

# Whole System Addendum

## Response to RIIO-ED2 Draft Determination

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# 1. Introduction

- 1.1. This document is an addendum to the Whole Systems Strategy. Its purpose is to present supporting evidence on the areas where Ofgem has provided feedback as part of the draft determination consultation of RIIO-ED2. With the exception of providing necessary context for the reader, this addendum does not seek to recreate or duplicate information already provided to Ofgem as part of the Whole System Strategy document and therefore should be read in conjunction with the strategy submitted as part of WPD's RIIO-ED2 Business Plan submission.
- 1.2. The decarbonisation of the UK requires significant changes to the gas and electricity sectors, but also too many other aspects of people's daily lives, including how they heat their homes and businesses, get from A to B, and produce the goods and services we all need. These changes will mean that the gas and electricity sectors will become increasingly integrated with other sectors including, heat, water, health, amongst others. To achieve this transition at the lowest possible costs and with the greatest benefit to customers, it is crucial that actors in all these sectors cooperate and collaborate.
- 1.3. Our understanding of the whole systems needs of the system has evolved throughout RIIO-ED1 and we expect this will continue to be the case throughout RIIO-ED2 and beyond as set out in our strategy document.<sup>1</sup> For RIIO-ED2, Ofgem has set that in addition to the gas and electricity sectors, the scope of the 'whole system' is expanded to apply to all other areas so long as coordination with those areas produces net benefits for the existing and future customers of the relevant network sector. We can see that WPD has a tremendous opportunity and responsibility to deliver better outcomes for our customers and wider society through an effective Whole Systems Strategy.
- 1.4. WPD, in our roles of Distribution Network Operator (DNO) and Distribution System Operator (DSO), is fully committed to build and operate the network customers need at the lowest possible cost and with the greatest societal benefit. We will do this by continuing to embed whole system<sup>2</sup> thinking and planning into everything we do, facilitating how other sectors engage with us, and creating clear responsibility and accountability for our whole systems delivery. We will also, across the business, develop and implement projects with a whole system focus.

## Ofgem's Draft Determination feedback

- 1.5. Ofgem provided the following comments as part of its draft determination consultation in relation to our whole systems strategy.
  - Ofgem did not see that the introduction of a whole systems team would deliver the same scale or pace of systemic change as other proposals.
  - Ofgem considered there was excessive focus on electricity system activities.
  - Ofgem considered there was insufficient evidence of benefits or value for money in the proposed engagement and long-term proposals, in particular on quantification of benefits.

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<sup>1</sup> In our whole systems strategy, we set out the technology, market changes and policy and regulation updates to achieve decarbonisation in the energy market. This is in addition to any emerging new policy.

<sup>2</sup> Ofgem sets out in its Sector Specific methodology decision that in addition to the gas and electricity sectors, the scope of the 'whole system' is expanded to apply to all other areas so long as coordination with those areas produces net benefits for the existing and future consumers of the relevant network sector.

- 1.6. The remainder of this document sets out additional evidence to support Ofgem’s assessment of our strategy on those areas where we received feedback from Ofgem. Table 1 below sets out where we have addressed the comments in the addendum.

Ofgem comment	Paragraph in which comment is addressed
Whole system team and systemic change	See paras. 2.1 to 2.15
Excessive focus on electricity system activities	See paras. 3.1 to 3.5
Insufficient evidence of benefits or value for money in the proposed engagement and long-term proposals, in particular on quantification of benefits	See paras. from 4.1

Table 1 Location of responses to Ofgem's comments within this addendum

## 2. Whole System Team and Systemic Change

- 2.1. Our ambition is to be on the forefront in coordinating and collaborating with various energy vectors and other sectors to achieve a whole system at the lowest possible cost and maximum benefit to customers. We agree with Ofgem that only when a whole system approach is a core component of every aspect of the business can it truly be embedded.

### Functions of whole system team

- 2.2. We are proposing to establish a Whole Systems team to be responsible for key aspects of our DSO functions, and to ensure that whole systems thinking and planning are integrated consistently within all of our activities.
- 2.3. In terms of the three DSO roles, the table below sets out the initial activities that the Whole Systems team will facilitate through collaborative working within the relevant DSO and DNO teams. The whole systems team will provide a coordinated approach to adopting and integrating whole system and be a central point of contact for regulatory and cross sector expertise that the business can utilise. We will provide further information on this and how this team’s roles maps to each of the DSO and other activities in the next update of our whole system strategy in 2023.

