

THE VALE OF GLAMORGAN COUNCIL

CABINET: 19<sup>TH</sup> DECEMBER, 2024

REFERENCE FROM CORPORATE PERFORMANCE AND RESOURCES  
SCRUTINY COMMITTEE: 20<sup>TH</sup> NOVEMBER, 2024

“ WALES CENTRE FOR PUBLIC POLICY – RESPONSE TO THE VALE OF  
GLAMORGAN COUNCIL CARBON MANAGEMENT PLAN 2024-2030 (DCR) –

To assist in the consideration and scrutiny of the Council’s Carbon Management Plan 2024-2030, the Vice-Chair of the Scrutiny Committee had commissioned a review of the Plan by the Wales Centre for Public Policy (WCPP), which was attached to the report at Appendix A.

Dr. J. Price (Wales Centre for Public Policy) in presenting his response at Appendix A said that on the whole the actions proposed in the document appeared realistic and reflected a well thought – through a series of actions intended to reduce organisational operational emissions across scopes 1, 2 and 3. The difficulty with regard to costs was recognised he said and that fully costed programmes were required. The WCPP response also tried he said to provide some examples of ways of working to accelerate transaction and identified three principles of successful engagement that it started early in the project development phase, it was genuinely participatory and that it had a meaningful impact on plans.

RECOMMENDED –

(1) T H A T the content of the report and Appendix A, alongside the reference from Cabinet relating to the Carbon Management Plan 2024-2030, be noted.

(2) T H A T the response from Officers to be made to the Wales Centre for Public Policy report in presenting the Council’s Carbon Management Plan 2024-2030 be noted.

(3) T H A T having regard to comments made at the meeting, Cabinet be requested to consider the following –

- To look at alternative funding options that climate bonds represent;
- To look at the additional possibilities with planning considerations that the report refers to; and
- To consider holding climate conversation events across wards within communities in the Vale of Glamorgan in order to speak with residents, to seek their views on what they consider need to be looked at in their areas and to raise public awareness of the Plan.

(4) T H A T the Scrutiny Committee's thanks be extended to the Wales Centre for Public Policy for their consideration of the Carbon Management Plan.

Reasons for recommendations

(1&2) Having regard to the contents of the report and discussions at the meeting.

(3) To enable Cabinet to consider the comments of the Committee.

(4) To extend thanks to the Wales Centre for Public Policy for their valuable input."

Attached as Appendix: Report to Corporate Performance and Resources Scrutiny Committee – 20<sup>th</sup> November, 2024

Meeting of:	<b>Corporate Performance and Resources Scrutiny Committee</b>
Date of Meeting:	<b>Wednesday, 20 November 2024</b>
Relevant Scrutiny Committee:	Corporate Performance and Resources
Report Title:	Wales Centre for Public Policy – Response to the Vale of Glamorgan Council Carbon Management Plan 2024-2030
Purpose of Report:	To provide Scrutiny Committee with the findings of a review of the Carbon Management Plan by the Wales Centre for Public Policy to inform considerations of the same at Committee.
Report Owner:	Director of Corporate Resources
Responsible Officer:	Director of Corporate Resources
Elected Member and Officer Consultation:	This review was commissioned by the Vice-Chair of the Corporate Performance and Resources Scrutiny Committee. The review has been considered by Officers of the Project Zero Programme Board.
Policy Framework:	This is a matter for Executive decision by Cabinet.
<p>Executive Summary:</p> <ul style="list-style-type: none"> <li>To assist in the consideration and scrutiny of the Council’s Carbon Management Plan 2024-2030, the Vice-Chair of the Scrutiny Committee commissioned a review of the Plan by the Wales Centre for Public Policy (WCPP).</li> <li>Appendix A to this report provides Members of the Committee with the WCPP report.</li> <li>It is proposed that this report be considered alongside the reference from Cabinet to Scrutiny Committee on this matter in order to assist in scrutinising the Plan and providing Members with further information from an external perspective.</li> </ul>	

## **Recommendations**

- 1.** That Corporate Performance and Resources Scrutiny Committee considers the content of this report and Appendix A alongside the reference from Cabinet relating to the Carbon Management Plan 2024-2030.
- 2.** That Corporate Performance and Resources Scrutiny Committee considers the response from Officers to be made to the WCPP report in presenting the Council's Carbon Management Plan 2024-2030.
- 3.** That Corporate Performance and Resources Scrutiny Committee refer any comments to Cabinet on this report for their consideration.
- 4.** That Corporate Performance and Resources Scrutiny Committee extend thanks to the WCPP for their consideration of the Carbon Management Plan.

