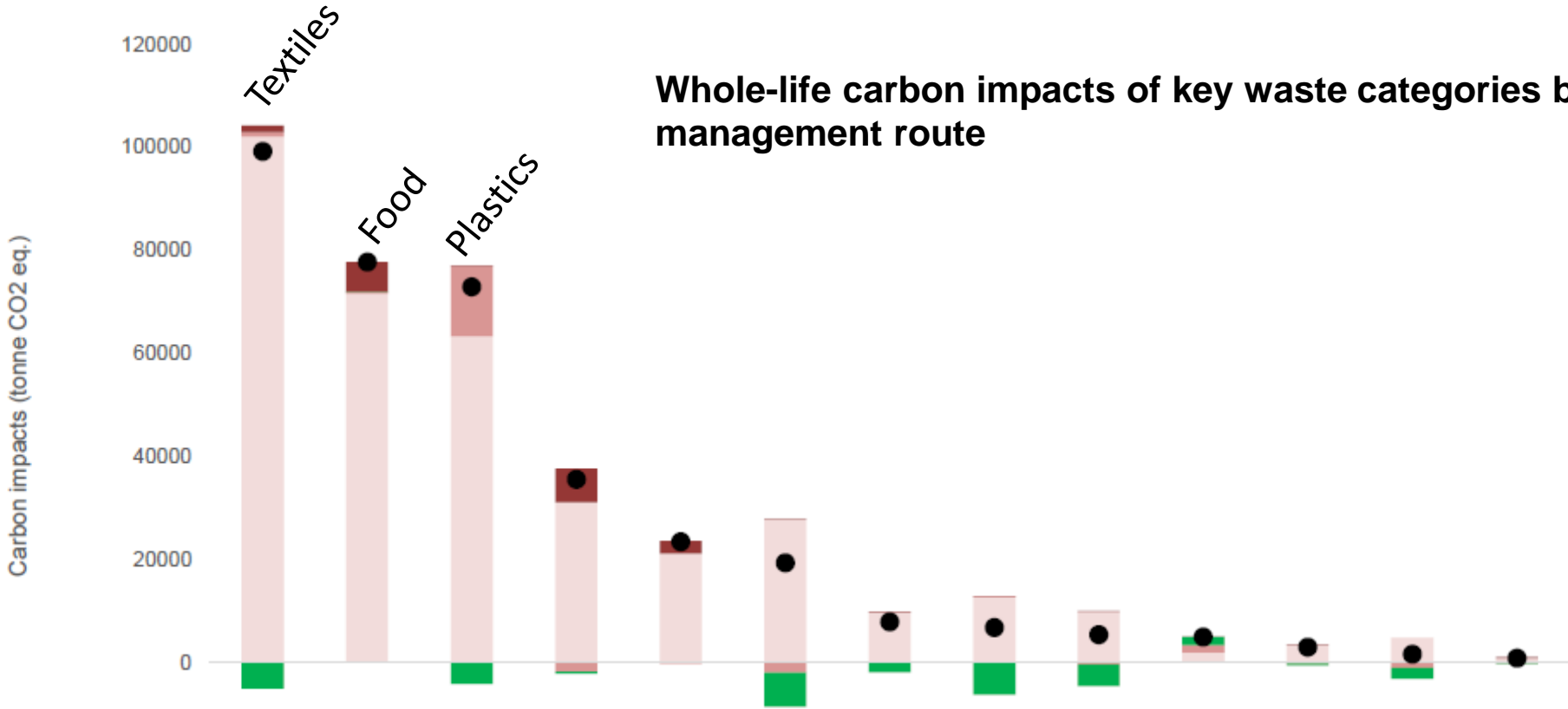


24%

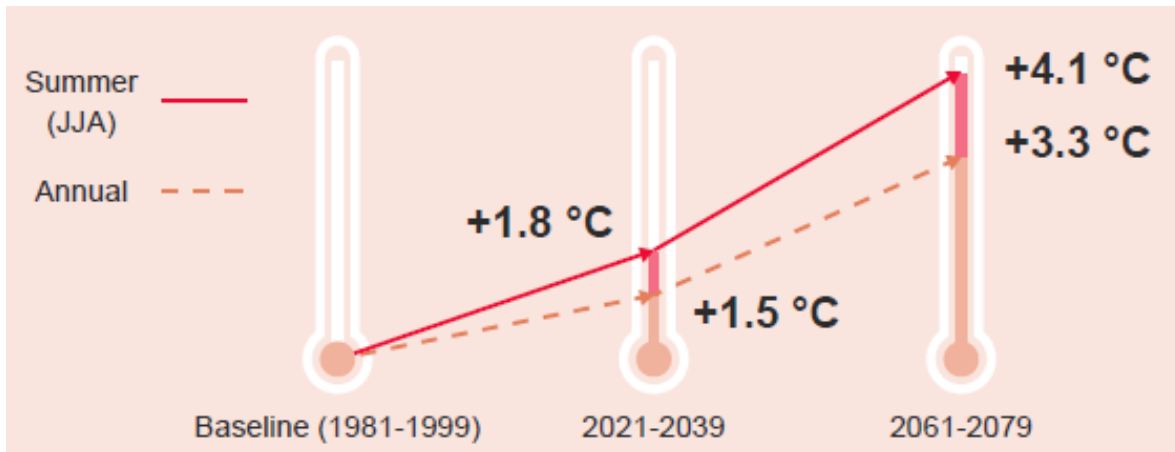
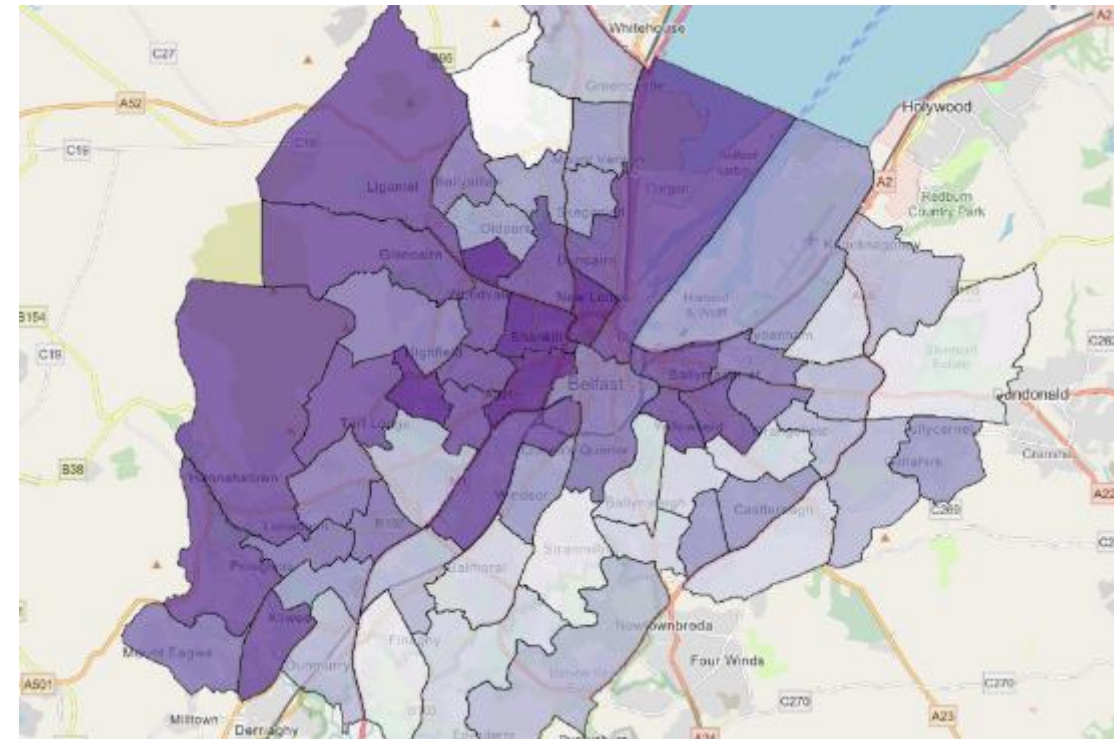
