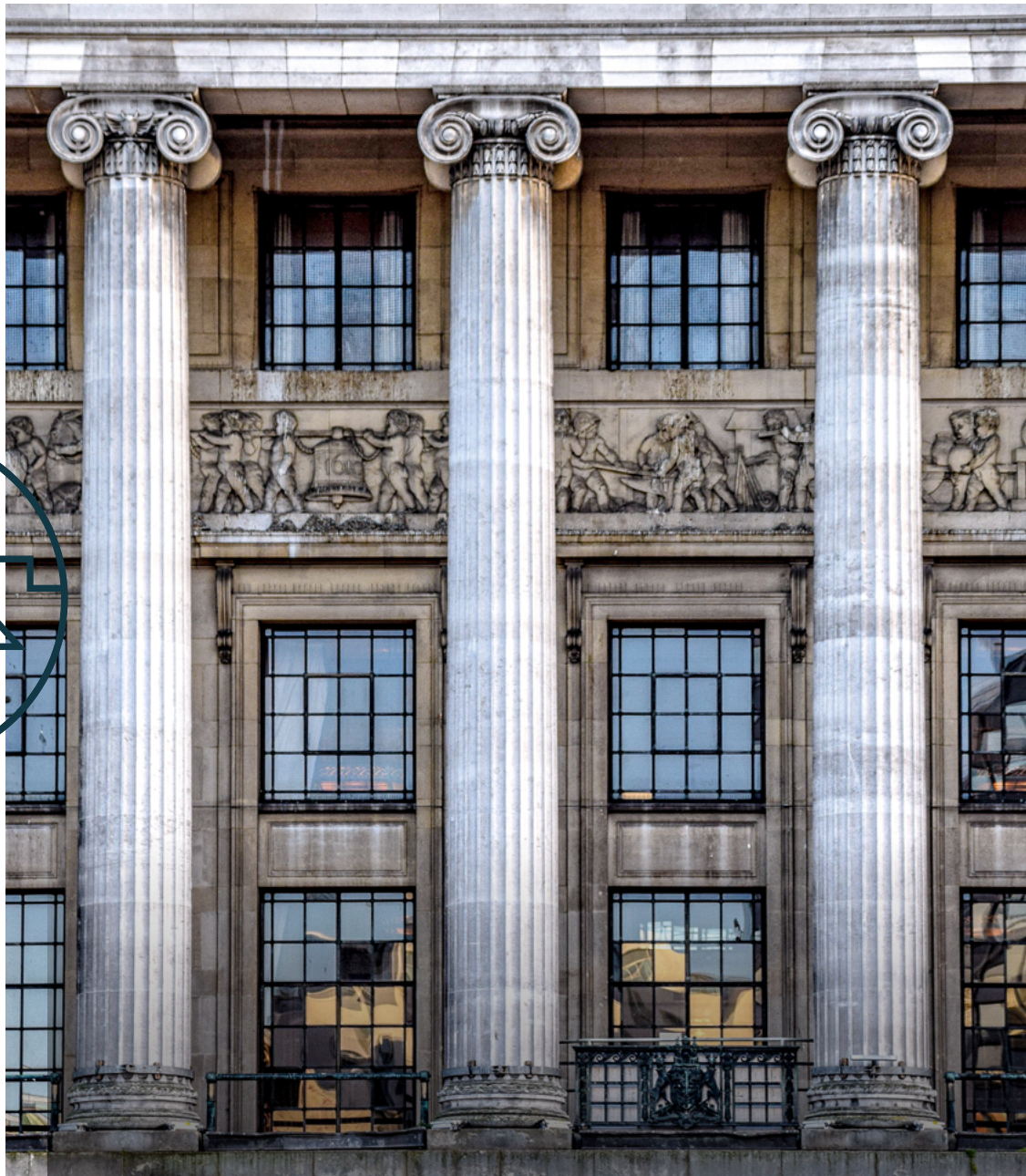
An Opportunity for the UK Infrastructure Bank to Accelerate the Pace of Net Zero Investment in our Cities

Bristol / Nottingham / Leeds

Charles Abel Smith August 2021



UK 100

About UK100:

UK100 is a network of highly ambitious local government leaders, who have pledged to secure the future for their communities by shifting to 100% clean energy by 2050. The most ambitious — our Net Zero Local Leadership Club — are doing everything within their power to get their communities to Net Zero as soon as possible, and by 2045 at the latest. This is not just good for the planet but for the people and communities they serve, be they in villages, towns or cities. Local leaders are working together to create flourishing communities, seizing the opportunities of technology to create jobs and establishing a nationwide project of renewal, focused on local needs and ambitions.

UK100 is the only network for UK local authorities, urban, suburban and rural, focused on climate and clean energy policy. We connect local leaders to each other, to business and to national government, enabling them to showcase their achievements, learn from each other and speak collectively to accelerate the transition to clean energy.

We work closely with elected representatives, policy experts and grassroots campaigners to make the clean energy transition a reality. This involves developing solutions to challenges faced by each and all of our local leaders, whatever their geography, history or makeup, so as to influence national government and build public support for clean energy solutions.

Contents:

1. Introduction:

Our report Accelerating the Rate of Investment in Local Energy Projects, published in July 2020, explained the role that local authorities can play in helping to deliver the investment in local energy projects needed to achieve the transition to Net Zero. We identified the potential scale of local energy investment and the barriers faced by local authorities in delivering it.

UK100's key recommendation was that Government support for local energy Net Zero investment would be delivered most effectively through a new Net Zero Development Bank.

