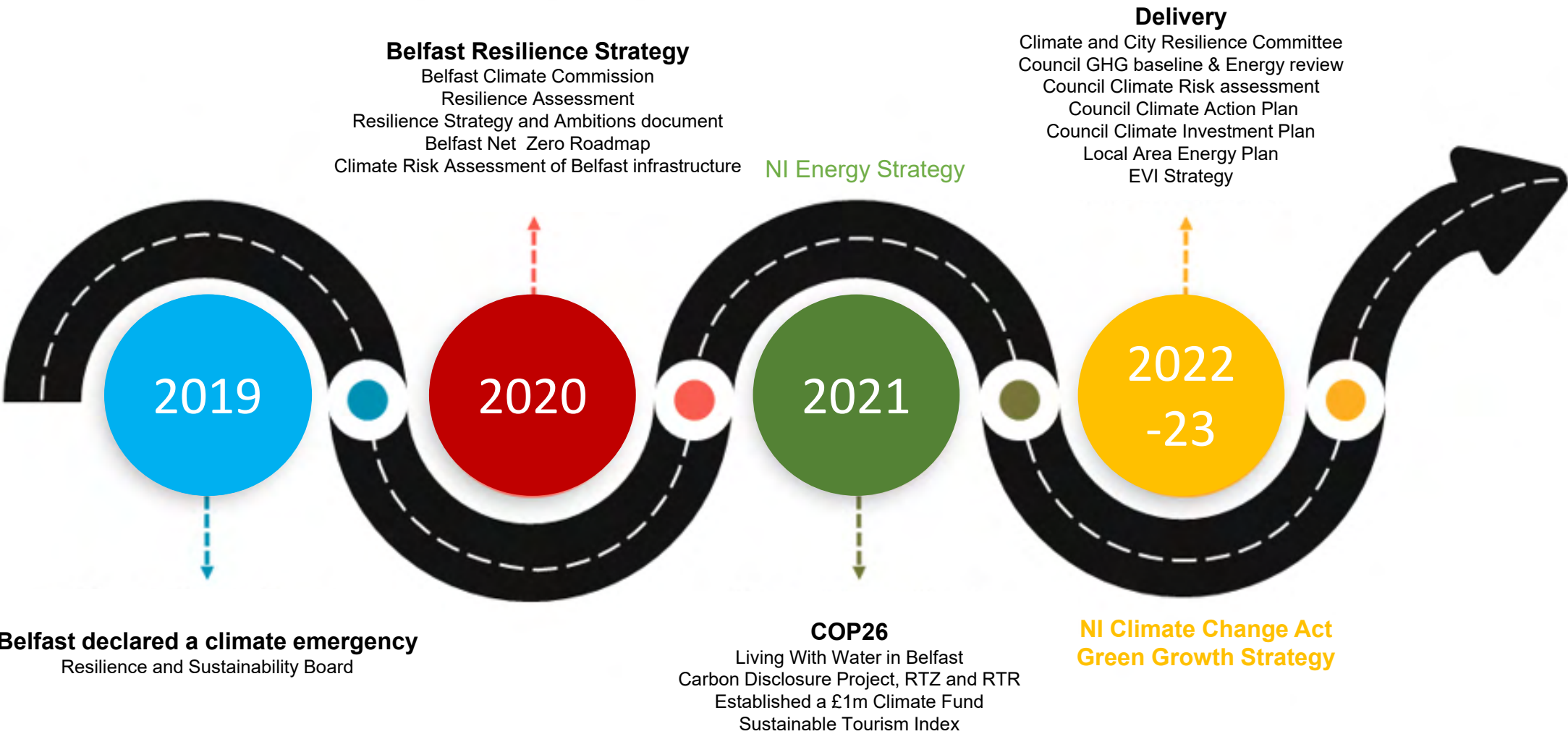




Supporting the transition to an inclusive, net zero-emissions, climate- resilient economy in Belfast

Debbie Caldwell, Climate Commissioner, Belfast City Council



# Belfast's Net Zero journey

# FUTURE PROOFED CITY

Our governance structure



## 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

Advised by



**BELFAST CLIMATE COMMISSION**

Produce

A white sun icon on a green background.

City wide climate adaptation and mitigation plan

A white cloud and rain icon on a green background.

Our own climate adaptation and mitigation plan by 2022

Supported by

A white wind turbine icon on a green background.

Climate and City Resilience Committee

Supported by

A white network icon on a green background.

Climate Plan Programme Board (BCC Officers)



Approval process

The logo for SP&amp;R, featuring a white gear icon and the text "SP&amp;R" in white on a blue background.

The logo for the Council, featuring a white building icon and the text "Council" in white on a blue background.

Keep it positive

Focus in on the opportunities

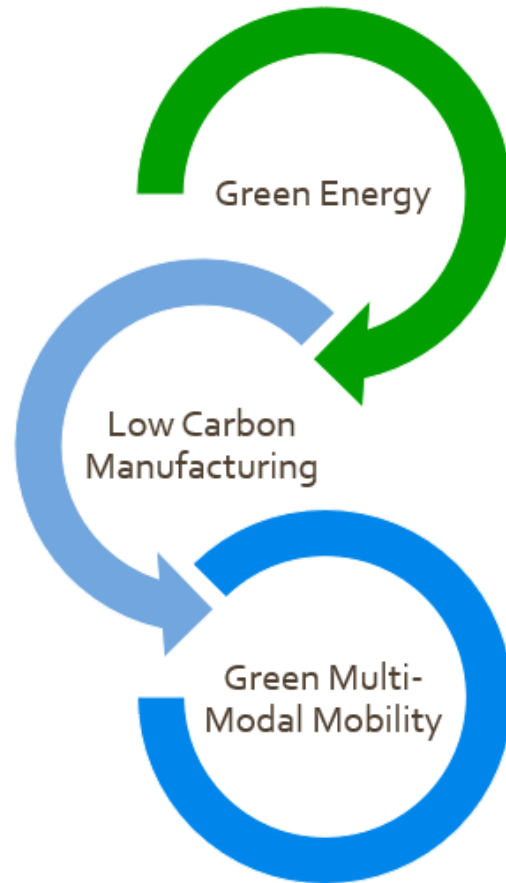
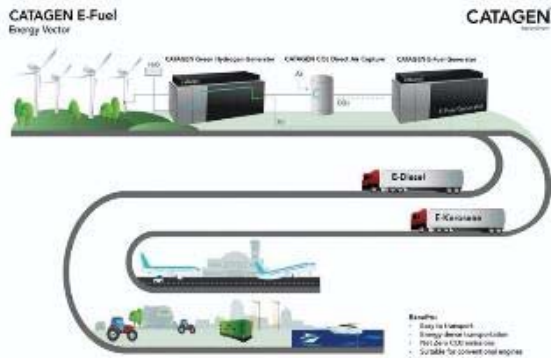
And on unlocking the economic, social and environmental benefits

