

Call for Evidence on the Electricity Distribution Business Plans for RIIO-2

Submitting Body: Energy Capital & West Midlands Combined Authority

DNO: Western Power Distribution

Hearing Date: 18th March 2022

Submitting Parties

The **West Midlands Combined Authority** [‘WMCA’] was established in 2016 and is made up of 7 constituent local authorities covering the areas of Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton, along with a range of other partners including 3 LEPs and a wide geography of non-constituent local authority members. WMCA has statutory powers for, or plays a leading role in, wide-ranging issues relevant to energy and the energy market: house-building and retrofit; transport; economic growth; regeneration. It has recently adopted the first in a series of ‘Five Year Plans’ which will inform how it will meet its target of becoming a net zero region by 2041.

Energy Capital was established in 2017 by WMCA to bring together the public sector, energy industry and innovation agencies to champion the role of ‘place’ in our energy system – inspiring, enabling and delivering system innovation and on-the-ground demonstrators. This comprehensive approach, underpinned by close collaboration with the Midlands Energy Hub, National Grid and BEIS, will better support energy market enhancements, decarbonisation, local green growth, and effective place-based interventions – generating replicable models that can be adopted nationally and inform national policy development.

Western Power Distribution, Business Plan 2023-2028 (42120) – Response

Executive Summary

WMCA and Environment Capital welcomes the acknowledgement by WPD, through its business plan, of the principle of engagement and the importance of making informed decisions. The business plan goes some way to identifying measures that may start to address these issues but is weaker in fully explaining ‘how’ these will be implemented and whether sufficient provision has been made to do so. The region has a clear understanding of the benefits of genuine whole system integration – informed by the properly resourced, and committed, collaboration of all parties involved.

We have highlighted three key issue areas that, if addressed and incorporated appropriately, could ensure more fully integrated, informed and responsive measures – leading to more effective investment and outcomes for both WPD and the region. These are:

- **Enhanced collaboration between providers to secure effective downstream investment.**
- **More meaningful place-based consideration and collaboration to enhance the energy market.**
- **Effective use of net zero reopener.**

Although each issue is important in its own right, and they clearly inter-relate, as set out in this paper, the most important to us is the second: as more effective place-based collaboration *should* inform solutions to the other two challenges – provided it is meaningful, deliberate and actionable.

Issue 1 – Collaboration of providers to secure effective downstream investment.

Summary of Issue

The misalignment between transmission network operators and the distribution network operators presents significant issues further downstream in the alignment with other place-based infrastructure planning. Although the business plan identifies the ‘what’ it fails to address the ‘how’.

The WPD business plan acknowledges the significance of this in achieving network efficiency and effective low carbon delivery solutions, including a commitment to collaborate with the electricity system operator and to contribute to the national future energy scenarios (FES). However, there is insufficient detail regarding the strategic delivery of this, with WPD merely stating that it will understand, respond to and influence: changes in technology, market, behaviour and policy, and regulation across all the relevant vectors and sectors. Collaboration with the ESO on FES is based on providing local data for national FES, with no commitment to requesting input for local area energy planning (LAEP) to inform this. The ambition stated by WPD for this information suggests that investment will be guided based on purely business economy benefits, and not intelligence around those areas that are in the greatest need.

WPD have so far broken down the whole system into four categories ranging from very narrow to very broad; looking from DNO and TNO interaction only, all the way to whole system engagement. We have concerns that the four categories will isolate aspects of the system and not facilitate interaction with the TNO at all levels, allowing unresolved problems at DNO level to be deferred to the TNO without local infrastructures being able to interact in the process.

Relevant Sections of WPD Business Plan

- (page 79) Our focus will extend beyond our own network, and traditional collaboration with other DSOs and the transmission network. A whole system approach, which engages and collaborates with all stakeholders across a wide range of sectors including gas, electricity, water, waste, transport and heating is essential if we are to drive improvements in network efficiency and deliver the most effective low carbon delivery solutions with the greatest social return on investment.

To achieve this we will understand, respond to and influence changes in technology, market, behaviour and policy and regulation across all the relevant vectors and sectors. Our proactive approach to lead whole systems collaboration will be both informed by national trends, but with an increasingly localised energy system, it will also be critical that we understand, respond to, and influence joined up approaches at a regional and local level. Further, we recognise that our whole systems role will need to evolve over time, as the energy transition accelerates, and as progress occurs at different rates in other sectors and vectors.