DSO role	DSO sub-role	Whole systems team responsibility
Planning and network development	Whole systems	<ul style="list-style-type: none"> <li>Maintaining an up to date view of the whole system needs and publication of annual update to the whole system strategy and scorecard metrics. These will be detailed in our 2023 publication of the Whole System Strategy.</li> <li>Delivering internal whole system training, policy and guidance to embed whole system thinking, including on whole systems CBA processes and integrating them into BAU.</li> <li>Working with the Stakeholder Engagement team to further expand stakeholder engagement outside electricity sector across all functions.</li> <li>Coordinating actions across all internal and external stakeholders to implement a data first approach.</li> <li>Ensuring data sharing with stakeholders is in a suitable and accessible manner.</li> </ul>
	Forecasting	<ul style="list-style-type: none"> <li>Work closely with the Forecasting and Capacity team to ensure that the DFES are consistent with national scenario based forecasts, such as the Future Energy Scenarios (FES) and Committee for Climate Change 6<sup>th</sup> Carbon Budget scenarios, gas</li> </ul>

		<p>distribution networks (GDN) projections, local area energy plans (LAEP) and other relevant forecasts (of energy and other vectors where relevant).</p> <ul style="list-style-type: none"> <li>• Supporting Welsh government through modelling and CBA expertise for regional energy strategy plans, including developing the interactions between gas and electricity.</li> <li>• Supporting forecasting by establishing common embedded capacity registers with iDNOs.</li> <li>• Continue to work closely with the ESO to ensure that the DFES and FES align and the data available externally is adding maximum value to whole system decision making and outcomes.</li> </ul>
	Capacity management	<ul style="list-style-type: none"> <li>• Supporting connections planning teams to better facilitate the connection of energy storage.</li> <li>• Work with connections planning team to explore the connections options for hydrogen electrolysis as flexible demand.</li> <li>• Improved signposting of demand and generation headroom published externally on our Network Capacity Map. Using robust power system analysis as detailed in EJP102 to determine accurate headroom's. By providing this data to stakeholders it will help them make more informed decision regarding investment. This includes customers looking to meet their net-zero ambitions of connecting LCTs or making an informed investment decision on what energy vector is most appropriate.</li> <li>• Support other vectors through dissemination and training on presentation of capacity information, where the principles of network capacity map have not been as extensively developed as in electricity distribution.</li> </ul>
	Network modelling	<ul style="list-style-type: none"> <li>• Working with the relevant teams and stakeholders to develop and implement whole systems criteria into early and late competition design</li> <li>• Leading ENA regional data gatherings engagement to ensure sufficient data for operational and strategic planning timescales</li> <li>• Ensuring network modelling has access to improved data by establishing common embedded capacity registers with iDNOs and wider stakeholders</li> <li>• Embedding the Common Information Model (CIM) standard into core functions and improve external data sharing visibility of our data using this format.</li> </ul>
Network operation	Energy management centre	<ul style="list-style-type: none"> <li>• Leading cross-sector collaboration and coordination on cyber security.</li> <li>• Engaging with industry working groups to explore options of electrification (particularly manufacturing) to determine if it is the best whole system solution.</li> </ul>
	Operational data provision & Network visibility	<ul style="list-style-type: none"> <li>• Support the roll out of the MW Dispatch service, facilitating the dispatch of ESO services via DNO control equipment to allow cheaper and faster connections to our network, and the mitigation of wider Transmission Constraints.</li> <li>• Publishing more operational data on our Connected Data Portal. We currently publish near real time flows down to Primary level and are looking to add short range forecasting, and more fields as they become available. This will be valuable data for stakeholders looking to make informed operational decisions.</li> <li>• Share further data with the ESO via the ICCP link, this will allow for enhanced network visibility, and the operation of coordinated Flexibility Services.</li> <li>• Supporting continued access to smart meter data for loss of supply assessment</li> </ul>
	Dispatch decision making	<ul style="list-style-type: none"> <li>• Implement the latest Primacy rules for service conflict management with the ESO. Where possible, relevant data will be</li> </ul>