Create a value proposition for Belfast as a green city





INNOVATING  
TO NET ZERO



# Keeping climate at the top of the agenda



# R jfxzws l r tsnytws l fsi wjutws l

## A NET-ZERO CARBON ROADMAP FOR BELFAST

Andy Gouldson, Andrew Sudmant, Jessica Boyd, Robert Fraser Williamson, John Barry & Amanda Slevin

PCAM BELFAST CLIMATE COMMISSION

Logos at the bottom: UKPC, PCAM PLACES-BASED CLIMATE ACTION NETWORK, UNIVERSITY OF LEEDS, WTC, QUEEN'S UNIVERSITY BELFAST, Belfast City Council



## The Carbon Footprint of Waste

---

### Belfast

25 ACR+ ZERO WASTE 2025



**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%

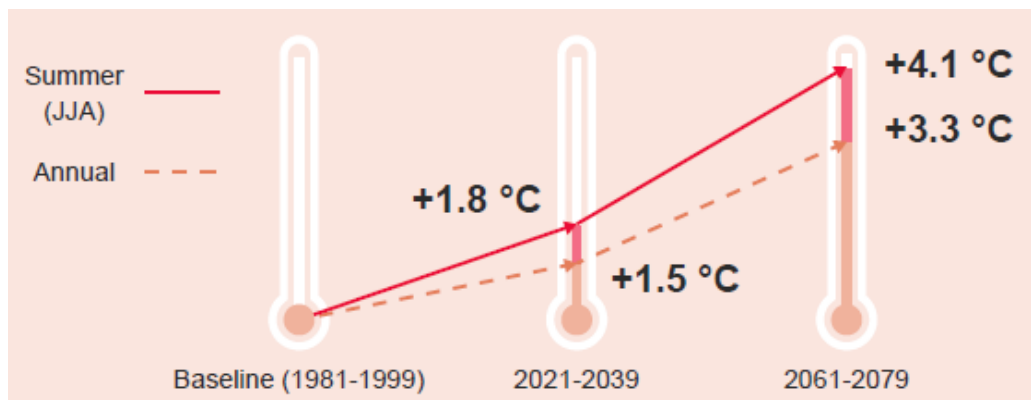
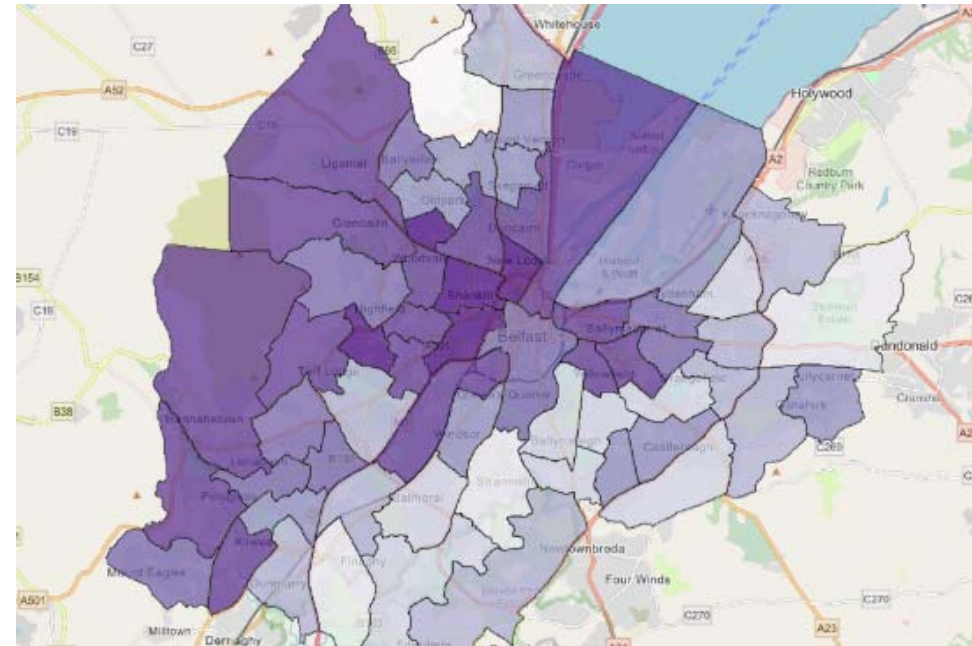
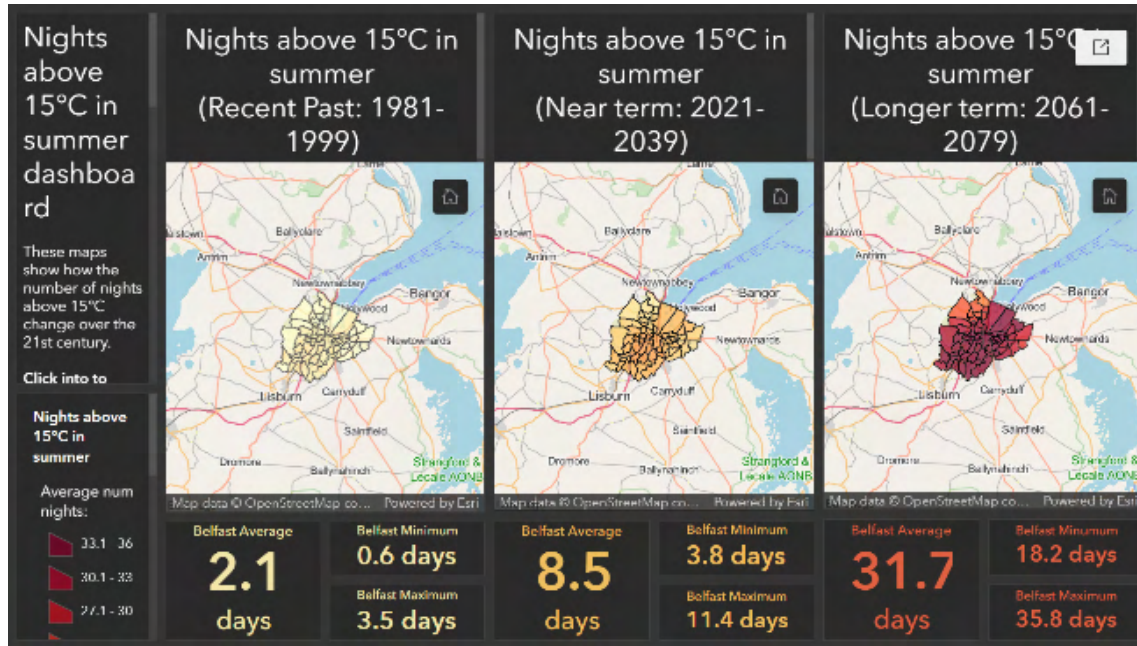
19%