- (page 30) We will collaborate with the Electricity System Operator (ESO), and contribute to the national Future Energy Scenarios (FES), by providing more detailed information about local developments. This will also enhance our understanding of the assumptions behind the FES.
- (page 77) From 2020, our DSO team is now producing these reports annually to forecast rapidly - changing low carbon technology uptakes up to 2050. The DFES projections have been aligned to the latest National Electricity System Operator (ESO) scenario forecasts which are available when the DFES process is carried out.

The scenario information data from the DFES analysis is used to create demand, generation and storage load sets which are then modelled to identify the impacts on the network which could lead to constraints. These are published in our Shaping Subtransmission document series and in RIIO-ED2 will be replaced by our forthcoming Network Development Plan. We take this information on future growth and compare the costs and benefits of potential different solutions through our Distribution Network Options Assessment using an industry agreed assessment tool to put forward an investment recommendation.

- (page 135) The WPD Best View was created using the Distribution Future Energy Scenarios (DFES) for each licence area, which capture the growth projections for different technologies in the next 15 years. The DFES framework follows four scenarios aligned to the National Grid Future Energy Scenarios framework. This accounts for the growth of:
 - Low carbon technologies including electric vehicles and heat pumps.
 - Distributed generation and storage technologies to further exploit the UK's renewable energy potential.
 - Conventional demand, including new domestic, industrial and commercial developments as outlined in local plans

Stakeholder Evidence

Energy Capital has been leading pioneering work to demonstrate the importance of ensuring strong collaboration and integration of investment by delivery partners in driving greater effectiveness in the energy market. Its West Midlands Regional Energy Systems Operator (RESO) project in Coventry, funded by central Government through Innovate UK, clearly indicates the value that can be derived from cross-provider collaboration, in driving more efficient and effective outcomes from investment and energy market operations.

Its findings can be summarised as:

- Despite a desire to collaborate, network operators are not incentivised sufficiently to collaborate in a way that supports the most cost-effective way of achieving net zero goals across local communities
- There is huge value, both within and outside the energy system, that could be harnessed with some regulatory changes to the way in which the system is planned and operated, and focused around the consideration of local factors in decision making. Obtaining, sharing and modelling local data to enhance the DFES process, and operating the energy system using this intelligence could capture value of up to £720m NPV over 30 yrs¹.

This has led the West Midlands Combined Authority to establish the Net Zero Infrastructure Delivery Panel to act on our learnings. The constituent members of this body include those with the responsibilities for infrastructure and investment in a place. At a local level this includes Transport for West Midlands, the West Midlands Combined Authority and Local Authority representatives, Severn Trent Water, Cadent and WPD, but crucially also involves National Grid ESO/ gas & electricity

¹ Please see the RESO Synthesis report for further details.

transmission, BEIS and Ofgem. This partnership builds on the existing relationships formed across the Energy Capital partnership since 2017. It is envisaged that this panel will operate strategically between the local areas undertaking local infrastructure planning, and those responsible for the business planning processes and investment planning at a national level. Work to date has clearly demonstrated the importance of, and challenges associated with, upstream collaboration in identifying the most effective investment opportunity and in tackling energy market challenges. To have the desired impact, the value of this type of collaboration and the ‘how’ needs to be recognised by Ofgem through the network operator’s business plans and their business processes.

Issue 2 – Meaningful place-based collaboration to enhance the energy market.

Summary of Issue

Following on from the poor alignment of TNOs and DNOs, there are wider concerns on the consequent implications of that for other infrastructure planning and on the commitments for how place-based agencies (such as regional and local authorities) are integrated into investment planning.

These concerns revolve around:

- the level of involvement proposed for local partners (‘surgeries’ only are referenced in the business plan);
- the capacity for some authorities to satisfactorily engage with that process and the proposed LAEP approaches;
- consequent implications for those authorities that can engage more rapidly effectively (ie not being held back);
- WPD capacity in the form of the number of engineers proposed;
- consequent implications for economic growth from constrained, or inadequately directed, investment and energy provision.

Satisfactory engagement levels are particularly pertinent when alignment with nationally developed FES is based on information provided by stakeholders to indicate where network constraints may arise. Local meetings held by network planners often fail to reach where investment decisions are made because they focus on strategy and plan-making rather than investment delivery. The call for evidence run by WPD in 2021 to gather additional data on the needs of the green recovery resulted in over 200 submissions. This snapshot highlighted the flaws in the current processes of gathering intelligence and despite Energy Capital supporting our local authorities to respond, we know that only a small proportion of projects were flagged to WPD due to capacity constraints. A long term, two-way process would be far more effective.