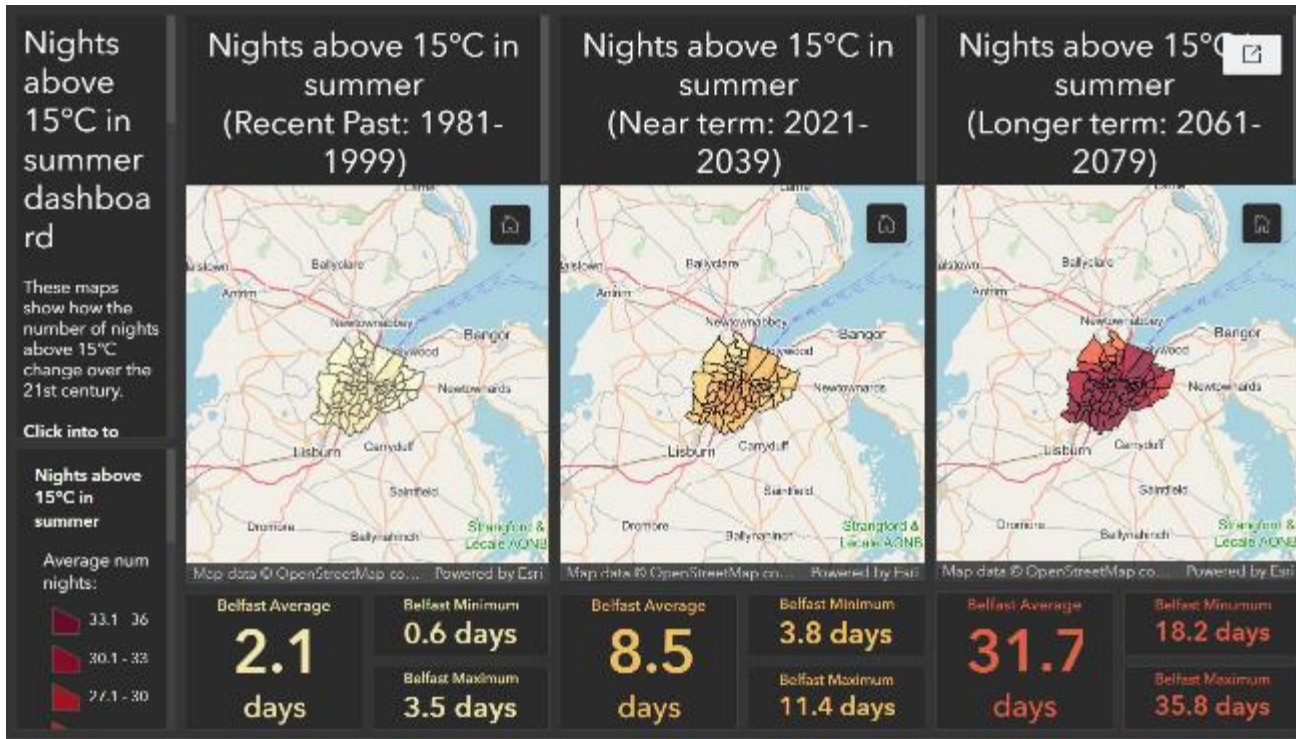
18%



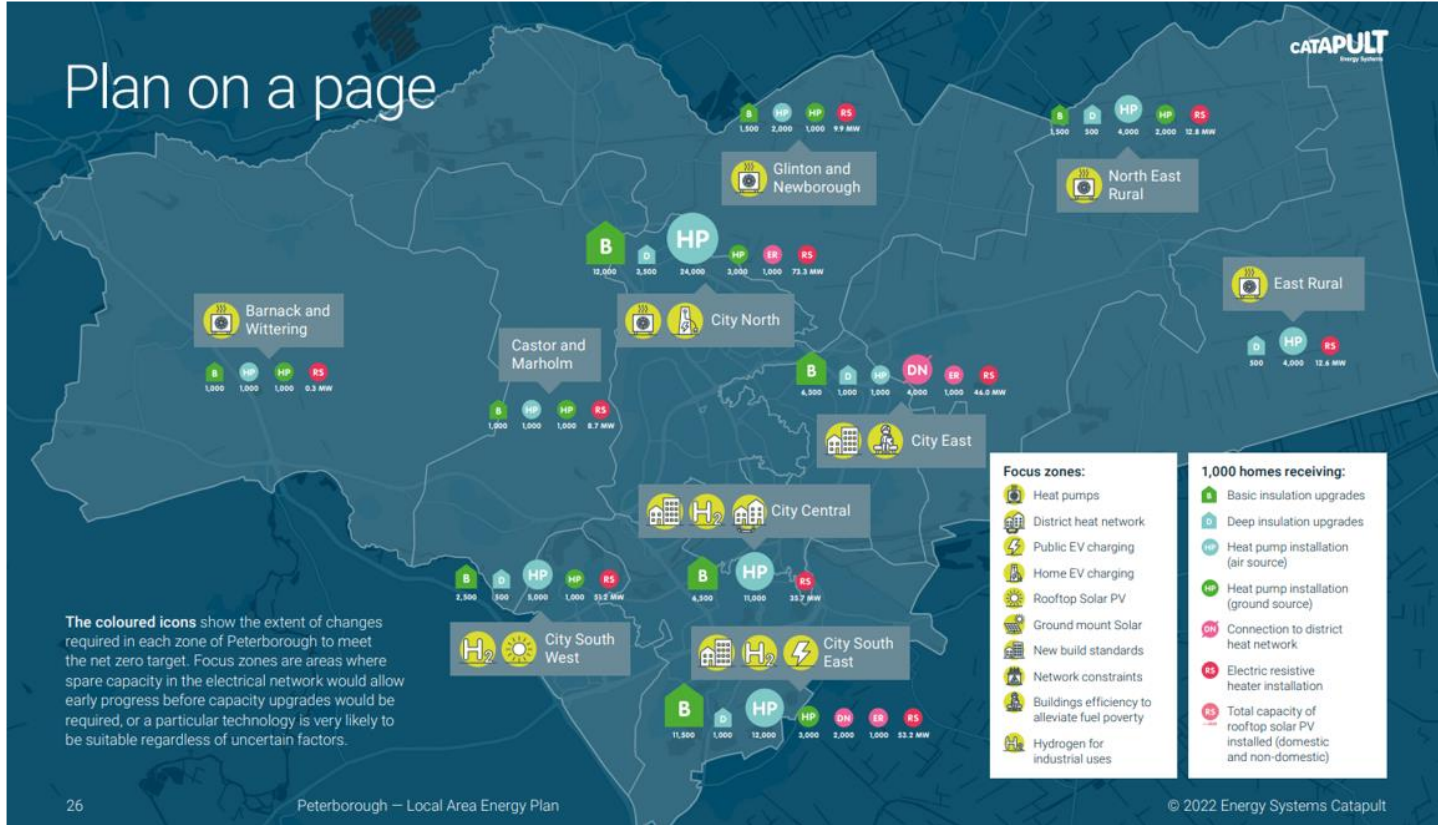
Whole-life carbon impacts of key waste categories by management route



