

**Report to:** Climate, Energy and Environment Committee

**Date:** 11 July 2023

**Subject:** **Local Energy**

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Is this a key decision?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the decision eligible for call-in by Scrutiny?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the report contain confidential or exempt information or appendices?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If relevant, state paragraph number of Schedule 12A, Local Government Act 1972, Part 1:	
Are there implications for equality and diversity?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

## 1. Purpose of this Report

- 1.1. To update the Committee and seek their input on two key workstreams that progress the region’s understanding of how the energy system in West Yorkshire needs to change to meet the 2038 net zero target.

## 2. Information

- 2.1. West Yorkshire has set a target to be net zero by 2038. Meeting this target will be challenging and necessitate a change in the way in which energy is generated, supplied, and used by businesses and residents across West Yorkshire.
- 2.2. It is likely that the future energy system will be fundamentally different from the present day. Renewables (predominantly intermittent wind and solar) are likely to be the dominant source of power generation, with the electrification of heating, transport and some industrial processes resulting in electricity consumption being double current levels by 2050<sup>1</sup>.
- 2.3. This transition is already being seen, with coal-fired power stations closing and the proportion of renewables generating electricity increasing to the point

<sup>1</sup> AFRY Management Consulting, (2023), Net Zero Power and Hydrogen: Capacity Requirements for Flexibility. Available online at: <https://www.theccc.org.uk/publication/net-zero-power-and-hydrogen-capacity-requirements-for-flexibility-afry/>

where in 2022 41.4% of UK electricity was generated from renewable sources<sup>2</sup> (onshore and offshore wind; hydro; solar; bioenergy). Heating for homes and businesses is still dominated by the consumption of natural gas.

- 2.4. Alongside the widescale electrification of the economy, the use of hydrogen is likely to be required in some form. For example, in applications such as high temperature industrial processes and long duration energy storage. Reflecting the importance of the role of hydrogen in the future energy system the government has set an ambitious target to deploy 10 gigawatts (GW) of hydrogen by 2030<sup>3</sup>.
- 2.5. This view is consistent with the findings of the Combined Authority's [Carbon Emission Reduction Pathways](#) (CERP) which identifies significant deployment of heat pumps, solar, hydrogen, and electric vehicles across the West Yorkshire economy if its net zero target is to be met.
- 2.6. Given the need to deploy different technologies at scale it is important that an understanding of the future energy system that meets net zero by 2038 is developed.
- 2.7. The Combined Authority is currently progressing two workstreams; Local Area Energy Plans (LAEPs) and the Hydrogen Use Case, that will develop this understanding and the remainder of this paper is focused on providing an update on these key pieces of work.

#### Local Area Energy Plans

- 2.8. LAEPs were identified as a key intervention for delivery within the West Yorkshire [Climate and Environment Plan](#) (CEP). They aim to identify the location and type of infrastructure required to meet local / national net zero targets, recognising that every place is different, including the people, housing stock and geography.
- 2.9. LAEPs consist of a two-stage process:
  - **Local Energy Asset Representation (LEAR):** baseline data collection on generation, storage, and distribution assets.
  - **Local Area Energy Plan (LAEP):** technical and spatial analysis of different options e.g. EV infrastructure, heat pumps, for decarbonising local energy systems.

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<sup>2</sup> HM Government, (2023), EnergyTrends: UK Electricity, Fuel used in electricity generation and electricity supplied (ET 5.1 – quarterly). Available online at: [https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fgovernment%2Fuploads%2Fsystem%2Fuploads%2Fattachment\\_data%2Ffile%2F1147117%2FET\\_5.1\\_MAR\\_23.xlsx&wdOrigin=BROWSELINK](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fgovernment%2Fuploads%2Fsystem%2Fuploads%2Fattachment_data%2Ffile%2F1147117%2FET_5.1_MAR_23.xlsx&wdOrigin=BROWSELINK)