Energy Capital therefore recognises the necessity for, and welcomes, local area energy planning (LAEP) to inform the decisions and activities of WPD, particularly around capacity upgrades for low carbon technology (LCT) connections. However, it is not clear in the WPD business plan, how this will be effectively delivered and managed and how they will mitigate the risk associated with the absence of LAEPs. For example, details are missing on what level the cited engineers will operate at to ensure they are effective both at engaging with partners fully, and in influencing WPD's strategic investment. Similarly, the notion of 'surgeries' seems a retrograde step from the more proactive engagement, with shared responsibilities, that has been demonstrated locally to be far more effective. No mention is made of how WPD will support and facilitate LAEPs.

The next level of understanding also needs to be mapped out: the business plan should indicate how, once the feedback and information is received from partners, it is then weighed and assessed between different parameters – e.g. economic opportunity versus fundamental infrastructure need – with transparency of decision-making regarding how this will be resolved. Equally, there should be an undertaking that during the course of the business plan period, intelligence from place-based agencies will lead to impactful measures (such as triggering 'reopeners' - see below) that may not have been identified prior to the period, to ensure the needs of the area or region are properly addressed and not constrained by arbitrary timeframes.

We also feel that having four engagement staff across 130 local authorities (equating to one per licence area) is insufficient to meet the needs of the region. Our modelling (from RESO) has shown that 35 people in total would be needed to work on energy planning and systems operation across the West Midlands to reach an effective solution (not all within the DNO, but it is anticipated that a sizable proportion would need to be sourced from the DNO). UKPN have suggested 20 energy planning engineers in their business plan, yet WPD are proposing only a fraction of this.

Relevant Sections of WPD Business Plan

- (page 22) Deliver a network to meet the evolving needs of our customers by aligning our future energy forecasts with the plans of local regions and the Electricity System Operator, by updating WPD's Distribution Future Energy Scenarios every 12 months.
- (page 30) It is critical that we are able to free up network capacity in the right areas so our customers can be confident that, when they wish to connect LCTs, an affordable connection will be available in a timely manner. Engagement with local authorities and Local Area Energy Plans (LAEPs) is an essential part of delivering on this commitment. It helps us to develop a range of compelling future energy forecasts and identify strategic investment options. We will hold discussions with all 130 of our local authorities and with local enterprise partnerships to ensure we understand their requirements for strategic investment to support the green recovery and achieve net zero. This will also allow us to provide them with capacity information and further advice to help them develop ambitious LAEPs. The varying experience and resources among the 130 local authorities in our region means that different local authorities are progressing at different rates in the development of their LAEPs. Some authorities therefore need more help and interaction from us to understand where developments can take place, what constraints may arise from their proposals and how their strategies may impact the network. To help them with their plans, we will hold dedicated surgeries where more detailed discussions can take place with relevant WPD local network staff and dedicated staff who will lead the engagement. We will also recruit four dedicated Local Authority Engagement Engineers to support this commitment.

- (page 65) Local authorities are preparing Local Area Energy Plans (LAEPs) to outline their own approaches to meeting UK net zero targets. Local plans for low energy housing, transportation, zero carbon heat, and industrial and commercial developments will influence the demand for electricity and, as a result, the requirements for our network. We will therefore work closely with local authorities to help them establish comprehensive LAEPs and then use these plans to inform our future energy scenarios and network investment plans.
- (page 77) As part of the interactions, WPD shared DFES projections which provided electricity supply area data specific to each local authority area. Our Distribution Managers in each region held meetings with local authority energy representatives to review the assumptions and projections. This resulted in a range of responses, with some local authorities being more ambitious than their DFES indicated and other local authorities finding the interaction helpful to assist them in formulating their LAEPs in the first place.
- (page 78) To define the current WPD Best View, which is net zero compliant, we use an iterative process. DFES data and the WPD Best View from the previous year are used to support stakeholder and local area engagement, which then allow the quality of LAEPs to be assessed using criteria derived from Ofgem guidance to gauge the ambition, engagement and deliverability. The WPD Best View growth projections are tempered with extra characteristics to account for future changes in consumer behaviour. The process considers the additional loadings forecast, and the timing and diversity of the future loads to identify where the growth will result in specific network constraints.
- (page 95) In 2015, we were the first DNO to publish a DFES document, forecasting the volumes and regional distribution of LCT uptake in our region. This used stakeholder informed ‘bottom up’ analysis to align with national ‘top down’ industry developed future energy scenarios. DFES are key to our continual assessment of the distribution network, forecasting potential network constraints before they arise.