	Textile wastes	Food waste	Plastic wastes	Paper and cardboard wastes	Health care and biological wastes	Non-ferrous wastes	Discarded electronic equipment	Glass wastes	Ferrous wastes	Chemical wastes	Mixed ferrous and non-ferrous wastes	Wood wastes	Household and similar wastes
■ Landfilled (tCO2e)	1292	5747	96	6540	2504	17	20	52	9	69	5	0	90
■ Recycled (tCO2e)	-5026	64	-4101	-354	0	-6579	-1779	-6139	-4137	1518	-296	-2082	-136
■ Incineration (tCO2e)	850	253	13608	-1729	-143	-1934	30	169	-357	1445	-192	-1035	-11
■ Generated (tCO2e)	102092	71645	63349	31138	21157	27914	9715	12753	9932	2002	3541	4804	993
● Total (tCO2e)	99208	77709	72952	35595	23517	19419	7985	6835	5448	5035	3059	1687	936



Heat maps for Belfast



Hydrogen opportunity area



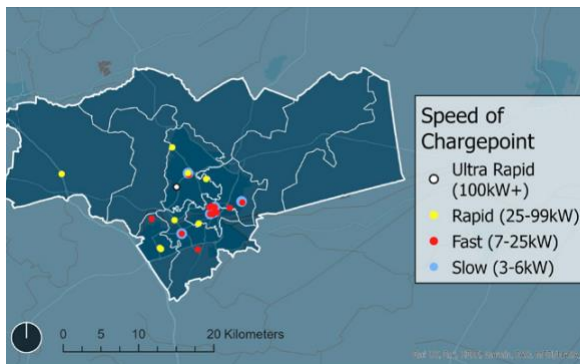
Domestic rooftop PV focus zone



Domestic heat pump focus zone



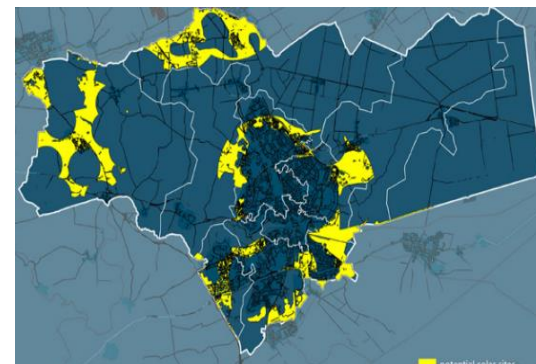
Heat network focus zone



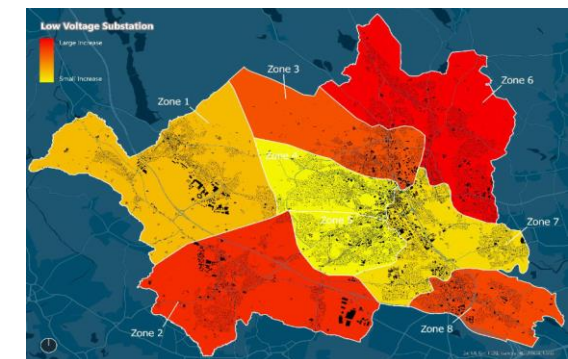
Public EV charging hubs



Fabric retrofit focus zone



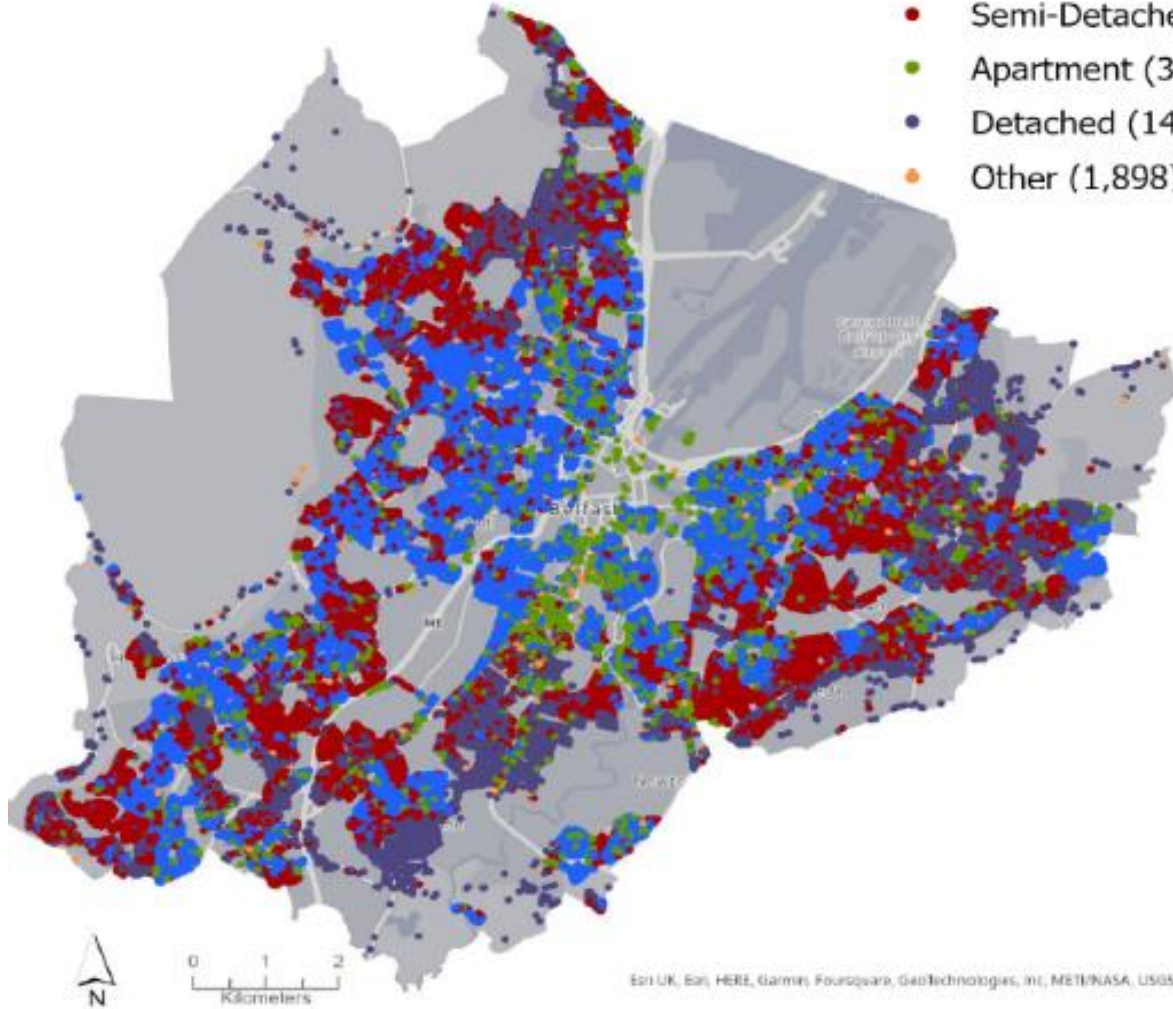
Large scale renewables opportunity areas



