

Creating a joint vision
for the
**Tyseley Environmental
Enterprise District**

Draft Report

April 2022

UNIVERSITY OF
BIRMINGHAM



Jacobs

**Jacobs**UNIVERSITY OF
BIRMINGHAMBIRMINGHAM
ENERGY INSTITUTE

The TEED partnership, formed by Birmingham City Council, University of Birmingham and Tyseley Energy Park, have commissioned Jacobs to develop a vision for Tyseley Environmental Enterprise District (TEED), building on the objectives established within the East Birmingham Inclusive Growth Strategy (adopted 2021). The vision aims to define a clear identity for the area, reflecting the Council's overall commitment to net zero carbon. The vision will leverage on key assets and initiatives already underway within the area such as the existing green and blue infrastructure, long-established transport routes, 230 local businesses, and the low and zero carbon businesses and energy systems driven by Tyseley Energy Park and University of Birmingham.

Jacobs U.K. Limited
7th Floor, 2 Colmore Square
38 Colmore Circus, Queensway
Birmingham B4 6BN
United Kingdom
T +44 (0)121 237 4000
www.jacobs.com



CONTENTS

| | | |
|-----------|-----------------|----|
| 01 | Introduction | 4 |
| 02 | Case for Change | 8 |
| 03 | The Vision | 16 |
| 04 | Roadmap | 40 |

01 Introduction

Tyseley Environmental Enterprise District (TEED)

is an area that covers over 100 hectares, located 2.5km southeast of the city centre between the A45 Coventry Road and the A41 Warwick Road, with close proximity to the Birmingham International Airport.

With a strong industrial and rail legacy, the area has been **designated as the city's Environmental Enterprise District** in the Birmingham Development Plan (adopted 2017), defining TEED as an economic zone for *low carbon economy in Birmingham, encouraging recycling, energy production and renewables including manufacturing and supply chain development*. In 2017, a **Local Development Order** was adopted to encourage development by reducing costs and providing certainty for potential developers and businesses through a simplified planning process. It was anticipated that the Economic Zone will ultimately provide over 100,000sqm of new floor space as well as 1,500 jobs.

Tyseley is also a designated **'Green Travel District'**, which is a fully-funded programme to reduce the use of private vehicles through schemes such as car clubs, bike hire, and freight consolidation.

Whilst there has been some recent redevelopment, the area is **in need of continued investment**, to tackle local socio-economic conditions, physical barriers, and spatial constraints that undermine community integration and site attractiveness.

This **vision aims to define a clear identity for the area**, reflecting Birmingham City Council's overall commitment to net zero carbon. It will leverage key assets and initiatives already underway within the area, such as the existing green and blue infrastructure, long-established transport routes, 230 local businesses, and the low and zero carbon businesses and energy systems driven by Tyseley Energy Park and the University of Birmingham.

It illustrates the **opportunities for growth beyond the existing ambitions for the area**, driving inclusive growth and leading a green energy revolution. It aims for an exemplary living and working environment that complements the objectives established by the **East Birmingham Inclusive Growth Strategy** adopted in 2021. It

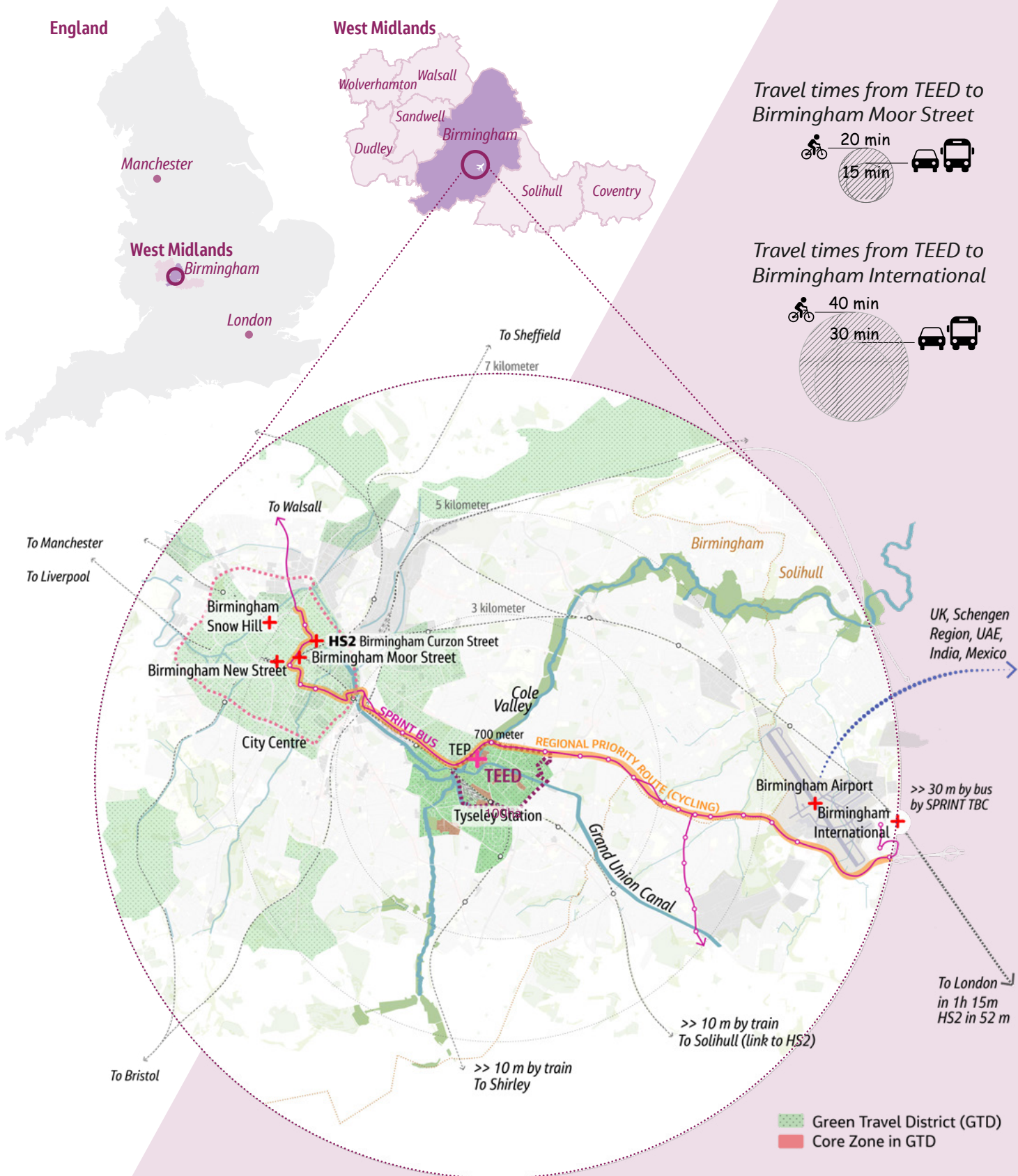
is envisioned that the growth in TEED will spill over to the adjoining areas, benefiting the wider community. This vision is also guided by **5 key policy drivers** to:

- Reduce Emissions and Achieve 'Net Zero Carbon';
- Promote Inclusivity and Accessibility to Ensure Opportunity for All;
- Harness the Potential of the High Growth Clean Tech Sector;
- Support the Recovery from the COVID19 Pandemic;
- Complement Ongoing and Committed Activities Proposed for TEED.

When developing this vision, **stakeholder mapping** was carried out at the outset, to identify key stakeholders and understand existing relationships. Key stakeholders were invited to one-on-one interviews to help shape our approach. In addition, an online collaborative workshop was held with a wide range of stakeholders, ranging from business representatives, community groups, councillors, transport providers, to technical experts. Their input has provided significant local insights and an evidence base for our vision. Continued engagement with stakeholders and the wider community is endeavoured in the future development of TEED to ensure the local concerns and ambitions are taken on-board.

This document outlines the key ambitions and challenges identified through an in-depth policy review, socio-economic and spatial analysis, and stakeholder engagement. It illustrates the vision aspirations for TEED, through defining key themes and objectives, benchmarking, and identifying emerging interventions. It sets out the roadmap for the development of TEED, explaining possible governance structure, applicable planning tools, key ingredients of a prospectus and a high-level timeline that informs the next steps for TEED.

Along with the development of the emerging Birmingham Plan, the recently published "Strength in Common" document, and the strong driving forces from the key businesses and communities in the area, it is now the time to make a change, and help define the area together.



Tyseley is at the forefront of clean energy and sustainable technologies. There is an opportunity for this growth sector to be one of the **'industries of the future'** which will attract future investment to East Birmingham, creating skills and employment opportunities for local people.

East Birmingham Inclusive Growth Strategy



WE'RE HIRING
TECHNICIANS



Call for your
FREE snack service
07948 609776

SNACK
BOX

Mart

Delivering Snacks to the work place

CX59 TFZ



FE60 VTA



02

Case for Change

02 Case for Change

The immediate realities and longer term threat posed by climate change necessitate a step-change in economic development and growth at the local, national and global levels. The transition to clean and green energy, technology, industry and social activity, underpinned by circular economy principles, must be expedited to minimise catastrophic impact on communities everywhere. Industrial districts such as TEED provide an opportunity to accelerate the movement towards a low carbon, low waste economy through encouraging recycling, energy production and renewables including manufacturing and supply chain development. However, TEED cannot be considered independently and isolated from its wider context area; it has the potential to transform the socio-economic conditions of the local communities within which it is embedded.

Context for Change

As documented in Section 1, TEED is already a fully functioning, diverse and thriving anchor of economic activity within Birmingham's industrial landscape, supporting c. **250 businesses, 8,000 jobs across 100 hectares** of industrial and employment land and many first-of-its-kind, cutting-edge facilities (e.g. the UK's first low and zero carbon refuelling station). The economic activity, widely distributed across many sectors but with a growing focus on waste management, low carbon energy production and manufacturing, co-exists with a sizeable **residential population of c.7,750 within TEED** and its immediate surrounds. TEED is therefore much more than just an anchor for industrial activity; it also supports a large residential community.

Given the scale and focus of activity in TEED, the area already acts as a principle driver of economic growth and development in the city. Its designation as Birmingham's primary location for pursuing net

zero and decarbonisation aspirations means that TEED benefits from the presence of significant assets already. However, despite the presence of major economic assets, the area is marked by significant socioeconomic challenge, with TEED and its immediate hinterland recognised as performing poorly against a range of socio-economic indicators including labour market, employment, housing, wages and income, skills and public health (see infographic on P.9).

The recent growth and success of TEED has not transferred to its local community. A holistic approach to planning progress at TEED is required to ensure the benefits arising in the District can be increasingly leveraged to support socioeconomic development of the immediate local area. This will benefit local residential and business communities alike. Hence, whilst the presence of existing major activity and future planned proposals should provide firm foundations for the area to play a more pivotal role in transforming the socioeconomic landscape of East Birmingham, it is critical that the local community are fully integrated into TEED's aspirations. This will allow TEED to fully tap into Birmingham's strategic position as an innovative city and an enabler of major societal change, emphasising the leading role the City played in previous industrial revolutions and could do so again

However, in order to realise the catalytic capability of TEED for wider economic development and regeneration, the area needs to increasingly respond to the main local and national policy drivers and break down the real and perceived physical and psychological barriers that impede full collaboration between economic assets and social/community assets at present. Within this context, there is a need to respond to the five key policy drivers identified in Section 1.



Why Do We Need To Intervene Now:

- **Respond to Policy Priorities:** The East Birmingham Inclusive Growth Strategy highlights the potential opportunity to leverage the presence of Tyseley Energy Park to position East Birmingham at the forefront of the development of clean energy and sustainable technologies, as part of the drive towards net zero.
- **First mover advantage:** other locations are seeking to develop similar industrial clusters, missed opportunity for Birmingham to position itself at the leading edge of resolving sustainability challenges.
- **Time pressure of policy priorities:** climate change is already affecting communities globally, it will not wait years or decades for TEED to progress with growth and development aspirations.
- **Capitalise on existing/committed development:** opportunity to build on momentum created in TEED through developments such as the Birmingham Energy Innovation Centre.
- **Leverage economic recovery:** utilise the response to COVID and structural changes brought about by the pandemic as a catalyst for growth in clean and green energy/tech and a movement away from traditional economic sectors (e.g. manufacturing, retail) which have been more vulnerable to major economic shocks.
- **Fuel crisis:** rapid growth in fuel prices are likely to push many more people into fuel poverty, highlighting the need for more resilient, alternative forms of fuel to support UK energy security and incubate against exogenous factors.
- **Strong stakeholder support:** Co-creation group already set-up combining academic, commercial, civic and residential stakeholders present in the area.
- **Harness BCC's emerging Digital Strategy 2022-2025:** potential for TEED to be integrated into BCC's wider digital transformation programme's including the Smart City Roadmap.
- **Influence on key public procurement processes:** council fleet/ waste fleet contracts to be re-let by 2024.
- **Investment appetite:** demonstrable interest already exists (e.g. Hay Hall Road EfW site); investment interest is expected to increase as investment plans increasingly take Corporate Social Responsibility into account.
- **Leverage emerging political climate and enhanced focus on circular economy principles:** – masterplan provides an opportunity to provide clear political direction/consensus, bringing the various discussion points together in a live project/focal point.

Key socio-economic challenges

Labour Market



Unemployment rate **2.6times**

higher than national average and **1.8 times** Birmingham/West Midlands

Employment



Almost half of the

employment (**48.6%**) in the area is **low skilled occupation** as compared

to **22%** nationally and **26.9%** in Birmingham/ West Midlands

Housing



Ranks **6th** (out of 533) **most fuel poor**

nationally, with **23.5%** of households being fuel poor, as compared to **13.4%** nationally and **21.2%** in Birmingham/ West Midlands.

Education



18.8% have **no qualification**

in the area, which is **3 times** the national average and almost

2 times that of Birmingham / West Midlands.

Health



The local population have **higher likelihood**

for **acute medical conditions**, with **above average**

standardised admission ratio of emergency hospital admissions.

Driving the Decarbonisation and the Net Zero Agenda: TEED has a crucial role to play in placing Birmingham at the forefront of a Green Energy Revolution and contributing to a low carbon living and working environment in East Birmingham.

The existing climate emergency and the need to reduce carbon emissions is at the top of the local and national policy agenda.

At a national level, the UK's is committed to a legally binding target to reduce greenhouse gas emissions to net zero by 2050 . However, recent progress to reduce carbon emissions is driven by the energy sector; most other sectors have remained relatively consistent in terms of their carbon emissions output.

These trends are echoed locally, with BCC declaring a climate emergency in July 2019. Further, BCC acknowledges that :

- Decarbonisation efforts have been slow and insufficient.
- BCC emissions amounted to 417 ktCO₂e with city wide emissions amounting to 4,578 ktCO₂e.
- Key contributing sectors include residential buildings, road transport and institutional buildings and facilities.

Within this context, the council and the city aspire to become **net zero carbon "by 2030**, or as soon as possible thereafter". Further, BCC's 'Our Future City Plan' seeks to position **Birmingham as a global leader in a Green Future**. To achieve the ambitious aims and objectives of local and national policies in the relatively short time frame allowed, there is a need for large-scale intervention across sectors and industries immediately. TEED is well positioned to perform this role given:

- **LDO status** which simplifies the planning process for industrial and employment land development, as well as environmental technology and energy recovery uses;
- The strength and **presence of major existing anchor assets** (e.g. TEP) which will allow outcomes and impacts generated at TEED to be felt locally and ripple out to rest of city;
- Potential for growth across **key sectors** (e.g. hydrogen, waste management, vertical farming, energy supply/heating – Section 4)
- TEED's current status as a **pioneer for clean growth** could enable Birmingham, the birthplace of the industrial revolution, to become the home of the new Green Industrial Revolution.