Stakeholder Evidence

Energy Capital was specifically created to act as the bridge and convenor between the energy industry and key agencies therein, and the local place-based agencies (local authorities, local enterprise partnerships, Transport for West Midlands, West Midlands Growth Company et al). As such, it has unrivalled perspectives on both the place-based demand for energy and the options for effective supply and management. This has manifested itself both in its RESO project (see above) and other energy innovation zones in the region (at Rugeley, UK Central and Tyseley Energy Park), and LEP-led collaborations such as the Repowering the Black Country. Its collaboration with the Energy Systems Catapult and focus on smart local energy systems (SLES) incorporates ‘whole system’ solutions (including heat and transport as well as multiple energy vectors). It addresses the diverse challenges linked to the energy system – from economic growth constrained through energy supply issues, to tackling fuel poverty and establishing market solutions to housing decarbonisation (through the WMCA’s SMART Hub initiative [Sustainable Market for Affordable Retrofit Technologies]). The work of the SMART Hub is informing and underpinning place-based initiatives such as WMCA’s Net Zero Neighbourhood Demonstrator model (adopting retrofit at a community scale and through innovative public private financing approaches). WPD are part of the Energy Capital partnership and their involvement is crucial to our success. However, maximising the learning

from this partnership involves the investment of sufficient resources to harness this and embed it within business processes going forward.

Issue 3 – Net zero re-openers

Summary of Issue

This business plan covers the period 2023-2028. Not only is this anticipated to be a period of major growth for the region, it will also be a key period for our transition to becoming a net zero region by 2041. This combined priority of growth and decarbonisation will require complementary and innovative measures to be investigated and developed, some of which may not be known at this stage.

This reinforces the importance of strong and integrated collaboration between both infrastructure providers and local place agencies. It also necessitates the need for a degree of flexibility to be built into the business plan to allow investment and interventions to be implemented once triggers are met. As such, there are concerns about the lack of clarity and commitment within the business plan about the handling of ‘re-openers’ during the business plan period and the fundamental role that the locality should play in informing and securing those.

Relevant Sections of WPD Business Plan (and associated documents)

- (page 163) Other reopener mechanisms. 7.41. WPD also expects to have access to the following reopener mechanisms in RIIO-ED2 which were outlined by Ofgem in the Sector Specific Methodology Decision (SSMD):
 - Net zero reopener: Ofgem proposed to include a broad scoped RIIO-ED2 reopener mechanism to provide a means to amend the price control in response to the meeting of the net zero carbon targets that have an effect on the costs and outputs of network licensees not otherwise captured by any other RIIO-ED2 mechanism. The mechanism could be used by Ofgem at any time, subject to a materiality threshold, triggered by a government change in policy (e.g. a decision on the future of decarbonised heating) or recommendations from the proposed Net Zero Advisory Group.
- (page 2) [RIIO-ED2-1.pdf \(oxera.com\)](#)
 - DNOs are expected to play a key role in enabling net zero and need to plan how grids will accommodate increasing electricity demand, particularly from transport and heating electrification. Ofgem recognises that this will require

- investment in network capacity, but also encourages DNOs to limit that by maximising the flexibility potential of the energy system.
- Some clarity on net zero policies and the corresponding pathways is emerging—for example, the government has announced the end of sales of new combustion engine vehicles by 2030. However, there remains significant uncertainty on the uptake of low carbon technologies and therefore required infrastructure. With this in mind, Ofgem requires DNOs to develop investment strategies that would be robust across scenarios considered in their business plans. Based on DNOs' submissions, Ofgem will make a decision on which investments should be recovered with baseline allowances (i.e. those allowed before the start of the price control period), and which ones can be considered under uncertainty mechanisms (i.e. not approved up front but assessed at a later stage when more information about the need for those investments is available). To address the uncertainty, across the sectors, Ofgem uses a widely defined 'net zero reopener', which aims to address material changes in revenue requirements, for example, due to changes in government policy or market developments. In addition to that, for electricity distribution, Ofgem is considering the use of an automatic mechanism for adjusting revenue allowances faster than via the re-opener.

Stakeholder Evidence

Through our RESO project and preceding energy innovation zone work, it is clear that 'reopeners' will be a necessary and powerful measure in addressing energy market failures until pathways to net zero are more clearly visible. It is equally clear that the timing of those reopeners will be critical to their success and effectiveness. This has been demonstrated through the findings from the RESO project (see above) and the Repowering the Black Country project exploring the barriers they face in tackling industrial carbon emissions.

The learnings have been used to shape the Terms of Reference of our emerging Net Zero Infrastructure Delivery Panel, to which many of the parties involved in the reopener triggering mechanism are contributing. This model of regional collaboration and their role in agreeing what investment needs to take place where, across the different energy vectors, must have a role in shaping decisions made through the reopener process. Unless this regional model of local collaboration is empowered and mandated through the business plan process, the cost of achieving net zero will be far higher than necessary for communities of the West Midlands.