City Leap Energy Partnership

David White, Head of Energy Services
Bristol City Council’s Energy Service
Bristol is the only Core City outside of London that makes a positive contribution to the UK Exchequer.
Bristol was voted GLOMO Smart City 2018, named European Green Capital in 2015, and has delivered over £50m of low-carbon energy infrastructure since 2012.
Developing a low-carbon, resilient and truly sustainable city is key to remaining competitive in the global economy...
The future local energy system
Energy is hugely significant to Bristol

**Economy**

The City of Bristol energy bill is £870 million per year (nearly all of this money leaves the city)

**Society**

c60,000 Bristolians are living in fuel poverty (many of whom rely heavily on our services)

**Environment**

Bristol’s CO₂ emissions are over 1.5 million tonnes annually
The UK is transitioning to a decentralised energy system
Enabling smarter and more flexible local energy

Maximising the use of local energy will support new business models, increasing local energy use and generation….

- Community energy
- Digital platforms
- Heat networks
- Local generation tariffs
- Peer-to-peer trading
- Microgrids
- Local energy markets
- Energy services
- Access to flexibility markets
Smart energy city

- Energy is a key area of need and opportunity for the application of smart technology.
- Realising the decentralised, renewable energy system will require smart grids and systems to manage demand, supply and storage.
- Smart technologies also empower citizens and communities to manage their energy use and become producers of energy – reversing the outward flow of money from the city.
- Smart energy solutions provide the basis of other services – such as health and social care services which can improve effectiveness or reduce costs.
Cities taking the lead

- **Leadership and innovation** - unique role in developing and demonstrating new low-carbon energy solutions.
- **Inspiring change** - through the assets they own, services they deliver, as social landlords, trusted community leaders and major employers, and their regulatory and strategic functions.
- **Securing local benefits** - lower energy bills, economic regeneration, creation of local jobs, improved health.
- **Creating partnerships** – between public and private sector, and between communities and city
- **Delivery at scale** - leveraging assets and infrastructure.
City Leap
The vision for City Leap

Taking advantage of the opportunity presented by the move to a local, decentralised energy system to:

• Create an interconnected, low-carbon, smart and resilient energy ecosystem that Bristol and its communities can be proud of.
• Deliver up to £1bn of low carbon, smart energy infrastructure investment in Bristol over the next 10 years.
• Leverage the council’s energy expertise, assets and companies to drive city-wide action.
• Take a significant step towards carbon neutrality by increasing the deployment of renewable energy and low-carbon technology.
• Maximise and share the social, environmental and economic benefits that will arise from this opportunity.
• Cement Bristol’s reputation as a global energy leader and take full advantage of City Leap – a global first.
The council’s delivery to date

- The only local authority in the country to own large-scale wind turbines having invested £7m in the installation of two 2.5MW wind turbines in 2015.
- Invested £5m in the installation and/or facilitation of 8MW of solar PV on council-owned buildings and land.
- Invested over £2m in biomass boilers with a generating capacity of 5.2MW.
- Invested £5m in low-carbon heat networks to date, connecting over 1,000 social housing properties to the network.
- Set up Bristol Energy, one of the only two municipally-owned energy companies in the UK, which now has over 150,000 customer meter points and is rapidly developing its energy services proposition and capability.
Other achievements

• Delivered an energy efficiency programme which has cut emissions in the council’s buildings by 60%, achieving the council’s 2020 carbon reduction target three years ahead of schedule.

• Manage a £1.8m SALIX revolving loan fund, which has been “revolved” three times, i.e. £3.6m of investment with sub five year payback.

• Delivered energy efficiency upgrades to 10,000 social housing and private domestic properties.

