



‘Enabling Innovation in the Energy System’

18th April 2023



Welcome

Kate Ashworth – WMCA
Clare Ollerenshaw – IZCWG Chair



Agenda

Time	Item	Speaker
09:30	Innovation tour of Tyseley Energy Park and the Climate Innovation Platform facilities	
10:30	Welcome	Kate Ashworth – Energy Capital, WMCA Clare Ollerenshaw – IZCWG Chair
10:40	Innovation Accelerator announcement & Innovation Alliance update	Iain Mansell – Innovation Alliance
10:55	Funding opportunities in energy and decarbonization	Jenni McDonnell MBE – InnovateUK KTN
11:10	Strategic Innovation Fund Innovation Opportunities	Jenny Woodruff – National Grid Electricity Distribution
11:30	Open discussion and debate	
12:00	Lunch & Networking	
12:50	Event Close (but with opportunity for further networking and meetings)	

Who are Energy Capital?

The Energy Capital Partnership is a partnership responsible for the delivery of the **Regional Energy Strategy**. The executive that supports this partnership is hosted by the WMCA.



A small team of energy system experts that has grown significantly since it was established in 2017



With an initial investment of £500k by the WMCA, we have leveraged well over £50m into energy and its supply chain across the region



A partnership that brings the public and private sectors together to deliver place-based energy solutions, with a focus on establishing a smarter national energy system.



energy



innovation



decarbonisation



support

local



political

lobbying



commercial



housing



transport



West Midlands Innovation Accelerator

About WMIA

- First announced in the Government's 2022 **Levelling up White Paper**, the West Midlands Innovation Accelerator will commence in May 2023, **funded through a share of a £100m fund from Innovate UK**, to be divided by three regional Innovation Accelerators over the next two years.
- Aims of the Innovation Accelerator include **accelerating the region's engineering research & development, boosting inward investment, and reinforcing the West Midlands' position at the frontier of the UK innovation revolution** by enabling businesses to develop new products, processes and services.
- The West Midlands Innovation Board has targeted investment on projects **enabling new solutions around Medical and Clean Technologies**, following initial expressions of interest in June 2022.

A stylized graphic of an envelope with a white top flap and two grey triangular corners. The central area is orange and contains the text "Announcement Timeline".

Announcement Timeline

Announcement Timeline

1. Government IA FBC sign off – **February 2023**
2. **30 day** due diligence on individual projects
3. Individual project announcement in **March 2023**
4. Project go live **May 2023**

The graphic features a central orange hexagon with a white border. The hexagon is set against a white background that is itself centered on a larger orange background. The white background has a rounded top and bottom edge. The orange hexagon has a white border and is filled with a solid orange color. The text "WMIA Project Portfolio" is centered within the hexagon in a white, bold, sans-serif font.

**WMIA Project
Portfolio**

6D-IA (lead – UoB)

The West Midlands ‘6D’ Innovation Accelerator (6D-IA), coordinated by the University of Birmingham, will unite key stakeholders (universities, hospitals, industry and government-funded ‘Catapults’ for manufacturing innovation) to supercharge the region’s ability to accelerate new health and medical technologies, delivering a streamlined programme to help companies navigate “pinch-points” in the process of medical translation.

Our ‘6Ds’ include diagnosis of company needs; definition of major NHS and industry-based challenges to target; development and refinement of prototype products; deployment of innovation in real-world NHS settings; diversification of supply chains, skills and services; and demonstration of significant economic and health benefits for our region.

Clean Futures (lead – Connected Places Catapult)

Clean Futures will develop the West Midlands' innovation ecosystem helping to drive economic growth, increase industry engagement and accelerate the commercialisation of SMEs in the region. Based from specialist hubs in Dudley and Coventry, the project will support the development and diversification of transport manufacturing supply chains in the West Midlands, enabling the transition from fossil-fuelled to clean-tech solutions. It will see SMEs supported through funding programmes to develop, demonstrate and grow clean-tech solutions in partnership with OEMs, Tier 1s and the wider ecosystem.