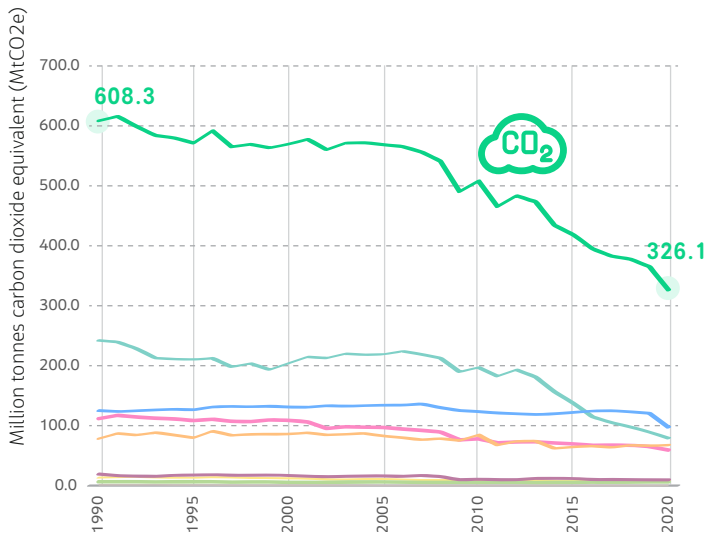


Figure 3: Sectoral Contribution to UK Carbon Emissions

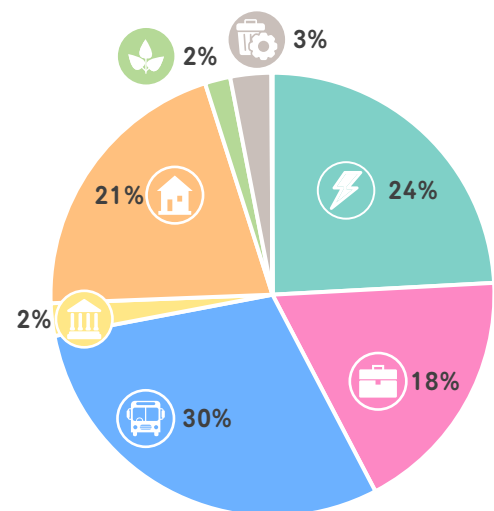


Figure 4: Birmingham Emissions by Source (2020)

Energy supply
 Business
 Transport
 Public
 Residential
 Agriculture
 Industrial processes
 Waste management
 Total CO₂

Within this context, Birmingham and TEED specifically, have a competitive advantage from both a legacy perspective but also based on current sectoral strengths in clean energy/green technology. TEED can therefore play a key role in facilitating the transition to a Net Zero economy and society.

Addressing local socioeconomic challenges: via holistic integration with local residential communities, development at TEED has the potential to deliver equitable/inclusive transformation of East Birmingham underpinned by an exemplary sustainable working/living environment.

As noted in the introduction of this section, TEED and its immediate environs are beset by significant socioeconomic challenges. In particular, there is an existing dichotomy between the area's status as an industrial 'energy hub' which seeks to generate, distribute and develop clean energy and related applications, whilst residential communities in the immediate vicinity are some of the most deprived communities nationally from an energy perspective:

Birmingham Yardley suffers from **acute incidence of fuel poverty**, ranked **6th** out of all parliamentary constituencies nationally

Surrounding neighbourhoods fall within the **10% most deprived areas nationally** from a '**living environment**' domain (which is influenced by housing stock and availability of energy saving devices).

Fuel poverty is not limited to Birmingham Yardley, it's an issue for the city of Birmingham as a whole; so there is a need to look at ways to **resolving fuel poverty across the city via generation of cheap and accessible energy, as well as energy saving technology.**

Further, a key route to overcoming socio-economic deprivation and supporting social mobility is through education, skills training and qualification attainment. Currently, areas to the north and west of the site in particular suffer from low educational attainment levels and skills development, as illustrated in the deprivation indices.

TEED should provide substantial opportunities for **skills development and learning in new and emerging sectors**, as well as the potential for **direct transition into employment** in these growth sectors. Such a strategy could be realised through creation of a skills hub component; the proposals for the **National Centre for the Decarbonisation of Heating** include provision for a **Heat Skills Academy**, which should be a priority for upskilling the local population and supporting the transition from learning into local, high value jobs in growth sectors.

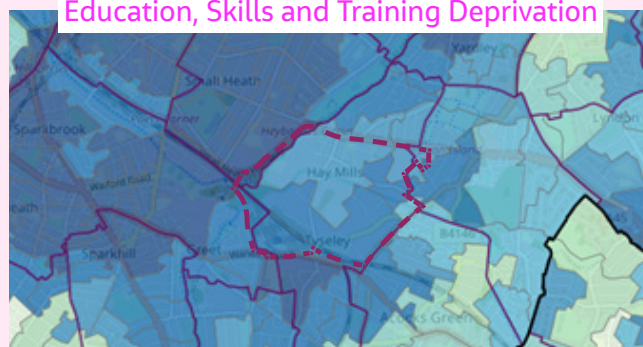
At an aggregate level, the severe and diverse socioeconomic challenges impacting TEED are outlined by the Indices of Multiple Deprivation, which demonstrates that surrounding neighbourhoods fall within the **10% most deprived areas nationally**. In light of this position, development at TEED needs to play a key role in transforming socioeconomic outcomes for local people.

DEPRIVATION INDICES

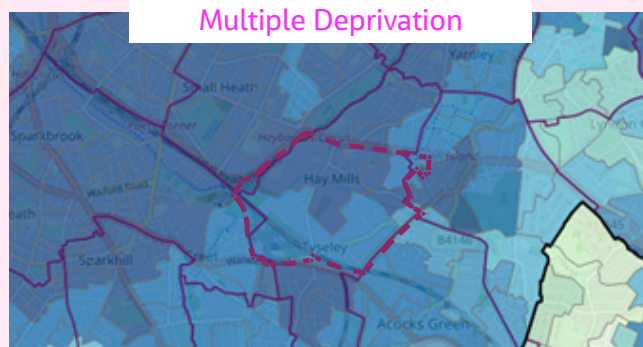
Living Environment Deprivation



Education, Skills and Training Deprivation



Multiple Deprivation



IMD 2019



10% Most deprived

10% Least Deprived

Maximising local community engagement and collaboration: local communities do not appear to be fully integrated with TEED, despite the best efforts of anchor organisations. There is a need to create a culture of collaboration and partnerships to enable business and residents to work together to deliver a neighbourhood built by and for the community.

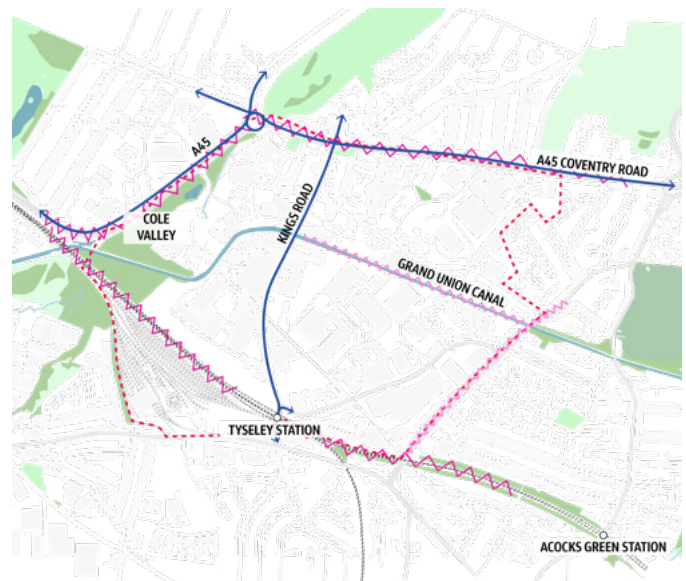
A perceived disconnection between residential and business communities has emerge over a period of fifty years of industrial decline. The lack of community integration in TEED is evidenced by employment patterns, which demonstrate that few people working in TEED reside in the area and a tiny proportion of the local working age population access employment at TEED.

<20% of the **workforce employed at TEED** are **sourced from local communities;**

<5% of **local labour force** is **employed at TEED**

The lack of integration between industrial and residential sectors could result from the physical and spatial barriers that segregate TEED and TEP's industrial assets from the residential communities these assets are embedded in, characterised by:

- Dominance of road traffic in communities where people are less likely to own a car.
- Lack of accessibility to and through the site(s) via walking and cycling.
- Poor provision of public transport options, despite presence of major arterial highway and rail networks.
- Barrier to movement created by A45 and rail lines.



However, initiatives are emerging that seek to break down the real and perceived barriers that inhibit integration of industrial and residential sectors. The co-creation partners arrangement seeks to create a collaborative stakeholder group to represent TEED. It formalises a diverse and sector-leading stakeholder ecosystem comprising a interests across academia, industry and civil society:

- Academia:** University of Birmingham, Birmingham City University, ATETA
- Industry:** Webster & Horsfall, Siemens, ITM Power, Cadent Gas Ltd, Cogen Limited, E-ON, Engie, Veolia, Energy Systems Catapult
- Local Government and Public Bodies:** Birmingham City Council, TfWM, Severn Trent, Environment Agency, National Grid, GBSLEP, WMCA
- Community Organisations/Civil Society:** Hay Mills Foundation Trust, Arts in the Yard

Stakeholder engagement must also be extended to capture the interests of local residents themselves. Local, relevant precedent already exists for successful integrated local community engagement, which could act as a blueprint for TEED:





- Saltley Community Association: supported 500 vulnerable households in improving their household finances through energy saving advice and practical measures.
- East Birmingham Community Heat Taskforce: aims to position communities in East Birmingham as pioneers for retrofit and heat decarbonisation as well as supporting locally focussed economic activity and employment opportunities

Initiatives of this nature can help ensure a holistic approach to future growth and development opportunities in the District.

TEED's diverse business base provides an opportunity as well as risk: although the range of different sectors represented at TEED may diminish current opportunities for clustering and agglomeration, they also provide wide-ranging potential for market penetration of clean energy, green technology and circular economy principles across many sectors.

Although TEED's designation positions the District at the heart of Birmingham's clean growth and green technology sectors, there is limited evidence of any significant business or employment agglomeration in these sectors within the area at present. The distribution of employment and especially business across sectors broadly mirrors national trends at present, with no specific concentration of activity in clean growth and green technology sectors at a broad sector level.

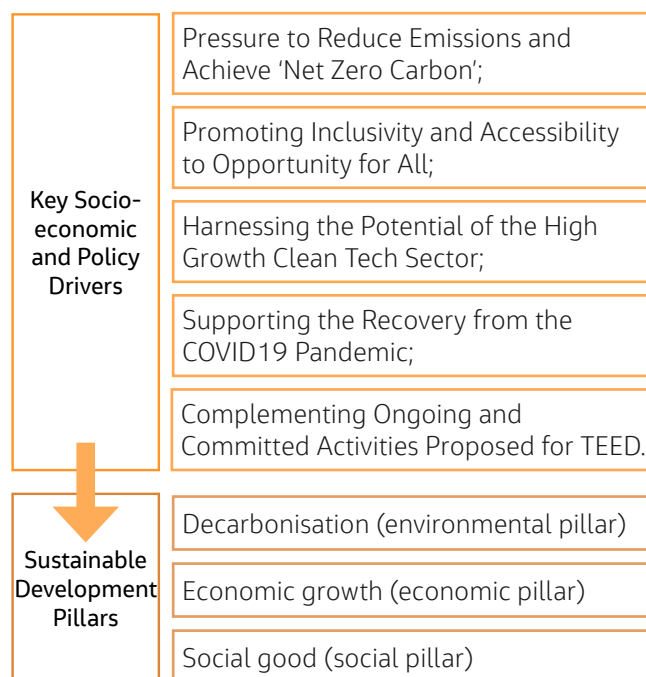
On face value, this finding could undermine TEED's credentials as the hub for clean growth and green technology in Birmingham, let alone across a wider geographical area. However, given the presence of a range of sectors of significant scale, all of which need to transition to low carbon and ultimately net zero practices over time, there are a number of opportunities that TEED's future growth and development could exploit:

-  construction/property maintenance, including plumbing and heating engineers;
-  logistics, including freight transport and retail trade of motor vehicles
-  heavy manufacturing, including metal work and automotive
-  waste management, including collection, recycling and recovery of materials.

The diverse business base means there is no need to focus on just one form of decarbonisation; a more holistic approach can be followed looking at various routes to net zero and applications of low carbon technology in multiple sectors. Further, sectoral diversity increases opportunities for synergies between sectors to be leveraged to create a circular economy. That said, a combination of the strong existing presence of waste management facilities in TEED and the following planned developments in this sector, imply that waste management could emerge as a key growth cluster in the District:

- New EfW plant at Hay Hall Road (26MW).
- New facility; two options considered: a) EfW CHP power plant(10 MW) b)Pyrolysis plant(8.5 MW)

Various socioeconomic and policy drivers emphasise the potential for TEED to make a significant contribution towards sustainable development in East Birmingham and across the wider city by supporting three key pillars of sustainability as shown below.



Further, given TEED's development, socioeconomic and policy-based context, the District is strategically positioned to emerge as a **national exemplar or pilot for what can be achieved in terms of decarbonisation, circular economy, clean energy and green technology, whilst simultaneously meeting all three pillars of sustainable development** (i.e. economic growth, net zero carbon emissions and social equality/justice). Within this context, the case for change at TEED can be summarised as leveraging the opportunity to:

- **Harness Birmingham's historical context and TEED's existing strengths to drive a green energy revolution;**
- **Enable sustainable and inclusive economic growth and development in East Birmingham;**
- **Create an integrated neighbourhood with input from local businesses and residents; and**
- **Facilitate exemplary sustainable living and working environments.**

These broad themes underpin the emerging Vision presented in Section 3



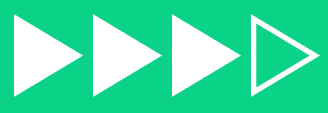
Redfern Road

Grand Union Canal

Speedwell Road

Redhill

A45 Coventry Road





03

The Vision

03 The Vision

3.1 Forming the Vision and Objectives

This chapter will set out the key vision and objectives for TEED (3.1), a vision statement (3.2) that outlines our ambition, the initial key moves required to achieve the vision, supported by best practice examples (3.3) and spatial analysis(3.4). We have also explored the emerging interventions (3.5) that capture the wider relevant initiatives, ongoing projects, primary focus areas and catalyst projects that would support the development of TEED.