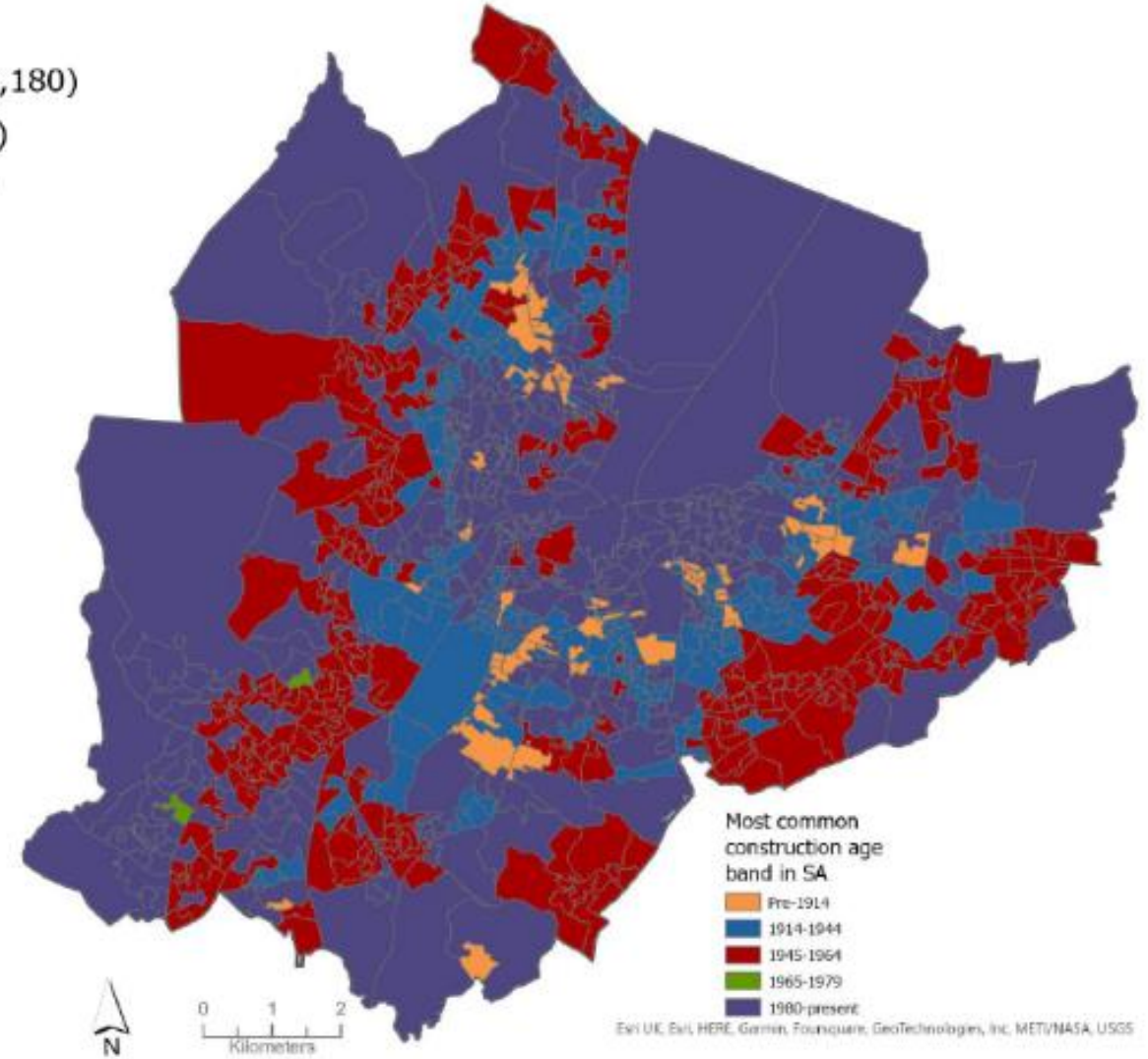
Energy network impact

Domestic Buildings

- Terraced (67,763)
- Semi-Detached (42,180)
- Apartment (32,429)
- Detached (14,975)
- Other (1,898)