Clean Futures will provide a foundation for sustainability through the Clean Futures Academy, bringing together the West Midlands innovation community to support longer-term sustainability and social benefit. By bringing together the West Midlands innovation community, Clean Futures will drive jobs and growth, bringing new investment to the region and convening buyers and suppliers to tackle the challenges of clean transport.

WM Innovation Programme (lead – WMCA)



The West Midlands Innovation Programme addresses the Capability and Capacity strand of the West Midlands Innovation Accelerator, supporting cross-sector, demand-led innovation and enhancing the connectedness and operation of the region's innovation ecosystem. Led and managed by the West Midlands Combined Authority, enabling it to enhance other West Midlands Innovation Accelerator projects and wider regional innovation activity, and constructively interact with further regional growth levers.

West Midlands Innovation Programme unites a team of sector innovation experts under the banner of the Innovation Alliance for the West Midlands, bringing a strong private sector voice and capacity to identify and address business innovation barriers and enablers. The team will work with partners to utilise a flexible innovation fund to pilot the development of multiple novel, collaborative interventions that overcome barriers to and exploit opportunities for demand-led innovation within and between sectors. In addition, a series of diverse and inclusive sector specific working groups and events will enable networking, good practice sharing, connections and partnerships.

Biochar CleanTech Accelerator (lead – Aston University)



West Midlands
Combined Authority

The Biochar Accelerator will build on research facilities at Aston University to develop growth potential targeting export contracts worth over £200 million of low carbon products produced by a regional industrial cluster.

The project aims to commercialise knowledge, facilities and the results of long-term university research for the benefit of the environment and regional economy; continue the development of a high-capacity low carbon engineering cluster in the West Midlands; open up new domestic and export markets to help rebuild engineering and manufacturing in the region; provide a development pathway from which to launch new technology-based opportunities as they reach maturity; and engage staff and students through projects and placements to seed further future commercial innovation.

DIATOMIC (lead – Connected Places Catapult)

DIATOMIC will accelerate place-based innovation in the West Midlands. Harnessing the region's existing international relationships and through a series of targeted initiatives, it will focus on growing the region's clean tech, health tech and med tech markets. The programme is led by Connected Places Catapult, the UK's innovation accelerator for cities, transport and place leadership.

We will enable civic leaders to set innovation challenges, support local SMEs to respond and benefit the community through the UK's first inclusive innovation hub. It will also promote the use of data to enable better place-based decision making and develop an impact assessment toolkit.



Find Out More

Contacts and Launch

- Project will launch via a landing page on WMCA website which will be promoted via partners once activated in May 2023.
- A launch event will be held in July 2023.
- Individual projects will hold their own business engagement activities over the course of the next two years (until March 2025).

UPDATE ON THE INNOVATION ALLIANCE WEST MIDLANDS (IAWM)



Innovation Alliance for the West Midlands*

A bottom-up, independent Alliance of diverse organisations active or interested in (science and technology based) innovation across the West Midlands.

Our two core aims:

- Build and maintain a thriving innovation ecosystem
- Stimulate and catalyse a pipeline of innovation activity

* Established Jan 2018, building on BSC partnership since 2007



Virtual Innovation Team: the engine of the IAWM

Business-facing innovation experts embedded in a range of regional cluster/sector bodies.

Support businesses in all the sectors and major market opportunities of the WM to grow through innovation.