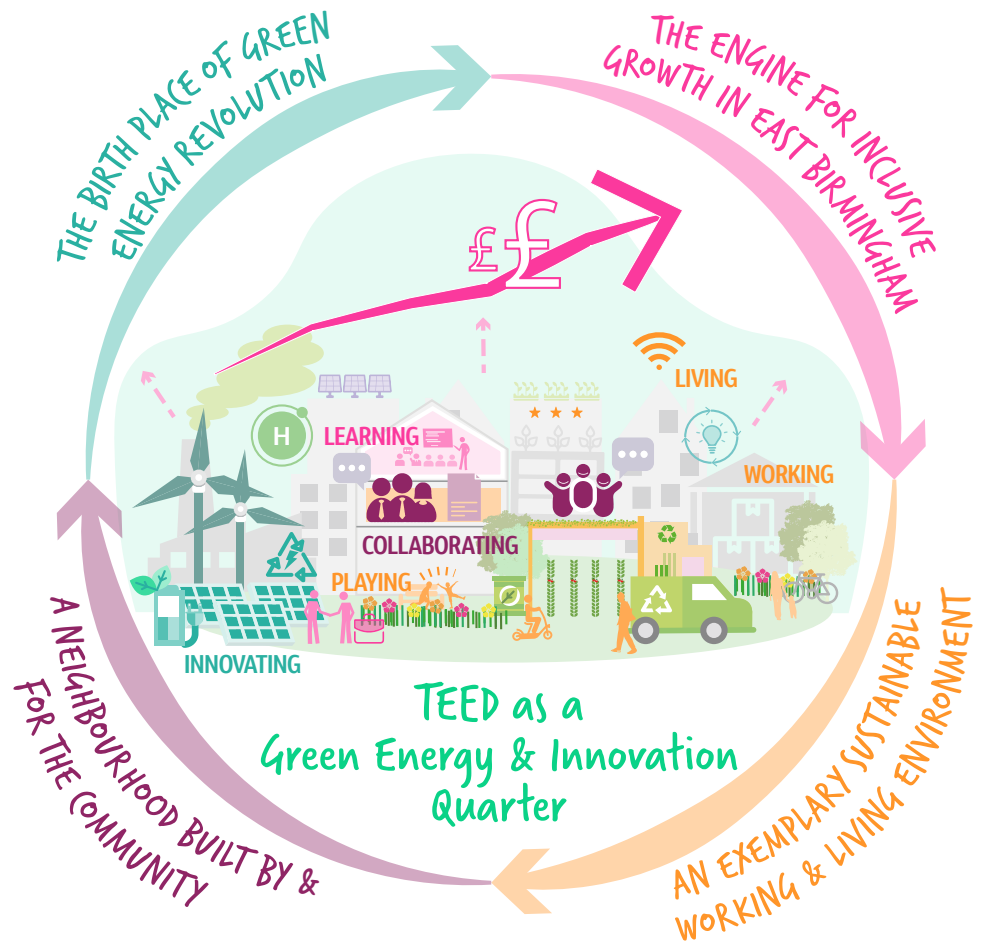
The vision aims to build an identity for the area, to make **Tyseley Environmental Enterprise District (TEED) a Green Energy & Innovation Quarter**, building on the ambition of a low carbon future. It will become a destination for like-minded businesses and people, to create a place to live, work, learn, innovate and be proud of.

The vision is underpinned by an in-depth policy review, socio-economic analysis, and spatial

analysis for opportunities and challenges in the area and wider context. These are supported by local knowledge through stakeholder engagement and a visioning workshop with BCC and key stakeholders. It aims to bring forward local residents' and businesses' voices and ambitions, working together to create a sense of place, community, and a platform for all to flourish.

This is the first step toward something new. The vision would facilitate the growth of the area, setting an example of clean growth in both living and working environments. The benefit of the growth would be extended to wider Birmingham, West Midlands, and the UK. It will attract more people to relocate to this area, along with other major developments like HS2 and the Commonwealth Games. The next page explains the key themes and objectives in detail, which forms the basis of the vision.

Innovation Quarters, also known as *Innovation Districts*, are often referred to as a place-based development that aims to regenerate an urban area to attract entrepreneurs, start-ups, business incubators, fostering a diverse community and ecosystem that sparks innovation and collaboration. It is often driven by both public and private institutions. These quarters are usually mixed-use, with employment, residential, retail and leisure units. For more details, please refer to the governance section.





THE BIRTH PLACE OF GREEN ENERGY REVOLUTION

With increasing number of green energy businesses established in TEED, and key driving forces from Tyseley Energy Park (TEP), this vision builds on this momentum to attract more businesses to join the green energy revolution.

To be recognised as the UK centre for green innovation

Leveraging existing links to academia and industry to promote a clean energy cluster in the area

Working together with the National Centre for the Decarbonisation of Heat to tackle climate challenges in Birmingham.

Supporting Birmingham's route to net zero initiative

Leveraging on existing and potential new waste facilities on-site to promote circular economy.

Expanding the catchment area of TEED, linking to Birmingham City Centre, HS2 stations and Birmingham International Airport.

Building on waste and recycling activities in the area, creating new markets for recycled



A NEIGHBOURHOOD BUILT BY & FOR THE COMMUNITY

Collaborative approach is essential for the success of any strategic vision. The community, including both businesses and residents, will be involved early in the process to create a desirable environment for them to live and work in.

Developed through a collaborative and participatory process that empowers communities

Promoting social cohesion and a sense of community

Providing a governance and policy framework that ensures community involvement and its deliverability

Empowering businesses and residents to work collaboratively

Encourage local employers to employ locally



THE ENGINE FOR INCLUSIVE GROWTH IN EAST BIRMINGHAM

Responding to the East Birmingham Inclusive Growth Strategy, this vision aims to promote inclusive growth in TEED, benefiting both local communities and the wider Birmingham.

Linking skills and jobs for all

Tackling fuel poverty and emissions through innovation

"Building back better" recovery from Covid-19 and pivoting away from vulnerable sectors

Supporting and building on local initiatives (e.g. Birmingham community network, etc.)

Empowering and enabling small and medium-sized enterprises (SMEs) for a just transition

Generating social value whilst addressing local needs

Addressing health and employment equalities, improving social mobility

Providing careers guidance, relevant education and training from early stages of education



EXEMPLARY SUSTAINABLE WORKING & LIVING ENVIRONMENT

TEED as a recognised neighbourhood that embeds a net-zero and sustainable approach in all aspects of urban life creating a unique ecosystem.

Creating the conditions for a vibrant mixed-use urban environment that attracts and retains talent

Maximising the integration of green & blue assets maximising biodiversity net gain

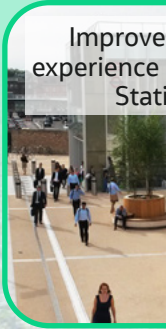
Providing connectivity to and across Tyseley

Supporting Birmingham's ambitions to modal shift

Improving health and well-being for local communities

Reduce local energy demand and increase the share of their energy supply from local renewable energy sources.

3.2 Vision Statement



arrival
at Tyseley
Station



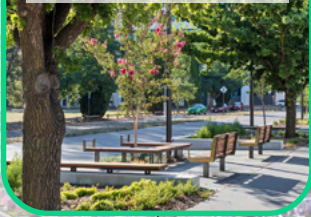
Improving public
transport connectivity
with the city centre
and the airport



Placemaking in River
Cole Valley, improving
quality of life of local
residents and wider
community



Street greening
and public realm
improvement



Building a Business
Ecosystem across
site to encourage
innovation and
knowledge sharing



Tyseley Station

Vintage Trains Ltd

Hayhall EfW Plant

Hay Hall Business Park

Veolia Household
Recycling Centre

Birmingham Energy
Innovation Centre

Tyseley Energy Park

River Cole Valley

Integrated Water
Management at
Hay Hill

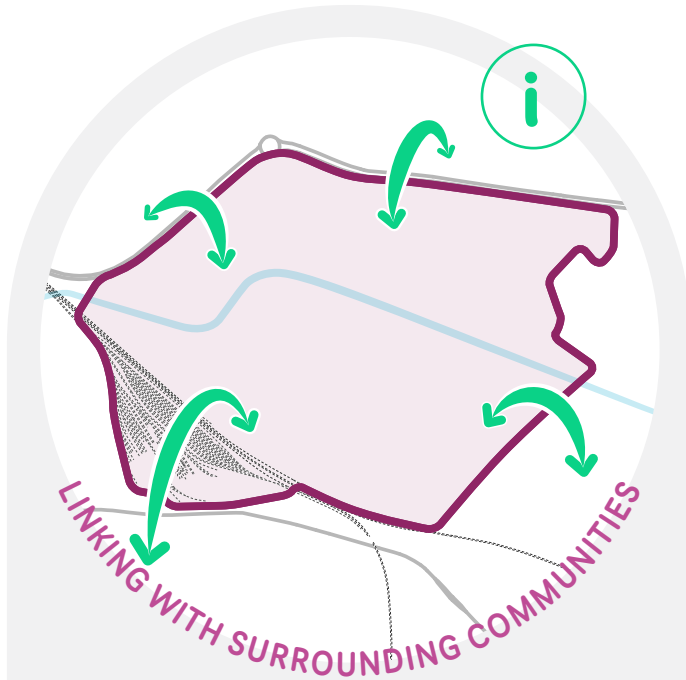
SPRINT BUS

“

Tyseley Environmental Enterprise District (TEED) will become a Green Energy & Innovation Quarter, building on the council's ambition for a low carbon future. The area will attract like-minded businesses and people, to create a place to live, work, learn, innovate and be proud of.

”

INITIAL KEY MOVES



This principle responds to the lack of integration between industrial and residential sectors, the spatial barriers that exist on the edges in TEED and the high levels of deprivation identified in the wider area. TEED has the opportunity to support local communities by providing high value jobs, upskilling opportunities, as well as high quality public space and leisure uses by creating better connections to surrounding neighbourhoods and creating an exemplary sustainable working/living environment.

BENEFITS

- + Inclusive growth
- + Social value
- + Job Creation
- + Connectivity
- + Sense of Community
- + Maximising potential



TEED is currently dominated by hardscaped public space and large industrial warehousing. There is a significant opportunity to better utilise existing green assets, make them more attractive and integrate them into the wider site by greening additional streets. This will provide a better living and working environment and healthier spaces that encourage dwelling as well as create a more climate resilient quarter.

BENEFITS

- + Placemaking
- + Health and Wellbeing
- + Alleviate air pollution
- + Climate Resilience
- + Quality of Life
- + Opportunity to Dwell



It is currently very challenging to navigate through TEED as a pedestrian. Distances are long without opportunities to rest the area is dominated by private vehicle movements. There is an opportunity to reconsider the street pattern and urban fabric in TEED. Future development and regeneration could unlock opportunities for improved connectivity that allows for better pedestrian and cycling movements and better access to the existing and future assets.

The Grand Union Canal cuts through the site being the only direct east-west connection. It links to surrounding neighbourhoods, the city centre, and even to London. This makes it a key active travel asset. Access to water features can increase user's mental health and offers a space for social interaction. Additional uses can be introduced to activate the space and

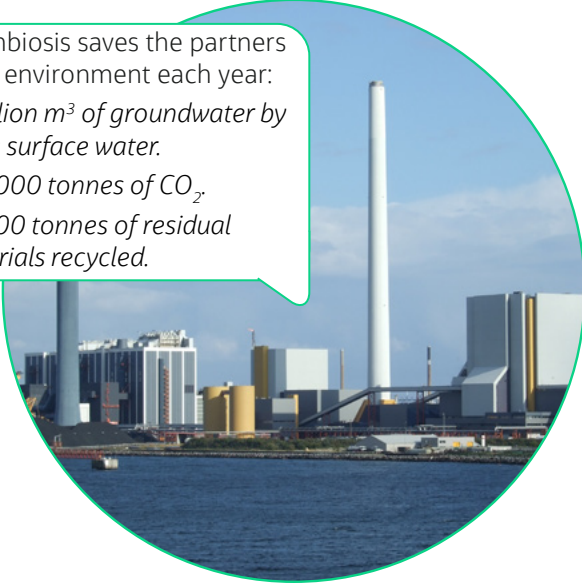
- BENEFITS**
- + Legibility & Wayfinding
 - + Permeability
 - + Connectivity
 - + Active Travel
 - + Accessibility

- BENEFITS**
- + Reduces Stress
 - + Resting
 - + Health and Wellbeing
 - + Connectivity
 - + Opportunity to Dwell
 - + Active Travel

3.3 Best Practice Examples

The symbiosis saves the partners and the environment each year:

- 4 million m³ of groundwater by using surface water.
- 586,000 tonnes of CO₂.
- 62,000 tonnes of residual materials recycled.



Kalundborg Eco-Industrial Park, Denmark

Type: Holistic Industrial District, industrial symbiosis with a circular approach to production

Status: Operational since 1972

Description: Kalundborg Symbiosis is a partnership between thirteen public and private companies in Kalundborg, supporting the principle of circular economy across three main resource streams: water, energy and waste materials. The main principle is that a waste stream in one company becomes a resource in another, benefiting both the environment and the economy. Through local partnership, stakeholders can share and reuse resources, thus both saving money and minimising waste.

Lessons Learned:

- Creating symbioses requires significant input from stakeholders, in the form of: time, data, mutual trust, experience, skills and emerging/developing knowledge.
- There is a need to test circular economy applications on a small scale/pilot scheme before symbiosis between stakeholders can be fully tested and understood.
- Three cornerstones for symbiotic industrial district creation: industry, universities and a fertile regional business environment.
- Provides a Symbiosis Readiness Level (SRL) metric, which designates degrees of maturity from 'a good idea' to a fully implemented symbiosis flow as part of a resilient network.

TEED could similarly benefit from the Commonwealth Legacy Works



Barcelona 22@, Barcelona, Spain

Type: Innovation District

Status: Completed

Description: The development stimulated by the Olympic Games of 1992, Barcelona 22@ innovation district aims to connect technologically advanced companies, universities, training centres and research centres to increase productivity and the sharing of ideas that facilitates economic innovation in the city. It consists of five clusters that are situated in close proximity to each other, each with a different focus of innovation. It is a knowledge centre that generates employment, housing and live-work spaces.

Lessons Learnt:

- The initial concept was started as a governmental initiative to regenerate a former industrial site in the city.
- The project had a strong emphasis on place, with new green spaces, shops, play spaces, commercial and research spaces, residential property (including social housing) and new public facilities planned. It now houses more than 3,500 businesses and almost 100,000 employees, while also showing an increase of nearly 25% in residents.
- Municipalities play a critical role in the inception and development stage, but ongoing involvement is important throughout project.
- Collaborative leadership and governance network comprising a strategic alliance of leaders from key institutions, firms and sectors who regularly and formally cooperate on the design, delivery and marketing of the district



Buiksloterham, Amsterdam, Netherlands

Type: Mixed-Use Circular Development

Status: Ongoing, some plots completed

Description: A prominent port environment with many light and heavy industrial uses is transitioning into a mixed-use development of circa 8,500 houses with a circular economy that acts as a testbed for innovation in energy and building methods. The development incorporates existing industrial warehouses and diversifies the environment with small-scale mixed use plots that includes (social) housing, self built plots, employment space (including "new-industrial" businesses), and community facilities. Key to the development was to create a sustainable and circular environment where each system benefits from another, incorporating the following material flows: water, heat, energy, food and waste.

Lessons Learnt:

- The development of a 24 hour economy by diversifying the area and providing additional uses for local communities.
- Extensive local engagement benefits the concept of the circular economy where inputs and outputs of processes are strongly linked
- Industrial practices and residential uses are mixed and co-exist
- The industrial facilities provide opportunities for skills development. A greenhouse-based biorefinery recovering nutrients and resources from waste is publicly accessible and serves as a covered park



CopenHill, Copenhagen, Denmark

Type: Combined heat and power waste-to-energy plant & recreational facility

Status: Completed

Description: Located on an industrial waterfront, the power plant is capable of converting 440,000 tons of waste into clean energy that will deliver electricity and district heating for 150,000 homes annually. It can also function as a public infrastructure, with tree-lined hiking and running trails, an artificial ski slope on its roof along with a 85m-high-climbing wall on its facade. There are also other amenities such as a rooftop bar and cross-fit area. An education centre is also provided for academic tours, workshop and sustainability conferences.