24%

18%

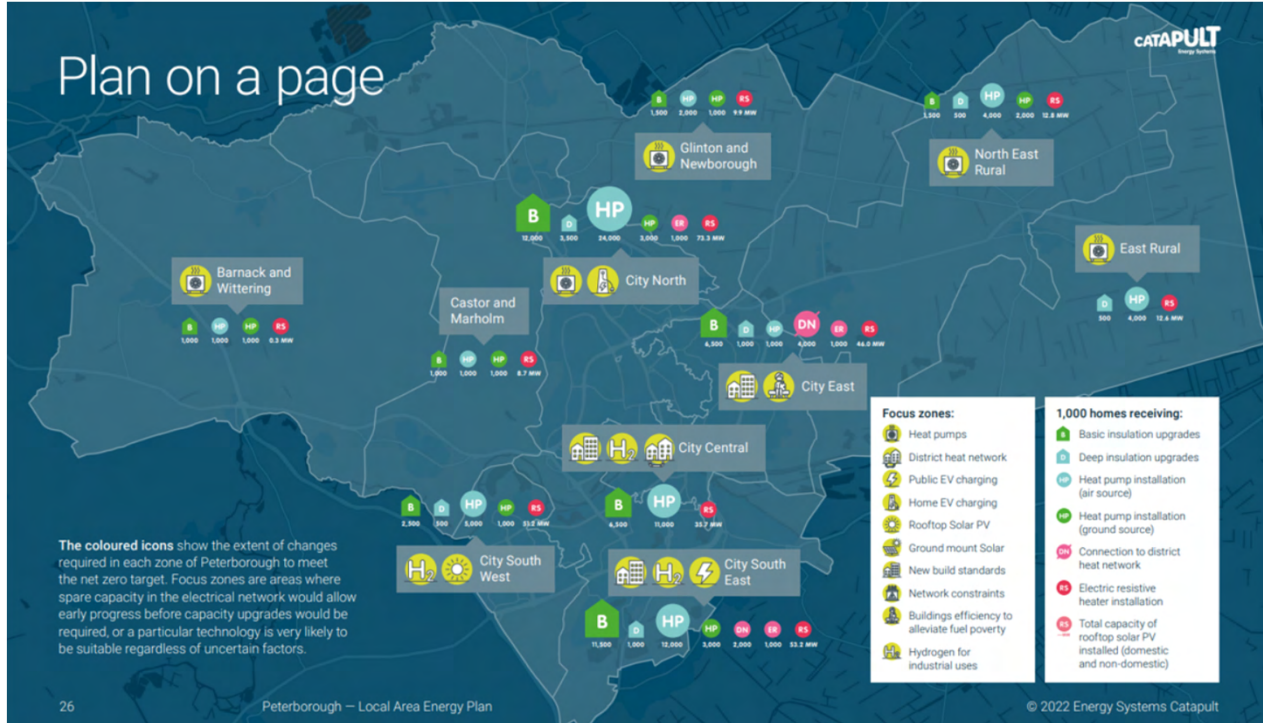




## Heat maps for Belfast

# LAEP OUTPUTS - EXAMPLES

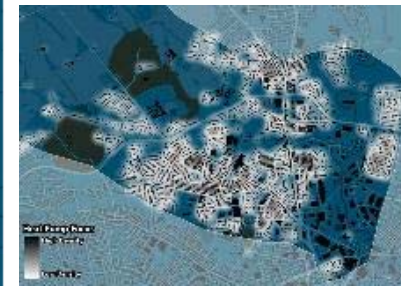
# Local Area Energy Plan for Belfast



Hydrogen opportunity area



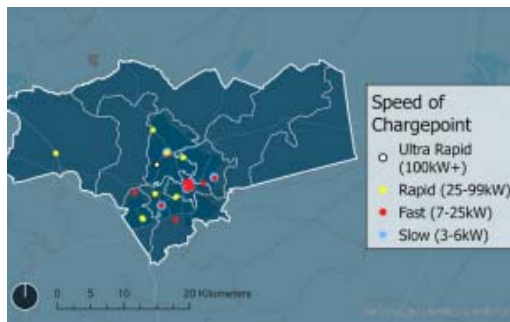
Domestic rooftop PV focus zone