IAWM Networks and Events

Thematic Groups

- Smart Places Working Group (with Birmingham Tech)
- Innovative Health WG (with WM Health Technology Cluster)
- Innovative Zero Carbon WG (with Sustainability WM)
- Innovative Manufacturing WG (with WMG, MAA and BCRRE)
- Innovative Transport WG (with Transport for WM)
- Cyber Community (with Midlands Centre for Cyber Security)

Sector-agnostic Innovation support groups/ events

- Venturefest WM (with Minerva Birmingham, Bruntwood SciTech, Universities of Aston, Birmingham, Warwick & BCU)
- Innovation Policy and practice events
- Innovation Support Forum
- WM IP Forum (with Intellectual Property Office)



Keep in Touch

- **Website:** <https://innovationwm.co.uk/>
- **Twitter:** @innovationWM
- **LinkedIn:** Innovation Alliance for the West Midlands
- **Email:** hello@innovationwm.co.uk



Powering up Britain

Jenni McDonnell MBE

Jenni.McDonnell@ktn-uk.org

www.ktn-uk.org



Innovate UK
KTN



About Us

Innovate UK KTN exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.



Powering up Britain

On the 30th March 2023 the UK Government announced their approach to energy security and net zero through the new **Powering Up Britain** plan. <https://www.gov.uk/government/publications/powering-up-britain>

The plan ensures the UK is more energy independent, secure and resilient, and seizes the economic opportunities of the transition whilst delivering on our net zero commitments.

Highlights

- Nuclear – selecting the best small modular reactors to increase nuclear capacity in the UK
- CCUS – announcing Track 1 cluster (NE and NW) and Track 2 cluster (TBC) deployments
- Floating Offshore Wind Manufacturing – building port infrastructure
- Heat Pump Investment Accelerator – scaling up heat pump manufacture in the UK
- Great British Insulation Scheme – helping homeowners to reduce their energy bills
- Investment in EV charging infrastructure
- Hydrogen – scaling up green production to meet demand

Industrial Energy Efficiency

£185m Phase 3 Industrial Energy Transformation Fund.

The Industrial Energy Transformation Fund (IETF) is a capital investment fund supporting the deployment of industrial energy efficiency and decarbonisation technologies at industrial sites in the UK. **Projects over £100,000.**

We will be hosting consultation events this summer to ensure the scope of the IETF is still fit for purpose and hope to open the first Phase 3 competitions in early 2024.

Technology Showcase event – 15th May at 10.00am online

- Hear from some of the industrial sites who have been funded
- Hear more about the Phase 3 consultations

Energy Advisory Service

Energy Advisory Service will help smaller businesses to reduce their energy demand. **Projects under £100,000.**

- Energy audit
- Grant support for implementation



Net Zero Hydrogen Fund Round 2

£240m Net Zero Hydrogen Fund

To provide capital expenditure (CAPEX) and development expenditure (DEVEX). This will support the commercial deployment of new low carbon hydrogen production projects during the 2020s.

Strand 1: FEED studies for future hydrogen production projects

Strand 2: Deployment of hydrogen production that doesn't require a specific business model and can be built immediately.

Supports

- Electrolysis
- Steam methane reforming with CCUS
- Biomass or waste conversion to hydrogen

Must comply with Hydrogen standard

Briefing event 19th April <https://lnkd.in/enTYYJeH>



Net Zero Heat: Design Engineering Innovation Lab

Innovate UK's Net Zero Heat programme is launching a new competition to fund the development of low carbon hot water and space heating solutions for buildings (homes and commercial buildings).

The fund will host a 5 day innovation lab in September (hackathon style) to develop ideas for innovative net zero heat projects that will be pitched on the last day. The best ideas will be invited to apply for funding.

Project proposals developed at the Innovation Lab must centre on the following:

- a just transition, ensuring equality, diversity and inclusion is embedded in all approaches to net zero heat in buildings
- delivery of substantial upgrading of building portfolios
- targeting decarbonisation of the whole system
- delivery of approaches at scale
- solutions demonstrated on real developments

Briefing event 20th April

<https://iuk.ktn-uk.org/events/net-zero-heat-innovation-lab-competition-briefing/>



Thank you

Jenni McDonnell MBE
Thermal energy systems
Innovate UK KTN
Jenni.McDonnell@ktn-uk.org



Electricity
Distribution

Energy Collaboration Day

April 2023 – Tyseley Energy Park

Jenny Woodruff
Innovation Team Manager Midlands

nationalgrid



Contents Page

01 Innovation team

02 Strategic Innovation Fund (SIF)

03 TEED

04 Other SIF projects

Introduction to Innovation

Over the next 10 years, National Grid Electricity Distribution (NGED) faces unprecedented changes to the network.