Lessons Learnt:

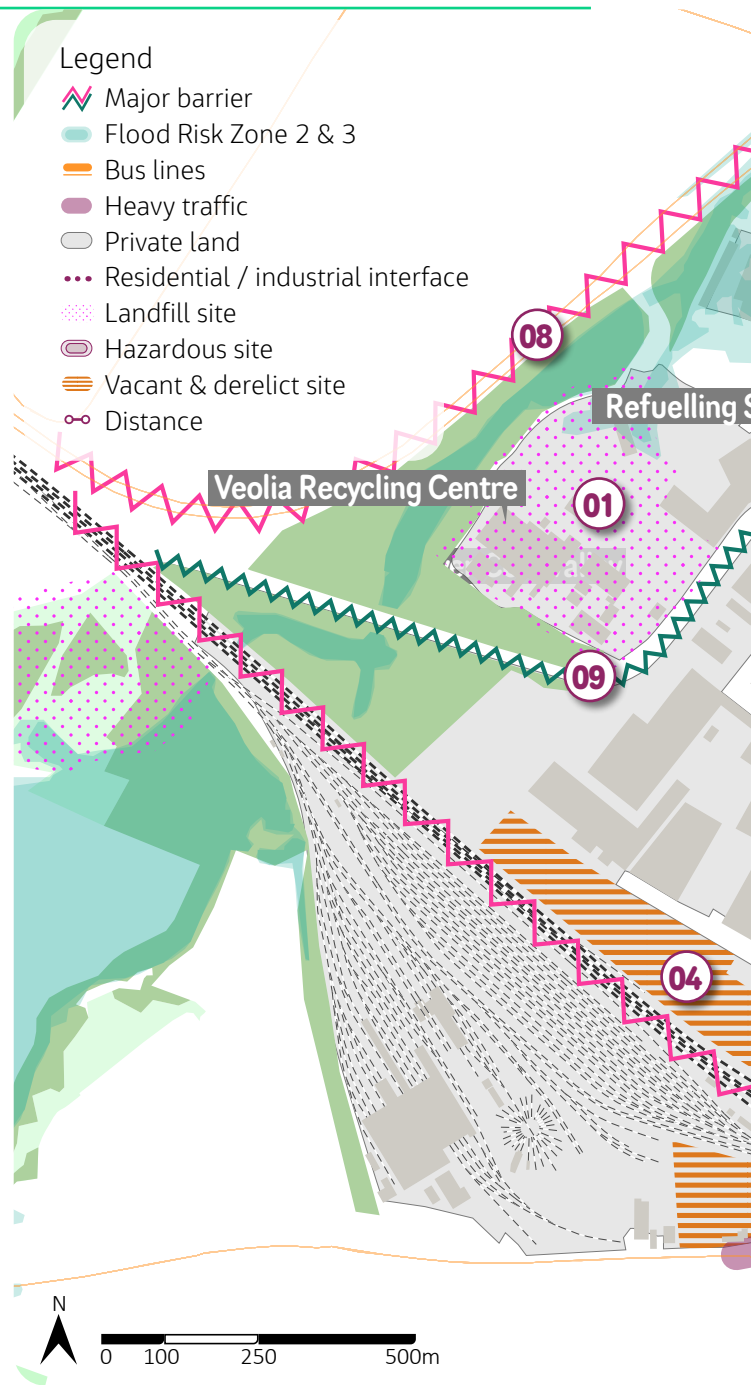
- The design of the building not only focus on its original functionality, it has provided recreational use, allow local communities and visitors to use the space.
- At the same time, it also serve climate adaptation purpose. It can absorb heat, remove harmful air particles and minimise stormwater runoff in the area
- Iconic structure could create a landmark for the area
- Hedonistic sustainability combines sustainable ideas, fun, and community.
- Careful maintenance is required

3.4 Spatial Analysis

CHALLENGES

We live in challenging times, with prevailing global pressures such as the COVID-19 pandemic and climate emergency, which are causing unequal impacts on our societies. Our urban environments need to use the current momentum around policy drivers to respond to these key challenges and support local communities to foster an inclusive recovery.

Alongside the previously identified socio-economic challenges in the Case for Change section, TEED also faces some considerable spatial challenges. These include some major infrastructural barriers, existing environmental impacts and derelict sites. The following spatial challenges have been identified that need to be considered as part of the vision and further strategies to ensure it will become a high quality place for people to live, work, play and visit and to enable better decision making around potential initiatives and interventions to ensure these do not prevent TEED to fulfil its full potential as a **Green Energy & Innovation Quarter**.



- 01 There are 2 **landfill sites** at TEED, which are potentially contaminated and therefore need to be considered in any further spatial developments on the site
- 02 A **hazardous site** is located around Tyseley Wharf.
- 03 Consideration needs to be given to the **close connection between industrial and residential sites**, to minimise negative impacts to communities.
- 04 Expansive **derelict and vacant sites** cover large sites of the TEED, which could create unsafe environments.



The A45 Coventry Road is a three lane dual carriageway which is a major barrier to the site



Wharfdale Rd in front of Tyseley Station is a pinch point for heavy traffic HGV's route

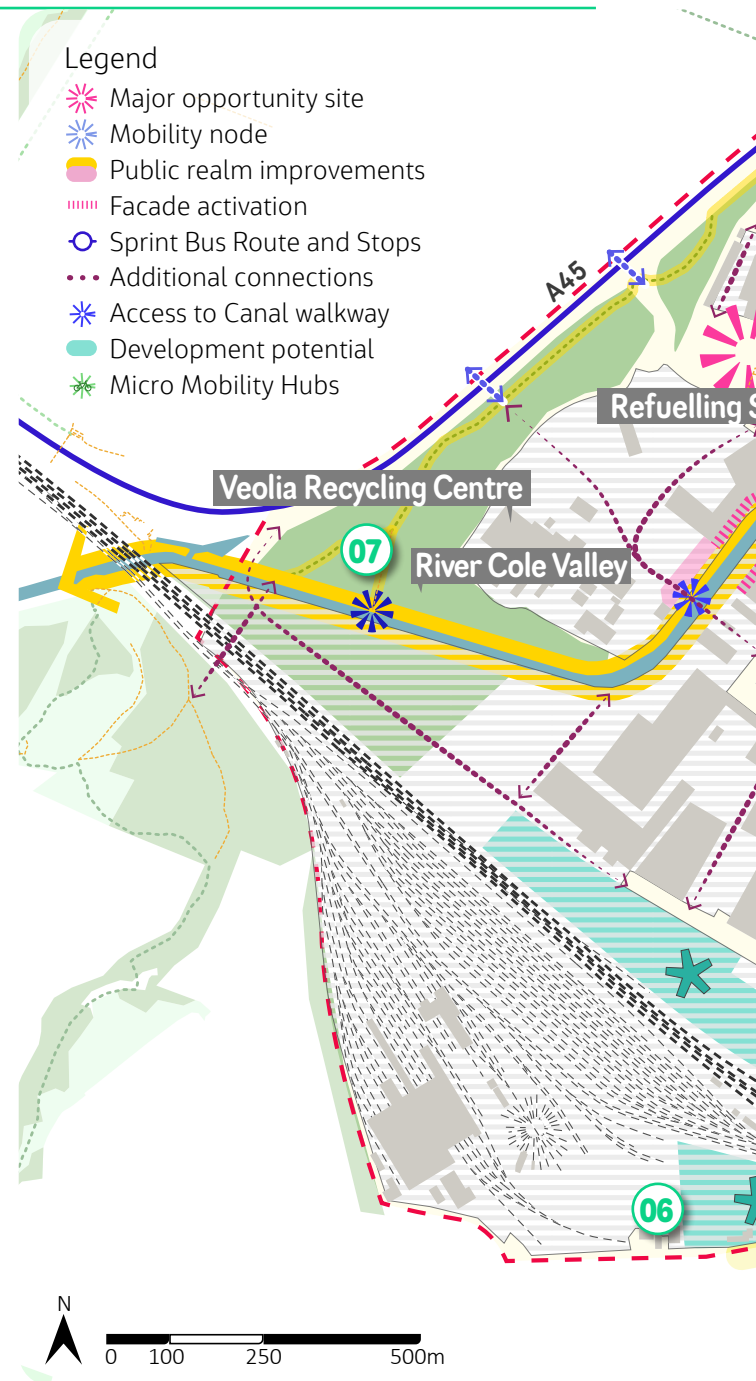


- 05** A number of buildings to the north-west of the site are located in **flood risk zones 2 and 3** close to the River Cole.
- 06** **Permeability is limited** with large distances between cross streets, creating an unfriendly environment for pedestrians.
- 07** The **A45 Coventry Road is wide and difficult to cross** walking, cycling or wheeling. Also, there are **limited crossing points along the train tracks** to the south of the site, limiting accessibility to surrounding neighbourhoods.
- 08** Lack of high quality **green infrastructure and open public spaces** across the site.
- 09** The only local **public transport connection** crossing the site is bus line 36, and Tyseley Station's **train frequency is limited**. Despite the road and rail connections into the city centre, public transport in this area does not offer good connections to many other areas in Birmingham.
- 10** **Few crossings points over the Grand Union Canal** limits permeability and accessibility between the north and south of the TEED.
- 11** **Heavy traffic** and HGV's create a **dangerous environment for pedestrians**, particularly children, and causes very **high levels of air pollution** in inner East Birmingham and around main roads.

OPPORTUNITIES

Cities and regions are developing long-term strategies for a just and green recovery from the pandemic and to promote long term sustainable growth. TEED is well placed to help respond to some of those challenges and is able to leverage the strong position of some of its tenants such as Tyseley Energy Park and the Veolia Recycling facilities. These organisations are boosting the energy, waste and power sectors to create more sustainable environments and reduce the region's carbon footprint, playing a major role on the city's route to net zero.

Creating a high quality living and working environment is a key step to stimulate a thriving innovation ecosystem. An accessible and vibrant environment can boost economic opportunities for all tapping on the growth focus areas identified in the following section. The below opportunities are identified within TEED and can improve the site's position as a successful **Green Energy & Innovation Quarter**.



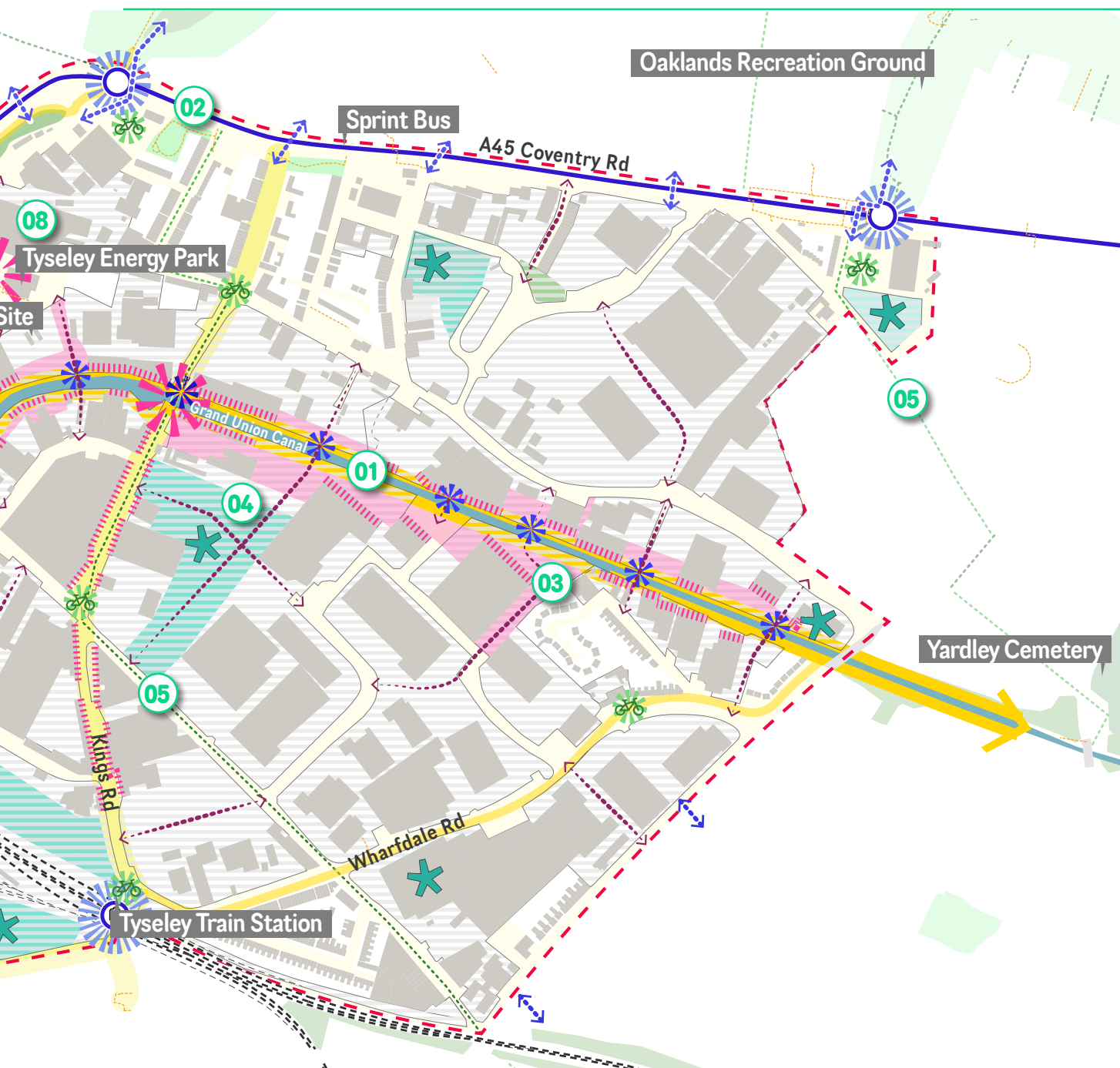
- 01 Increase the accessibility to one of the most important assets of the site - **the Grand Union Canal**. Opportunities exist to activate the canal by providing additional uses, improve the public realm and creating active façades along the walking and cycling route.
- 02 Birmingham's new **Sprint Bus** will run along the A45 Coventry Road providing a **fast and reliable service**, which will significantly increase accessibility from the site to the city centre and the Airport as well as some surrounding neighbourhoods.
- 03 **Permeability** can be improved by creating additional connections through existing large plots to increase pedestrian accessibility.