We were delighted with the Government's announcement in the March 2021 Budget of the creation of a new UK Infrastructure Bank (UKIB) with a dual policy focus to tackle climate change and support regional and local economic growth.

The importance of support for local authorities was recognised in HM Treasury's Policy Design brief for the bank which confirmed that:

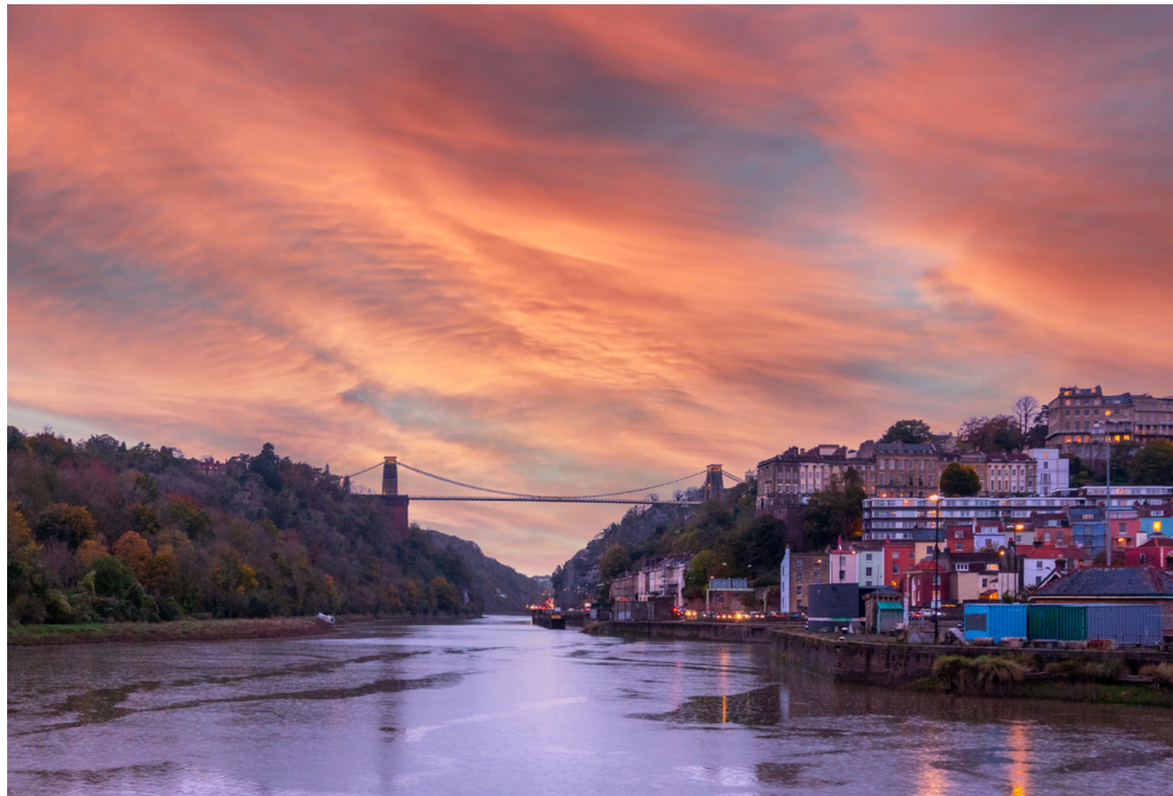
- the UKIB can lend to local and mayoral authorities to support their ambitions in delivering local projects;
- supporting local authorities will be central to the UKIB's objectives of Net Zero and levelling up;
- of its initial £12 billion of equity and debt capital, £4 billion will be allocated to local authority lending;
- from summer 2020, the UKIB will offer loans to local authorities at a rate of gilts + 60 bps for high value and strategic projects of at least £5 million;
- the UKIB will develop an advisory service for local authorities and other project sponsors to support project development.

In order to help HM Treasury understand the opportunities and challenges faced by local authorities in delivering Net Zero investment, UK100 arranged two focus group meetings with a range of local authorities to discuss:

- their ambitions for local infrastructure, including their current project pipelines;
- the obstacles they face in delivering projects;
- what support the bank could offer to help overcome these challenges.

The following local authorities were represented in the focus group meetings:

- Bristol City Council
- Cambridgeshire County Council
- Cornwall Council
- North of Tyne Combined Authority
- Nottingham City Council
- Leeds City Council
- West Midlands Combined Authority



2. Local authority barriers to Net Zero investment:

The focus groups highlighted key challenges that local authorities face in developing and delivering local energy projects. These included:

Resource constraints to originate and develop projects: local authorities have very limited resources to develop projects and this has been exacerbated by the budgetary challenges presented by the COVID pandemic. The five Local Energy Hubs in England have provided some additional development support but they are very thinly spread

Competing demands of council revenue and capital budgets: Net Zero investment has to compete with demands on council budgets to provide key services. Again this has been exacerbated by the COVID pandemic

Lack of patient capital/de-risking finance products: finance products are needed which recognise the risks and long term payback of many low carbon projects

Local energy projects are often small scale: local authorities lack the mechanisms to aggregate small projects to achieve economies of scale

Risk aversion: it is challenging for the public sector generally, and local authorities specifically, to invest in innovation/'first of kind' technologies and new delivery models

Stop/start government policy: low carbon investment has been subject to short term changes around revenue and grant support that has made it difficult to create viable long term programmes that generate economies of scale and drive down unit costs over time

Constraints of government funding: the terms of government funding to support local energy investment often prevent the optimum potential bids being made (for example, project scale thresholds, detailed bid criteria, process and timescale requirements). Local authorities typically 'respond to funding' which in some cases may limit capacity to develop a more strategic approach

Regulatory constraints: our current regulatory system has been designed to support our existing centralised energy system and therefore creates constraints for developing local solutions

Public Works Loan Board (PWLB) funding: is relatively inflexible and lacking in innovation. For example, it cannot be used to invest in assets that are not owned by the borrowing local authority

Supply chain capacity: The "stop/start" nature of short term funding creates a reluctance in local supply chains to gear up to short term opportunities, particularly those that require investment in new skills and accreditation.