<sup>3</sup> HM Government, (2022), British Energy Security Strategy: Secure, Clean and Affordable British Energy for the Long Term. Available online at: <https://www.gov.uk/government/publications/british-energy-security-strategy>

- 2.9. In depth stakeholder engagement is carried out at both stages and is key in ensuring robust and usable outputs are derived from the process.
- 2.10. The major deliverable of the LAEP process is a fully costed spatial plan that identifies the changes needed in the local energy system and built environment to meet local and regional net zero targets. The spatial nature of the plan also means that dedicated programmes can be implemented that target the deployment of specific technologies in specific areas of the region.
- 2.11. LAEPs are gaining traction across the UK among Combined Authorities and local authorities. This is being driven in part by support provided by Ofgem and the Department for Energy Security and Net Zero (DESNZ) for the process, but also recognising that regional and local government will need to have a greater say in how the future energy system evolves to ensure their net zero targets can be met.
- 2.12. The widescale adoption of LAEPs is seen as an opportunity to mobilise Ofgem to ensure that government support for this forward-thinking, future proofed energy infrastructure offers the political framework and financial resources necessary to proceed to large-scale implementation and help meet the national 2050 net zero target.
- 2.13. Ofgem is already gearing up for this change as evidenced by their recent consultation (now closed), Future of Local Energy Institutions and Governance<sup>4</sup>. The consultation focussed on a whole system vision (energy, heat, transport etc.) and addressed institutional and governance arrangements at a sub-national level to support the delivery of net zero at least cost.
- 2.14. In Ofgem's view. "local and regional government would remain responsible for local spatial planning and local area energy planning activities". It does not prescribe the use of LAEPs by all regional and local authorities. It also does not indicate how new Regional System Planners (RSPs) as advocated in the consultation document would interface with LAEPs, especially when the role of RSPs would be to oversee energy system planning for a specific region.
- 2.15. In developing LAEPs for all of West Yorkshire the region is well placed to inform regional energy system planning activities that would be undertaken by the RSP (if put into place). Indeed, close alignment of the two processes would need to occur to ensure both processes are not at odds with each other and create confusion for stakeholders.
- 2.16. Furthermore, Ofgem advocate in the consultation the development and ownership of a regional whole system strategic plan that is coherent with national and local net zero ambitions. With minimal tweaks the LAEPs could act as this regional whole system strategic plan, avoiding duplication of effort, discrepancies and stakeholder confusion.

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<sup>4</sup> Ofgem, (2023), Consultation: Future of local energy institutions and governance. Available online at: [Consultation: Future of local energy institutions and governance | Ofgem](#)

- 2.17. As referenced in 2.8. above the CEP identifies the production of LAEPs as a key action. In recognition of this the Combined Authority have allocated ([February 2023](#)) an indicative £500,000 to support the production of LAEPs across the region.
- 2.18. The funding will support the production of four LAEPs across West Yorkshire<sup>5</sup>; one for each district except Calderdale, which is progressing with its own LAEP, acting as a pilot for the process in West Yorkshire.
- 2.19. The funding will also support the production of an overarching strategic LAEP overview for the whole West Yorkshire region, pulling together the outputs of each LAEP to identify cross-boundary opportunities and synergies.
- 2.20. To unlock the funding to progress with LAEPs a detailed business justification case is being developed. This will be submitted to this Committee for approval at its October meeting.
- 2.21. A procurement process will be run in parallel with the development of the business justification case to ensure (subject to Committee approval) that production of the LAEPs can be progressed without delay.
- 2.22. It is anticipated that the production of the LAEPs for West Yorkshire will take between 12 to 18 months to complete once approval has been granted.
- 2.23. Regular updates will be provided to this Committee as the development of LAEPs are progressed.