Opportunity to activate Grand Union Canal



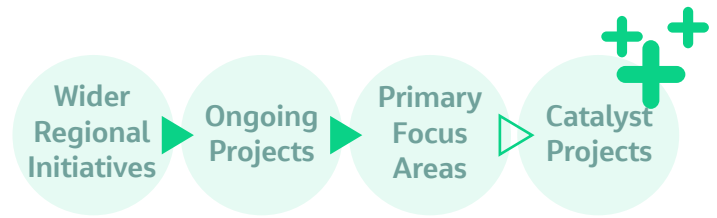
Innovation ecosystem at Birmingham Energy Innovation Centre (BEIC)



- 04** **Development opportunities at vacant sites** and industrial facilities. Design guidance can boost the development of pedestrian connections and create new schemes that provide vibrancy complementary uses.
- 05** As part of the **Birmingham Walking and Cycling Strategy** new cycling routes are proposed to cross the site through Kings Rd and Redfern Rd as well as Waterloo Rd. This can be aligned with the development of **micro mobility hubs** to maximise a modal shift to active travel patterns and deliver on the objectives from the Green Travel Districts.
- 06** Building upon **existing heritage assets** such as the Vintage Trains Museum and monuments to strengthen **Tyseley's identity**.
- 07** Maximise the **placemaking** and **wellbeing potential of the River Cole Valley**, linking to the ongoing River Cole and Tyseley Community Commons project. This could improve quality of life of local residents and increase attractiveness of the area.
- 08** Utilise and build upon **strong innovation ecosystem** including the presence of University of Birmingham and Tyseley Energy Park with developments such as the Birmingham Energy Innovation Centre (BEIC) and incubation spaces to create a strong clean energy sector that is on the forefront of the Net Zero journey (please see the ongoing projects section for more information)

3.5 Emerging Interventions

The following section outlines the wider initiatives happening in Birmingham that complement the development of TEED. It captures the ongoing projects in the TEED area, that could contribute to the vision aspirations. Primary focus areas are also suggested for TEED to build on its designation as an Environmental Enterprise District, building a holistic ecosystem and potential for adoption of a circular economy. A series of catalyst projects have also been identified to initiate positive transformations in the area.



WIDER REGIONAL INITIATIVES

TEED needs to ensure it capitalises on the benefits brought forward through existing wider initiatives over the coming years:

ROUTE TO ZERO ACTION PLAN

In December 2020 the council published the document "Route to Zero Action Plan - Call to Action", building upon the previous declaration of climate emergency on the 11th of June 2019, committing to take action to reduce the city's carbon emissions and calling for urgent action. The council is committed to reduce the city's carbon footprint, and is working together with a large number of public and private organisations to strengthen the low carbon sector that can enable clean growth and prosperity.

WEST MIDLANDS NATIONAL PARK

In July 2020, the West Midlands Combined Authority signed a memorandum of understanding with Birmingham City University, which formalised the Authority's support for the West Midlands National Park Project as part of its post-covid green economic recovery. It is envisaged that it will give the West Midlands a brand new identity and position it as a sustainable leader. With the Cole Valley, TEED is directly linked to the potential future national park.

HS2

The first phase of the new high speed railway will connect London Euston and Old Oak Common with Birmingham Interchange and Curzon St, with further phases connecting to northern cities such as Manchester, Sheffield, Leeds, Glasgow and Edinburgh. The development of this infrastructure will significantly reduce travel times among these cities and bring significant investments that can unlock large social and economic benefits.

HS2

SPRINT BUS

The ultimate vision for Sprint is to deliver a network of seven bus routes with segregated bus lanes. The first route is completed between Walsall and Solihull/Birmingham International Station and links up with the Commonwealth Games sport facilities and accommodation as well as the future HS2 stations and runs along the edge of TEED on the A45 (Coventry Road). The development of this infrastructure will significantly reduce travel times, increasing reliability and accessibility along the route.

HYDROGEN POWERED TRANSPORT

A part of Transport for West Midlands bus fleet will be powered by hydrogen with the hydrogen fuel developed at the Tyseley Hydrogen Fuelling Station. Additionally, there is an ambition to develop a Tyseley Train Depot for approximately 30 trains to be powered on Hydrogen linked to the capabilities existing at TEP and the fuelling station. TEED can built on existing capabilities to respond to the local and national ambitions and to drive a move to more sustainable transport.

■ The Tyseley Energy Park presents a unique opportunity for the UK to commercialise low and zero emission refuelling technologies, and waste to energy technologies. *Professor Martin Freer, Director of Energy Research Accelerator (ERA)* ■

ONGOING PROJECTS



River Cole and Tyseley Community Commons project

will deliver a programme of blue and green infrastructure improvement interventions in the Tyseley area of the River Cole Valley.



Hay Hall Bio Power Facility

A 25MW energy from waste facility is committed on the derelict site north of the rail sidings at Tyseley Station, that will process 248,000 tonnes of waste per annum.



Integrated water management at Hay Mills

A number of initiatives have been proposed in Hay Mills by Severn Trent Water that create a more water resilient, attractive and sustainable place to live and work.

TYSELEY ENERGY PARK ACTIVITIES



Current Activity - Phase 2 - Fuel and Vehicles

A number of activities support the provision of more sustainable fuel options such as Hydrogen (operational since April 2021, with provision of hydrogen for Birmingham buses as well as establishing a trial lease system for truck operators), Liquid Fuel, Bio-Compressed Natural Gas and commercial scale Electric Vehicle Chargers



Phase 3 - Commercial and Demonstrator Site

A large Commercial and Demonstration facility with the following options under review: 1. Hydrogen for Heat 2. Advance Waste Processing. 3. Energy Storage. 4. Vertical Farm



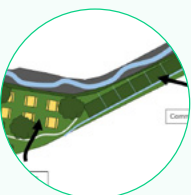
Phase 4 - National Centre for Decarbonisation of Heat & BEIC

Facility which enables the integration of key value chain activities: design, manufacture, consumer testing, financing, standards, consumer protection, skills and supply chain development across the decarbonisation sector, to fast-forward innovation to implementation. The Birmingham Energy Innovation Centre (BEIC) provides R&D, modelling, benchmarking and validation services and is currently in operation.



Phase 5 - Energy Transition Centre, Commercial Space and SME Support

Various facilities offering work, workshop, industrial and laboratory spaces for innovators, I&D activists, scientists and others working towards solutions that contribute to low and zero carbon technologies. The SME Support programmes are designed to provide businesses with packages of support to develop SME's low carbon business offerings.



Community – Green and Blue Spaces

UoB, BCC, TEP and partners will start to deliver improvements along the river cole corridor, including flood works and infrastructure improvements to the west of TEP to develop it into an accessible and connected corridor and community commons with improved water, woodland and grassland habitats.

PRIMARY FOCUS AREAS

Recognising the broad mix of existing businesses already operating in TEED and acknowledging the forecast growth potential of various clean energy and clean technology sectors, the following primary focus areas are identified as having a key role to play in establishing a strategic vision for TEED.

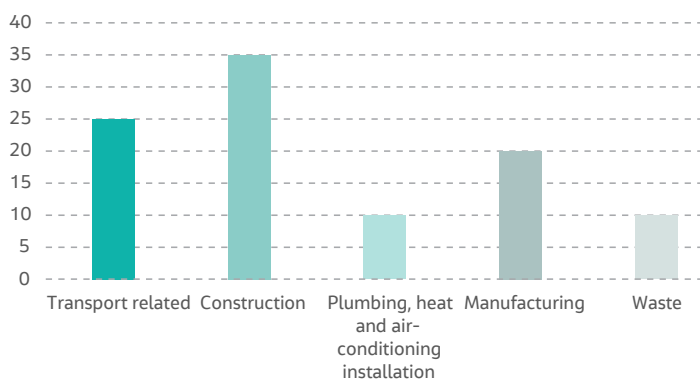
- Decarbonisation of heat
- Waste management sector
- Clean energy
- Transport and mobility

These **synergistic focus areas** could intertwine and build on TEED's designation as a location for energy innovation and a priority location for the incubation, development and deployment of activities linked to low carbon energy and environmental sectors. This will provide firm foundations for further, specialised growth and development.

In addition, this will enable the area to support the roll-out and embedding of decarbonisation principles across multiple key sectors going forward, contributing to establishment of **an increasingly circular economy** within the Quarter.

Wide array of existing businesses within TEED offers an opportunity to complement the proposed focus areas. TEED could provide an opportunity for embedding decarbonisation principles across sectors going forward.

Existing Businesses in TEED



Decarbonisation of Heat

Provision of heating is a large contributor to emissions nationally and locally, particularly when considered in the context of residential energy use with residential heating representing 21% of emissions nationally and 34% in Birmingham. Along with significant financial cost of energy associated with the residential heating requirements (i.e. £1.9 billion of local energy expenditure budget across the West Midlands each year), there is pressure to develop affordable and low carbon technologies for provision of heating.

The Siemens Energy Strategy suggests that currently, heat generated by existing assets in the area is not utilised (e.g. via EfW Plant and Biomass Plant). There is an opportunity to utilise this heat (and further heat produced at other power plants and industrial assets planned and proposed in the area) to increase efficiency of the local energy system and potentially contribute to a District Heating System. This could help alleviate key local priorities including fuel poverty or support net zero initiatives at new build development.

Further, local stakeholders including UoB and TEP are looking to secure the National Centre for the Decarbonisation of Heat (NCDH) within the area. The NCDH will leverage the presence and involvement of various key stakeholders in the area, including:

- academic links with UoB;
- research institutions (ERA/Energy Systems Catapult)

Relevant Initiatives

- *Foundation of NCDH could incubate the clustering/agglomeration of niche sectors supporting the delivery of decarbonised heating including construction activities.*
- *A Skills Academy is a key feature of the NCDH; this will respond to the need to upskill and train the local labour force which currently suffers a skills deficit compared to local, regional and national benchmarks. It could also help to build engagement/interaction between TEED, its key assets and the local surrounding communities.*
- **Excess heat** from facilities to be guided into district heating system to support fuel provision and alleviate fuel poverty locally

- There is already a high presence of **plumbing/ construction activity** within area; TEED provides a perfect pilot case for converting traditional construction/maintenance skills towards **decarbonised heating systems** – i.e. hydrogen boilers, heat pumps, district heating etc.
- Area could also focus on **development and deployment of technology related to decarbonisation of heating** – e.g. the Net Zero Strategy sets a target for 600,000 heat pump installations per year by 2028; technological development to reduce costs and increase efficiency required to realise this goal.



Waste Management

Waste management/recycling are defined as one of the 'industries of the future'. and the UK Net Zero Strategy makes a firm commitment to move towards a circular economy in the waste sector, improving resource efficiency, and achieving near elimination of biodegradable waste to landfill. Currently, waste management assets are already found in TEED and more are planned or proposed for delivery in the short term, which could give rise to clustering and an agglomeration economy.

The importance of the waste management sector is also articulated in the Birmingham Waste Strategy which sets the following targets for 2040:

- Eliminate waste sent to landfill
- 70% recycling rate; remainder used for EfW

To achieve such ambitious targets, there is a pressing need to deliver infrastructure to support an increase in re-use and recycling, for example, through delivery of an Advanced Materials Recycling Centre and through routes to support symbiosis between connected firms and sectors (i.e. sharing resources and internalisation of by-products between industrial processes, in line with circular economy principles)"

Relevant Initiatives

- **Veolia Household Recycling Centre and Energy Recovery Facility**, which takes 350,000 tonnes of Birmingham's rubbish each year and converts it into electricity which is exported to the grid (25MW). Currently, waste heat from the incinerator is not utilised but future plans for Tyseley involved

developing Energy from Waste and waste processing technologies that utilise waste heat, capture CO₂ and turn waste into products and fuels.

- **10MW Birmingham Bio Power Biomass Gasification Plant** processing 80,000 tonnes per annum of waste;
- **New EfW plant at Hay Hall Road (26MW).**



- **Future EfW at TEP at conceptual stage; Next generation of waste reprocessing technologies, to include additional EfW capacity, Advanced Materials Recycling Centre and/or Pyrolysis Plant.**



Clean Energy

Responding to the UK Net Zero Strategy's objective of achieving net zero electricity supply by 2035 in the power sector, there is a need to transition from fossil fuels towards other low and zero carbon energy sources.

Siemen's analysis into current and future clean energy assets demonstrates that the Quarter has the potential to produce clean energy at scale, including up to 515 GWh of electricity, 523 GWh of heat energy, or 63 GWh (1900 tonnes) of hydrogen per year. This scale of clean energy production could meet:

- 100% of electricity demand and 75% of heating demand for 50,000 residents in Birmingham;
- 100% of Birmingham Airport's electricity, heating and cooling demand
- hydrogen production requirements to support c. 50 hydrogen buses or 6 hydrogen trains"

Clean energy at this scale brings multiple environmental and economic benefits. A diverse clean energy supply can also reduce the reliance on imported fuels and the associated financial and environmental costs. An emerging clean energy

vector gaining traction locally and more widely is Hydrogen, which has multiple applications, including in transport, heating for homes and commerce, power and industrial processes. It is believed that up to 100,000 jobs and £13 billion of GVA could be generated from the UK hydrogen economy by 2050.

Relevant Initiatives

- **ITM's Hydrogen Refuelling Station** is already in operation at the site; this could provide confidence to local fleet managers and logistics firms to upgrade to FCEV in the knowledge that there is guaranteed supply within the local area.



- Potential to build on existing presence of HRS facilities to **expand into these wider applications of hydrogen.**
- Potential for **development of a Hydrogen Hub** for motive and heating power – as per Kiwa's feasibility study.
- **Tyseley Solar Scope Project/Solar Mapping Exercise** - conceptual stage



Transport and Mobility

Transport is a large contributor to emissions nationally and locally. Acknowledging this, the UK Net Zero Strategy commits the Government to ending the sale of petrol and diesel cars by 2030, achieving full zero emissions capability for all cars by 2035 and transition to a net zero railway by 2050. Further, local energy expenditure in the transport sector amounts to £3.3 billion in the West Midlands, indicating the financial impact of energy within the sector. Within this context, there is significant pressure to develop new technologies to support decarbonisation and improve value in the transport and mobility sector

There is significant potential for the transport sector to leverage the existing Low and Zero Carbon refuelling station at Tyseley Energy Park. At the same time, an emerging hydrogen sector, linked to the 'clean energy' focus area detailed above, provides multiple opportunities to decarbonise transport and mobility across various modes.

To this end, there are a number of applications within the transport sector already implemented or progressing towards implementation in the area.

Relevant Initiatives

- **Rail:** proximity to Tyseley Rail Station and WMT's maintenance depot/sidings provide scope to decarbonise rolling stock and operations. Further, proximity to the rail network provides opportunities to leverage partners' expertise in hydrogen rail – e.g. UoB's 'Birmingham Centre for Railway Research and Education'. Siemen's TEP Strategy proposes conversion of six diesel trains to hydrogen trains as part of a retrofit of cross city line rolling stock.
- **HGV:** incentivise uptake and stimulate local demand for hydrogen vehicles with high density of manufacturing and logistics firms that may be more suited to Fuel Cell technology given their long distances and heavy payloads.
- **Bus fleets:** BCC has purchased 20 new hydrogen double decker buses as part of their Clean Air Hydrogen Bus Pilot. This represents a first in the deployment of hydrogen fuel cell double decker buses in the UK and within Europe. It's intended that this pilot will be the catalyst for the next generation of hydrogen buses, hydrogen production and re-fuelling infrastructure development. This could also tie in with the introduction of Sprint bus along the A45



- **Refuse Collection Vehicles:** BCC is currently trialling alternative fuel vehicles within its waste collection fleet and will move towards alternative fuels in the next generation of vehicles.
- **Last mile deliveries** – potential for TEED as a stopping off/transition point for goods to move to cleaner vehicles for last mile activities.

Opportunities for Holistic Integration and Circular Economy in the Quarter

At a strategic level, the primary focus areas identified have the potential to be closely integrated into a **holistic ecosystem** covering energy and materials, which contribute to the development of a **circular economy that benefits the local business and residential community alike**. As already happens within the Quarter, waste materials produced in the city of Birmingham can be used to generate electricity and heat at the existing (and proposed) Energy from Waste/ Biomass Plants on site. Going forward, the supply of energy from waste could be supplemented by renewable production (e.g. retrofitting of solar panels on roof and wind turbines at strategic locations) to enhance 'green' energy supply for the site.