## **Reasons for Recommendations**

- 1.** To enable the Committee to consider the report of the WCPP.
- 2.** To enable the Committee to consider the response from Officers to the WCPP report.
- 3.** To enable Cabinet to consider the comments of the Committee.
- 4.** To extend thanks to the WCPP for their valuable input.

## **1. Background**

- 1.1** The Wales Centre for Public Policy (WCPP) seeks to improve policy making and outcomes by enabling public bodies, the Welsh Government and other decision makers to access authoritative independent evidence to help them address the key economic, social and environmental challenges facing Wales.
- 1.2** WCPP is funded by the Welsh Government, the Economic and Social Research Council, and Cardiff University. It is a member of the What Works Network and is the Welsh partner for the International Public Policy Observatory.
- 1.3** The WCPP were asked to undertake a review of the Council's Carbon Management Plan 2024-2030 by Councillor E Goodjohn (in his role as Vice-Chair of the Scrutiny Committee). The response is provided by the WCPP in their role as an independent and non-partisan evidence centre, as part of their work programme for public services in Wales with regards the Environment and Net Zero priority area.

## 2. Key Issues for Consideration

- 2.1 Appendix A to this report provides Committee with the findings of the review undertaken by the WCPP.
- 2.2 The Vice-Chair requested the WCPP consider the draft Carbon Management Plan as a whole, and with specific reference to a number of key questions. These questions were:
- Is the document realistic within budgets set?
  - Is the document ambitious enough to reach net zero by 2030?
  - If not, what additional actions are required to meet net zero by 2030?
  - How can the council engage better to ensure citizens' voices are better heard during the decarbonisation process?
- 2.3 The WCPP report draws in part on the organisation's knowledge that has been developed through the research that has been undertaken relating to the key questions above.
- 2.4 Appendix A provides Members with the views of the WCPP and is presented alongside the reference from Cabinet on the Carbon Management Plan in order to assist and inform in the scrutiny of the Council's Plan.
- 2.5 The WCPP report also provides a list of relevant publications by that organisation for further information for Members.
- 2.6 It is recommended that Committee consider this report and appendix alongside the reference from Cabinet and refer any comments to Cabinet for their consideration. It is also recommended that Committee extend their thanks to the WCPP for their valuable input into this process.

## 3. How do proposals evidence the Five Ways of Working and contribute to our Well-being Objectives?

- 3.1 The Carbon Management Plan aligns with the five ways of working. It sets out to embed **long term** and whole life thinking within all activity, **preventing** short term decision making. We are working to embed whole life and whole life carbon thinking. More **collaborative** approaches will ensure the plan is delivered efficiently; this plan has been written with contributions from all teams. **Integrated** within Project Zero challenges and established workstreams where possible; the activity for 24/25 has been aligned to the Project Zero Challenges and steps. Via the Project Zero Board and Project Zero learning café and other mechanisms we can ensure that all stakeholders can be **involved** and contribute to this agenda.
- 3.2 The Carbon Management Plan aligns to our wellbeing objectives<sup>1</sup>:
- Work with and for our communities** – whilst the Plan focuses on our corporate carbon emissions and a 2030 timeframe, many of the recommendations made will assist in reducing our community and county wide emissions ahead of 2050.

**Support learning, employment and sustainable economic growth** – our Plan will ensure that our schools and learning environments are as energy efficient as possible. Our procurement work will seek to ensure we support a local supply chain when procuring goods and services and our procurement is as sustainable as possible.

**Support people at home and in their community** - we will work with our partners to ensure our leisure and community centre facilities decarbonise. Our Regeneration and Neighbourhood Services Teams continue to support households to reduce their environmental impacts.

**Respect, enhance and enjoy our environment** – our Plan supports our work in our parks, gardens and Countryside Parks to maximise carbon sequestration from the land.

## **4. Climate Change and Nature Implications**

- 4.1** The Carbon Management Plan directly relates to the climate change and nature emergencies. The Plan sets out how we seek to reduce our carbon emissions and improve biodiversity across the county by 2030.

## **5. Resources and Legal Considerations**

### **Financial**

- 5.1** The Carbon Management Plan sets out the estimated additional funding required to significantly reduce carbon emissions from our built environment. This cost is significant. The costs of reducing carbon across other activities will continue to be determined and costed into future proposals and updates.
- 5.2** At present it has only been possible to develop indicative costs for reducing the Council's building stock, this was estimated as requiring more than £40 million investment. Clearly at a time of financial constraint for the public sector, this presents a very real challenge. Delivery of the Carbon Management Plan will be considered as part of the Council's budget setting process and is also a consideration reflected in the development of capital schemes to ensure value for money and strategic alignment is demonstrated when undertaking works.
- 5.3** The WCPP review considers the financial implications associated with the Council's Carbon Management Plan in Appendix A.