We will innovate to better manage the strategic threats and opportunities associated with these changes.



We are a team of engineers dedicated to identifying problems, finding solutions and trialling them.



Everything we do evolves around contributing to decarbonisation, achieving excellence and providing value for money to our customers.



We aim to be working with the best people whose values align with ours.



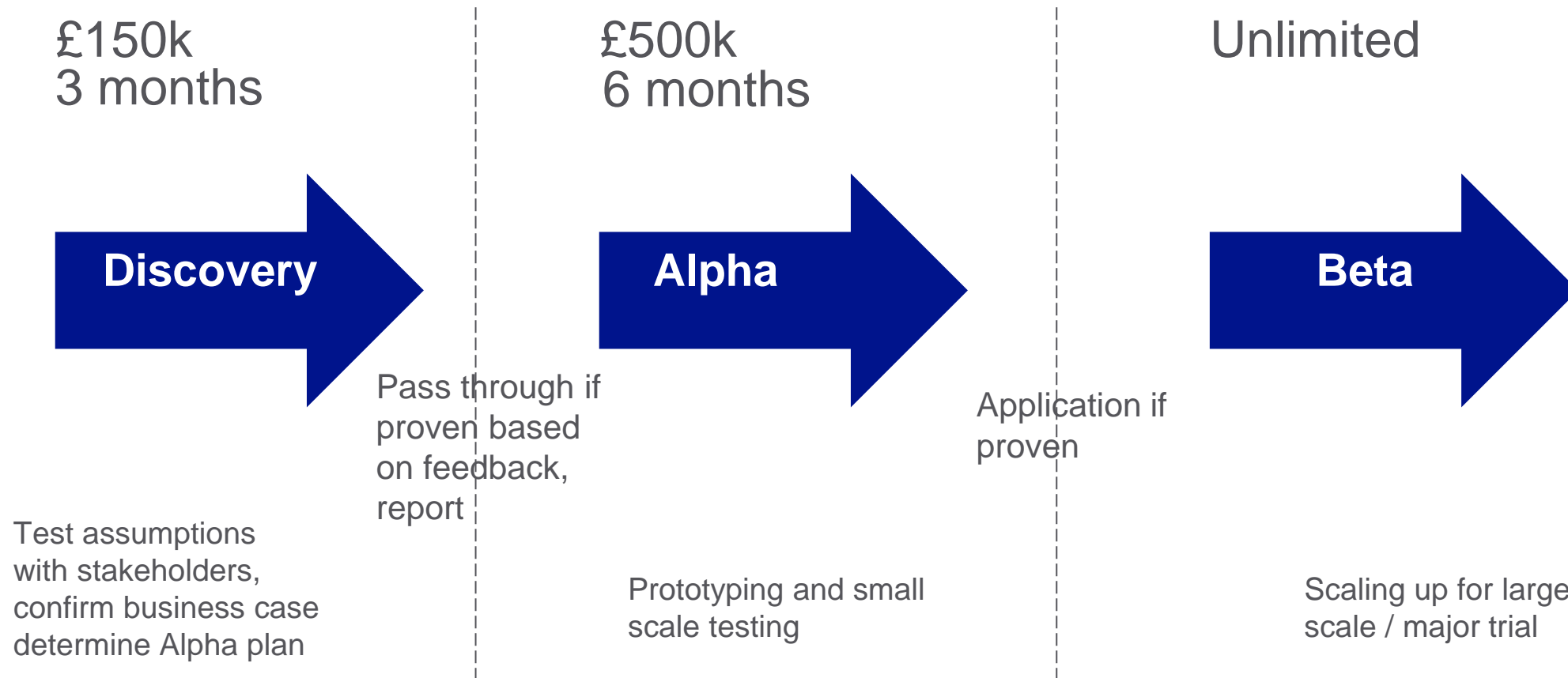
Strategic Innovation Fund

- UKRI, Innovate UK and Ofgem led
- Replaces Network Innovation Competition
- Series of annual themes
- Designed to be more “agile”
- Still requires thought and a business case
- Consumer led