Esri UK, Esri, HERE, Garmin, FourSquare, GeoTechnologies, Inc, METI/NASA, USGS

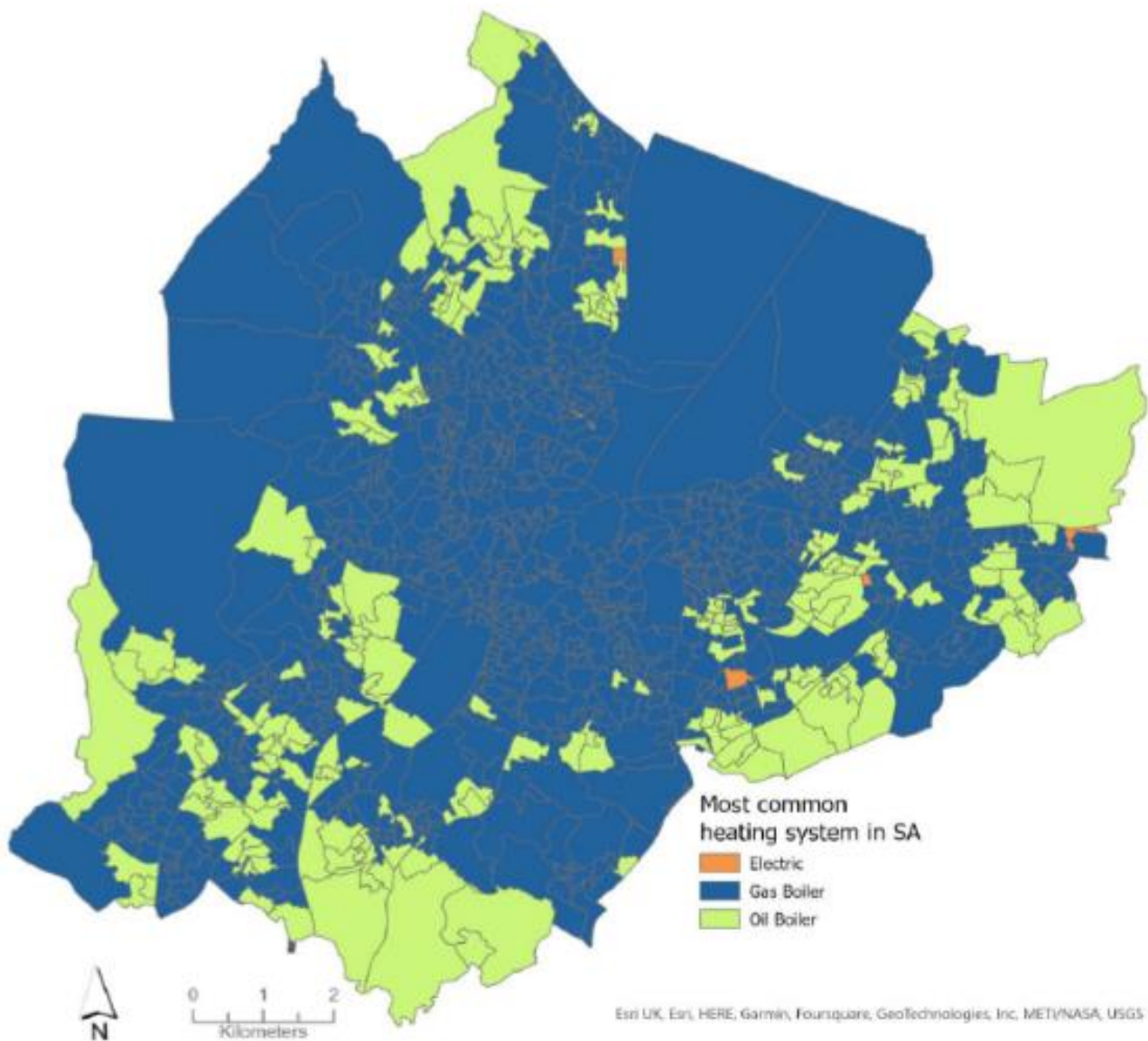


Most common construction age band in SA

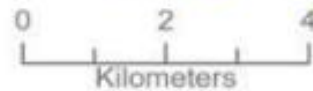
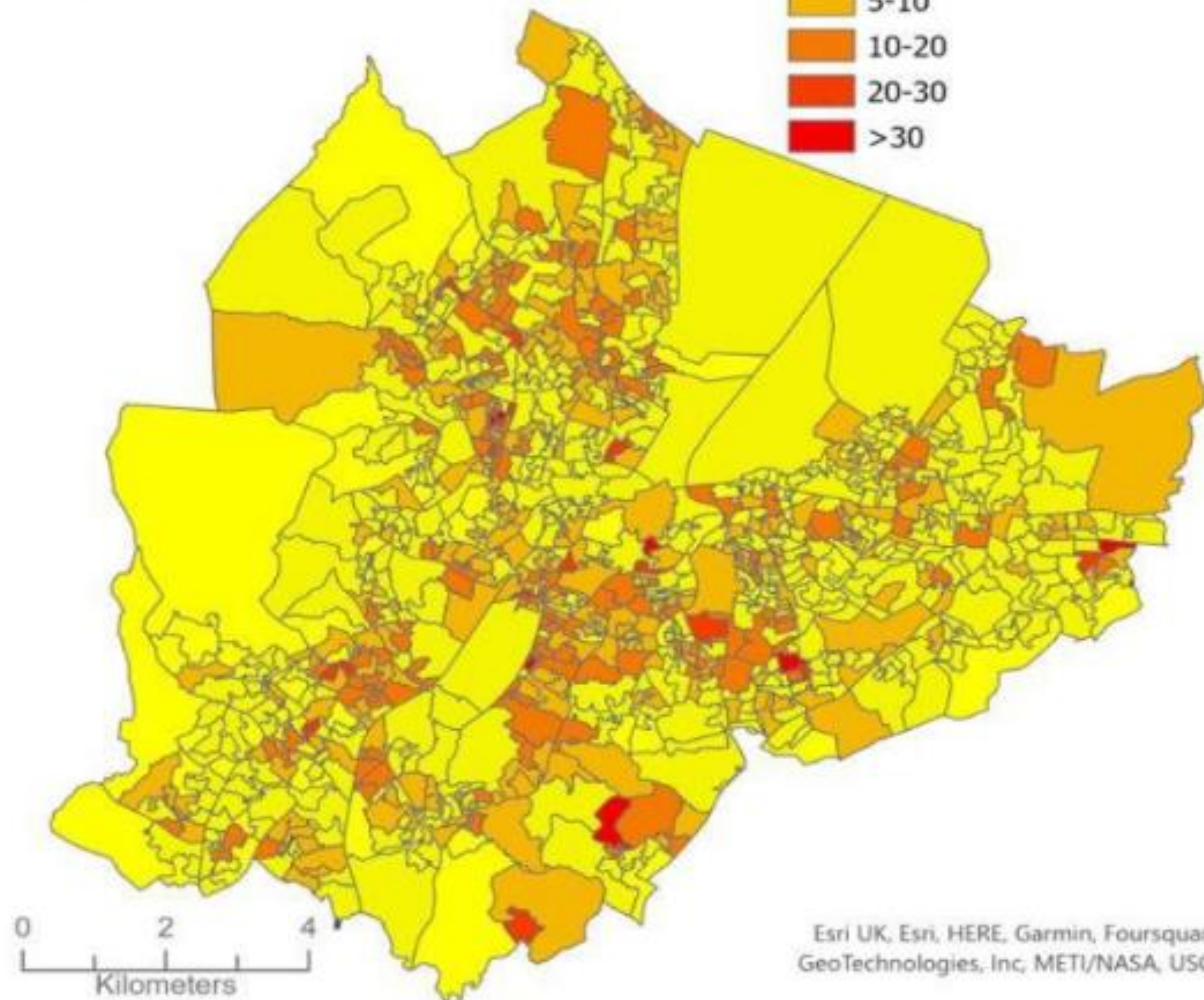
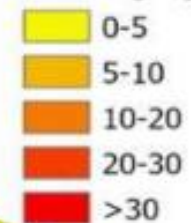
- Pre-1914
- 1914-1944
- 1945-1964
- 1965-1979
- 1980-present

