



West Midlands
Combined Authority

Environment Board

Date	25 June 2020
Report title	Energy Transition
Portfolio Lead	Councillor Ian Courts - Environment, Energy & HS2
Accountable Chief Executive	Deborah Cadman, West Midlands Combined Authority email: deborah.cadman@wmca.org.uk tel: (0121) 214 7200
Accountable Employee	Ed Cox, Director of Public Service Reform email: ed.cox@wmca.org.uk tel: 07788 224179 Cheryl Hiles, Director of Energy Capital email: cheryl.hiles@wmca.org.uk tel: 07814 972921

The Environment Board is recommended to:

- (1) Recognise the role of energy infrastructure as a foundation of clean economic growth in the West Midlands and in supporting the region's recovery and decarbonisation objectives at the lowest cost to the region.
- (2) Endorse Energy Capital to seek external funding for the projects identified in this paper, to address energy infrastructure issues in the region equitably.
- (3) Encourage the WMCA to engage with BEIS on energy devolution and seek its inclusion as part of the forthcoming White Paper on Devolution or any other appropriate initiatives including the 'Distributed Level Future Energy Scenarios' process, regulated by OFGEM, in support of the region's growth and decarbonisation plans.

- (4) Approve Energy Capital to work with the wider WMCA team to secure investment into a revolving financial mechanism to support green infrastructure investment.

1. Purpose

- 1.1 The purpose of this paper is to highlight the need to ensure that the region's energy infrastructure can enable the delivery of a net zero West Midlands by 2041, as part of the WMCA Climate Change Delivery Plan.

2. Background

- 2.1 In June 2018, the SED Board¹ formally tasked Energy Capital with responsibility for:

- delivering the targets set out in the Regional Energy Strategy²
- delivering the recommendations of the Mayor's Regional Energy Policy Commission³
- leading partnerships and project development to co-ordinate the energy sector contribution to the local industrial strategy
- leading energy related activities on behalf of the WMCA.

- 2.2 Current priorities include:

- Delivering the West Midlands' share of national and global carbon budgets
- Ensuring our regional energy infrastructure puts the region at the leading edge of the global energy and transport systems transition, through energy innovation zones
- Keeping energy costs for our strategic industries competitive.

- 2.3 Since 2018, Energy Capital has been working on the priorities above through a variety of projects. In June 2020, *WM2041: a programme for implementing an environmental recovery* was endorsed by the Combined Authority Board. This report contained a recommendation that Energy Capital would bring a paper to the June Environment Board concerning regional energy infrastructure, with details of the devolved powers needed by the Combined Authority to ensure OFGEM consider the needs of the regions in their network planning cycles, within Energy Innovation Zones.

- 2.4 Evidence to date has led to the following working hypothesis: **Energy infrastructure costs and investment mechanisms are a barrier to regional economic growth in the West Midlands, particularly our ambitions for a green and equitable recovery.**

- 2.5 Explanation of the problem:

- A green economic recovery is reliant on our energy system's ability to respond to the changing demand that decarbonisation necessitates.
- The energy system is managed nationally, and currently no one is representing the interests of city regions. There is already evidence from local projects that investment is not being made into parts of the region's electricity infrastructure to enable business growth and the net zero transition across the region⁴.

¹ September 2017 SED Board Minutes

² <https://www.energycapital.org.uk/a-regional-energy-strategy-for-the-west-midlands/>

³ <https://www.energycapital.org.uk/wp-content/uploads/2018/03/powering-west-midlands-growth-regional-energy-policy-commission-report-2018.pdf>

⁴ Design of a Zero Carbon Energy Infrastructure Finance Mechanism for the Black Country; Repowering the Black Country – a BEIS funded industrial cluster decarbonisation project; The VPACH project, an Innovate UK funded project led by TfWM to install on-street electrical vehicle charging points using Virgin