3. What support do local authorities want from the UKIB?

The focus groups identified the following areas of support that they would like to see from the UKIB:

- **Provision of innovative financing solutions:** whilst the initial offer of £4 billion of low cost PWLB funding is welcome, local authorities would like to see the UKIB develop a range of much more innovative financing solutions which can help to support investment in local energy projects.

  These could include products such as loans with interest rates linked to ESG performance and financial guarantees/first loss support to unlock private investment. Access to capital markets at an early stage in project development would also be welcome.

  The UKIB should work with local authorities to develop financing aggregation approaches that would help to reduce the cost of funding.

  More broadly, it should help develop business models and mechanisms that would help local authorities to commercialise their investments and generate appropriate revenue streams to support the required funding.

  Local authorities would welcome the UKIB as a co-investor, providing debt and equity alongside their own investment.

- **Project development support:** local authorities see an important role for the UKIB in providing project development support.

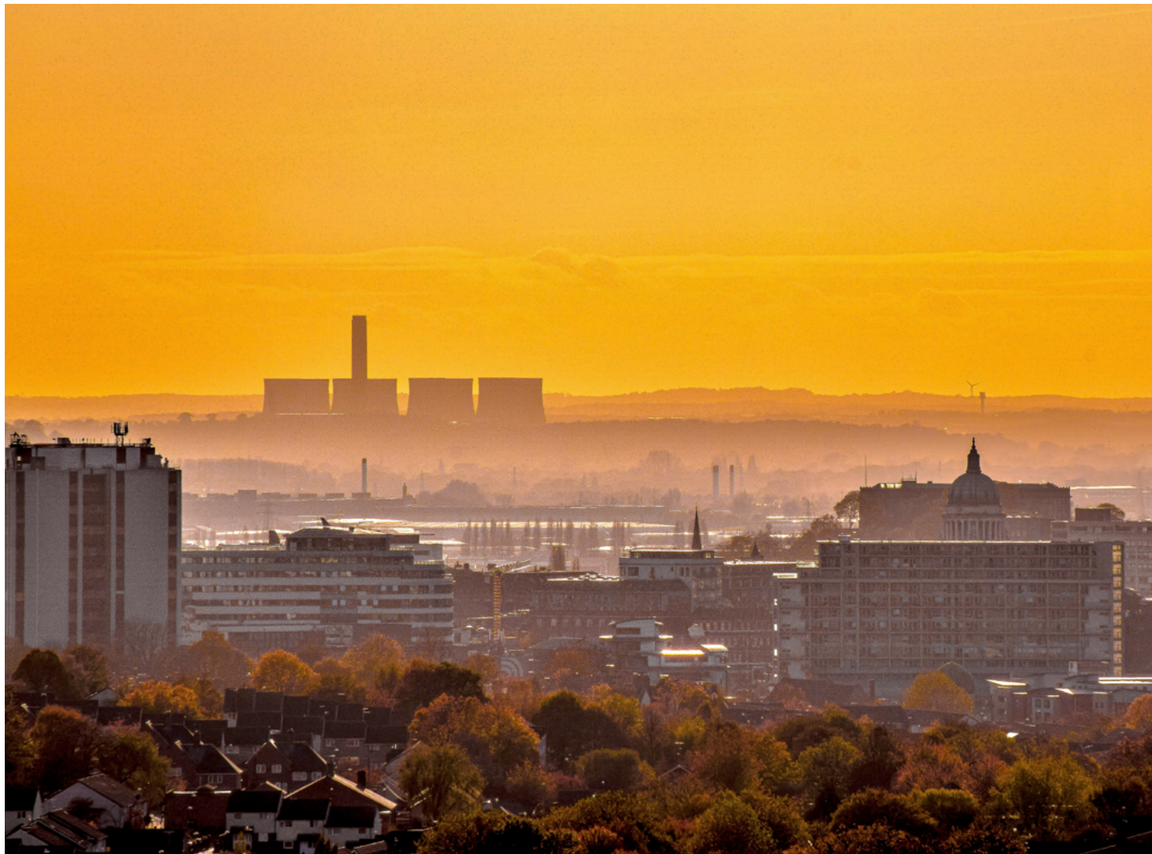
  The UKIB should become a centre of project development and financing excellence, with a capacity to provide critical friend support throughout the project development process. It can facilitate knowledge transfer through encouraging networking between local authorities, government departments and industry.

  However, UKIB support for project development needs to go beyond simply being a critical friend.

  It needs to develop financing approaches that enable local authorities to have the technical and commercial resources they need to turn their conceptual investment opportunities into investable projects. Much of the development work done by local authorities to date has been achieved with EU funding that is no longer available.

- **Ensure that all government support is aligned to maximise local energy investment:** the UKIB, with its market facing finance mandate, will be well placed to understand the market barriers to accelerating the pace of local energy investment.