Domestic heat pump focus zone



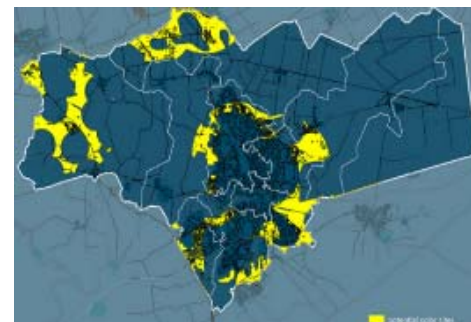
Heat network focus zone



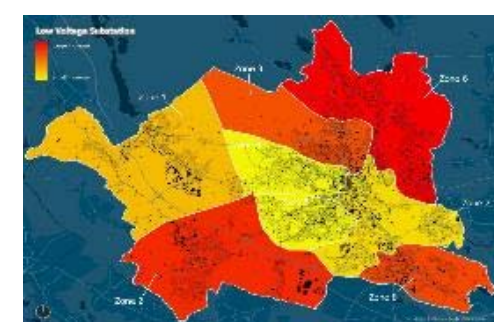
Public EV charging hubs



Fabric retrofit focus zone



Large scale renewables opportunity areas

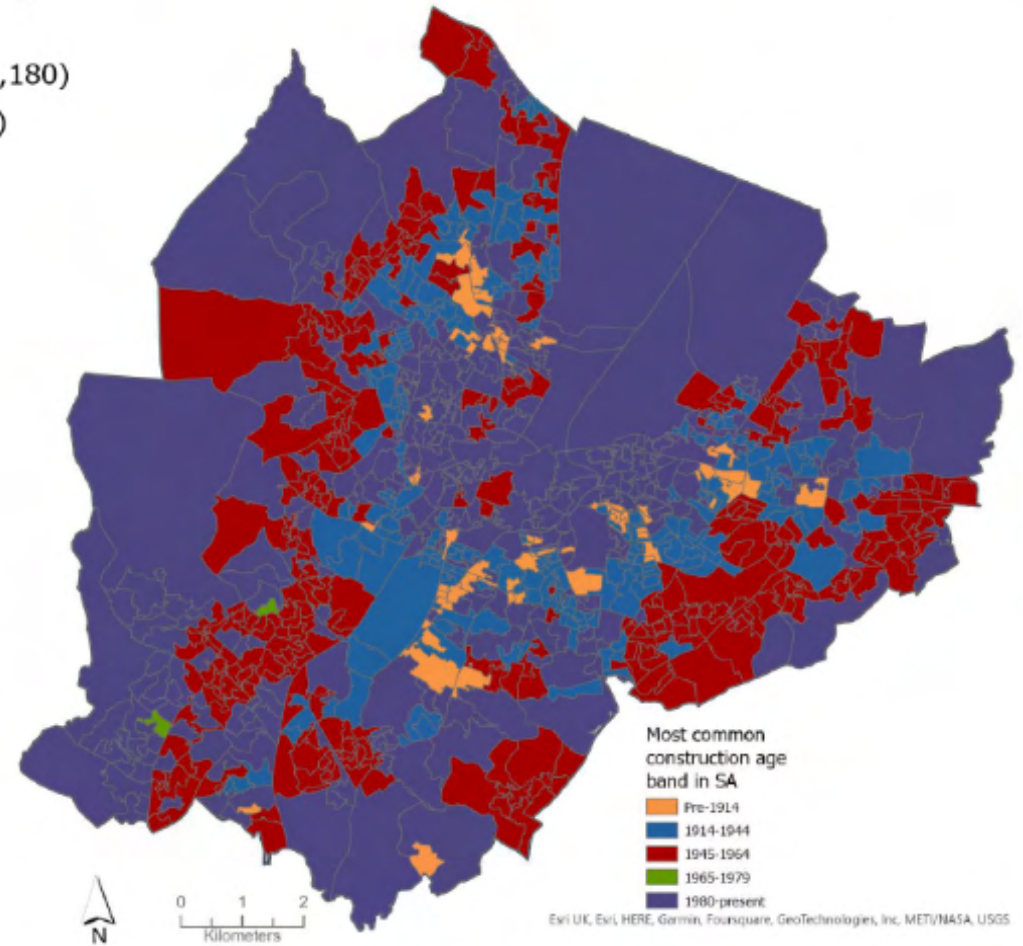
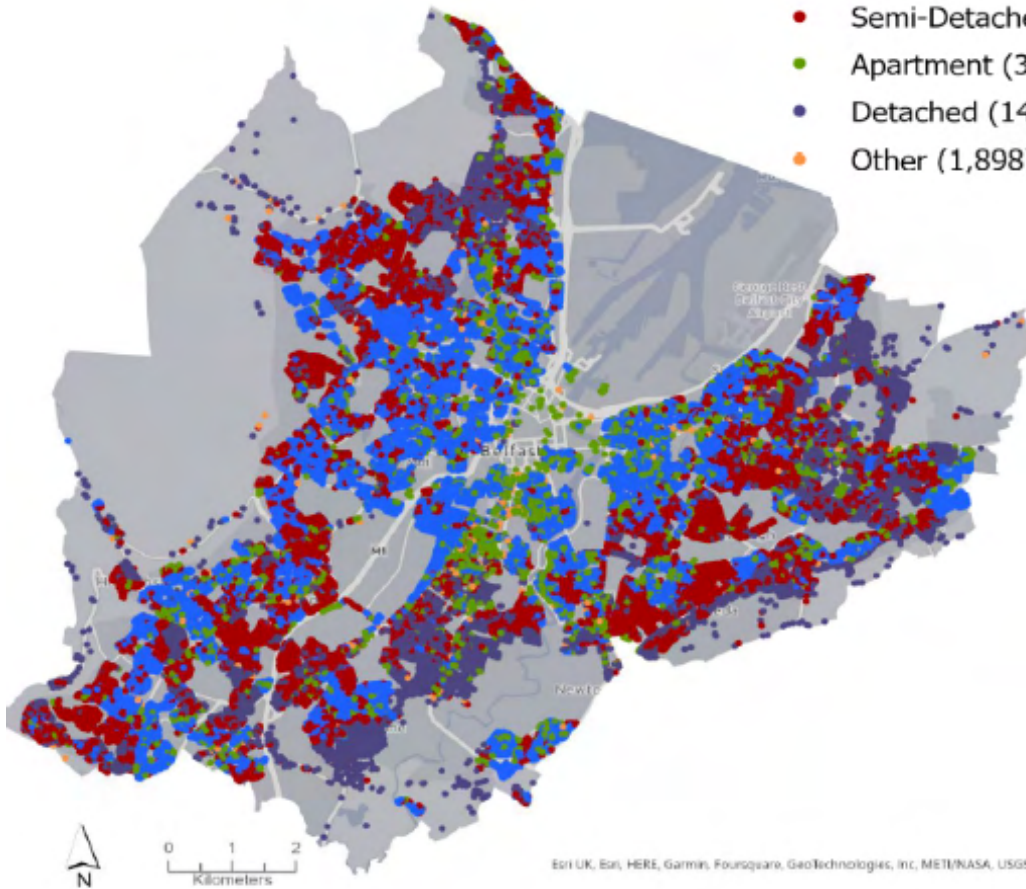