		<p>shared with the whole market to provide transparency around the actions taken</p> <p>Publish enhanced information on our decision making process and outcomes to enhance the market and systems understanding of our actions. This will evolve as our decision making capabilities improve.</p>
<b>Market development</b>	Flexibility products	<ul style="list-style-type: none"> <li>• Continue to work with our Flexibility Service Providers, the ENA and the ESO to push for further stackability of revenues for distributed energy resources. This commercial coordination will need to align with the operational coordination being developed as part of the primacy rules.</li> <li>• Align with the latest Open Networks guidance on products, processes and contracts to allow ease of access across the industry.</li> <li>• Develop routes to market for energy efficiency, understanding the impacts on the wider heating sector and customer vulnerability.</li> <li>• Publish clear information on the operation of our services, and the interactions with the wider market.</li> </ul>
	Independence governance	<ul style="list-style-type: none"> <li>• Lead engagement on set up of FSO to ensure cross-sector coordination and collaboration.</li> <li>• Representing the DSO in coordination and collaboration in stakeholder fora.</li> </ul>
<b>DNO functions</b>		
Build a smarter and flexible network (including delivering connections, replacement, and reinforcement/ expansion)		<ul style="list-style-type: none"> <li>• Develop and implement whole systems criteria into early and late competition design.</li> <li>• Promote coordination of operational activities with other vectors, such as proactive management of work scheduling for new developments.</li> </ul>
Provides quality and accurate data on network loading and assets and maintain the network		<ul style="list-style-type: none"> <li>• Lead ENA regional data gatherings engagement to ensure sufficient data for function</li> <li>• Support continued access to smart meter data for loss of supply assessment</li> <li>• Make more data available externally for stakeholders to make informed whole system decision</li> </ul>
Operate the network by enacting DSO instructions		<ul style="list-style-type: none"> <li>• Lead cross-sector collaboration and coordination on cyber security.</li> <li>• Lead engagement on set up of FSO to ensure cross-sector coordination and collaboration.</li> </ul>

**Table 2 Initial activities to be undertaken and coordinated by the Whole Systems team**

**2.4.** The head of our whole systems team will report to the Director of DSO. Figure 1 below shows where the team fits within the organisation.

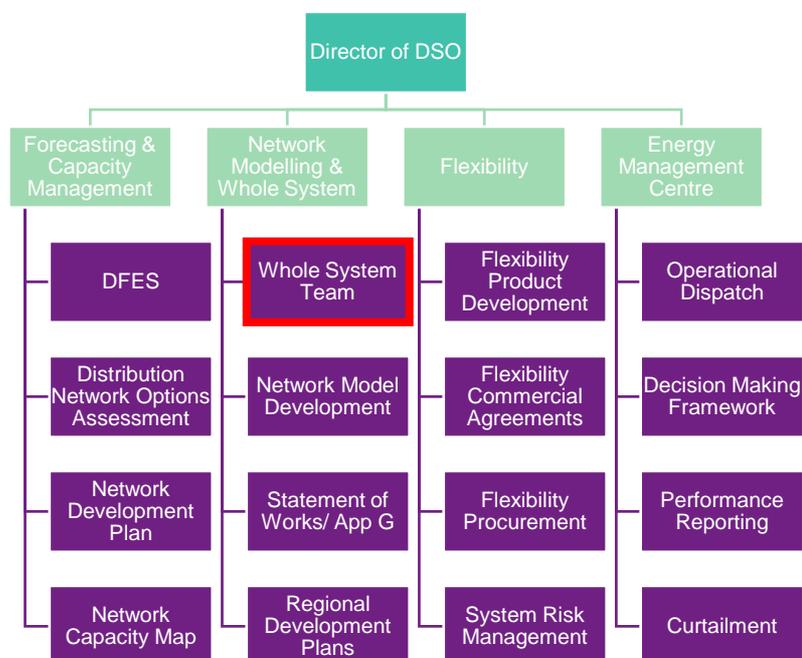


Figure 1 – Whole System team reporting diagram

2.5. The team will bring together key experience within our planning and network development role through the experience of power system engineers, internal stakeholders (WPD connection engineers, outage planners and ESO regulatory data exchanges) and the Statement of Works team responsible for interfacing with the ESO connections pipeline teams. We will work collaboratively with the wider National Grid group to share whole system experience and work together to maximise the wider whole system outcomes that we can deliver to customers.