  It has a key role to play in providing feedback to government on how its wide range of support for local energy investment should be aligned and developed to maximise the pace of such investment (including subsidy support, regulatory environment and other relevant policies designed to accelerate investment).



4. Opportunities for early UKIB support – three case studies:

We have identified three major UK cities which are at the forefront of investing in local energy projects:

- Bristol
- Nottingham
- Leeds

All three cities have ambitious targets for achieving Net Zero.

They have already achieved significant investment across a range of low carbon projects.

They understand the scale of investment needed to achieve Net Zero and have identified significant pipelines of projects that could be delivered over the next five to ten years with appropriate support.

Whilst the key targeted sectors of investment in each of these cities are quite similar, they are adopting different approaches to achieving this. They would all welcome support from the UKIB to help them deliver this investment. They would be keen to work with the UKIB to develop programme scale solutions that could be applied across the UK to accelerate the rate of place based Net Zero investment.

- Bristol is in the process of procuring a private sector joint venture partner to help it develop and deliver a city scale investment programme. It could benefit from UKIB critical friend support in helping it to formulate a replicable procurement and contractual approach which other areas could adopt
- Nottingham has delivered a broad range of demonstrator Net Zero projects across the city. It could benefit from development support which helps it to deliver city scale investment projects working with the city's strong ecosystem of the council, its universities and key private sector partners
- Leeds is developing a clear pipeline of potential Net Zero investment. Its hosting of the UKIB provides the bank with an excellent opportunity to work closely with the city to create replicable solutions to deliver this potential.

One of the recurring themes at the UK100 and West Midlands Combined Authority's International Net Zero Local Leadership Conference held on 13 July 2021 was the need to experiment with different approaches to achieving Net Zero and to avoid putting 'all our eggs into one basket'.

> **The risk is taking us a premature approach of just backing one technology and not trying to do anything else. Just keep it as open as possible until it's really clear which technologies do benefit from or would benefit from government support. Don't throw all your eggs in one basket.**
>
> **Anthony Brown MP, UK100/WMCA International Net Zero Local Leadership Conference, 13th July 2021**

These three cities offer scalable portfolios of investment potential that provide ideal opportunities to apply this approach.

All would benefit from UKIB support to develop innovative financing solutions, designed to address the investment challenges posed by these project pipelines and to crowd in private capital alongside public funding.

They would also welcome UKIB help in ensuring the alignment of government and regulatory support for Net Zero investment.

4.1 Bristol

Background

In November 2018, Bristol City Council ("BCC") became the first UK local authority to declare a climate emergency.

In partnership with local organisations, BCC has set a goal for the city to become carbon neutral by 2030, recognising the need to rapidly accelerate action. There is cross-party support for this 2030 ambition but recognition that this will be challenging to achieve. In leading by example, BCC has set itself the target to become Net Zero for scope 1 and 2 emissions by 2025. Bristol estimates that it needs investment of £5 billion in local energy and £4 billion in sustainable transport over the next 10 years to achieve Net Zero.

Bristol has benefitted from significant EU ELENA support for its energy team. Over £60 million has been invested to date in renewable and low carbon projects to date with BCC's support as outlined in the table below.

There is now an urgent need to accelerate the pace of delivery in Bristol if the city and the council are to achieve these goals and targets.

BCC's key achievements to date	
Domestic energy efficiency	• Supporting energy efficiency upgrades to 10,000 social housing and private domestic properties
Heat networks	• >£15m in low carbon heat networks with first commercial connections secured
Small energy systems	• Supporting 52 local community energy projects with £0.25m grant funding
Renewable energy	• £7m installation of wind turbines • £5m in 4MW solar PV on council-owned buildings and land • Facilitating delivery of 4.2MW community-owned solar farm
Other	• Launched South West Energy Unit to deliver £38m investment in low carbon energy infrastructure across three local authorities
Transport	• Project to deliver 120 new public EV charging points in West of England Region by 2021
TOTAL	> £60m

Bristol's City Leap

Bristol's City Leap programme is a new strategic approach towards public and private partnership which is aiming to deliver up to £1 billion of low carbon energy investment into the city.

It covers a broad range of project types, including low carbon heat networks, renewable energy from wind and solar, as well as energy efficiency, EVs and smart energy systems.

It supports BCC's and national government's decarbonisation target and creates a replicable model for other cities to follow.

How will City Leap work?

BCC is letting a 20 year concession to a City Leap Strategic Partner to deliver and fund low carbon energy projects across the council's estate.

The council and strategic partner will establish and co-own a 50:50 joint venture company.

City Leap will also seek to leverage its work on the council's estate to deliver projects into the domestic and commercial sectors in Bristol, as well as working with other local authorities.

City Leap will be part of the answer to Bristol's £5-7 billion investment challenge by 2030 but is not the whole answer.

City Leap – Estimated low carbon investment opportunities	
Domestic energy efficiency	£300m
Commercial energy efficiency	£100m
Heat networks	£300m
Small energy systems	£125m
Renewable energy	£40m
Monitoring, dissemination and evaluation	£40m
Transport	Additional
Hydrogen	Additional
Marine energy	Additional
TOTAL	£875m

City Leap investment opportunities

The table above sets out the City Leap investment potential that was outlined in the prospectus that BCC published in 2018.

As the City Leap procurement process has not yet been completed, BCC is unable to provide more up-to-date information on its pipeline.

How can the UKIB help Bristol?