- Energy Innovation Zones⁵ have been pioneered in the West Midlands around these hotspots to provide a framework to address these issues, and Energy Capital is currently working with BEIS to provide a definition and guidance on their development⁶.
- Energy infrastructure is funded through 5 yearly price control mechanisms overseen by Ofgem. Ofgem's failure to account for regional differences mean individual customers in the West Midlands are increasingly facing business-model-destroying connection charges, through the 'next in the queue' funding mechanism, resulting in land sterilisation; the stalling of projects requiring grid connections; or infrastructure only being provided in areas where markets are strong, resulting in the unequitable provision of services and facilities.
- Under existing arrangements, many of the region's plans to regenerate brownfield sites, install electric vehicle charging facilities, retrofit properties and install heat pumps to decarbonise businesses or industry, will have their business models undermined and timescales delayed significantly by unexpected, excessive electricity network connection charges.

Our proposed solution

- 2.6 **Our aim is to instigate a process with Western Power Distribution (WPD), which is recognised by OFGEM, to demonstrate how greater regional understanding and governance of energy infrastructure in the West Midlands can enable a green and equitable recovery in the West Midlands and support the national energy system's path to net zero.**
- 2.7 In order make any difference over the next 6 years, we need to influence the upcoming price control mechanism. This means starting to work with, and influence WPD and Ofgem during the summer of 2020, when Ofgem will publish its sector specific guidance for RII02 /ED2 on how anticipatory investment will be addressed.
- 2.8 It is proposed that Energy Capital leads a Regional Energy Transition Pilot with WPD to:
- achieve a deeper level of engagement for the West Midlands on the Distribution Level Future Energy Scenarios (DFES) process which WPD is currently carrying out.
 - support our local authorities to understand how their key strategic development plans in the West Midlands will impact on the energy network and translate development plans and objectives into energy infrastructure requirements in the context of the emerging Energy Innovation Zones.
 - support the UK's first EIZ pilot to achieve 'active' status to demonstrate how the process can be used to overcome barriers to development and decarbonisation.
 - use our learnings into influence national energy infrastructure planning processes.

⁵ <https://www.energycapital.org.uk/wp-content/uploads/2018/03/powering-west-midlands-growth-regional-energy-policy-commission-report-2018.pdf>

⁶ The definition and supporting guidance is due to be published at the end of June 2020

- work with the Black Country to take forward the recommendations of the Enzen report to establish a revolving financial mechanism to channel investment into areas which do not make Ofgem's cut into the national energy infrastructure plan. This revolving fund will reduce energy costs to the key UK manufacturing base in the Black Country, as well as other regional businesses, securing jobs. It will also enable private sector investment to be leveraged and channelled into regional energy infrastructure and can be rolled out across the region and across other WMCA investment programmes via this Board.
- WMCA endorsement, support from Local Authority cabinet members, and the Mayor as a spokesman for our learning on this will significantly improve our chances of success.

Outcomes

2.9 The outputs of this process will enable us to:

- make an evidence-based case for anticipatory investment in key areas of the West Midlands through the RII02 price control process.
- secure acknowledgement from BEIS and OFGEM of the value of the democratic accountability of EIZ's and the benefit of engaging bodies such as Energy Capital as representatives of the strategic needs of the customer in these areas.
- have clear visibility of what the local and regional plans for economic recovery and decarbonisation look like and a clear understanding of where infrastructure investment will be needed to enable these to be delivered over time.

2.10 Energy Capital would also like to work with the wider WMCA to secure investment into a revolving financial mechanism which will:

- enable the costs of 'next in the queue' network upgrades to be shared and repaid over time, where anticipatory funding is not secured through the price control mechanism.

2.11 In summary, Energy Capital plans to seek resources to undertake:

- A Regional Energy Transition Pilot to undertake a strategic energy planning process and engage in the RII02/ ED2 price control mechanism process
- Develop 1 EIZ pilot to 'active' status, (Rugeley, Black Country, UK Central or Coventry and Warwickshire) following on from existing funding from BEIS to define the process of establishing an EIZ
- Seed a revolving infrastructure investment fund to unlock existing sites identified in the Black Country.

3. Financial Implications

3.1 Positive. Any funding Energy Capital secures to deliver these proposals will reduce the current financial burden of Energy Capital on the WMCA⁷ and increase their impact.