Esri UK, Esri, HERE, Garmin, FourSquare, GeoTechnologies, Inc, METI/NASA, USGS

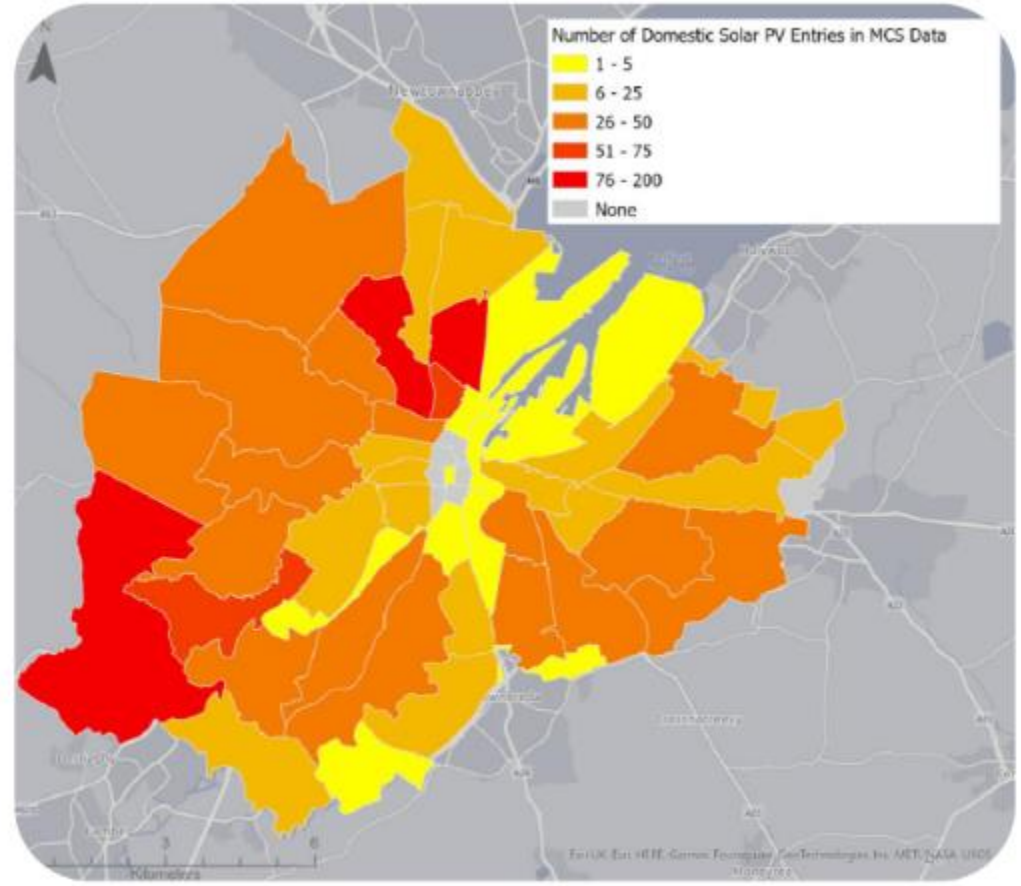
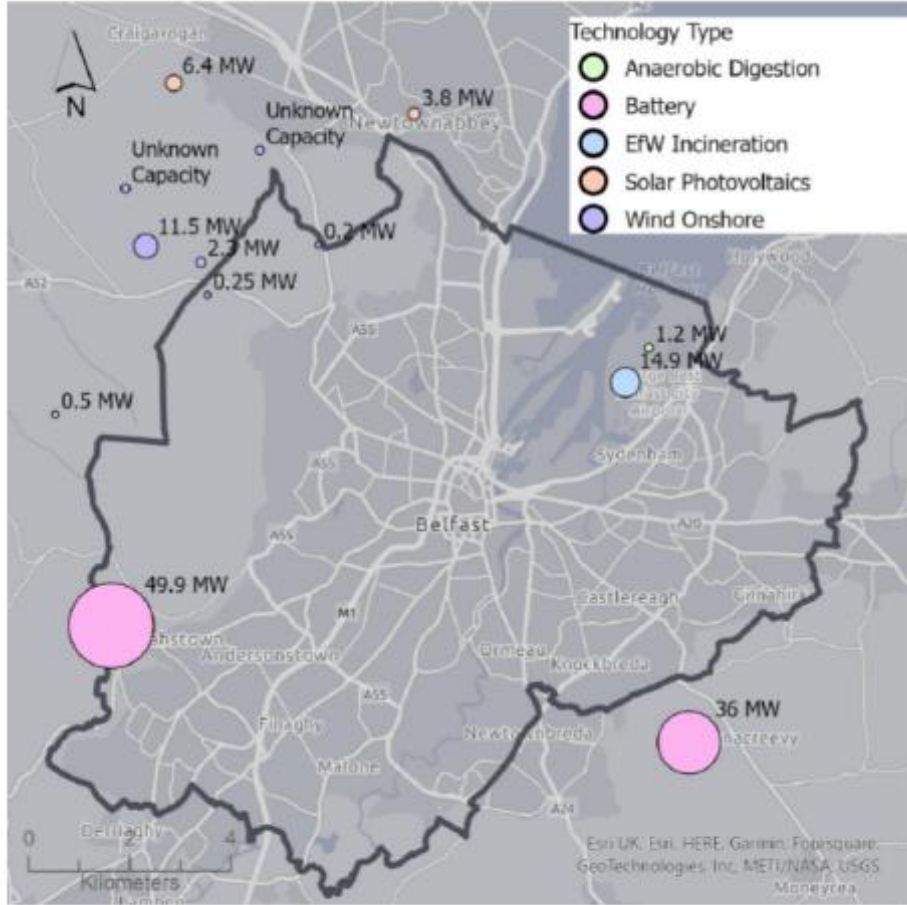
Retrofit potential

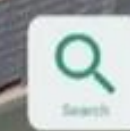
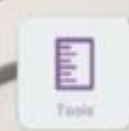


Percentage of domestic buildings with single glazing



1





Flat Roofs (Sq. M)

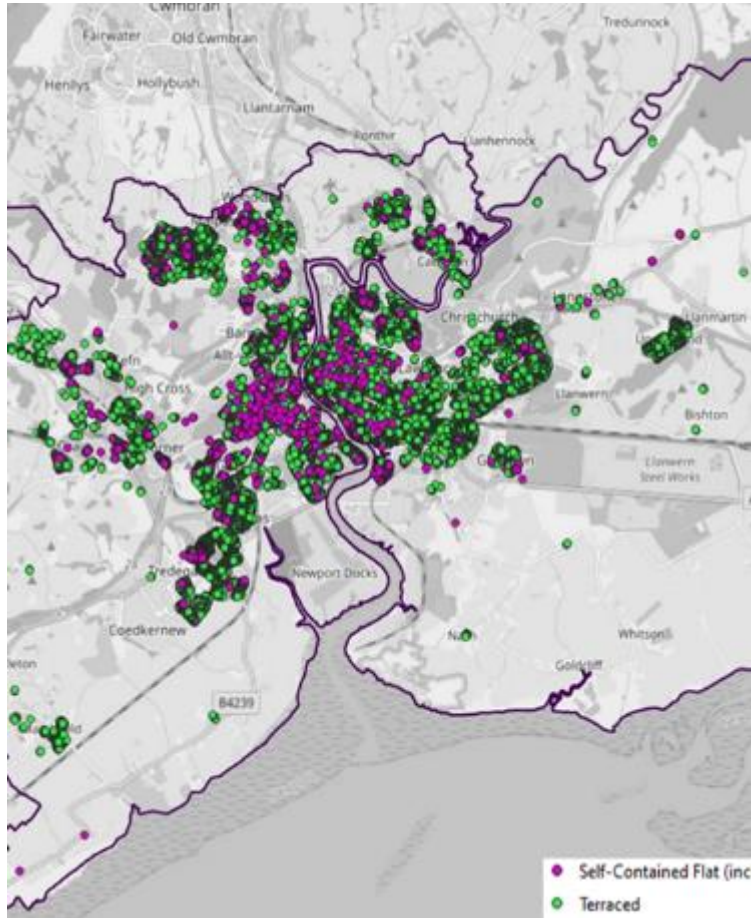
Colouring London	10 - 20
Conservation Areas	20 - 30
Crime Data	30 - 40
Environmental	40 - 50
EPC	50 - 60
EPIMS	60 - 70
Flat Roof Sample Data	70 - 80
glc VSC	80 - 90
Industrial Land	90 - 100
Land Registry Query	100+
LLDC Density Map	