Energy network impact

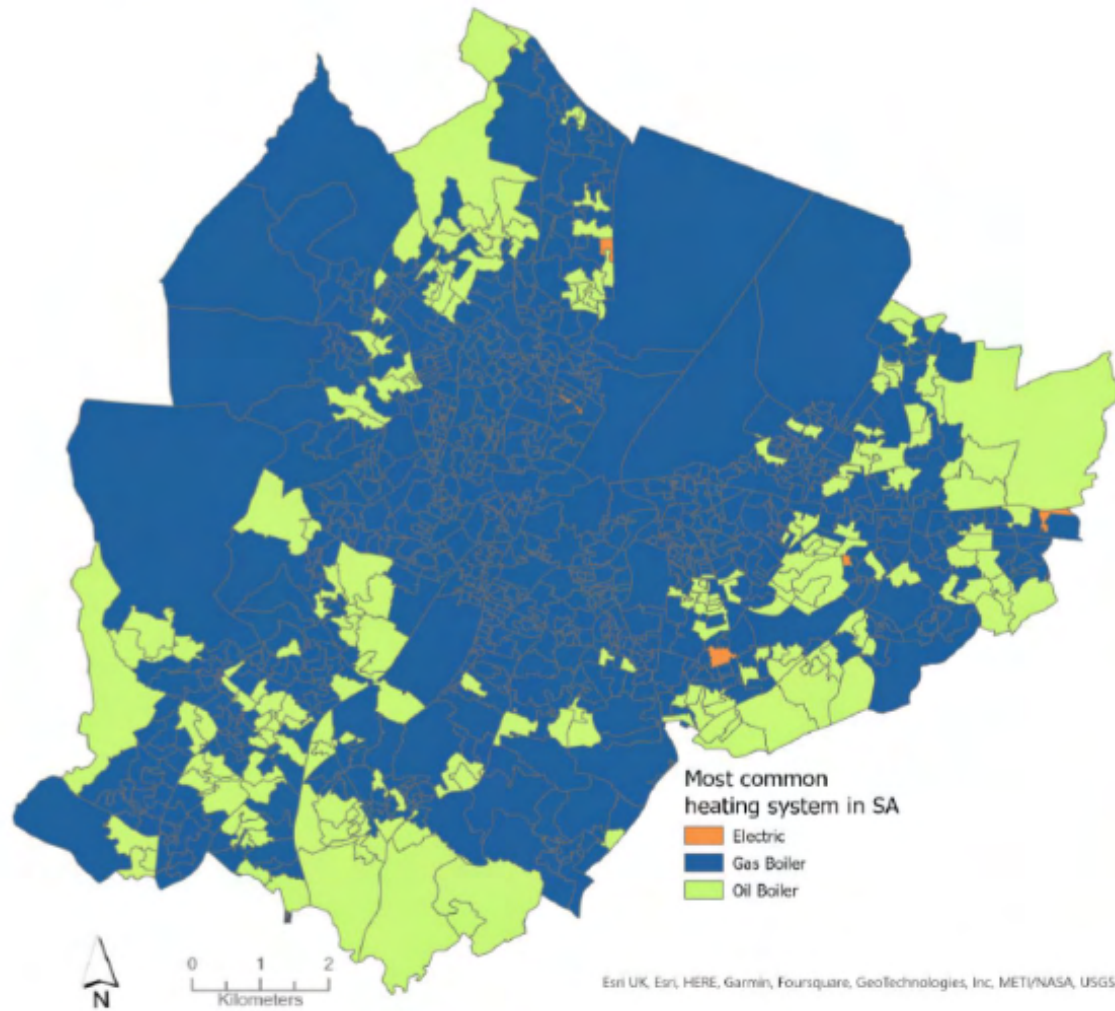
# Domestic

## Domestic Buildings

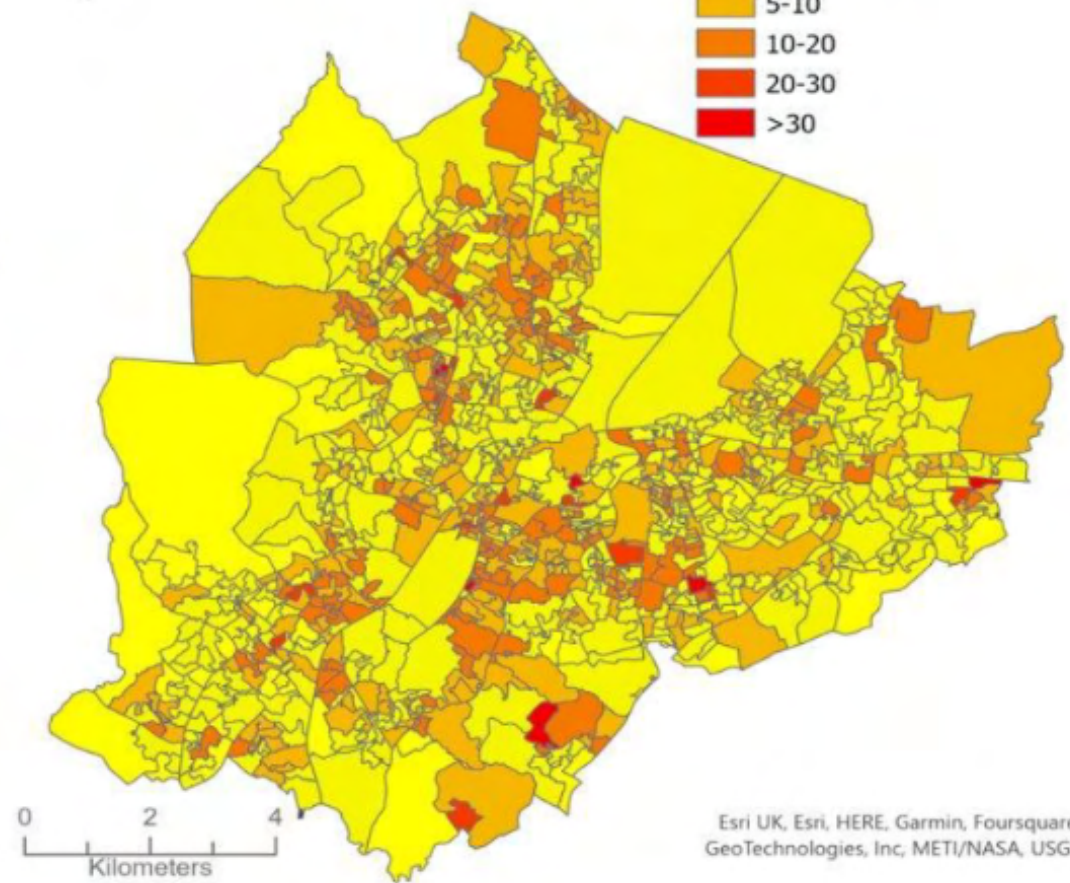
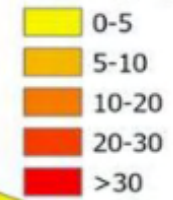
- Terraced (67,763)
- Semi-Detached (42,180)
- Apartment (32,429)
- Detached (14,975)
- Other (1,898)