### **Employment**

- 5.4** The Carbon Management Plan has been co-ordinated and produced by the Decarbonisation and Energy team within Property Section with input from all key service areas. However, significant staff and budget resources will be required right across the organisation if 2030 target is to be met as the challenge remains

huge. With limited staff and budgets available funding opportunities will be pursued wherever they present themselves and pursue as many targets as we can within available resources.

- 5.5 The WCPP report makes a series of recommendations on how the Carbon Management Plan should be delivered.

#### **Legal (Including Equalities)**

- 5.6 There are no direct legal or equalities issues associated with this report.

### **6. Background Papers**

Carbon Management Plan 2024-2030, Cabinet, 8<sup>th</sup> September 2024.



# Response to the Vale of Glamorgan Carbon Management Plan 2024-2030

## The Wales Centre for Public Policy

1. The Wales Centre for Public Policy (WCPP) seeks to improve policy making and outcomes by enabling public bodies, the Welsh Government and other decision makers to access authoritative independent evidence to help them address the key economic, social and environmental challenges facing Wales.
2. WCPP is funded by the Welsh Government, the Economic and Social Research Council, and Cardiff University. It is a member of the What Works Network and is the Welsh partner for the International Public Policy Observatory.
3. This response draws in part on knowledge developed through research we have undertaken that bears on the questions we have been asked to consider. A list of relevant WCPP publications is appended to the end of this response.
4. We were asked to undertake this work by Councillor Ewan Goodjohn, an elected member of the Vale of Glamorgan Council. We are providing this response in our role as an independent and non-partisan evidence centre, as part of our work programme for public services in Wales in our Environment and Net Zero priority area.

## Response

### *Is the document realistic within budgets set?*

5. On the whole, the actions proposed in the document appear realistic and reflect a well thought-through series of actions intended to reduce organisational operational emissions across scopes 1, 2 and 3.
6. The document correctly notes the financial pressures and resource and capacity limitations faced by local authorities, and in certain areas is clear that actions will require additional capital or revenue funding and/or organisational capacity to achieve.
7. The document does not present the full costs of its proposals. While we recognise the challenges in doing so, this is a limitation as without full costings, timelines, and methods for specific actions it will be difficult to create a reasonable business case for securing funding through other sources. It is possible that such costings could be developed on an ad hoc basis when funding options arise, but, to assist the prioritisation of actions, cost estimates could be more widely provided.





8. This is particularly relevant as the strategy document recognises explicitly the cost of inaction, and the risk that failing to adequately mitigate emissions results in greater costs further down the line than capital expenditure now would. A corollary of this is that taking action in any domain now is likely to be ultimately less costly, *ceteris paribus*, than taking action at a later date.
9. In terms of specific actions, there is a clear approach outlined across each domain which in most cases starts with data collection and monitoring and leads towards more specific activities.
10. Building an evidence base is a commendable approach which will help to inform the most impactful actions that could be taken to mitigate emissions, particularly if these actions are also informed by broader evidence-gathering activities and research into what works in reducing emissions in particular areas.
11. It is therefore broadly positive that in some cases the plan does not identify specific mitigation actions in detail, as this allows flexibility in approach to reach net zero.
12. However, there is also a risk that actions taken will be insufficient or action will be delayed if there is not specific support for certain types of intervention, particularly larger-scale changes. It will be important to ensure that buy-in is maintained throughout the lifespan of the document, both from council officers and elected members.

### ***Is the document ambitious enough to reach net zero by 2030?***

13. It is not clear that the actions identified in the document will suffice to reach net zero by 2030.
14. Scope 2 emissions will be difficult to directly reduce and depend in large part on the success of the UK government's ambition to decarbonise the grid. Scope 3 emissions can be reduced through persuasion and changes to procurement rules, but are ultimately contingent on supplier organisations reducing their own emissions.
15. It is therefore sensible to focus on reducing scope 1 emissions in the first instance, as the document recommends. These are where the council holds the most direct power to act and can dedicate resource specifically aimed at emissions mitigation.
16. Two major challenges are that scope 1 emissions may not be reduced to net zero; and that scope 3 emissions (which form the bulk of the council's emissions inventory) are not sufficiently reduced by the powers the council can bring to bear on them.