2.6. The whole systems team will deliver its whole system initiatives directly and indirectly through other business areas:

- **Responsibility and accountability for the whole system strategy** – team responsible and accountable for delivery of whole system strategy across the business and reporting to senior executive team and DSO scrutiny panel.<sup>3</sup>
- **Embedding whole systems in our business** – team responsible for implementing whole system thinking across all aspects of DSO and DNO. Team also responsible for being the **whole system architect** and **incubator** for our business, including the development of training and appropriate tools to assess whole system impact.
- **Whole system architect** – team responsible for maintaining an up-to-date view of how we are delivering projects in a whole system manner and evolves this view as uncertainty on the path to net zero diminishes. Their responsibility includes the annual updates of our whole system strategy and whole (electricity) system coordination register as well as establishing and reporting success metrics for whole systems initiatives.
- **Whole system Incubator** – team responsible for working with other teams to implement whole system thinking and to promote and drive innovation projects within the business. This includes training teams on whole system thinking and developing tools to enable teams to incorporate whole thinking in their projects.
- **Stakeholder contact** – team provides primary point of contact to stakeholders and coordinates stakeholder engagements relating to whole system.

<sup>3</sup> The DSO scrutiny panel will provide challenge and review of actions and outcomes of the DSO. Further information can be found in our DSO strategy: [Western Power Distribution - DSO strategy](#)

## Stakeholder contact

- 2.7. A whole systems approach means that we will engage with stakeholders that have not historically worked with us, or we have not extensively engaged with in the past. Our whole systems team is will provide a central point of expertise for all stakeholders to cooperate and collaborate with WPD. Working closely with our existing Stakeholder Engagement team to ensure that whole systems is embedded into their processes and existing engagement. This does not mean that our stakeholders will not be able to reach other parts of our business, but that our team coordinates engagement with stakeholders and foster the relationships that will be central to successful delivery of whole systems initiatives.
- 2.8. Our whole systems team will be central to the relationship with all local authorities as well as the Welsh government to support the development of local and regional energy strategy plans, including developing the interactions between gas and electricity. In addition, the team will work alongside iDNOs to establish common embedded capacity registers across our networks, and will be the first point of contact for GDNs, and community project leaders.

## Responsibility and accountability for whole system strategy

- 2.9. This team will also be responsible for our whole systems activities and be accountable for the delivery of our activities in this area. The team will frequently report on the progress of our whole system register activities to WPD senior executive team and the DSO Scrutiny Panel. It will also be responsible for developing our success metrics for our projects and ensuring cross-business accountability for the delivery of these benefits. This will ensure that whole systems remain central to our activities throughout RIIO-ED2.

## Embedding whole systems in our business

- 2.10. Our proposed establishment of a whole systems team is at the core of embedding whole systems in every aspect of our business, including how we develop our network and engage across relevant sectors.<sup>4</sup> We consider that setting up of a whole systems team as both an architect and incubator of whole systems across will drive continued systemic change.
- 2.11. As the **architects** of whole system within WPD, this team will be responsible for maintaining an up-to-date view of how the business is delivering whole systems and evolves that view as uncertainty on what net zero in the UK diminishes. This team will also be responsible for annually updating our strategy as well as establishing our success metrics for whole systems initiatives.
- 2.12. At the same time, as whole system **incubators**, this team will work alongside (and draw expertise from) other teams within the business to ensure that whole system is embedded into business as usual and at the forefront of our innovation activities. For example, this team will work alongside our connections planning teams to explore the connections options for Hydrogen electrolysis as flexible network demand and will work with our vulnerability team to leverage network deferral benefits of greater energy efficiency measures.
- 2.13. In particular, this team will explore the feasibility of introducing pilot schemes on whole system optimisation across transmission and distribution of electricity and gas. The focus would be to better understand how DNOs and Gas Distribution Networks (GDNs) can cooperate in the decarbonisation of heat. Such optimisation could lead to better customer choice on whether