#### Hydrogen Use Case

- 2.24. As referenced above hydrogen will have some part to play in the energy system of the future. The exact nature of its application is still unclear, and this is likely to remain the case until government makes clear policy decisions on the role they foresee hydrogen to play in achieving net zero.
- 2.25. In the meantime, the Combined Authority is looking to fill this gap by understanding the use case for hydrogen in West Yorkshire and developing a clear policy position off the back of this evidence base.
- 2.26. We want to better understand the role and requirement for hydrogen within West Yorkshire across key sectors such as transport, domestic heating, industry, and power generation.
- 2.27. Compared to other parts of the North East and Yorkshire (NEY) such as Teesside and the Humber, there are few assets and little infrastructure such as hydrogen storage and production facilities which might act as the catalyst for the development of hydrogen in West Yorkshire.

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<sup>5</sup> Based on Energy System Catapult guidance that LAEPs are best implemented at local district scales for a maximum of 300,000 households.

- 2.28. To address this evidence gap, the Combined Authority has successfully secured match funding from the NEY Net Zero Hub (the Hub) to progress with a Hydrogen Use Case Study (the Study).
- 2.29. The aim of the Study is to develop an evidence-based understanding of the role of hydrogen in the NEY and the routes by which it can be developed and deployed efficiently.
- 2.30. The Study will be broken down into two distinct workstreams:
- **Assessment of hydrogen deployment and demand in the NEY region:** aiming to bring about stakeholder cohesion, establish clarity and a defined structure with regards to the deployment of hydrogen in the NEY region.
  - **West Yorkshire Local Area Analysis:** aiming to undertake a detailed local area analysis for West Yorkshire of the use case for hydrogen deployment.
- 2.31. A contractor will be procured to undertake the Study and work is estimated to take up to 6 to 9 months to complete.
- 2.32. As with LAEPs the Committee will be updated at regular intervals on progress to develop the Study.

### **3. Tackling the Climate Emergency Implications**

- 3.1. The workstreams referenced in this paper directly contribute to furthering the Combined Authority's and regional understanding of how the energy system needs to evolve to meet net zero.
- 3.2. In addition, the outcomes from both the LAEPs and Hydrogen Use Case Study will enable the Combined Authority and its stakeholders and partners to target more efficiently regional programmes that address the climate emergency and to deliver these at scale.

### **4. Inclusive Growth Implications**

- 4.1. The production of the LAEPs and the Hydrogen Use Case Study will help us better understand the benefits to individuals and communities of the green transition, for example for good quality jobs. Production of the LAEPs runs in parallel to - and supports - ongoing CEP initiatives such as housing retrofit and heat pump installation. These result in improved living standards and lower levels of inequality for some of the most excluded and deprived groups and communities.

### **5. Equality and Diversity Implications**

- 5.1. As part of the procurement of external contractors for both workstreams social value will be an integral part of evaluating submissions having an influence over the contractor that is selected to undertake the work.

- 5.2. In addition, in the process of developing the outcomes of both the LAEPs and Hydrogen Use Case Study, an equality and diversity lens will be applied to emerging findings to ensure proposals do not adversely affect those who may have protected characteristics.

## **6. Financial Implications**

- 6.1. A business justification case is currently being developed for the LAEPs with the aim of releasing a minimum of £500,000 of gainshare funding to support their production. This is progressing through internal assurance and will be presented to this Committee in October for approval.
- 6.2. £150,000 has been secured for the delivery of the Hydrogen Use Case Study, with funding coming from the NEY Net Zero Hub and Combined Authority.

## **7. Legal Implications**

- 7.1. There are no legal implications directly arising from this report.

## **8. Staffing Implications**

- 8.1. There are no staffing implications directly arising from this report.

## **9. External Consultees**

- 9.1. No external consultations have been undertaken.

## **10. Recommendations**

- 10.1. That the Committee notes the contents of the report.
- 10.2. That the Committee provide an indication of how they would like to be involved in the development of the LAEP and Hydrogen Use Case Study, both as a collective and individually.
- 10.3. That the Committee provide an indication of what success looks like for them in terms of the outcome of both the LAEP and Hydrogen Use Case Study.

## **11. Background Documents**

There are no background documents referenced in this report.

## **12. Appendices**

None.