Currently, the majority of energy produced is exported to the National Grid as electricity (a small portion is delivered to Webster and Horsfall

via private wire), with heat produced through the electricity generation process not utilised optimally. There is potential to maximise and internalise this energy production and distribution within the Quarter. With delivery of local mini grid system connecting generating assets with end-users, supplemented by a District Heating System that captures and utilises heat produced at power plants, there could be an opportunity to provide energy to the immediate commercial and residential community. This could support improved energy security and potentially cheaper fuel, thus simultaneously improving business sentiment and locational attractiveness to prospective occupants of the site whilst reducing the propensity for fuel poverty that is entrenched within local residential communities. Subsequently, the resulting waste created through activities at commercial and residential properties in the Quarter can be fed back in to the system.

Existing Users:

- ITM low carbon and zero carbon refuelling station.
- Existing manufacturing base (e.g. Webster and Horsfall)

Potential Future Users:

- Advanced Materials Recycling Centre.
- Local residential and commercial community via DHS and mini grid.
- Vertical Farming Firms.

Renewable energy sources in form of wind and solar power.

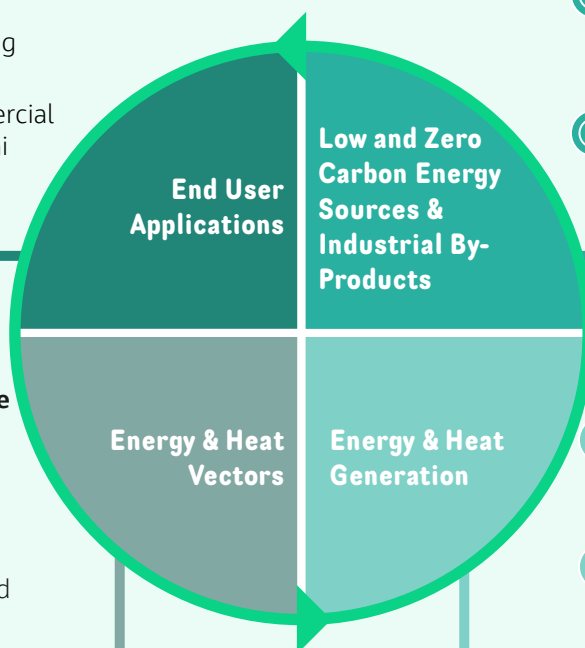
Waste management: reuse and recycle of Birmingham's residential and commercial waste;

Waste Management: utilisation of EfW incinerators to dispose of residual waste

Low carbon energy via conversion of waste materials to energy at EfW and Wood Biomass Plant;

Renewable energy from solar panels (retrofitted to industrial units) and small-scale wind turbines;

Heat generation as by-product of energy generation activities



Local mini-grid and private wire to supply local businesses and residents

Hydrogen production through pyrolysis and electrolysis; hydrogen storage to support grid balancing

District heating system using excess heat generated through electricity generation

That said, there is potential to leverage the principles of the circular economy that go far beyond the above applications. This could involve a **renewed focus on reducing, re-using and recycling of energy and materials**, as well as **recovery via the EfW and Biomass activities** documented above. It could also involve **enhanced collaboration between synergistic sectors** to ensure waste from one industry becomes an input resource for another. Following an approach of this nature, an aspiration to **create complex closed-loop systems** between symbiotic sectors or activities across the commercial and residential community could become established:

Leveraging **hydrogen's potential to act as a key part of the city's energy mix**, through production and storage capabilities and the development of a **Hydrogen Hub supporting power and mobility** (as per Kiwa's feasibility study). This could leverage ITM's existing refuelling station at TEP which provides access to a range of low and zero-carbon fuels. It could also harness the strong existing presence of **construction and plumbing/heating contractors** to support industrial fuel switch and transition towards hydrogen heating for homes. The hydrogen itself can be generated using the recovery from waste process.

Utilising **by-products** of the Biomass Plant to generate biofuels for use at the ITM refuelling station.

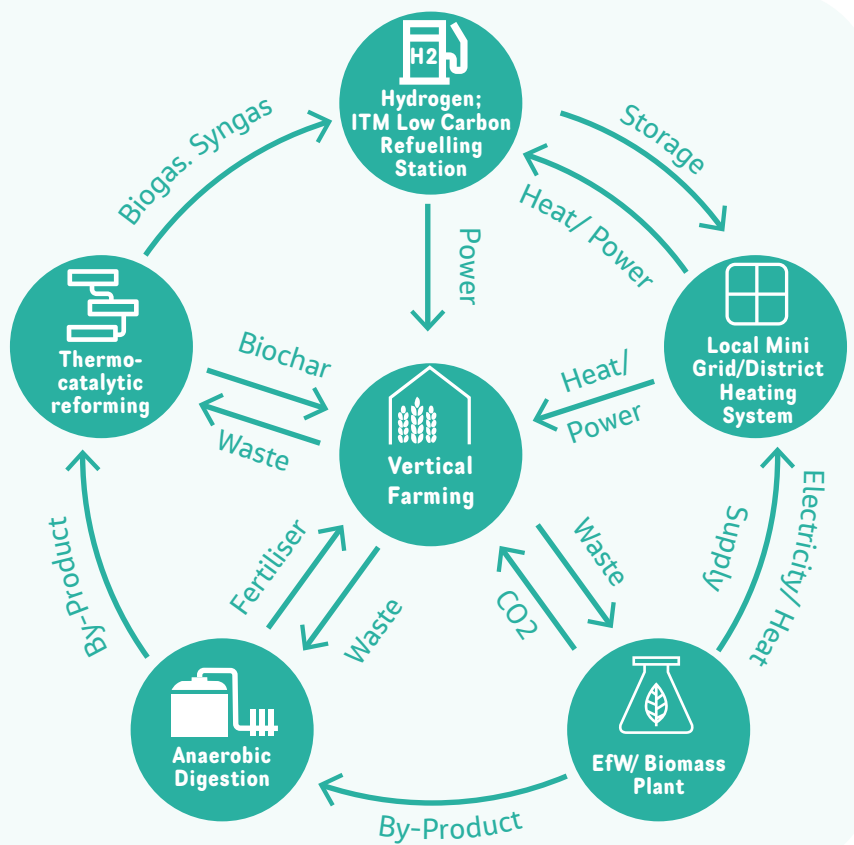
Supporting revolution within the **logistics industry** through initiatives like Last Mile Delivery, Park and Ride, Rail Decarbonisation, recognising the strong haulage and automotive industry in the area. Given the area's strategic location in proximity to Birmingham City Centre, there is potential for the area to act as a transition point to green vehicles for travelling into Birmingham's Clean Air Zone.

Harnessing the hydrogen and waste management sector's role in **recovering, re-using and recycling rare earth elements**, recognising the importance of such materials at the forefront of the transition to clean energy and clean technology via their use in electric vehicles, aerospace, renewable energy technologies and low carbon technologies. An Advanced Material Recycling Centre could use waste and hydrogen (via the Hydrogen Processing Magnet Scraping technique) as key inputs to extract REEs for re-use in emerging technologies that co-locate in the Quarter.

Utilising key inputs available in plentiful supply within the Quarter to support **Vertical Farming** and support local food security:

- Electricity supply via a local mini grid;
- Heat supply via district heating system;
- CO2 as a by-product of the Waste Wood Biomass Plant.
- Biochar as a by-product of the Thermo-catalytic reforming process
- Organic waste feedstock from an Anaerobic Digester could provide a nutritional digestate that act as a fertiliser

A high level concept diagram of how vertical farming could become a use-case for circular economy in the Quarter is articulated in the Figure to the right.



CATALYST PROJECTS

A series of catalyst projects are identified through policy review, understanding of the site and initial stakeholder engagement. They aim to build on existing assets, supporting both present and future use. A combination of these projects would help deliver the vision holistically. The catalyst projects are categorised based on:

- **Placemaking Opportunities:** Optimising the diverse range of spaces within the area, providing a safe and pleasant environment, driving a sense of place, connecting local communities.
- **Leveraging green and blue infrastructure:** Maximising the opportunity of existing green and blue infrastructure, such as Grand Union Canal, Cole Valley and other green spaces for recreational use.
- **Connectivity:** Increase permeability, connectivity and accessibility within and to the site, linking the site to the surrounding communities.
- **Business Opportunities:** Working together with major players on site, supporting local businesses, attracting more talent and businesses in the area, with reference to focus sectors and availability of vacant spaces.
- **Residential Opportunities:** Engaging the residential community to be part of this initiative, driving clean and inclusive growth.



Some of the below initiatives have already been proposed externally, with ongoing conversations, which are indicated through the icon on the left.

It is also important to note that these are some initial ideas that could be rolled out in early phases to catalyse positive changes to the area, more initiatives are encouraged.

Placemaking Opportunities



- **Streetscape improvement** across the site
- Tree planting to reduce air pollution
- Reprioritising road space allocation to create a better pedestrian environment
- Creating a more child and family friendly location, linking to the local schools, nurseries and academies on site



- Potential to recycle plastic waste to provide **circular designed street furniture** in the area
- Promoting circular economy and raising awareness to public
- Linking to waste and recycling facilities, with community participation



- **Lighting strategy** along streets, canals, green spaces
- Use of energy efficient lighting, possibly powered through solar energy generated locally
- Playful elements could be introduced
- Promoting safe and vibrant environment, deterring anti-social behaviour
- Promoting 24/7 economy

Leveraging green and blue infrastructure



- **Activating green spaces** that are currently underused, creating spaces of gathering
- Potential for **urban farming** in local areas, which could encourage community participation
- Better connection to Oaklands Recreational Ground across Coventry Road



- **Canals** provide great opportunity for **quality public space**
- Currently, buildings turn their back to the canal. There is potential to create a new interface with the canal to create a more welcoming and safe environment
- Introducing more access points and encourage active travel along the canal



- Promote **safety and encourage activities** to maximise the use of **River Cole Valley**, linking to the River Cole and Tyseley Community Commons project
- Provision of lighting and wayfinding in the area
- Signposting and facilitation of a walking route and access from key destinations on-site, e.g. Tyseley Station

Connectivity



- Careful design, implementation and maintenance of **cycle routes**, to ensure cycling is accessible to all potential cyclists
- Clear segregated paths to ensure safety of cyclists, pedestrians and other road users



- Improving **accessibility around Tyseley Station and Sprint Bus stops**
- Manage traffic along Kings Road to create a better arrival experience
- Potential for improved rail connection to London
- Enhance permeability and wayfinding schemes within site and to surrounding areas



- Introducing **micro-mobility hubs** in the area - improving last mile connection
- Shared mobility e.g. e-scooters, bicycles, electric car club vehicles
- Active travel support, including wayfinding maps, cycle docks, tool stations, digital public transport information

Business Opportunities



- Creating a **skills hub** can provide training and career advice to upskill local communities
- Programme to **support low-carbon transition for local SMEs**, providing them with appropriate skills, knowledge, and resources
- Leverage connection with TEP, University of Birmingham, NDCH, Energy Research Accelerator and the UK Business Climate Hub.



- Vacant large warehousing/ industrial premises present within TEED area provide possible location opportunities for **vertical farming**
- It allows reduction in food miles and can be powered through renewable sources. Also reduces water use and increases crop yield.



- Solar energy can reduce carbon emissions while making a long-term saving on electricity costs
- Potential to **install solar panel on building roofs**, particularly on big box warehouses
- Further potential to maximise the use of solar energy on site in future

Residential Opportunities



- Improving **interfaces of residential and industrial land uses**, providing better quality of life to local residents, attracting more to relocate to this area
- Identify facade treatment of industrial buildings that is appropriate for the residential context, e.g. brick, whilst responding to the industrial character



- **Decarbonisation of Heating in residential areas** through installation of heat pumps, district heating, hydrogen boilers
- Addressing fuel poverty through provision of affordable and clean energy
- Linking to housing retrofit programmes



- Installing **solar panels on residential roofs**
- Potential for community to benefit from profit for selling the excess energy and alleviate fuel poverty
- Linking to Tyseley Solar Scope Project and Community Energy Birmingham





04

Roadmap

04 Roadmap

4.1 A Collaborative Governance Model

The future success of TEED requires a strong and long-term commitment of all the key stakeholders involved. This commitment can be embodied within a governance structure developed to oversee development and growth of the quarter. The academic and industry literature indicates that a bottom-up (emerging from within the area itself rather than being imposed by central government) horizontal governance model reflecting **the triple (or quadruple) helix - involving (i) business, (ii) academic and civic institutions, (iii) government (and (iv) society)** – is best positioned to realise an innovation quarter’s vision by acting as the driving force for:

- optimising collaboration
- establishing and pursuing vision
- identifying shared and unique assets
- design, finance and strategic initiatives; public space management
- evaluating progress

Now is an ideal time for Tyseley Environmental Enterprise District to establish a formal governance model. It would maximise the District’s opportunities to influence the new spatial and connectivity plan for Birmingham; to participate in and contribute significantly to the city’s and the region’s plan for post-COVID19 recovery; and to harness the potential of development opportunities such as HS2, the Commonwealth Games, Sprint Bus, and the rapid development of Tyseley Energy Park.

Understanding the key assets

As defined in the Brookings Report (2014)¹, Innovation districts are built around three type of core assets:

- **Economic assets** – the firms, institutions and organisations that create or support innovation;
- **Physical assets** – the buildings spaces, streets and infrastructure which support collaboration and innovation
- **Networking assets** – the relationships between different organisations and people that generate, develop and help commercialise ideas.

One of key steps when creating a innovation quarter, is to understand the existing assets and build around them.

Leveraging existing networks

To form a governance, it will require engagement with local stakeholders and land owners to come together. It is also important to collaborate with existing networks in the area, such as the Co-Creation group, Places in Common, East Birmingham & North Solihull Project Board, Greater Birmingham And Solihull LEP, and Arts in the Yard.

It is vital to integrate the various networks and individuals across sectors in the planning of the Innovation Quarter.

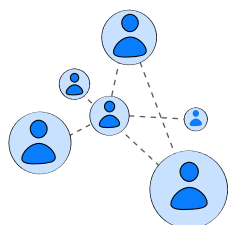
Engagement with local communities

To assure commitment to the local stakeholders, the governing body should actively engage with local communities, through methods such as conducting regular surveys, forums for feedback on the design and development of the Innovation Quarter.

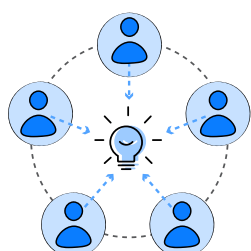
¹ The Rise of Innovation Districts: A New Geography of Innovation in America, Bruce Katz and Julie Wagner, Brookings, May 2014.

Potential Governance Models

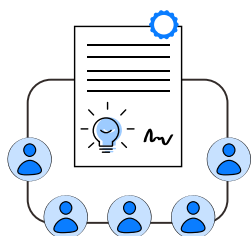
Although there is general consensus on the broad, over-arching approach to governance of innovation districts, there is variation in the formalisation of governance structures. In broad terms, there are four types of governance models that are typically applied to innovation district implementation:



Networks are **informal collaborations** where members exchange information through **conferences, meetings or communities of practice**. Such networks can create some degree of coordination through an **advisory board**.