# Retrofit potential



Percentage of domestic buildings with single glazing



## Transport

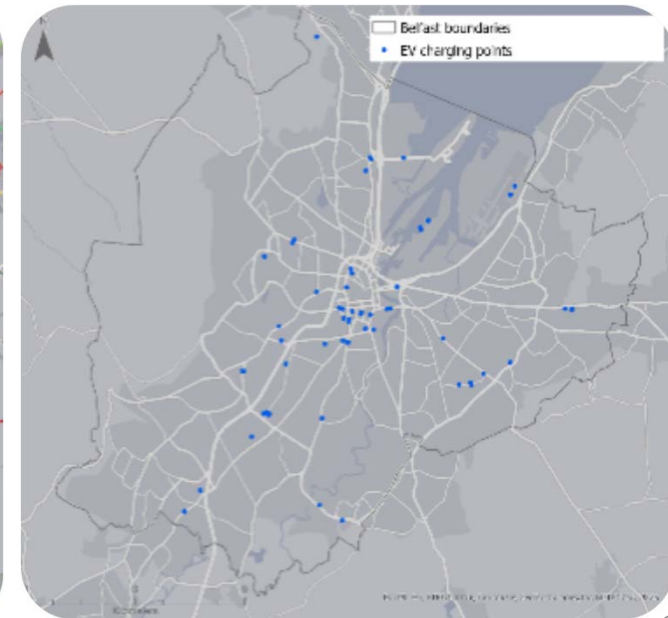
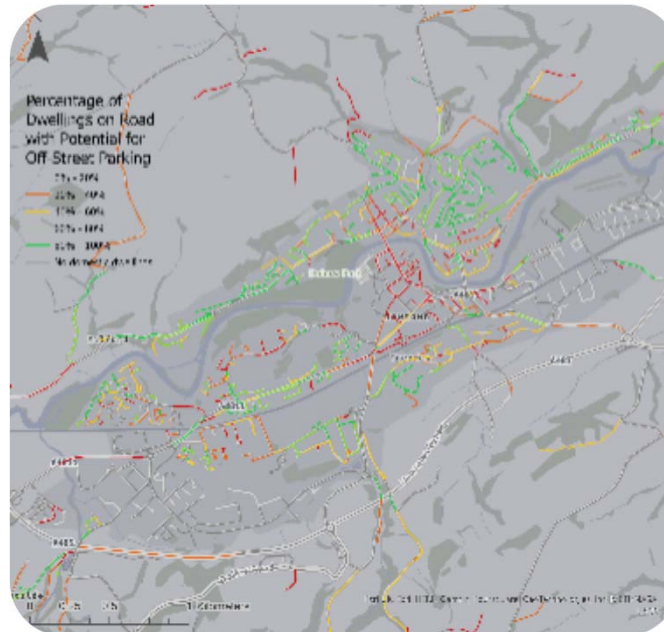
### Overview

- Electrical demand likely to increase and impact network.
- H2 requirement to further decarbonise buses and trains.
- Emerging Belfast EV Strategy
- Translink – 80 BEV & 23 H2 vehicles, decarbonise further in line with pledges and commitments

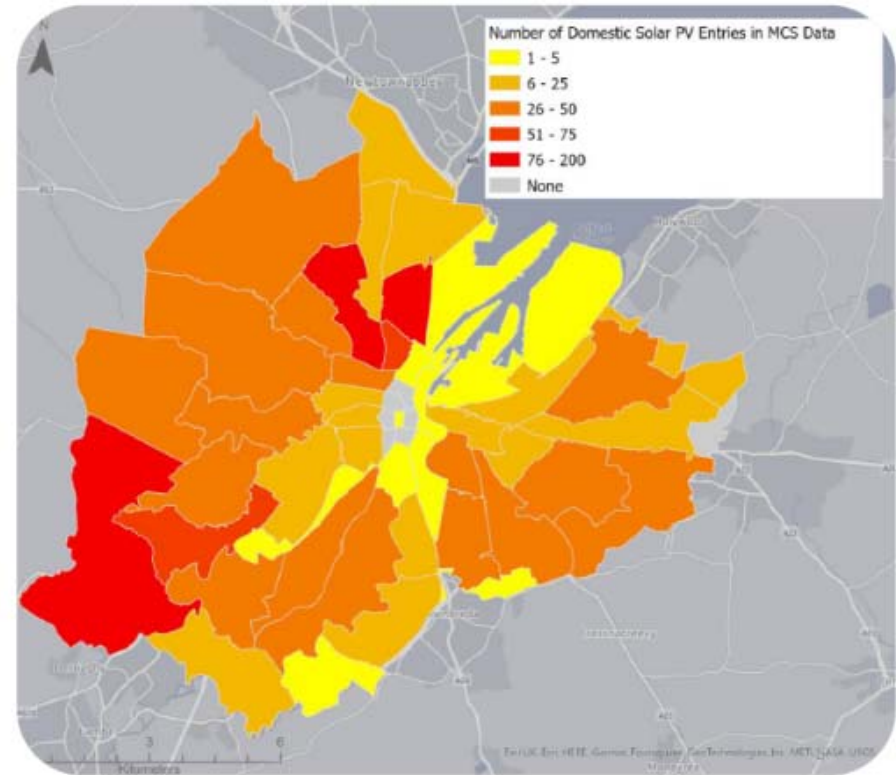
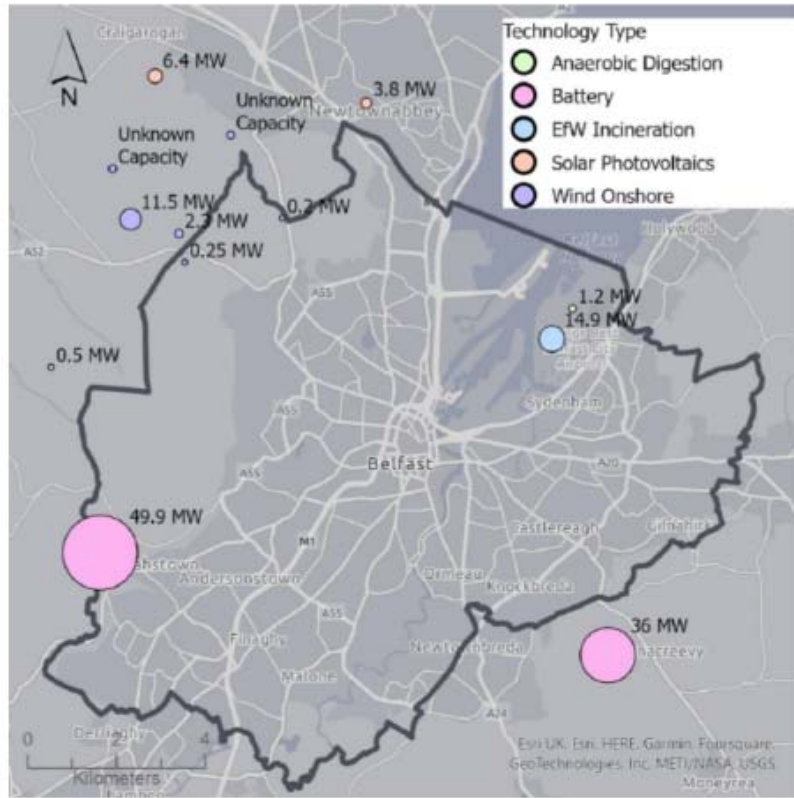


### Modelling Focus

- Number of EVs.
- Align with Translink decarbonisation plans.
- Location of charging points
- Demand profiles based on charging locations



1





# Networks

## Overview

- Key part of the energy system and likely to be heavily impacted by decarbonisation