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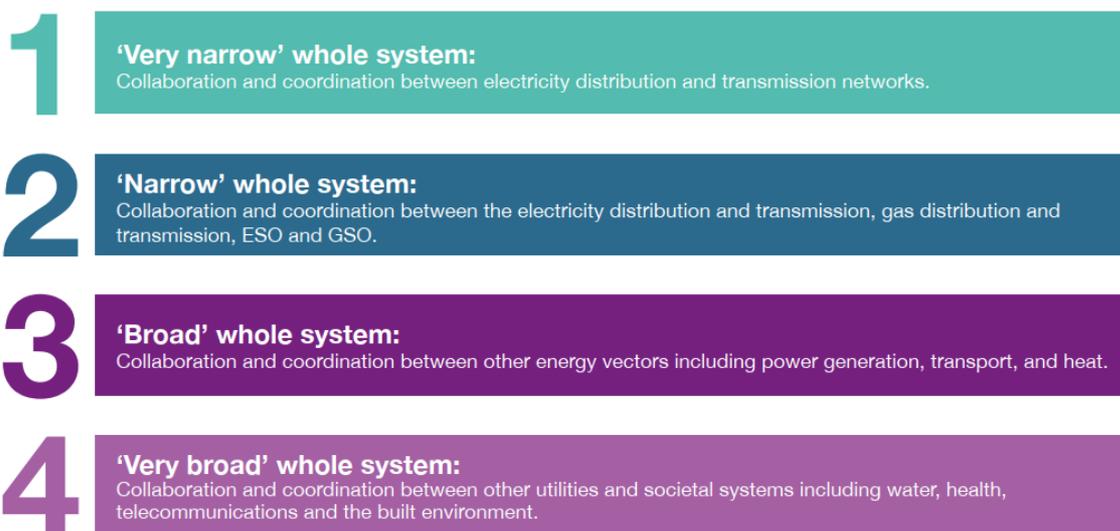
<sup>4</sup> This is in addition to responsibility over training and embedding whole system CBA in investment decisions.

hydrogen or electric heating is more suitable. We intend to publish our expectations on this area as part of the next iteration of our whole systems strategy in 2023.

- 2.14. Analogously, ensuring safety across all activities is at the heart of what we do as business. To effectively manage and embed the safety culture there is a Safety team dedicated to reviewing, managing and training out to entire business. We believe there needs to be a centralised hub coordinating whole system across the business to best facilitate whole system outcomes.
- 2.15. Overall, we consider that having a whole systems team will be a core driver of our continued evolution as a business towards whole system. It will bring together expertise, holistic thinking, innovation, and accountability to all of our initiatives. It will propel our business to meet our ambition to be on the forefront in coordinating and collaborating with various energy vectors and other sectors to achieve a whole system at the lowest possible cost and maximum benefit to customers.

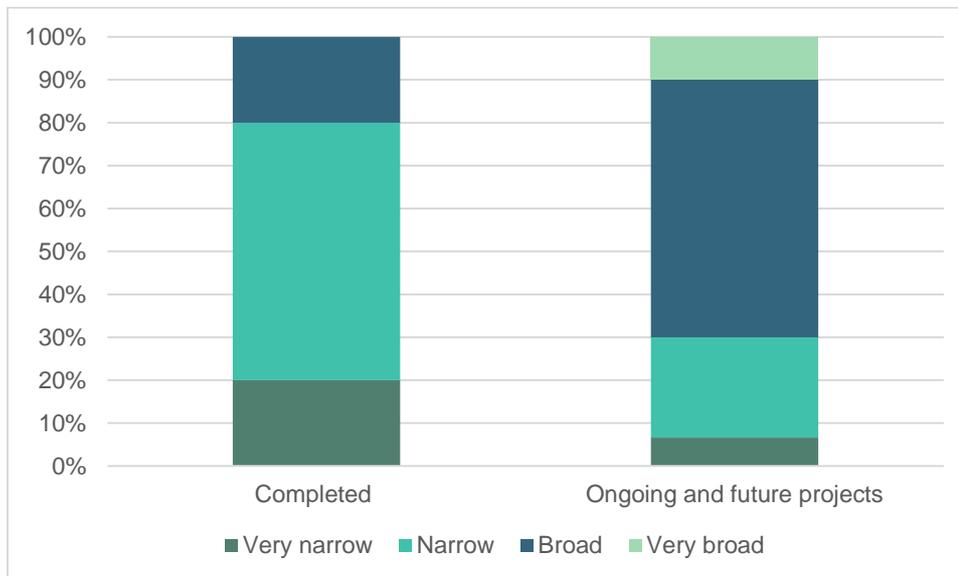
### 3. Focus on wider whole system activities

- 3.1. As part of RIIO-ED2, we are committed to maximise the benefits to our customers of our actions while keeping costs down for customers. In line with Ofgem’s view, we seek to coordinate with stakeholders across sectors when doing so produces net benefits for the existing and future customers of the electricity sector, with a particular focus on the goals of decarbonisation and sustainable development.<sup>5</sup>
- 3.2. We set out in our strategy the four ‘layers’ to create a complete whole energy system:



- 3.3. For RIIO-ED2, we expect to build on our existing approach and start delivering greater coordination with stakeholders on other energy vectors, such as transport and heat (the ‘Broad’ layer) and outside energy sectors, such as water and health sectors (the ‘Very Broad’ layer). We also expect continued engagement with the gas sector (the ‘Narrow’ layer).
- 3.4. Currently and going forward into RIIO-ED2, the very narrow and narrow layer will only represent 30% of the projects, with 70% being in the broad and very broad whole system layers, which represents a clear broadening of our approach from RIIO-ED1 to date Figure 2 illustrates the change in make-up of our projects to progressively include more stakeholders outside the electricity sector.