Sample created from VICITY Model

EVI – strategy

Area Site Technology Model

Area



Site



Technology



Keeping the issue at the top of the agenda

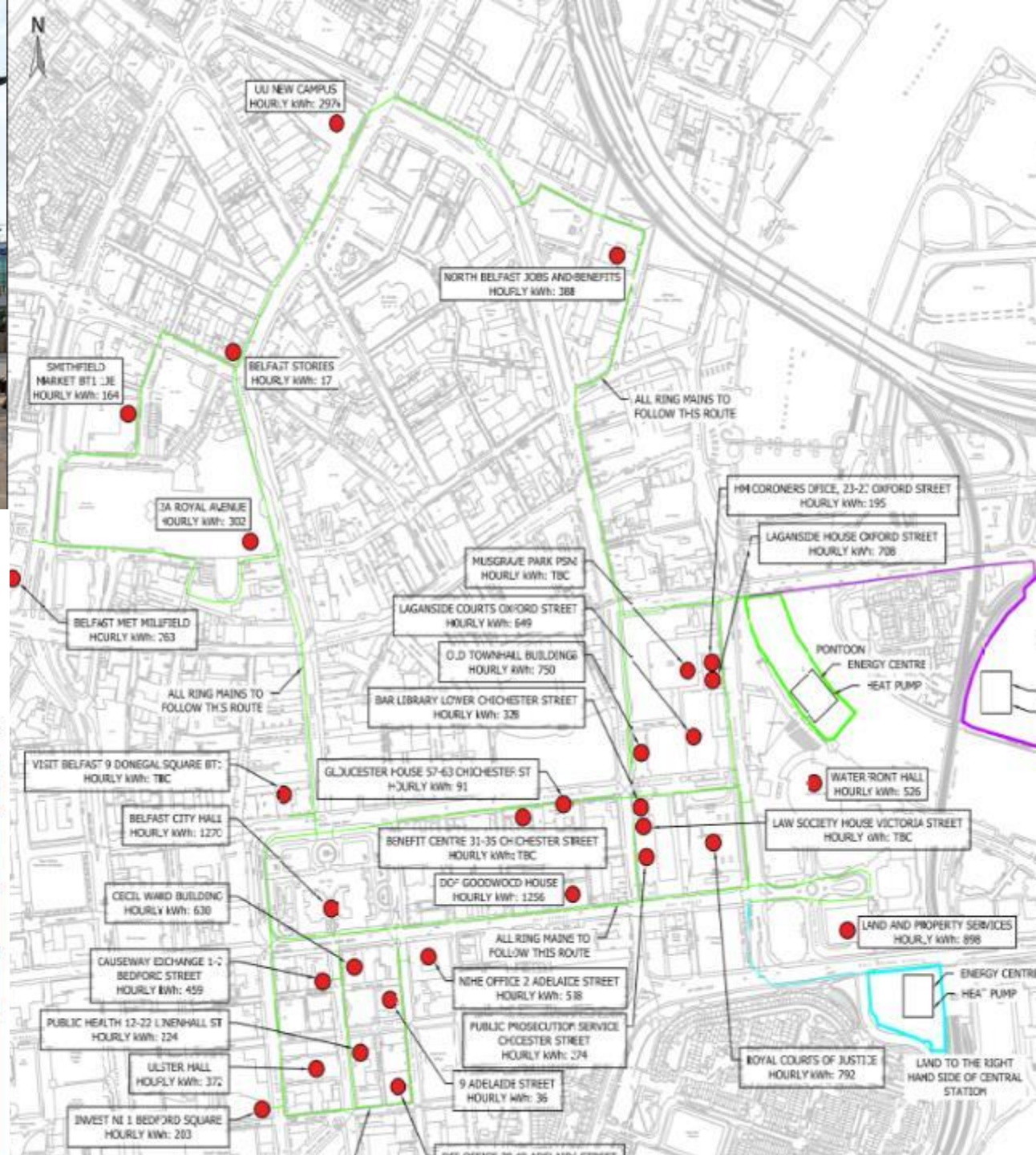
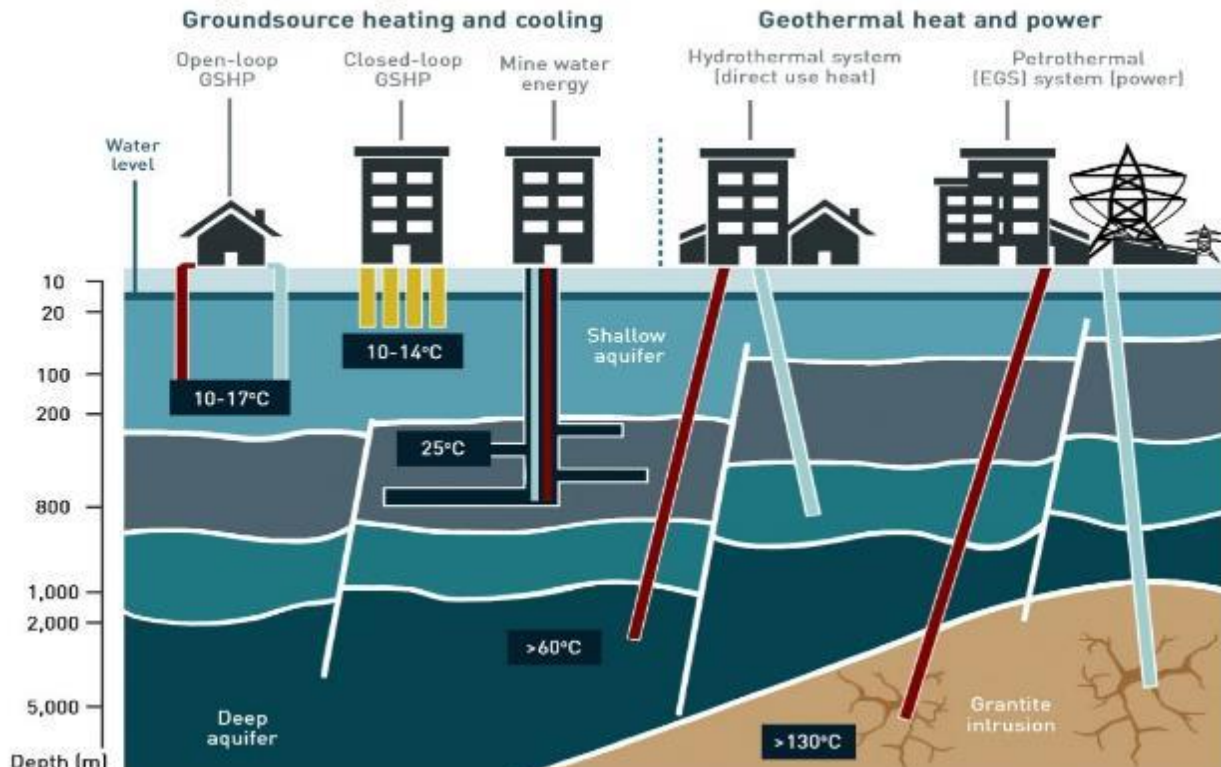
Build a pipeline of projects