## Current Approach / Data

- Data from:



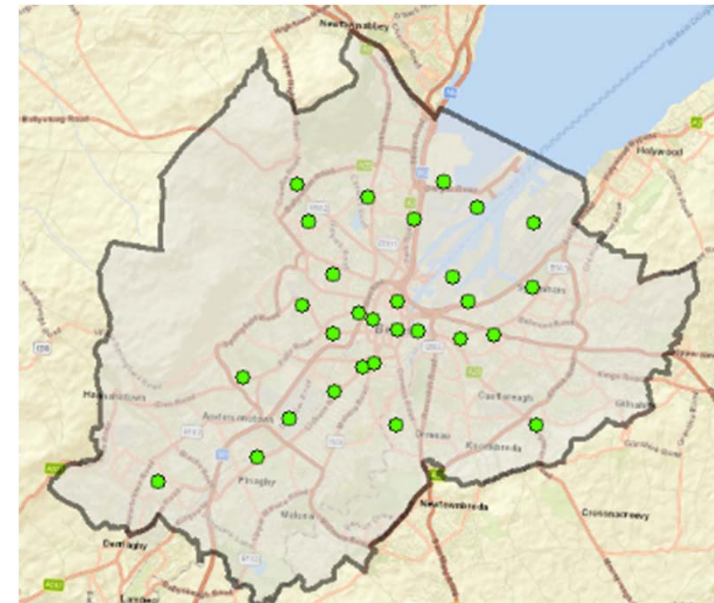
## Modelling Focus

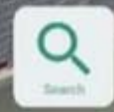
### Electricity

- Substation capacity & connections (LV and HV)
- Feeder capacity
- Reinforcement

### Gas

- Pipe location and material
- Repurposing or decommissioning





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
gla VSC	80 - 90
Industrial Land	90 - 100
Land Registry Query	100+
LLDC Density Map	

Sample created from VU CITY Model

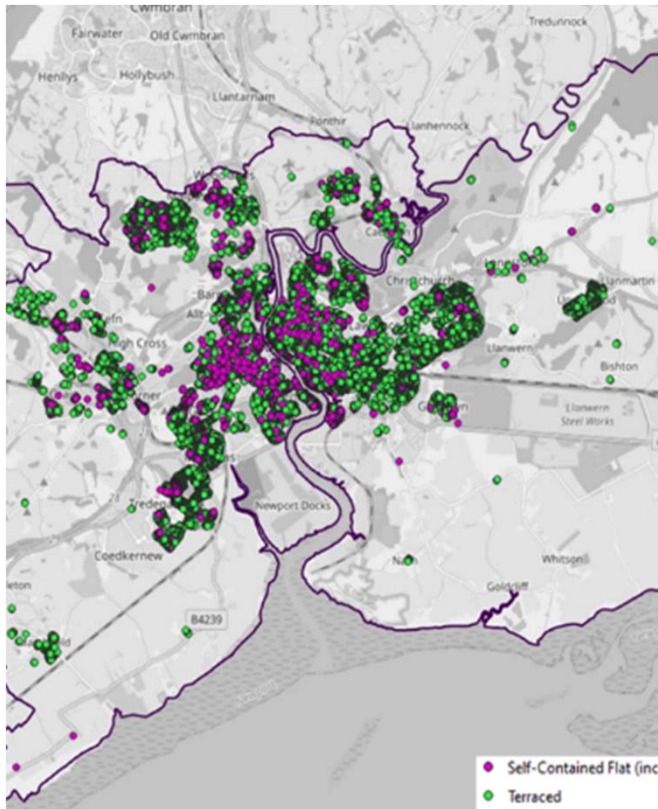
Bearing: 32° Pitch: 41° Focal Length: 37mm 21/06/2022 14:08