17. In terms of scope 1 emissions, both capital and revenue budgets remain uncertain and are constrained. Given that the cost for decarbonising buildings alone is estimated at c.£40 million, there are clear challenges to accessing requisite funding. If capital budgets are prioritised elsewhere, and external funding is not secured, then decarbonising buildings will be much harder if not impossible to achieve. Similar challenges exist across all scope 1 emissions where capital and/or revenue funding is required.
18. Internal organisational resource is also highly likely to be needed for internal project management; financial monitoring and application for external funding streams; and project delivery. Without adequate resource, projects are more likely to overrun in time and cost; funding will be more difficult to secure; and successful delivery will take longer. This is also a challenge in a highly constrained fiscal environment, particularly as corporate centres in local authorities have suffered disproportionately from budget cuts over the past 14 years.
19. For scope 3 emissions, it is positive that the council and Ardal partnership are already proposing carbon reduction plans and other requirements for emissions reduction in procurement.
20. There are known capacity challenges within procurement and there is a risk that increased requirements for staff to monitor emissions in the supply chain could constrain this capacity further. There will be a need to embed these practices as part of normal ways of working, and to protect staff capacity to do so.
21. Increasing requirements for organisations to monitor and mitigate their own emissions might increase overall contract costs and could also affect the profile of businesses bidding for contracts. For instance, it is likely to be more challenging for SMEs and/or local businesses to accurately report their emissions than for larger, national businesses. This might conflict with other legislative requirements or policy priorities such as social value and socially responsible procurement; cost control; and local procurement. Resource could be provided where possible to support businesses to implement new requirements, which could reduce cost in the longer-term.
22. There may be a conflict between the council's decarbonisation ambition of 2030 and the 2050 target for societal net zero. Businesses may be planning to decarbonise by 2050, making reducing scope 3 emissions to zero by 2030 more challenging.
23. Reaching net zero by 2030 will therefore be a significant challenge, requiring ambition but also funding and staff capacity to deliver projects.
24. The scale of residual emissions by 2030 is uncertain but is unlikely on the balance of evidence to be zero. Some degree of offset is likely to be required,



particularly as it is not likely that other technologies (such as carbon capture and storage or direct air capture) will be in any way mature enough for large-scale deployment by 2030.

***If not, what additional actions are required to meet net zero by 2030?***

25. In spite of the challenges recognised above, there are steps which might be taken to accelerate the transition. In particular, these steps relate to *how* actions might be achieved, rather than which actions should be pursued per se.
26. Alternative funding sources could be considered for capital projects such as building decarbonisation or deployment of renewable energy projects. Local climate bonds, issued by local authorities and intended to be purchased by local citizens, have been explored by groups such as the Green Finance Institute and could be a viable way of securing investment (Notman et al., 2024). This would be particularly suitable where local residents could expect service and/or community benefits from investment.
27. Prospective increases in funding for the UK Investment Bank as part of a 'National Wealth Fund' could also be tapped into for investment in certain projects (Notman et al., 2024).
28. Private finance is unlikely to be attractive for projects aiming to reduce scope 1 emissions but could be considered for larger-scale projects, particularly those that align with the societal net zero target.
29. Resource could be targeted at interventions resulting in the most significant emissions reductions on a cost-benefit basis. For instance, although a 'fabric first' approach might be viable for new buildings, in existing buildings investment should be targeted at installing low- or zero-carbon heat sources rather than energy efficiency measures (Notman, Coles-Riley and Tilley, 2024).
30. This could minimise the up-front investment required, particularly as in this specific example energy efficiency measures can be installed subsequently to low-carbon heat sources, when resource is available.
31. Smaller projects could be pooled with neighbouring authorities, through the Ardal scheme or other regional mechanisms. For instance, a unified approach to fleet decarbonisation could increase economies of scale and reduce the per-unit cost to the Vale of Glamorgan (Notman et al., 2024).
32. Innovative and agile ways of working across authorities and regionally through the Cardiff Capital Region could also help to secure cost-effectiveness, as well as additional resource.
33. To support broader societal decarbonisation, planning offices could be supported to streamline processes in line with the ambitions of the Infrastructure (Wales)



Act 2024, where possible (Notman and Price, 2023). Streamlining and additional resource would support a faster rollout of critical infrastructure, including low- and zero-carbon electricity generation where this falls to local planning authorities. This would also ultimately reduce scope 2 emissions.