Bristol's City Leap programme recognises the need for the council to work with a private sector partner in order to accelerate the rate of Net Zero investment in the city.

The procurement of a joint venture partner to deliver its ambition is a complex exercise which began in 2019.

A key underlying challenge is how best to define the exclusivity and investment rights that its chosen partner will benefit from in return for committing to develop and deliver the conceptual pipeline that BCC has set out in its City Leap prospectus.

The actual quantum of investable projects that can be delivered, and the ability to crowd in private capital alongside public funding, will depend heavily on the prevailing regulatory and commercial environment in which such investment will need to be delivered and operate.

The UKIB could play an important role in helping BCC to develop a replicable approach for city/regional scale programmes through:

- providing critical friend support in developing an appropriate and trusted contractual basis for its relationship with its chosen private sector partner;
- developing innovative financing support and solutions that help to crowd in private capital and secure funding at scale on affordable terms; and
- understanding the economic and regulatory barriers to the desired areas of investment and advocating for appropriate economic and regulatory support from government.

4.2 Nottingham

Background

Nottingham has set itself a target of becoming the first carbon neutral city in England, reaching this target by 2028.

The Carbon Neutral Nottingham 2020-2028 Action Plan involves nearly 300 actions across the following themes:

- **Transport**
- **Built environment**
- **Energy generation**
- **Waste and water**
- **Consumption**

These actions include those that Nottingham City Council ('NCC') can take itself and those that can be taken working with city partners. An Implementation Group has been established with theme leads and deputies and key advisers (for example, public health, economic development and finance).

A CN28 Board has been established chaired by the Deputy Leader of NCC. In-depth deliverability analysis has been completed and actions are already underway. There is a focus on actions that can contribute to COVID recovery (for example, job creation, service reinstatement/ enhancement and tackling fuel poverty).

The table below lists some of the city's recent achievements in low carbon investment.

Nottingham - some key recent achievements	
Domestic energy efficiency	• Council housing 'retrofit' programme, > 4,000 homes fitted with solar panels
Renewable energy	• 21% of city energy demand covered by renewable within the city boundary • 60 commercial scale solar PV arrays owned and operated by NCC
Transport	• 30% of Council fleet are now ultra low emission vehicles (ULEV) • World's first e-refuse collection vehicles in use • 130 public EV charging points • 59m journeys on bus and light rail • 32km tram network, 18.7m passenger journeys, 3rd highest outside London • 200 e-scooters • Traffic calming and road closure schemes in place to encourage walking and cycling • ULEV taxis – 46% Hackney, 69% private hire
Carbon capture	• 8,500 new trees planted (50,000 by 2023)
Training	• £7.5m BEIS grant for training in green skills

Whilst Nottingham has successfully delivered a wide range of clean energy demonstrator projects which have received support from InnovateUK and EU Horizon2020 programmes, it has not benefited from ELENA or other programme development funding sources to help it develop a city wide programme of projects.

Strong collaboration between NCC, the city's universities and private sector partners has been a key factor in enabling the city to develop its demonstrator projects.

Nottingham's scale, its location in the UK and its demographic mix have made it a traditional testing ground for retail and other innovation.
It also benefits from strong technical base.

Silicon Valley of the Midlands

> **Nottingham has the potential to become a 'Silicon Valley of the Midlands**
>
> **Sir John Peace, Chairman, Midlands Engine and Chancellor, Nottingham Trent University**

> **For a city of its size, Nottingham punches above its weight when it comes to being the home of industry-leading multinationals**
>
> **Scott Knowles, Chief Executive, East Midlands Chamber**

A Smart City

The UK Smart Cities Index (2017) ranked Nottingham number eight of the UK 20 leading smart cities …and the top smart city for energy.

Nottingham pipeline opportunities

The table below summarises some of the potential city Net Zero investment in Nottingham that has already been identified.

Nottingham pipeline		
Domestic energy efficiency	£540m	• Based on NCC stock of 25,000 homes
Commercial energy efficiency	To be assessed	• Locally owned factories
Heat networks	£60m	• Replacement of ageing energy centre
Grid capacity	£26m	• Constrained city electricity grid
Renewable energy • Solar PV • Mine water energy	£63m £15m	• Solar PV schemes across city
Transport	£22m	• New NCC EV fleet • Extension to tram network
TOTAL	£726m	

Domestic Energy Efficiency

Domestic energy efficiency retrofit provides a significant opportunity for scaling up Net Zero investment in the short term.

NCC owns 25,000 homes. An average investment of just £20,000 per unit would generate a total investment of £540 million. Nottingham is therefore well placed to develop innovative programme approaches to cost effective domestic retrofit.

It is already partnering with The Mayor of London's retrofit accelerator programme for housing, through its links with Energiesprong UK, to develop an innovation partnership for deep retrofit. It is developing an offsite manufacturing approach to whole house low carbon construction and retrofit with performance guarantees.

This partnership is aimed at establishing the 'sweet spot' where cost

effective deep, whole house retrofit can be delivered at scale. It will allow the supply chain to develop solutions and scale these whilst building capability and capacity and is intended to run for three years to properly launch the deep retrofit market.

There is currently a funding gap of c.£25,000 between the cost of offsite manufacture of external fabric measures and the investment that can be justified based on long term maintenance savings, property value increases and other revenues. This will decrease through economies of scale and innovation in approach thereby reducing the initial funding support of £20 million per year whilst maintaining rates of delivery. Support in terms of access to capital would also be needed. Whilst NCC could borrow the money for the match funding to invest in this programme, it faces competing calls from other service areas that make funding support for this retrofit programme challenging.