VU CITY

© VU CITY 2022

# EVI – strategy Area Site Technology Model

Area



Site

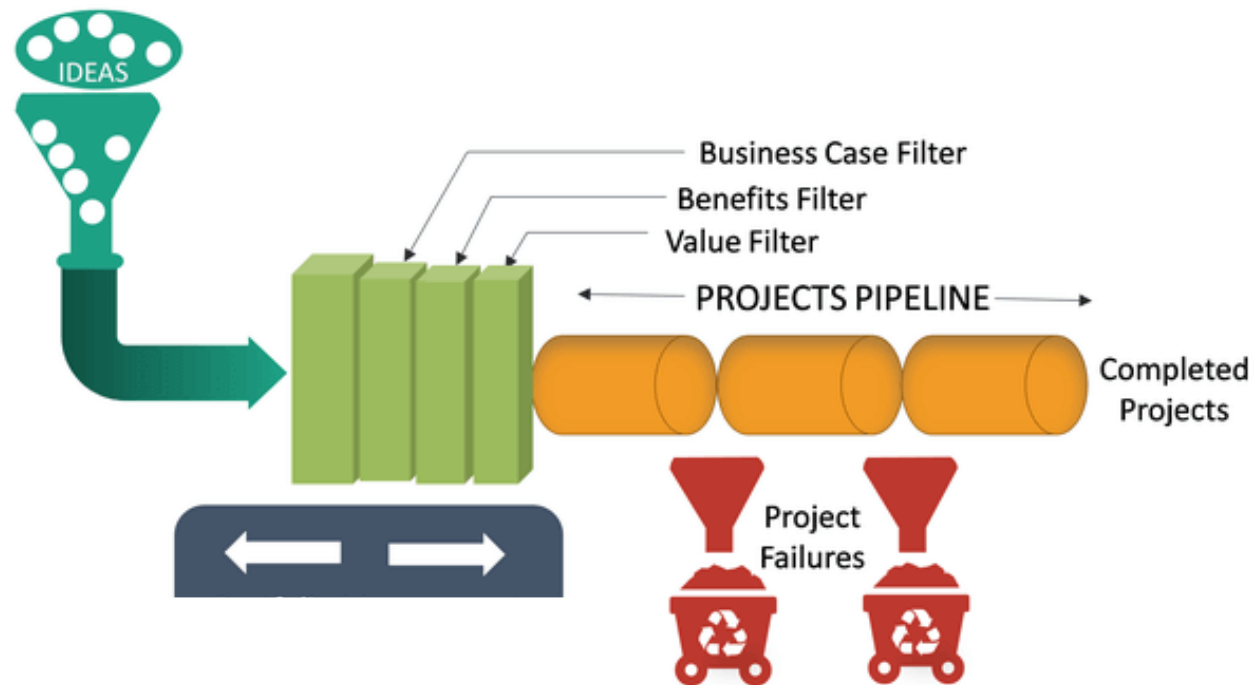


Technology



# Keeping the issue at the top of the agenda

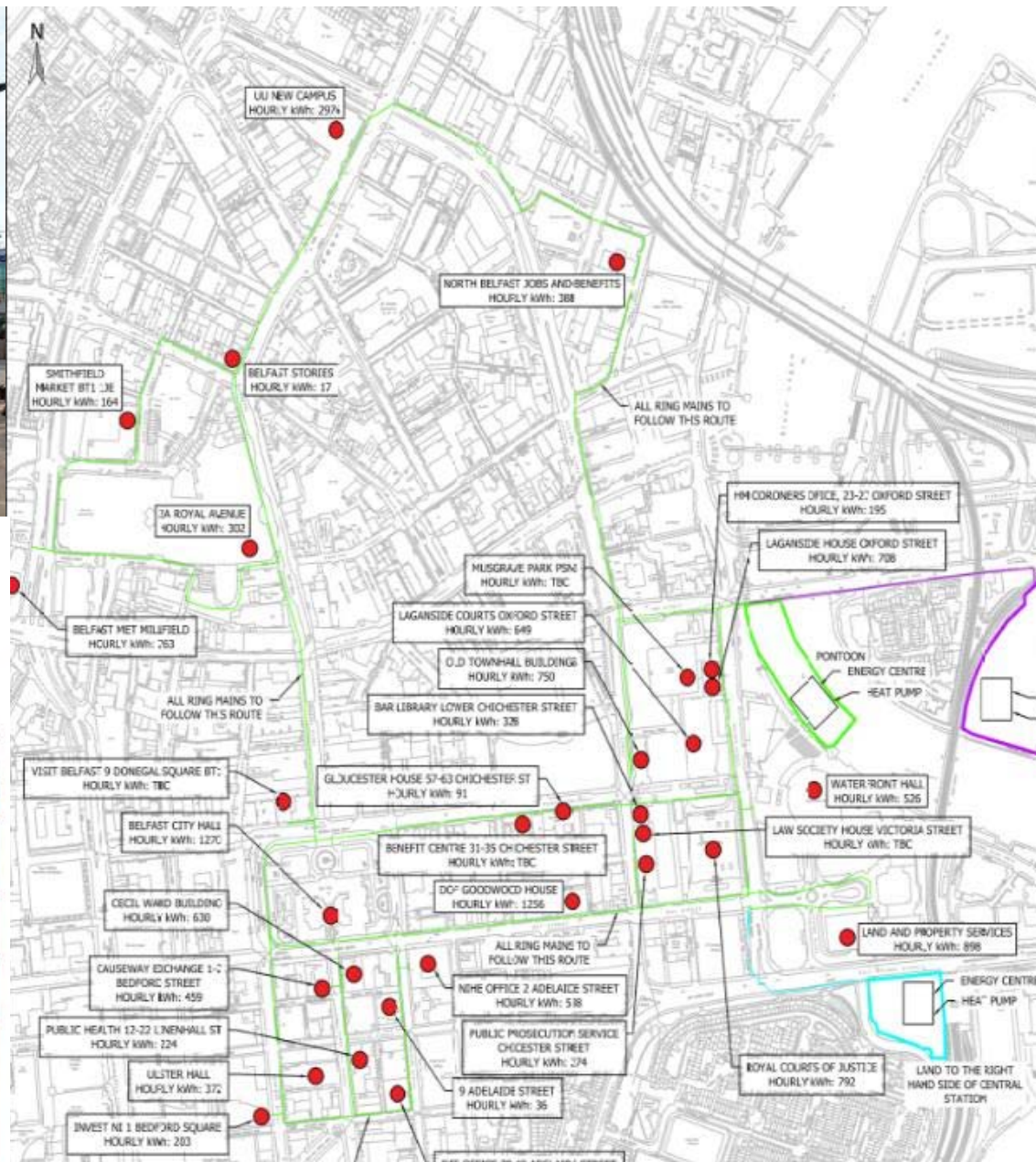
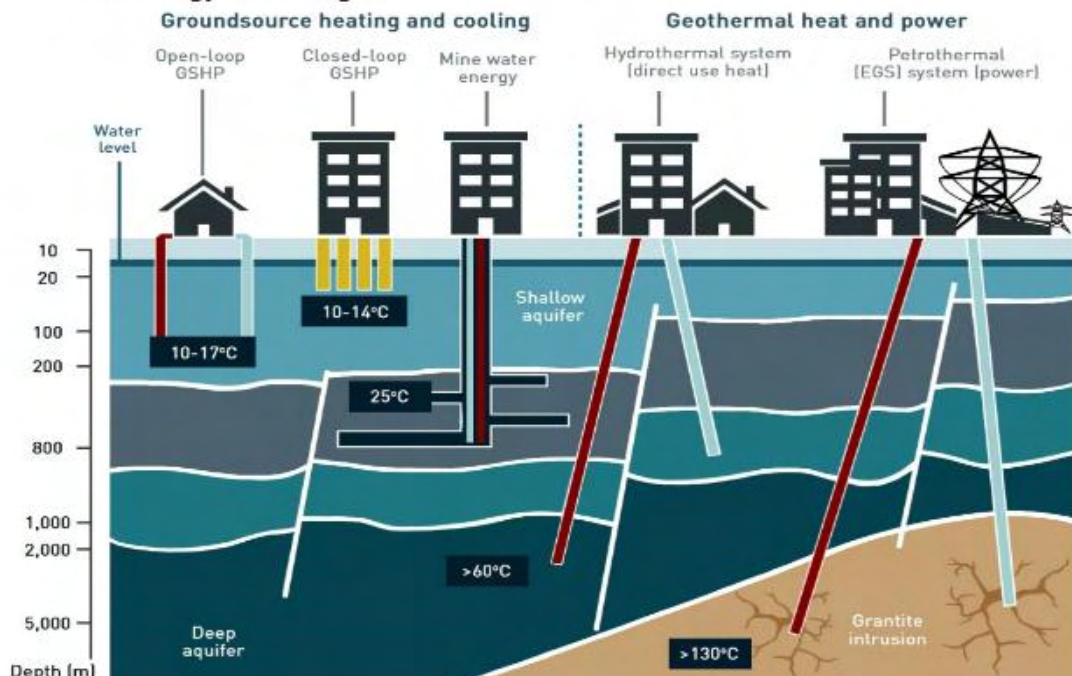
## Build a pipeline of projects



# 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



# Belfast retrofit hub



Construction  
Leadership  
Council

constructionleadershipcouncil.co.uk



PHOTO: © 2018, National Grid, City Homes, Energy Saving Trust, Helen Palmer

**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







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

It can be done