<sup>5</sup> Paragraph 8.13 of RIIO-2 Sector Specific Methodology – Core document [RIIO-2 Sector Specific Methodology Decision | Ofgem](#)



**Figure 2 Breakdown of whole system projects on different whole system 'layers'**

- 3.5.** Due to the anticipated impact of the electrification of heat and transport we are particularly focussing on these vectors across RIIO-ED2, which sit in the Broad category. This will be through a combination of Innovation projects, collaborative projects (e.g whole system RDPs) and ongoing engagement to better integrate and align decision making processes. More information can be found in our whole system strategy. The Whole System team will ensure that any learning on delivering whole system outcomes will be captured and embedded into BAU policy and processes across the business.

## 4. Benefits of engagement and long-term proposals

- 4.1.** We consider that our stakeholder engagement and future projects will derive the greatest benefits to customers at the lowest possible cost grouped by whole system component. Table 3 below shows the customer benefits expected from the interventions planned in RIIO-ED2. We focus on both ongoing and future projects relating to the 'Stakeholder Engagement' component and on the future projects relating to 'People, culture and ways of working' and 'Innovation and processes' components.
- 4.2.** We summarise the individual benefits of the different projects under the following overarching categories:
- Lower bills
  - Reduced environmental impact
  - Improved reliability and service
- 4.3.** Moreover, for each project, we explain their specific objectives and highlight how project delivery aligns with our core commitments of accelerating the achievement of net-zero targets and ensuring effectiveness and efficiency of our network to deploy energy efficiency for all customers and builds on the lessons we learned in RIIO-ED1.
- 4.4.** We are committed to continuously enhancing the transparency and accountability of our whole system activities. We are focussed on providing genuine whole system benefits at the least financial cost whilst facilitating decarbonisation and net-zero targets in the shortest time possible.

- 4.5.** As a result, we are committed to develop as part of our whole system strategy annual update in March 2023, clear and measurable metrics on the deliverability for the projects listed in our strategy. These metrics will focus on the customer benefits of our actions. For example, we will seek to develop metrics that track the depth of our engagement with local authorities by classifying our engagement in categories from light engagement to heavy partnership based on the impact of our engagement on local authorities' priorities. This will include where appropriate an assessment of the Societal Return on Investment (SROI), whole system Cost Benefit Analysis (CBA), uncertainty and risk.