A lower borrowing rate for infrastructure investment would make borrowing more affordable to support a capital spend of £30 million per year, as would specific funding to bolster the current Energy Company Obligation (ECO) arrangements and extend it to EPC 'D' properties.

Grid capacity

Nottingham's electricity grid capacity is currently very constrained. This is acting as a barrier to inward investment.

NCC has estimated that over £26 million investment is required in a new primary substation and the development of new grid capacity.

It has secured nearly €1 million funding from EU Interreg NEW towards a D2Grids £1.4 million pilot project that is linked to a scheme to use mine water to help heat homes but this requires match funding to proceed.

Solar PV Generation

The city has identified a range of potential solar PV projects:

- ***Nottingham Solar Farm - local carbon neutral energy for mass transit:*** Nottingham City Tram (Tramlink) requires approximately 21.4m kWh per year. Some of this could be provided by the solar farm, initially sized at 10MW, with the potential to increase to 17MW and an estimated annual production of 8.64 kWh. The cost of a 10MW installation is estimated at £10 million.

A private wire connection to the closest substation has already been completed and District Network Operator (DNO) approval has already been granted. With funding this project could be started very quickly.

- ***N2 Solar Array:*** A consortium approach to solar PV is being developed across Nottinghamshire. The two Nottingham universities (University of Nottingham and Nottingham Trent) and the Nottinghamshire local authorities are investigating the option to develop utility scale solar to supply their electrical energy demand. The stakeholders would be able to invest in the array and purchase energy from it or simply purchase energy generated by it.

The capital cost is estimated at £35 million based on a 50MW array. Funding for this would come from the universities and relevant local authorities with the option of development at lower risk with partial private investment. Nottinghamshire Pension Fund could also be approached given the pressure they are under to decarbonise their investments.

- ***Nottinghamshire Farms corporate power purchase agreement (CPPA):*** NCC is in discussions to become the main off-taker of this scheme via a CPPA. It would supply NCC's operational buildings from four 2MW sites in Nottinghamshire.

The capital cost is estimated at £6 million. While there is an option to fund the scheme with private investment, it may be possible to negotiate a better power purchase agreement in which NCC would be enabled

to provide funding resulting in it having part or full ownership of the schemes.

Site commencement is expected in late Summer 2021, following expected receipt of necessary planning and DNO approvals.

- ***NCC Cross City Solar:*** NCC is identifying the three most viable sites for solar farm development from a short list of 11 sites that have a potential direct off-taker within a mile of the site and which could generate an IRR of over 10% for the council. NCC would be open to developing these sites in partnership with a funder.

NCC believes that the three solar farms will cost nearly £17 million and that they offer the potential for construction to begin in 2021/22.

Mine water energy

The mine water energy heating aspect of the D2Grids scheme is estimated to cost c.£15 million.

It is estimated that this scheme could eventually generate a return on investment of 6% per annum, increasing with volume, but it is likely to need support in the form of capital investment and initial at-risk funding for exploratory/feasibility study work to fully establish its financial viability.

Transport

- ***Extension to tram network:*** NCC wants to extend the city's tram network to Toton, Clifton and Gedling, connecting areas for housing growth with areas of employment expansion.

It estimates that £10 million is needed to develop the business cases for these extensions.

- ***Greening the waste collection fleet:*** NCC estimates a cost of £12 million to replace the city's diesel refuse collection fleet with EVs.

Other

The table on page [ ] does not include a broad range of further potential projects including:

- a schools' zero carbon package
- urban wind innovation
- continued scale up and rollout of existing projects (e.g. solar PV, vehicle-to-grid technology, stationary fuel cells and Innovation Gateway pilot)

In addition to these projects there are two sites in and close to Nottingham with significant 'Net Zero' investment opportunities.

- ***Broadmarsh shopping centre site:*** the site of a large shopping centre that opened in the centre of Nottingham in 1975 and was owned by Intu which went into receivership last year. NCC has taken on the lease of the site and has partly demolished the shopping centre. NCC has set up a steering committee, with a mix of local councillors and experts to decide what to do with this site. Its redevelopment will need to be achieved in a manner consistent with NCC's Net Zero ambition.

- ***Ratcliffe-on-Soar power station site:*** In March 2021 the Midlands Engine, through its Development Corporation submitted its business case to Government for the redevelopment of the Ratcliffe-on-Soar Power Station site, which will stop generating coal fired electricity by October 2025, into an energy hub for innovation and business. This would involve transforming part of the site of the UK's last coal fired power station into a national centre for carbon zero technologies and manufacturing innovation.

How can the UKIB help Nottingham?

In contrast to Bristol, Nottingham has not benefited from an ELENA programme to help it develop a city scale pipeline of investable Net Zero projects.