Associations build relationships where members interact on **common themes and interests**. People and organisations pool their interests, and sometimes resources, to work towards an end result that is often general in nature, such as “improving digital skills in Birmingham”. Examples include **Steering Groups, or trade bodies**.



A **strategic alliance** is an **agreement** between two or more parties to pursue a set of specific, **agreed objectives**, such as a joint programme of work between two or more companies. The Alliance can hold and disburse funds on behalf of member organisation’s in their collective interest, but these tend to be modest - sufficient to run initiatives such as joint marketing campaigns, or minor public realm improvements, for example. Any more significant expenditure of funds takes place through joint actions by individual members.



An **incorporated venture/joint venture** involves **formally established corporate arrangements** that cover governance, management and accountability protocols. They may require formation of a **corporate entity**. This can take the form of a public-private partnership. They give effect to strategic partnerships between parties where there are **significant resource commitments** involved, and **delivery of outcomes is required**. Such joint ventures are often set up for major property and regeneration programmes and can acquire significant financial resources.

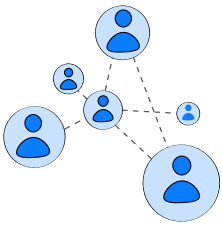
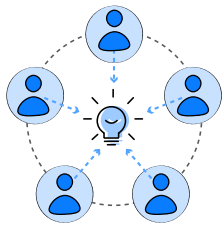
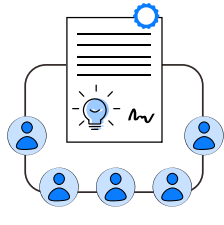

KEY BENEFITS



The benefits to TEED of establishing a formal governing body would include:

- Greater **political influence** to secure devolved and central government support
- Greater **accessibility** to private and public sector **funding opportunities**
- A stronger **sense of identity** and **visibility** in the public domain, contributing to a more impactful presence at national and international scale
- More **consistent** planning and **oversight** of developments within the Quarter, and a **stronger voice** to influence plans in the city
- Greater potential for **institutional agglomeration** to complement physical and intellectual agglomeration already in place, leading to optimisation of:
 - Economies of scale for **better community engagement**
 - **Knowledge sharing**, building and development,
 - **Spillovers** between industry and academia,
 - **Specialisation** and entry into emerging sectors
 - **Supply of skilled labour** between educational and industrial occupiers
 - Local, regional and national **impact on skills, innovation, research and the economy**

Table 1: Governance structure attributes - Tailoring governance to an innovation precinct's development level²

| |  Networks |  Associations |  Strategic Alliance |  Incorporated Venture/Joint Venture |
|---|--|--|---|--|
| Basis of governance | Shared interest | Collective action, membership | Joint action in deed of agreement | Provisions of the Corporations law |
| Level of participant commitment | Loose, casual, voluntary | Weak | Strong, committed | Enforceable |
| Decision making Processes | Consensual | Representative | Contractual | Corporate, judgemental, expert |
| Basis of operation | General agreement, good will | Statement of Intent, Membership fees | Agreed Business Plan and budget | Legal Entity |
| Cost of operation | Minimal | Low | Moderate | High |
| Capacity to deliver large programs or projects | Limited – small, specific projects | Moderate – project specific | High – project specific | High – project and program specific |
| Accountability for stakeholders | Informal reporting Project acquittal | Formal reporting in financial statements | Formal reporting in financial statements | Formal reporting covered by law |

² Howard et al (2016) 'Governance Models and Frameworks for Smart Specialisation'

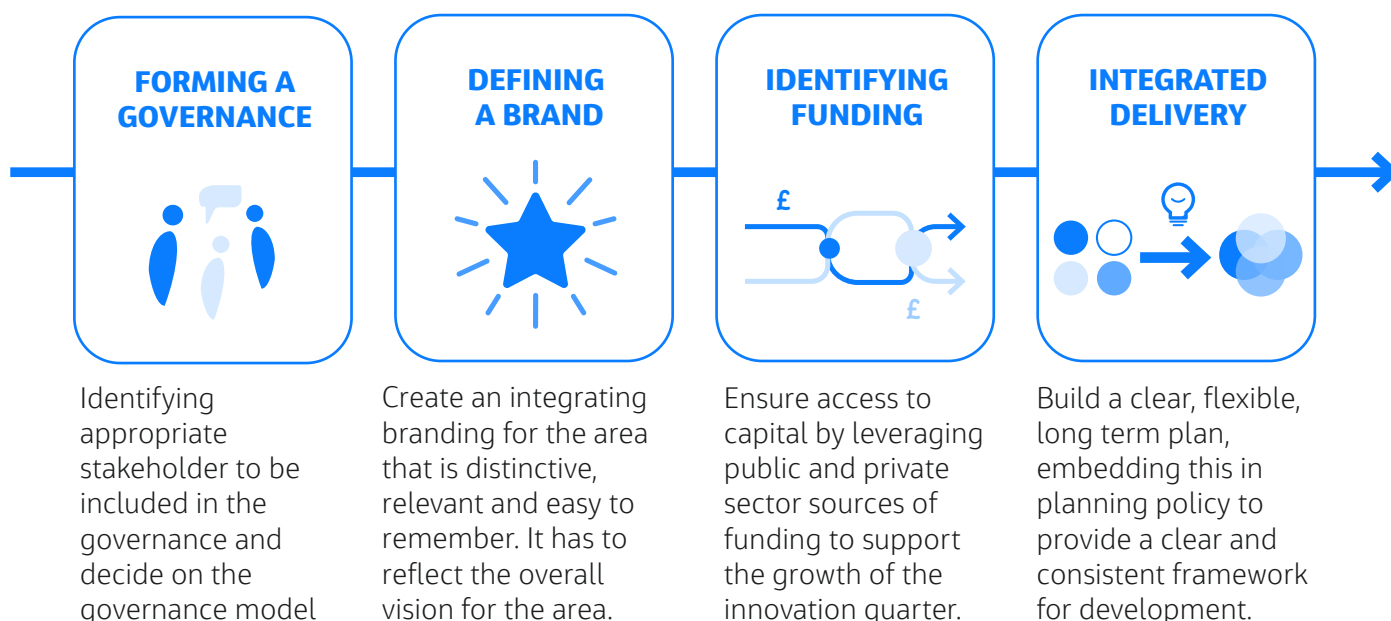


What are some of the key characteristics shared by many Innovation Districts?

- Adoption of the **Triple Helix model of governance** (incorporating industry, research universities, and government – sometimes extended to quadruple helix to incorporate society)
- **Active engagement** and a central role adopted by a **municipality** or other form of **local government**
- An overseeing governance body that acts as a **single point of contact for investors**
- Close cooperation with **external partners**:
 - ∅ sub-regional bodies and government agencies responsible for economic growth/development (e.g. LEPs, Combined Authorities, BEIS, DCMS, etc)
 - ∅ national collaborators (e.g. Science and Technology Facilities Council, Innovate UK, Smart Specialisation Hub)
- Appointment of a **Strong leader**, or **leadership team**, that will be able to bring together the different resources needed
- Formulation of **good policy** to ensure adequate education and infrastructure is available to support endogenous growth in the cluster
- Presence of one or more **anchor tenant**, such as regional industry partners, headquarters. etc.

Key next steps

Below are some key steps to consider when building an Innovation Quarter.



4.2 Guidance to achieve the Vision through the Planning Process

Planning policies in place provide guidance for decision-making and for future development of an area. The National Planning Policy Framework (NPPF)(2021) is the overarching policy framework which sets out the government’s planning policies for England and how these are expected to be applied. The purpose of the planning system is to contribute to the achievement of sustainable development, which means achieving the three overarching objectives - economic, social and environmental, in mutually supportive ways.

On a city scale, Birmingham is currently in the process of developing the “Birmingham Plan”, which once it is adopted will replace the Birmingham Development Plan (2017), Aston, Newtown and Lozells Area Action Plan (2012) and the Longbridge Area Action Plan (2009). This document will guide how the city will develop in the future and provide policies to guide decisions on development proposals and planning applications up to 2042. Until that time, the Birmingham Development Plan (2017) is the City’s statutory planning framework guiding decisions on all development and regeneration activity to 2031.

Birmingham Development Plan (2017)

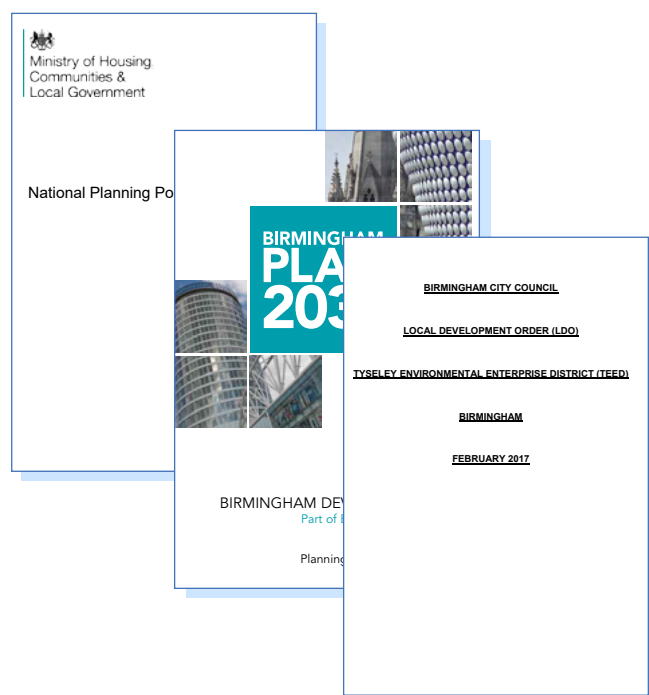
The Plan sets out how and where new homes, jobs, services and infrastructure will be delivered and the type of places and environments that will be created. The Plan’s vision is that by 2031 “Birmingham will be renowned as an enterprising, innovative and green City that has delivered sustainable growth meeting the needs of its population and strengthening its global competitiveness.”

Tyseley Environmental Enterprise District (TEED) is identified as an Economic Zone, in order to provide a sectoral and spatial focus for investment and key growth sectors as well as a Core Employment Area so that the land will be retained in employment use (i.e. research and development, light industrial, general industrial, and warehousing and distribution uses) and will be the focus of economic regeneration activities and additional development opportunities likely to come forward during the plan period.

TEED Local Development Order (LDO) (2017)

The Council adopted the TEED LDO in February 2017 with the aim of helping to provide the conditions to stimulate new economic development through reducing costs and providing certainty for potential developers and businesses, through a simplified planning process. It was anticipated that the LDO would increase investment via permitted development rights (by allowing certain changes of use without the need for specific planning permission) and support development of the TEED, providing in excess of 100,000 sqm of new floor space as well as 1,500 jobs. The LDO sets out general permitted development for Use Classes: B1(b), B1(c), B2, B8, and for environmental technology and/or energy recovery uses deemed to be Sui Generis, under the Town and Country Planning (Use Classes) Order 1987 (as amended) with some limitations in terms of height and location within the district as well as affecting listed buildings.

The LDO expired in February 2020 following the end of its 3 year operation period.





Navigating the planning system to achieve the vision

It is clear there is strong planning policy support for the TEED as demonstrated through the NPPF's commitment to the transition to a low carbon future and both the Economic Zone identity and Core Employment Area designation in the Birmingham Development Plan.

It is important to reflect on what further planning 'tools' can provide support, for example through additional policy or guidance, to unlock the TEED vision, encourage investment and simplify the planning process.

There are a number of options available and the following paragraphs set out the high-level considerations.

● [The Emerging Birmingham Plan](#)

The Council are in the process of updating the Birmingham Development Plan (2017) and according to the latest Local Development Scheme, will produce an 'Issues and Options' (Regulation 18) document for consultation in the Summer this year. This presents a prime opportunity for stakeholders to engage at the beginning of the plan-making process to influence the policy and guidance for the TEED. The Council's intention is to produce a 'Submission' (Regulation 22) version of the plan in late 2024, with a view to the new plan being adopted by the end of 2025.

Stakeholders could work with the Council to align future growth ambitions, resulting in a robust new Local Plan that serves to create innovation-led regional growth, new high value jobs and skills training in integrated waste, energy and transport sectors, and new, green manufacturing and engineering industry.

Driver: Birmingham City Council

Benefits: Integrating specific TEED policies and ambitions in the Birmingham Plan can lead to strong policy to support the vision from a city level

● [Area Action Plan \(AAP\)](#)

Consideration should be given to producing an Area Action Plan (potentially in the form of a Masterplan) for the TEED. This could provide a robust detailed planning policy framework, which could align with either the existing Birmingham Development Plan or be produced in parallel with the emerging new plan. The latter would provide a longer-term document, whereas the former would provide a shorter-term framework, which could be superseded following adoption of the new Birmingham Development Plan.

Area Action Plans / Masterplans require substantial evidence gathering and would need to go through the examination process. As with the emerging Birmingham Development Plan, the Council would be the 'owner' and main driver of such a document, with statutory consultation part of the process. An example of an AAP is the nearby Bordesley Park Area Action Plan (adopted January 2020).

Driver: Birmingham City Council

Benefits: Forming strong guidance and buy-in for an area in which the city expects significant change, developing a site specific vision and policies

● [Supplementary Planning Document \(SPD\)](#)

In terms of providing guidance, there is an option to develop a Supplementary Planning Document (SPD) which can provide guidance in line with existing adopted policy. SPDs cannot introduce new policy, however if an SPD was produced in parallel with the emerging Birmingham Plan, this would reflect the latest policy position. SPDs are subject to statutory consultation, however there is no examination.

Driver: Birmingham City Council

Benefits: SPDs expand on the council's adopted policies to provide more detail and can therefore give guidance to the public and developers when making planning applications

● **Local Development Order (LDO)**

Local planning authorities are encouraged to use Local Development Orders to set the planning framework for particular areas or categories of development where the impacts would be acceptable, and in particular where this would promote economic, social or environmental gains for the area.

The TEED LDO expired in 2020, during which time the LDO was to be monitored to assess any new development and employment that had been created through the LDO. Upon adoption of the LDO it was noted that the LDO could be modified during its lifetime to take into account changing circumstances including impacts on local residents. It is not clear whether this review process was followed and whether a review has been undertaken to assess its 3 year operation. Clarity with regards to this is sought.

Before any consideration is given to extending the LDO or the implementation of a new LDO, the performance of the expired LDO needs to be reviewed to determine if it achieved its aims.

Driver: Birmingham City Council

Benefits: LDOs can help enable growth by positively and proactively shaping sustainable development in their area. They can play an important role in incentivising development by simplifying the planning process and making investment more attractive.



● **Neighbourhood Plan**

Neighbourhood planning gives communities the power to develop a shared vision for their area. Neighbourhood plans can shape, direct and help to deliver sustainable development, by influencing local planning decisions as part of the statutory development plan. Neighbourhood plans should not promote less development than set out in the strategic policies for the area, or undermine those strategic policies.

Any potential Tyseley Neighbourhood Plan would have to be business led given its purpose and the commercial land it would cover, it is essential to encourage the residents in the area to get involved and guide their neighbourhood. Neighbourhood Plans can allow communities to establish general planning policies for the development and use of land within a defined neighbourhood area and so influence the type, design, location and mix of new development.

Similar to LDOs, Neighbourhood Development Orders and Community Right to Build Orders are able to grant planning permission. These require the support of the local community through a referendum. Local planning authorities should take a proactive and positive approach to such proposals, working collaboratively with community organisations to resolve any issues before draft orders are submitted for examination.