Round 2 Themes

- Preparing for net zero power systems
- Improving energy system resilience and robustness
- Accelerating decarbonisation of major demands
- Supporting a just energy transition

Strategic Innovation Fund Approach



Tyseley Environmental Enterprise District (TEED)



Partners

- National Grid Electricity Distribution
- National Grid - ESO
- Tyseley Energy Park
- Birmingham City Council
- University of Birmingham
- EQUANS
- SSE
- Pinnacle Power

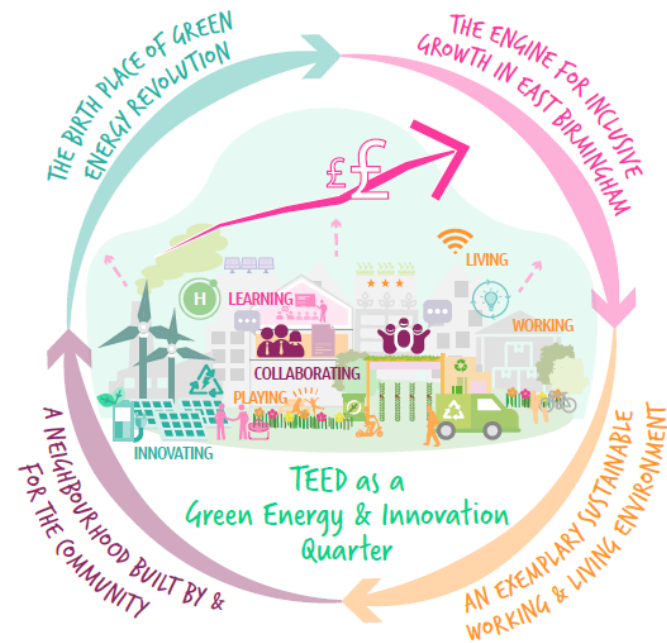
Tyseley Environmental Enterprise District (TEED)

Tyseley Energy park has lots of energy resources including waste heat.

Integrate with city heat network or use locally?

Future site developments?

How does a digital twin help us evaluate potential options?



Work packages

- **Baseline report and CO2 assessment**
- **Options analysis to select 2-3 good options**
- **Options development – detailed designs for the selected options**
- **Business case development**

TEED - Project outputs

- Demand for heat, electricity and hydrogen in the TEED area next 20 yrs
- Electricity grid and its constraints and most effective upgrades
- Heat grids across the TEED, with a link to the BDEC* scheme
- Potential for short and medium term energy storage for demand management and grid balancing
- Potential for a low-temperature network recovering heat from bio and/or hydrogen electrolyser and integration of large-scale thermal storage
- Impact of the City waste and transport strategy on energy requirements
- Potential for a high-temperature heat network with heat from EfW
- Scope for technology integration alongside EV charging to manage demand side and integration of micro-mobility
- Hydrogen-grid for industrial and rail decarbonisation
- An understanding of regulatory, planning and system constraints

Other SIF projects

PRIDE

Planning Regional Infrastructure in a Digital Environment

- Developing the LAEP+ tool to better support local authorities.
- New datasets & functions

Shifting Currents

Taking advantage of flexibility in water companies to pump water at the best time for electricity network.

Pioneer

Building on DEFENDER project to identify the best locations for NGED to support energy efficiency.

EV – Respond

Can Electric Vehicle batteries be used to support vulnerable customers during power outages?

nationalgrid



Open Discussion and Debate



West Midlands
Combined Authority

Lunch and Networking

Date of Next Energy Capital
Collaboration Day 16th May