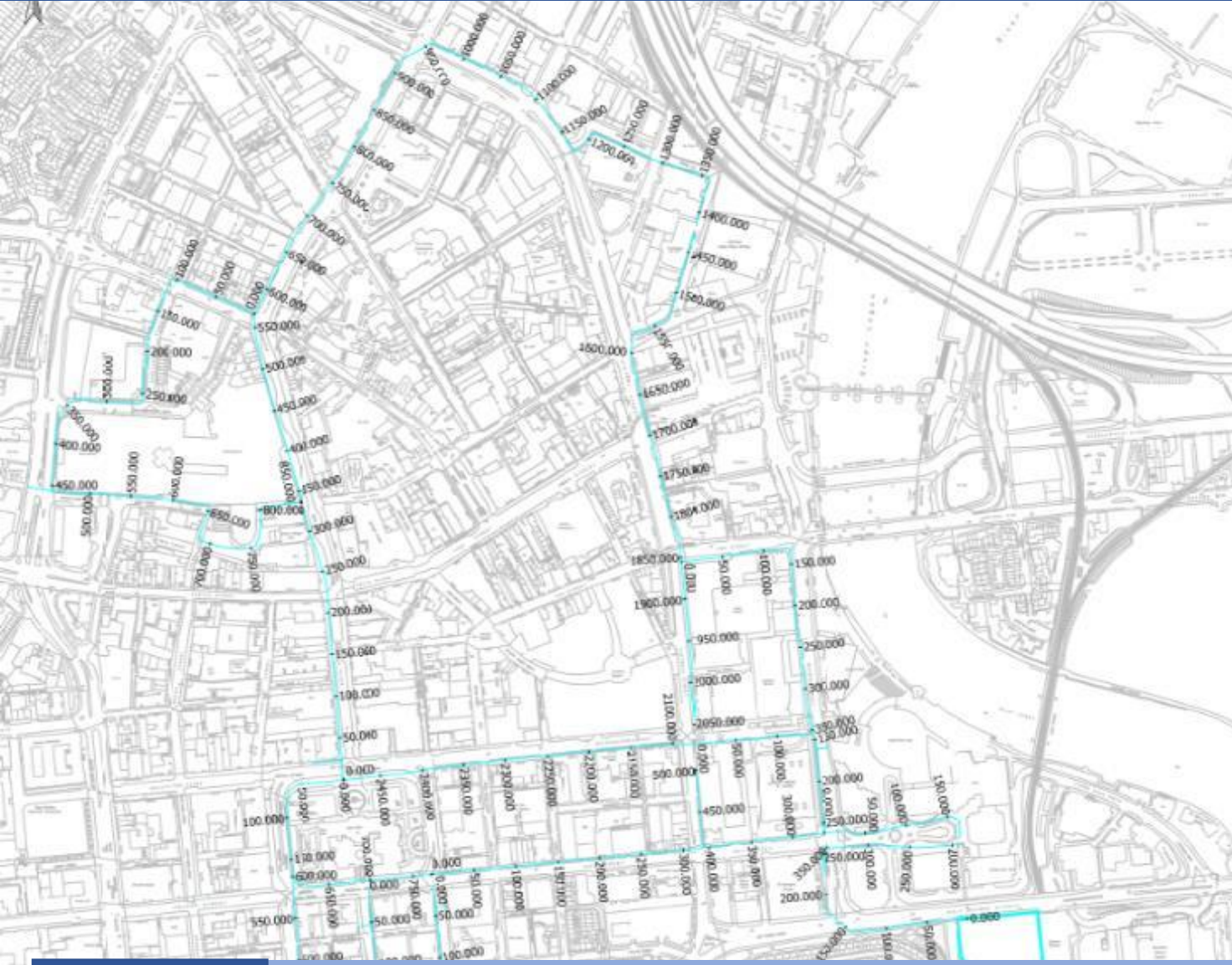
There's enough heat in the Lagan to heat the entire City of Belfast



Geothermal energy technologies



City centre heat network



Key issue

No heat network support scheme for NI and no planning requirement for new builds to connect to heat networks if available

Keeping the issue at the top of the agenda

Strengthen coordination, collaboration, outreach





Belfast retrofit hub



Construction
Leadership
Council

constructionleadershipcouncil.co.uk



Photograph: Nottingham City Homes: Energy-saving Retrofit, Helix Homes

**Greening Our
Existing Homes**
National retrofit strategy
A consultative document





Belfast retrofit hub

Retrofit Hub
meeting Sep 22

Roundtable 1
Supply Chain

Roundtable 2
Standards

Roundtable 3
Skills

Retrofit Hub
meeting Dec 22

Roundtable 4
Awareness

Roundtable 5
Learning

Roundtable 6
Skills

Retrofit Hub
meeting Mar 22

Roundtable 8
Whole house working

Roundtable 7
Place based approach

Keeping the issue at the top of the agenda

Engaging financial institutions and the investment community



£2.2bn per year to decarbonise Northern Ireland

£2.5bn to decarbonise housing and transport in Belfast



FUTURE PROOFED CITY

Our governance structure



City wide



Belfast Agenda
A sustainable city shared and loved by all its citizens



Resilience Strategy
To transition to an inclusive, net zero-emissions, climate resilient economy in a generation



Delivered by



Resilience and Sustainability Board



PCAN BELFAST CLIMATE COMMISSION

Advised by



City wide climate adaptation and mitigation plan



Produce



Our own climate adaption and mitigation plan by 2022



Supported by



Climate and City Resilience Committee



Supported by



Climate Plan Programme Board (BCC Officers)

Approval process



SP&R

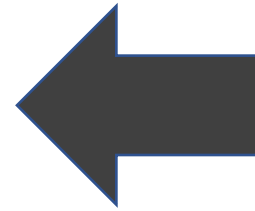


Council





£17.7m
Benefits per year



£4.3 million



Key barriers

1. Grants for retrofit and heat networks
2. Seed funding for project development
3. Behavioural change
4. Capacity to engage across multiple sectors to ensure a whole system approach
5. Silo working
6. Bureaucracy – challenging to be agile and move at pace

Solutions

1. Unlock the economic, social and environmental benefits
2. Create a value proposition for Belfast as a green city
3. Collaborate with city partners – big appetite for change and strong leadership from key anchor institutions eg NIHE, Translink, NI Water etc.
4. Emerging pipeline of projects, shaped by the Local Area Energy Plan
5. Strong interest from financial institutions and the investors
6. External funding - eg for 1MT, UPSURGE, Net Zero Belfast, UP2030
7. Promote place based interventions that enable a systems approach - use place to foster collaboration and innovation
8. Use the Council estate and procurement to drive change
9. Collaborate with other cities – Liverpool, Manchester, Glasgow, Dublin, Cork

It can be done