⁷ Energy Capital is currently seed funded through the 2019 Investment Programme to a maximum value of £500k.

3.2 Energy Capital needs to ensure sufficient capacity and expertise to undertake this work. They are seeking funding from Government to support this proposal and also from Western Power Distribution to support of the RII02 engagement process.

4. Legal Implications

4.1 None at this stage.

5. Equalities Implications (*)

5.1 This initiative will seek to address Ofgem's failure to account for regional differences which has left individual customers in the region facing business-model-destroying connection charges through the 'next in the queue' funding mechanism; resulting in land sterilisation, the stalling of projects requiring grid connections, or infrastructure only being provided in areas where markets are strong, resulting in the unequitable provision of services and facilities for our citizens and an unequitable transition.

6. Inclusive Growth Implications

- This intervention is key to a rapid economic recovery, as it will ensure that economic growth plans are not stifled by the lack of supporting infrastructure. It will achieve this through socialised or reduced connection charges, which will lessen the financial burden on businesses already facing major repercussions caused by the COVID19 pandemic.
- Extrapolating figures from the Enzen report suggests a credible figure for jobs safeguarded per £1m of infrastructure investment would be @54.
- Under existing arrangements, many of the region's plans to regenerate brownfield sites, install electric vehicle charging facilities, install heat pumps to decarbonise businesses or industry, will have their business models undermined and timescales delayed significantly by unexpected, excessive grid connection charges.
- Levelling up – The national energy system will prioritise investment in supporting energy infrastructure where OFGEM believes investments will take place first – this is generally where land prices and consumer demand are highest, disadvantaging the West Midlands.
- In addition, the current price control processes require DNO's (Cadent and WPD) to make one submission on behalf of their whole geography. The West Midlands is once again disadvantaged because of this approach. Giving the region a voice in the process, will enable the West Midlands to represent both political ambition (which our democratic system can hold our leaders to account on) and collective business needs (not currently represented because they are too small) through the price control mechanism.

7. Geographical Area of Report's Implications

7.1 This work will cover the whole WMCA region, with an investment focus on unlocking problems already identified, the majority of which are in the Black Country.

8. Other Implications

N/A

9. Schedule of Background Papers

None

Explanation of current energy network planning processes

Currently energy networks plan their infrastructure investment following an approach set out by Ofgem. Broadly they:

- use the Distribution level Future-Energy-Scenarios (DFES) process to consider what the demands of customers might be:
- review what different scenarios will mean for the network and based on that, propose a baseline of investment that is definitely needed and some way of increasing that spending if, for example, EV growth is faster than that baseline
- Ofgem then reviews whether the planned approach and spending of customer money is “well justified”.

The DFES process involves looking at local authority data and ‘consults’ with lots of stakeholders. Ofgem expects strong evidence of this. However, there is no statutory requirement for DNOs or Ofgem to respond to Mayoral Authorities or expert bodies within them, like Energy Capital. Independent experts have recommended a regional governance structure to address this, that sets out what regional energy infrastructure requirements are for the networks to plan to support.

The Energy Systems Catapult has also proposed local area energy plans as a mechanism for agreeing local energy infrastructure requirements that the networks would then plan for, which would cost BEIS @ £100million to take forward and still not address the issues raised above. We are therefore proposing to build on the existing DFES mechanism and enable greater and deeper engagement with local stakeholders.

Why the West Midlands

The groundwork has already been prepared by the Energy Capital partnership, we have a strong evidence base and can mobilise very quickly:

- If funded this work can be mobilised immediately, as Energy Capital is up and running and ready to undertake this work with local LEP’s if government will support the process, providing existing evidence immediately.
- In the coming 12 months we will be able to:
 - feed into the RII02/ED2 process, feeding evidence in immediately
 - support local areas to look in more detail at their key development plans in the West Midlands which will impact on the energy network and translate these development plans and objectives into energy infrastructure requirements and set these into the context of the emerging Energy Innovation Zones
 - implement the recommendations of the Black Country Enzen report and establish a revolving financial mechanism to channel investment into areas which do not make Ofgem’s cut into the national energy infrastructure plan.
- This will in turn:
 - support the UK’s first EIZ pilot to achieve ‘active’ status
 - input learnings into national processes including the Energy Systems Catapult local area energy planning approach in future