**Table 3 - Expected benefits from future activities in RIIO-ED2**

Project Status	Core Commitment	Project Objectives	Description of projects	Consumer Benefits	Lessons Learned
Stakeholder Engagement (SE)					
Ongoing	<ul style="list-style-type: none"> <li>* Increase stakeholder engagement in whole systems and provide outcomes for customers within 'broad' and 'very broad' whole systems.</li> <li>* Drive the achievement of net zero across our regions sooner than 2050 in line with stakeholder plans (some areas as early as 2028) by ensuring network capacity is available.</li> <li>* Providing open data to stakeholders, enabling them to make informed decisions on whole system outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>* Structure a strategic engagement with local authorities, stakeholders and third parties</li> <li>* Foster clarity collaboration cooperation and coordination</li> <li>* Deliver the greatest benefits possible for customers, while developing innovative new approaches and driving efficiency.</li> </ul>	<p>SE-2 – Stakeholder Engagement in Regional Development Programmes (RDP) process</p> <p>SE-3 – Local Authorities/ LAEPs engagement</p> <p>SE-4 – Network Capacity Map</p> <p>SE-5 – Electric Vehicles (EVs)</p> <p>SE-6 – Collaboration with local authorities to inform process and drive investment</p> <p>SE-10 – Priority Services Register (PSR) customer awareness campaign – WPD PSR awareness</p>	<ul style="list-style-type: none"> <li>• <b>Improved reliability and service:</b> <ul style="list-style-type: none"> <li>- Acquired better information on EV and heat network integration issues to foster action and lead to customer savings</li> <li>- Increased awareness of benefits to customers resulting from cooperation and collaboration</li> <li>- Increased accuracy of network maps targets investment and reduced risks of misspecification of installed assets.</li> </ul> </li> <li>• <b>Lower bills:</b> <ul style="list-style-type: none"> <li>- Expected benefits against £2m of specific resources committed on engagement with stakeholders;</li> <li>- Expected savings for £60m on fuel poor customer energy bills for over RIIO-ED2, 113,000 fuel poor customers will be supported</li> <li>- Net present benefit of around £11.3 million over the next five years from supporting local energy stakeholders to secure funding</li> <li>- Tailored support provided to ensure all customers have better opportunities to access smart and flexible networks.</li> </ul> </li> <li>• <b>Reduced environmental impact:</b> <ul style="list-style-type: none"> <li>- Whole System benefits of community funding for low carbon projects</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Stakeholder engagement projects focus on building enduring relationships</b> <ul style="list-style-type: none"> <li>- Through RIIO-ED1 learned that enduring relationships allow stakeholders to proactively influence action with increasing depth and breadth of knowledge. Stakeholder engagement has been increasing in scale, depth, and frequency, over the past three years, generating extensive feedback. Around £2m of net efficiency savings have been delivered in 21/22 because of a more mature and embedded nature of stakeholder engagement.</li> </ul> </li> <li>• <b>Stakeholder engagement projects rely on independent feedback submitted through voluntary and bespoke surveys.</b> <ul style="list-style-type: none"> <li>WPD would like to capture the widest possible range of views and ensure positive outcome for customers within the 'broad' and 'very broad' whole systems. Among 26,705 total WPD customers surveyed in 2021/22, 5,382 were WPD customers surveyed via voluntary additional surveys.</li> </ul> </li> <li>• <b>Stakeholder engagement projects aim at steadily and effectively identifying and supporting vulnerable customers.</b> <ul style="list-style-type: none"> <li>The WPD 2022 Net Zero Communities Strategy, co-created with stakeholders, contains a key focus on vulnerable customer support. Likewise, WPD's tailored support, helping groups respond to Network Innovation Allowance 'calls for ideas', has resulted in an innovation trial with Wadebridge Renewable Energy Network (WREN) to support vulnerable customers.</li> </ul> </li> </ul>
Future	<ul style="list-style-type: none"> <li>* Structure a strategic engagement with local authorities, stakeholders and third parties</li> <li>* Foster clarity collaboration cooperation and coordination</li> </ul>	<p>SE-7 – RIIO-ED2 whole systems DSOF</p> <p>SE-8 – Whole Systems workshop (enhanced stakeholder engagement)</p> <p>SE-9 – Collaboration with the Welsh Assembly Government, National Grid (NG), Wales &amp; West Utilities (WWU) and Scottish Power Energy Networks (SPEN)</p> <p>SE-11 – Funding streams for community groups and advisory groups</p>			