Neighbourhood Planning is demanding on communities in terms of the resources required and a strong community buy-in is essential. There is the need to factor in the requirement that a Neighbourhood Plan would need to go through the examination process (similar to the Local Plan and AAP approach), and would also be subject to a local referendum. Depending on the timeframes, a Neighbourhood Plan could be short-term solution if the emerging Birmingham Development Plan supersedes it shortly after.

Driver: Local community

Benefits: A neighbourhood plan enables communities to play a much stronger role in shaping their neighbourhoods with a community-led policy document to steer developments proposals



Next Steps

There is no preferred approach to unlocking the TEED vision through the planning process. The planning 'tools' as set out above contain many variables and necessitate open and frank discussions with Birmingham City Council on their plan timescales and ability to support/resource any given approach. Discussions between the Council and stakeholders should determine the most appropriate route, costs and timescales involved.

National Scale

National Planning Policy Framework (NPPF)(2021)

City Scale

Birmingham Development Plan (2017)

Birmingham Plan (in development)

Replacing existing Birmingham Development Plan once adopted

East Birmingham Inclusive Growth Strategy (2021)

Local Scale

Area Action Plan (AAP)

Neighbourhood Plan

Community Forum

TEED Governance Structure

Planning Applications

TEP Strategic Advisory Group

Supplementary Planning Document (SPD)

TEED Local Development Order (LDO)

Legend

Potential Boards / Formal Collaboration

Adopted Policy Document

Local Level Planning Policy Option

Referendum Required

Driver

Birmingham City Council

Local Community

4.3 Developing a Prospectus

A prospectus is a key tool to communicate with and attract potential investors and collaborators in the development of the Tyseley Environmental Enterprise District (TEED). It will communicate the value and returns associated with delivering the opportunities contained in this strategy, and successfully harnessing synergies between organisations and communities in the area.

This section outlines the key structure for a potential prospectus for TEED. It should be a concise and highly communicative document that attracts the reader and shows the potential of TEED. It needs to communicate the magnitude of the opportunity and why this is so relevant for the city, region and country. It will highlight the various layers that can have an impact on the society.

Timeline

In the Case for Change section, we highlighted the need for the TEED to act now in order to harness opportunities driven by new economic recovery and transport strategies at Birmingham City Council, and by developments such as the new Sprint Bus link and the River Cole and Tyseley Community Commons project. A Prospectus should therefore be set out at early stages in 2023, building on the principles set out in this Vision.

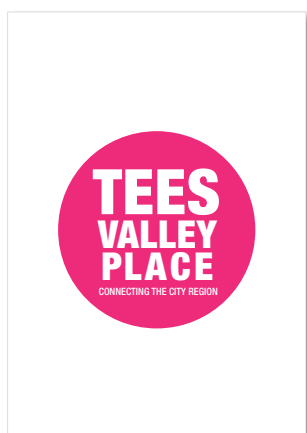
The Prospectus should be developed once the formal governance model has been established, and a programme of joint activities are underway. These steps will underpin TEED's potential with evidence that delivery is underway. Ideally, an initial identity and brand for TEED should have been established, and potentially a concept masterplan undertaken. These will be fundamental in informing the TEED Prospectus and can be further developed in parallel to maximise the efficiency of the progress.

An effective Prospectus is often structured as follows:

- **Setting the context** - illustrating the geographic and socio-economic background of the area
- **Why TEED** - illustrating TEED's competitive advantages. Showing the importance of the clean energy and low carbon technologies in the context of Birmingham, the West Midlands and the UK. Setting how innovation can drive growth and job creation in the West Midlands
- **TEED as a Place** - demonstrating the impact of developing TEED will have on communities and the economy, and illustrating the opportunities for growth and investment in the area with evidence provided through a feasibility study or concept masterplan
- **Development Opportunity Sites** - capturing the potential development sites identified by the city council, which are primed to be development to support the growth of TEED
- **Collaboration and engagement** - showing the wide support from public and local authorities at different tiers of government alongside the involvement of community and business groups
- **Showcasing TEED** - illustrating the robust and long-standing assets that underpin this opportunity, highlighting the achievement of the existing institutions, manifesting what the site will be capable of in the future
- **TEED as an institution** - depicting TEED's organisational arrangement and support from all institutions, showing their involvement and ambition to achieve more than the sum of its parts
- **Next steps** - how further investment can bring TEED to the next level and materialise its vision

Development Opportunities Sites

The below image shows the potential development sites (blue) identified by Birmingham City Council, reflecting the Strategic Housing Land Availability Assessment (SHLAA) and Employment Land Availability Assessment (ELAA). This would be useful to indicate in the "Development Opportunities Sites" section of the Prospectus, showcasing opportunities and attract potential businesses or developers to relocate to the site.



Format

The prospectus should be produced in both digital and physical format to be able to reach out to different audiences through different media.

The image to the left is an example from the Prospectus for Tees Valley Marshalling Yards, produced at a similar stage in the development's evolution. It shows different formats of the same prospectus, digital and physical, which can equally develop a range of configurations such as brochures and foldable leaflets.

4.4 Timeline

The timeline in this section lays out some of the key actions and initiatives that will drive the future of TEED, underpinned by this vision and the East Birmingham Inclusive Growth Strategy. The timeline is structured in three main blocks to highlight the synergies amongst:

- Decision Making
- Catalyst Projects
- Wider & Ongoing Initiatives

Following this Vision, establishing a **governing structure** will be one of the first next steps. This will enable strong collaboration among organisations and the community groups within the TEED. This is a key step that unlocks various opportunities for further decision-making for the development of the quarter and can be driven by the guidance in section 4.1. A **single masterplan**, the development of a **brand and identity**, the **prospectus** and a wider engagement programme can pave the way to further growth in the area. **Wider stakeholder mapping and engagement** is essential to explore the potential for further collaboration and partnerships. Engagement should include key partners for the development of TEED such as Greater Birmingham & Solihull Local Enterprise Partnership (GBSLEP), Places in Common, Birmingham Energy Institute, Tyseley Energy Park, and University of Birmingham.

These decision-making steps need to be aligned with the particular developments already taking place in and in the direct vicinity of TEED, as well as with wider city initiatives. It should also link to the **planning tools** mentioned in section 4.2, subject to agreement, to provide guidance for decision-making and future development of TEED. This will create the opportunity to positively enhance the ecosystem, identity and physical environment of TEED by **leveraging synergies with developments** such as the River Cole and Tyseley Community Commons project, the Hay Hall Bio Power Facility, the potential establishment of the National Centre for Decarbonisation of Heat and the various developments in Tyseley Energy Park.

Furthermore, the governing body should also establish a **programme to identify funding opportunities** utilising the TEED prospectus to engage with public and private organisations.

DECISION MAKING

- Creating a joint Vision for TEED
- Defining a Governance Model
- TEED Prospectus
- Wider Stakeholder Mapping & Engagement
- Single Concept & Spatial Masterplan
- Brand & Identity Development
- Identify Funding Opportunities
- Planning Process

CATALYST PROJECTS

- Placemaking Initiatives
 - Streetscape Improvement
 - Circular Designed Street Furniture
 - Lighting Strategy
- Leveraging green and blue infrastructure
 - Opening up Green Spaces
 - Green Union Canal Activation
 - Safety/ Wayfinding Improvement in Cole Valley
- Connectivity
 - Cycle Lane Implementations
 - Accessibility Improvement to Tyseley Station
 - Micro-mobility Hub
- Business Opportunities
 - Skills Hub
 - Vertical Farming
 - Solar Panel Installation on Business Roofs
- Residential Opportunities
 - Interface Improvement between Residential & Industrial
 - Decarbonisation of Heating in Households
 - Solar Panel Retrofitting in Residential Areas

WIDER & ONGOING INITIATIVES

- Route to Zero Action Plan
- HS2
- West Midlands National Park
- Hydrogen Powered Transport
- Sprint Bus on A45
- River Cole and Tyseley Community Commons project
- Hay Hall Bio Power Facility
- TEP Initiatives
 - Fuel and Vehicles
 - Commercial and Demonstrator Site
 - Proposed National Centre for Decarbonisation of Heat
 - Energy Transition Centre, Commercial Space & SME Support



WE ARE HERE

● ● ● Key Milestone

4.5 Conclusions

THE VISION: TEED AS A GREEN ENERGY & INNOVATION QUARTER

Tyseley Environmental Enterprise District (TEED) will become a **Green Energy & Innovation Quarter**, building on the council's ambition for a low carbon future. The area will attract like-minded businesses and people, to create a place to live, work, learn, innovate and be proud of.



THE BIRTH PLACE OF GREEN ENERGY REVOLUTION

With increasing number of green energy businesses established in TEED, and key driving forces from Tyseley Energy Park (TEP), this vision builds on this momentum to attract more businesses to join the green energy revolution.



A NEIGHBOURHOOD BUILT BY & FOR THE COMMUNITY

Collaborative approach is essential for the success of any strategic vision. The community, including both businesses and residents, will be involved early in the process to create a desirable environment for them to live and work in.



THE ENGINE FOR INCLUSIVE GROWTH IN EAST BIRMINGHAM

Responding to the East Birmingham Inclusive Growth Strategy, this vision aims to promote inclusive growth in TEED, benefiting both local communities and the wider Birmingham.



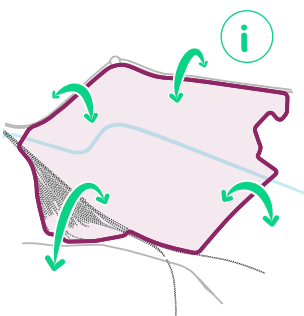
EXEMPLARY SUSTAINABLE WORKING & LIVING ENVIRONMENT

TEED as a recognised neighbourhood that embeds a net-zero and sustainable approach in all aspects of urban life creating a unique ecosystem.

WHY DO WE NEED TO INTERVENE NOW:

- Respond to Policy Priorities
- First mover advantage
- Time pressure of policy priorities
- Capitalise on existing/committed development
- Leverage economic recovery
- Fuel crisis
- Strong stakeholder support
- Harness BCC's emerging Digital Strategy 2022-2025
- Influence on key public procurement processes
- Investment appetite: demonstrable interest already exists
- Leverage emerging political climate and enhanced focus on circular economy principles

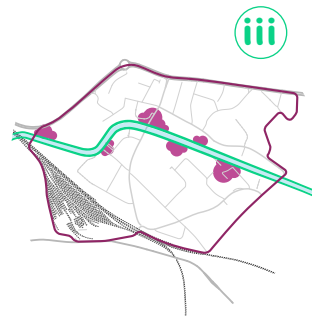
INITIAL KEY MOVES (SPATIAL)



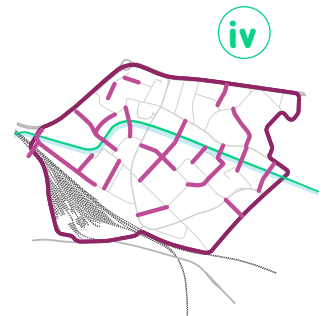
LINKING WITH SURROUNDING COMMUNITIES



UTILISING EXISTING GREEN SPACES & GREENING STREETS



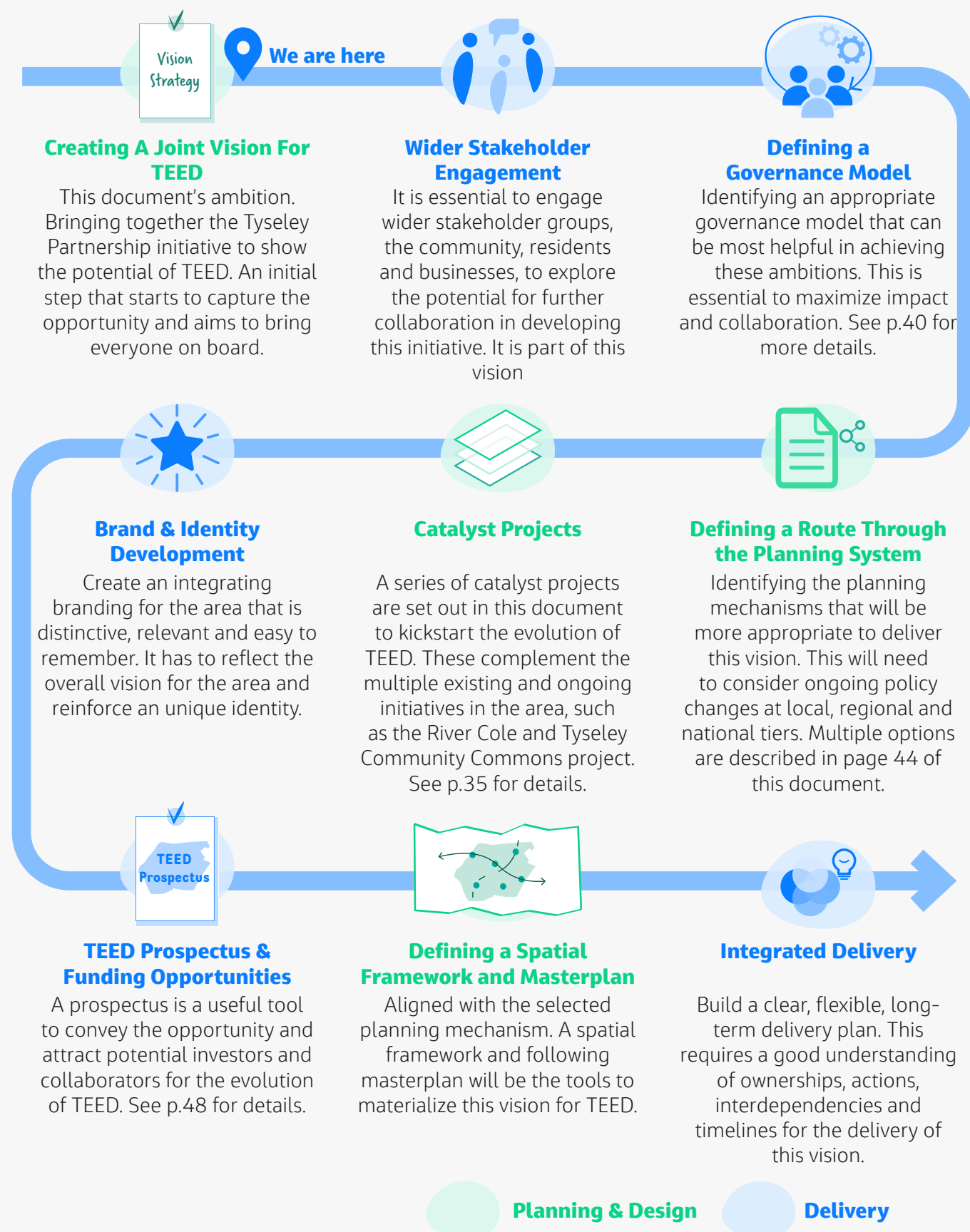
UTILISING GRAND UNION CANAL AS A KEY PUBLIC SPACE



RATIONALISING THE STREET PATTERN

KEY PRIORITIES & NEXT STEPS

The steps below are crucial for the evolution of TEED. They are key activities that sometimes can be carried out in parallel towards an integrated delivery. More detail of each can be found above in this vision report.



UNIVERSITY OF
BIRMINGHAM



BIRMINGHAM
ENERGY INSTITUTE



Birmingham
City Council

Jacobs