The West Midlands are already leading the UK on the development of Energy Innovation Zones, working with BEIS. The current work on defining EIZs and the process for their development is due to be completed by Energy Capital in June 2020. Recommendations include BEIS fund a series of pilot EIZs to active status to demonstrate how the process can unlock energy infrastructure barriers.

Our DNO's (WPD and Cadent) are already engaged and fully supportive of this work and have signed a letter to the BEIS permanent secretary in February 2020, recommending this approach. It is therefore highly likely that we will be able to leverage match funding for this work to maximise its impact.

This issue is being debated nationally, and the region has the opportunity to position itself at the forefront of this debate and ensure that our long-term growth ambitions are facilitated.

The West Midlands is likely to be the largest area outside London that will be heavily reliant on the electrification of much of its energy requirements in order to decarbonise its buildings, transport systems and industry. This is an important aspect of the levelling up agenda, enabling a healthier city region to emerge from the COVID19 crisis.

This work is in line with the priorities of the 2018 policy commission Powering the West Midlands; the Regional Energy Strategy; and the #WM2041 Climate Change Strategy delivery plan as well as plans for a green and equitable recovery from COVID19.

Benefits that will accrue from this work

- Speed up the region's ability to grow and decarbonise, through a deeper understanding and a route to address areas where energy infrastructure could inhibit the achievement of equitable green growth ambitions
- Support the region's businesses to achieve their growth and decarbonisation ambitions to continue to compete internationally. Enabling energy infrastructure development at lower cost than at present can make the industries more competitive in international markets, especially when compared to those in continental Europe with subsidised energy costs.
- Infrastructure stimulus can lead to an increased output from developers, installers ('direct effects'), which may in turn stimulate the demand for goods from suppliers down ('indirect effect') thus adding to the local economy (GVA) and creating further employment opportunities.
- The finance model can be enhanced to include other utility connections (such as fibre) which could result in wider gains, avoidance of unnecessary network reinforcement and save cost and disruption.
- Investing in distributed energy resources could result in lower energy costs for homes and businesses through more efficient local energy use.
- It can help to realise energy decarbonisation targets
- Economic development can be achieved through more competitive local businesses and new jobs in the distributed energy supply chain.

Budget

The budget approved by the Energy Capital Board in September 2019 is based on this project covering all of the Energy Capital team costs, so could be reduced if organisational costs are covered through other mechanisms:

Output	Input	Cost	Leverage
Shared investment in energy infrastructure upgrades	Revolving fund mechanism	Seed funding of up to £40m	Private sector finance up to £60m
An active EIZ to overcome specific energy infrastructure issues in the region	Pilot working with all stakeholders involved	£300-500k depending on which EIZ is taken forward	Cost benefit ratio of 1.28: 1
West Midlands needs reflected in the RII02/ED2 price control agreement	<p>18 month deployment of expert energy team based within Energy Capital in the WMCA, supporting all LEP areas</p> <ul style="list-style-type: none"> • Energy policy team • Energy investment commercial team • Technical energy infrastructure team • Energy Capital director and support officer • Local area energy planning mapping process <p>Costs include all overheads and programme expenses.</p>	<p>£250k</p> <p>£300k</p> <p>£750k</p> <p>£300k</p> <p>£500k</p>	<p>Overall, it is estimated that just within the Black Country there is currently a pipeline of some 40 to 50 new business developments annually that seek electricity distribution connections which are constrained by the availability and cost of electricity network connection infrastructure. The overall cost of this infrastructure is estimated at between £50-100m. The economic benefit to the region of these new business developments is expected to far outweigh these connection costs⁸.</p>

⁸ Design of a Zero Carbon Energy Infrastructure Finance Mechanism for the Black Country, Enzen 2019