• Installation of energy efficient street lighting across the entire city.
Progress towards carbon neutrality

- We are making good progress but much of this is due to national action.
- We will need to accelerate local action to deliver carbon neutrality.
- 82% of residents are concerned or very concerned about the impact of climate change.
- Over two-thirds of citizens in every ward are concerned about the impact of climate change.
Working in partnership

• The challenges of shrinking public budgets mean we need to find innovative and inclusive ways of delivering and funding our ambition.

• We need to seriously up the pace of delivery and strategically co-ordinate the programme of work required to take the city to carbon neutrality.

• This cannot be achieved without the support and consent of the residents and business of Bristol
  • Engagement and, crucially, a level of ownership.

• Bristol has a unique energy eco-system:
  • highly engaged residents and a thriving community energy scene
  • home to a network of sustainability-focused organisations and businesses
  • world class research capability
  • our own energy company
  • a leading local authority
City Leap partners
The City Leap Prospectus

A slender document with unparalleled opportunities for our city...

• A soft market testing exercise launched on 9 May 2018.
• Our expression of interest window closed on 31 August 2018.

www.energyservicebristol.co.uk/prospectus
Heat networks

• The council has been installing heat networks for several years, with a focus on the densely populated city centre.

• Strategic heat main linking city centre to low carbon waste heat produced by industrial processes.

• The attraction of partners to support this area of activity would accelerate and enable the largest city-scale heat network in the UK.
Smart energy

Building on our reputation as GLOMO Smart City 2018, there are a number of opportunities that will be unlocked through investment, including:

- The creation of a ‘Bristol battery’, including solar PV, batteries, smart white goods, EVs and associated infrastructure, providing balancing services to the local and national transmission networks.

- Development and deployment of hardware and software solutions linking the above activities to maximise and equitably distribute the value generated.

Estimated investment potential up to 2027: £125m
Renewable energy

• Significant potential (>150MWe) for further renewable energy deployment across wind and solar PV.
• Utilisation of Council land and property to deliver and facilitate deployment.
• Generation can be either standalone or in conjunction with battery storage.
• Investment potential could be substantially higher if installation costs continue to fall and/or new revenue streams can be accessed, e.g. local tariffs, peer-to-peer trading.
Energy efficiency

- Significant potential in both domestic housing and commercial sectors.
- Seeking to deliver an energy efficiency programme at scale.
- Will likely require a revolving loan fund that can be accessed by the commercial sector and homeowners.
- Comprehensive and targeted suite of advice and support to SME business.
Other areas

- Electric Vehicles
- Marine Energy
- Temple Quarter
- Hydrogen
- Western Harbour
Soft market test
EOIs received: 181
Website Hits: 4,465
Downloads: 2,627

Media Coverage: 42
Events: 10

Organisation Type:
- Energy major: 40%
- Tech/smart: 23%
- Transport: 12%
- Contractor: 7%
- Finance: 4%
- Community: 4%
- Other:

Top media Tweet earned 5,157 impressions
There are just a few days left to express an interest in our City Leap initiative - partnership and investment opportunities to build a carbon neutral #Bristol | energyservicebristol.co.uk/prospectus
pic.twitter.com/UwxTkbPKW
Areas of interest

Heat Networks
58

Smart energy
89

Energy efficiency
120

Renewables
101

Transport (inc EV)
46

Finance
34
What’s next?

Expression of Interest Window

31 August – EOI window now closed

Sept/Oct – EOI meetings completed
6 Nov – Workshop 1: Objectives and scope of options appraisal
17 Dec – Workshop 2: Option appraisal review & recommendation

Post Expression of Interest

April 2019 – Cabinet Decision
April-Sept 2019 – Procurement
End 2019 – Implementation

Delivery
Conclusions
Conclusions

• The move to a smart, local, decentralised energy system presents a significant opportunity to decarbonise and democratise energy.

• In order to realise these opportunities, we will need to work in partnership with a wide range of organisations and strategically co-ordinate activity – this is the concept behind City Leap.

• We are currently in the process of completing our own options appraisal, with options being tested against objectives and outcomes.
Thank you!
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