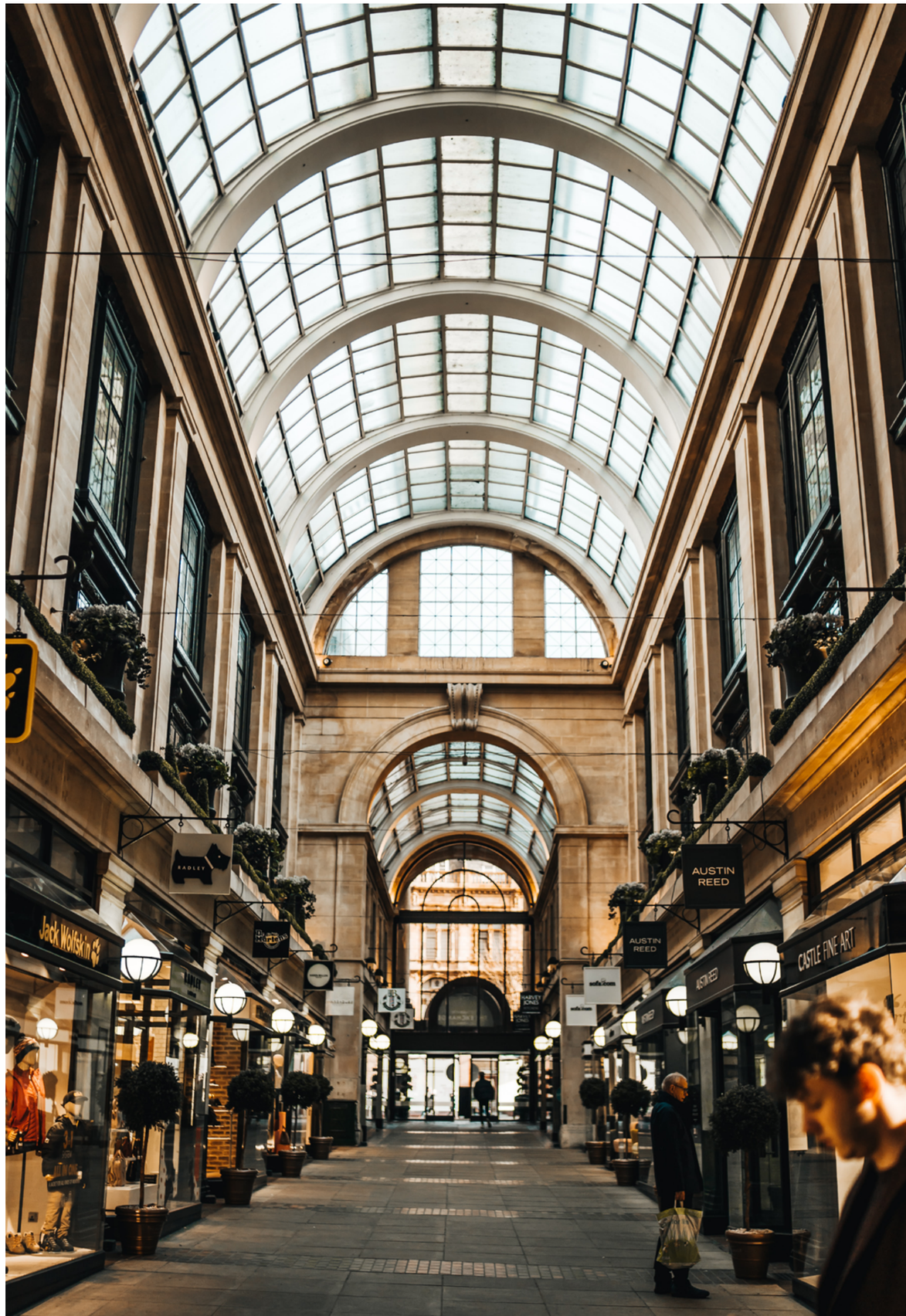
The city has a strong combination of local authority, university and private sector commitment to Net Zero investment which has delivered its wide range of demonstrator scale projects. NCC also hosts the Midlands Energy Hub although its development resources are thinly spread across the large Midlands region.

It has a clear vision of the Net Zero investment it would like to be delivered but is very resource constrained in achieving this.

Nottingham offers the UKIB a valuable opportunity for it to work with a leading city to understand and help unblock the barriers to delivering its Net Zero ambition through:

- funding support for a dedicated city/regional scale development team, with a brief to work closely with NCC and adjacent local authorities, the city's two universities, other public sector bodies in the city and key private sector parties to convert its conceptual pipeline into deliverable projects;and, as with Bristol;

- developing innovative financing support and solutions that help to crowd in private capital and secure funding at scale on affordable terms; and understanding the economic and regulatory barriers to the desired areas of investment and advocating for appropriate economic and regulatory support from government.



4.3 Leeds

Background

Having declared a climate emergency in March 2019, Leeds City Council (LCC) resolved to make Leeds carbon neutral by 2030.

The Leeds Climate Commission — established in 2016 as an independent commission to bring together key actors from the public, private and civic/community sectors across the city — published its first version of the Leeds Net-Zero Carbon Roadmap in spring 2019. It published an updated roadmap in January 2021.

This has identified technically viable investments of c.£1.1 billion a year through the 2020s which could close the gap to Net Zero by 60%, reducing Leeds' annual energy bill by £555 million and creating over 30,000 years of extra employment.

Leeds intends shortly to launch a Leeds Low Carbon Investment Prospectus to accelerate the delivery of £1.3 billion of cost effective, low carbon measures that have been identified in its roadmap. Its first phase seeks to present up to £130 million of investment opportunities for rooftop solar across the city's public and commercial buildings.

The table below lists some of LCC's recent low carbon investments.