People, Culture, and Ways of Working (CW)					
Future	<ul style="list-style-type: none"> <li>* Ensure internal people are up to date in industry trends and needs and promote a culture so that ideas and solutions are efficiently implemented</li> </ul>	<ul style="list-style-type: none"> <li>* Ensure that all WPD teams are aware and prepared to implement whole system thinking in their areas of work</li> <li>* Achieve the best outcome for customers from all investments, regardless of size, through optioneering and the whole systems cost benefit analysis (CBA).</li> <li>* Establish frameworks that provide clear coordination and benefits for customers between the Future system Operation (FSO) and DSOs.</li> <li>* Improve system relationships by linking more DNOs activities to deploy energy efficiency and sharing learnt techniques across other DNOs</li> <li>* Embed whole system into daily decision-making</li> </ul>	<p>CW-1 – Internal whole systems training            CW-2 – Embedding whole systems into early and late competition            CW-4 – FSO engagement            CW-5 – Whole Systems management team</p>	<ul style="list-style-type: none"> <li>• <b>Improved reliability and service:</b> <ul style="list-style-type: none"> <li>- Additional value delivered on customer by increasing internal awareness and promote efficiency</li> <li>- Acquired better information on the benefits resulting from more engagement alongside stakeholders on the FSO formation</li> </ul> </li> <li>• <b>Lower bills</b> <ul style="list-style-type: none"> <li>- Expected customers to further benefit from the shift into National Grid Group after incorporating additional non-electricity expertise in the decision-making process. This includes sharing existing thinking and whole system outcomes across the wider group to leverage the benefits of having a distribution and transmission electricity group with extensive experience making coordinated decisions with gas.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Culture and ways of working projects focus on increasing internal awareness and expertise.</b> The Whole System team will be developing and improving the interactions needed between WPD and other energy system actors, using resources within the wider business.</li> <li>• <b>WPD aims at incorporating non-electricity expertise in the decision-making process.</b> Lessons learnt driven by the US experience with different energy mix.</li> <li>*Work with Ofgem and the wider energy industry to ensure that the regulatory framework facilitates the best whole system outcomes.</li> </ul>
Innovation (IN) and Processes (P)					
Future	<ul style="list-style-type: none"> <li>* Further implement and build on existing innovations to improve processes and show a positive carbon impact incorporating 'broad' solutions. In the longer horizon plan, we expect to interact to produce 'very broad' outcomes as well.</li> </ul>	<ul style="list-style-type: none"> <li>* Build on the whole system projects and processes, now use in BAU, to extract as much value as possible from the network.</li> <li>* Continue transforming the network to achieve whole system solutions and outcomes while keeping service efficient and affordable for all our customers.</li> </ul>	<p>IN-6 – Funding solar photovoltaic (PV) in areas of high economic deprivation</p> <p>See the Innovation Strategy for a more detailed description on how we are embedding whole system into our innovation team.</p> <p>We have now published our connectability pledge that is that there will be no network barriers for any customer who wants a domestic-sized electric vehicle charger and heat pump installed at their property... In addition we plan to introduce four local authority engineers and four</p>	<ul style="list-style-type: none"> <li>• <b>Reduced environmental impact</b> <ul style="list-style-type: none"> <li>- Over RIIO-ED2, expected carbon emission savings from the solar energy generation and the reduction in consumption due to behavioural changes.</li> <li>- Provided a better understanding about renewable energy and promoted decarbonisation learning activities with a practical focus.</li> </ul> </li> <li>• <b>Lower bills</b> <ul style="list-style-type: none"> <li>- Expected £332k savings over the next 10-year period (non-discounted)</li> <li>- Delivered a social value of £24.1m (non-discounted) over the next 5-year period.</li> </ul> </li> </ul> <p>To support the Connectability pledge, we will introduce automated solutions on our website to significantly enhance the ability</p>	<ul style="list-style-type: none"> <li>• <b>Starting from RIIO-ED1, WPD is aiming at embedding feedback from stakeholders in the decision-making process.</b> Following a close engagement with stakeholders while developing the business plan, stakeholders approved the idea of WPD taking a leading role in a coordinated approach to share best practice and co-deliver schemes to ensure vulnerable customers are not left behind by the smart energy transition. They are keen to see WPD facilitate low carbon technology (LCT) connections and make this as easy as possible for customers.</li> </ul>

			community energy engineers to lead engagement and provide specialist support for customers through the connections journey. These will work closely with the Whole System team to coordinate our approach to whole system delivery	of our customers to self-serve, especially for these simple, high volume types of connections	
Project Status	Core Commitment	Project Objectives	Description of projects	Consumer Benefits	Lessons Learned
Future	<ul style="list-style-type: none"> <li>* Accelerate the achievement of Net Zero targets by ensuring availability of network capacity</li> <li>* Promote connection to low carbon technologies (LCTs)</li> </ul>	<ul style="list-style-type: none"> <li>* Improve the understanding of the demand and how it is evolving by increasing granularity and data accuracy which will contribute to inform Net Zero planning processing</li> </ul>	<p>P-8 – Establish community energy engineers (CVP-3)</p> <p>WPD is running the Equinox Network innovation competition winner from 2021. This project seeks to establish a rewards framework which enables DNO, Supplier and ESO to stack the benefits accrued by Heat Pump flexibility and pass them back to end consumers.</p> <p>During this trial we will evidence the amount of flexibility that can be delivered from a population of heat pumps and test how it can be used to dispatch to solve system problems. This trial will also develop a set of Tariffs structures to ensure that the fair value of this flexibility is passed back to customers.</p>	<ul style="list-style-type: none"> <li>• <b>Reduced environmental impact by accelerating transition to Net Zero</b></li> <li>• <b>Improve reliability and service</b></li> <li>• <b>Lower bills by minimising network costs for all consumers</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Innovation and processes projects focus on providing support to the communities and their representatives through better information.</b> In RII0-ED1 accessible guides have been provided to unlock social, environmental, and economic benefits. The ‘Connecting Community Energy’ guide contains useful information for local energy groups looking to develop their own renewable energy projects and connect to the network; the ‘Community Energy Surgeries’ guide has been specifically developed for WPD customers.</li> </ul>