Leeds - some key recent achievements	
Domestic energy efficiency	**Holbeck phases 1 and 2 – Housing retrofit** • LCC has recently completed c.£5m investment in 153 homes that transformed the properties and perception of the area, raising EPC ratings from F/G to B/C • Phase 2, involving 100 more homes, is currently underway **Shakespeares - Housing retrofit and district heating** • LCC owns and manages over 110 blocks of multi-storey flats. These had fallen behind other housing types in terms of energy efficiency, with tenants complaining of cold and high energy bills • LCC developed a 10 year investment plan (insulation and/or heating upgrade) to improve standard in all blocks • Three Shakespeare blocks received c.£6m investment to connect to Leeds PIPES (see below) to replace storage heaters, provide external fireproof insulation and repair external concrete finish.
Renewable energy and transport	**Stourton Park and Ride - Solar PV and EV charging** • c£5m investment (part funded by ERDF) to install 1.3MW of solar canopies over >400 parking spaces at the new Stourton Park and Ride, with a large battery and 24 EV charge points • Site will operate with electric buses.
District heating	**Leeds PIPES** • LCC recently procured an Energy from Waste (EfW) plant and chose to locate it c.3km from the city centre to allow it to provide low carbon heat to a new district heating network • LCC has invested c.£45m since 2017 in phases 1 and 2 of the network, including converting 1200 council flats from electric to district heating • Plans to grow the network rapidly over 5-10 years.

How can the UKIB help Nottingham?

The table below summarises some of the potential Net Zero investment in Leeds that has already been identified.

Leeds		
Sector	**Value**	**Comment**
Domestic energy efficiency	**£200m+** **£50m+**	• Council house insulation, solar and battery retrofit programme to near Net Zero standard • Area-based approach for able-to-pay private households in low EPC housing
Low carbon heating	**c.£20m** **£20m**	• District heating extensions to the city centre south and into the Southbank • Heat pumps for 20 tower blocks
Renewable energy	£130m	• Rooftop solar across the city's public and commercial buildings
Renewable energy and transport	c.£20m £5-10m £10m	• Integrated solar PV, battery storage and EV charging at four Park and Ride sites • Rapid chargers for EVS • Commercial hydrogen refuelling station
TOTAL	c.£460m	

This is very much a partial snapshot of the potential scale of Net Zero investment, limited to those opportunities for which LCC has developed business cases.

Domestic energy efficiency

With the help of BEIS funding, LCC has identified a clear need for retrofit investment across its portfolio of social housing stock to bring these homes to a near-zero standard. Whilst tenant fuel bill savings could support some of the investment required, significant grant funding will be needed to support this programme. There is the potential to bring in partners to fund solar PV and battery installations. The current stop/start approach to funding is hampering the ability to develop a cost effective programme approach.

LCC has also been considering the potential to support area-based approaches for 'able-to-pay' private households in low EPC rated housing to improve the energy efficiency of the homes, particularly those with solid walls and off the gas grid. LCC is liaising closely with the Green Finance Institute which is seeking to develop viable funding approaches to support the rollout of this type of investment at scale.

Low carbon heating

LCC is considering extending the city's heat network to take advantage of the 160GWh heat available per year from its EfW plant.
Its preferred approach is to use council funding initially, potentially seeking a funding partner (such as a pension fund) once operational performance has been proven and external funding can be attracted on better terms.

LCC is also considering heat pump installation for 20 of its residential tower blocks. Whilst this is a proven concept, the business case for this investment is based on grant funding as tenant fuel savings can only support a small part of the investment required. The current investment by LCC is being funded with ERDF grants matched by LCC funding.
Renewable energy

Leeds Low Carbon Investment Prospectus is designed to accelerate the delivery of £1.3 billion of cost effective, low carbon measures that have been identified in its roadmap. Its first phase seeks to present up to £130 million of investment opportunities for rooftop solar across the city's public and commercial buildings.

Renewable energy and transport

Leeds does not have a rapid light transit system so LCC is investing in Park and Ride to reduce car journeys into the city centre. It is nearing the completion of installing solar canopies over 400 car parking spaces at one of its Park and Ride sites, coupled with battery storage and EV charging points. This has been part-funded by ERDF.

The council has identified four further sites that could benefit from this investment.

LCC is also supporting a broader programme of installing rapid EV chargers across the city which is partially supported by grant funding.

LCC has carried out initial market engagement for a commercial hydrogen refuelling station in the city. Whilst there is strong appetite from the market in partnering with the council, the financial viability of a hydrogen refuelling station depends on securing anchor load customers to provide a base level of demand.

Regeneration of Southbank

The Southbank is a large regeneration area just to the south of the existing city centre, with ambitious plans for regeneration, including being the location for the Leeds HS2 station.

However, one of the challenges is to overcome inertia in the area, with costs of land remediation and new transport and utilities infrastructure being burdensome for individual developments, stifling momentum.

LCC believes that strategic investment in key infrastructure, including transport and low carbon energy, could kick start development, economic growth, create a distinctive low carbon quarter and contribute to levelling up within the city.

CEG, a private property group, is a significant landowner (including the site of the new British Library) and their Development Manager is a Leeds Climate Commissioner.

How can the UKIB help Leeds?

Leeds is developing a very clear idea of the Net Zero investment pipeline that must be delivered for it to realise its Net Zero ambition. LCC is watching the progress of Bristol, with its City Leap procurement, to see if this is a model which it should follow.

As the base for the UKIB, Leeds presents a good opportunity for the bank to work closely with the city region's local authorities, other public sector bodies, universities and key private sector partners to identify how best to help them accelerate the region's Net Zero investment.

As with Nottingham key elements of this support could include:

- funding support for a dedicated city/regional scale development team;
- developing innovative financing support and solutions that help to crowd in private capital and secure funding at scale on affordable terms; and
- understanding the economic and regulatory barriers to the desired areas of investment and advocating for appropriate economic and regulatory support from government.


UK:
100