34. Many of these actions will have wider social benefits and support the achievement of the societal net zero target of 2050. It will be important to ensure that business cases are prepared in such a way that projects are clearly investible and supportable, with evidence-based appraisals of wider social benefit alongside possible financial return. This will support the prioritisation of internal capital budgets as well as increase the likelihood of accessing external finance and funding sources.
35. Internal resource and capacity should be protected and, where possible, expanded, including through pooling regional capacity; accessing external funding ideally on multi-year cycles; and reducing costs of delivery through efficiency and productivity increases rather than reducing staff headcount. It is critical that there be sufficient internal capacity and expertise to manage projects successfully. Ways of working should also be streamlined to ensure that staff capacity is best used and bureaucratic hurdles minimised.

***How can the council engage better to ensure citizens' voices are better heard during the decarbonisation process?***

36. Decarbonisation is already affecting the lives and livelihoods of people in Wales and in the Vale of Glamorgan. Ensuring public buy-in for the transition is crucial to reaching net zero, but also in avoiding public backlash and resistance.
37. It will be very important to preserve and enhance people's sense of agency and control over their own lives through the transition (Price and Tilley, 2024). This is particularly important in areas where there is already a high degree of controversy, such as agriculture and land use.
38. Public buy-in should be achieved at an early stage, and policies should be implemented flexibly, with changes made if they are not working or in order to secure public support.
39. We have identified three principles of successful engagement: that it starts early in the project development phase; that it is genuinely participatory; and that it has a meaningful impact on plans (Notman and Price, 2023).
40. Genuine participation means moving beyond presenting plans to allowing broader public input in shaping plans, responsive to local knowledge, needs, and concerns. Ideally, this means that plans change according to this input, considered alongside other factors. This requires a shift from a reactive approach



to engagement to one that is more responsive to local input (Notman and Price, 2023).

41. Where plans have a negative effect on local populations, for instance in the siting of certain types of infrastructure, ensuring that there are clear benefits to having this infrastructure present can go some way to securing increased support. However, these benefits need to be clearly articulated and responsive to local community need. Again, those benefits that are felt to be community-responsive and community-led are likely to capture more support than those felt to be imposed from outside (Notman and Price, 2023).
42. Ensuring a just transition for those affected by decarbonisation (for instance, through industry change or closure) will also be important. How this is deployed will vary by the sector affected, but could include a mixture of support for reskilling and redeployment; grants and support for entrepreneurship; and in rural areas specific support for rural economies, farmers and landowners to reach net zero while maintaining vibrant rural economies. Our work has shown that this approach is in line with and enabled by the Well-being of Future Generations (Wales) Act 2015 (Price, Roberts and Bristow, 2021).
43. This is resource-intensive, and therefore will need to be delivered in collaboration with industry; the Welsh Government; and the UK government, but a just transition is economically and socially important to avoid the known negative effects of unjust transitions, epitomised by the fate of the South Wales Valleys after deindustrialisation.
44. Finally, all engagement efforts must aim to reach a wide audience, including those who are less likely to engage with existing consultation processes. Securing public support means reaching beyond existing methods of consultation; moving towards a genuinely participatory approach; and meeting people where they are, responding to expressed needs and concerns.

**Dr Jack Price, October 2024**

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## References and relevant WCPP outputs

Coles-Riley, J., Notman, G., Tilley, H., and Bristow, D. (2023). **Net zero 2035: Overview of emissions trends and pathways**. Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/publication/net-zero-2035-trends-and-pathways/>

Coles-Riley, J., Notman, G., Tilley, H., Bristow, D., and Thornton, J. (2023). **How could Wales feed itself in 2035? Evidence pack**. Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/publication/how-can-wales-feed-itself-in-2035/>

Coles-Riley, J., Notman, G., and Tilley, H. (2024) **Lessons from retrofit programmes to cut carbon emissions: Eight international case studies**. Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/publication/how-could-wales-heat-and-build-low-carbon-homes-by-2035/>

Downe, J., and Taylor-Collins, E. (2019). **At the tipping point? Welsh local government and austerity**. Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/wp-content/uploads/2019/06/190418-Austerity-Report-FINAL-1.pdf>

Lesch, M. (2020). **Governing the Just Transition**. Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/commentary/governing-the-just-transition/>

Lloyd, A., Phillips, R., and Tilley, H. (2024). **Net zero 2035: Lessons from international initiatives to decarbonise transport**. Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/publication/decarbonising-wales-transport-system-while-connecting-people-and-places/>

Lynch, J. (2024). **Embedding social value in procurement**. Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/publication/embedding-social-value-in-procurement/>

Morgan, C., Carter, I., Tilley, H., Haines-Doran, T., and Taylor-Collins, E. (2022). **International approaches to a just transition**. Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/wp-content/uploads/2022/12/International-approaches-to-a-just-transition.pdf>

Newman J, Seaford C, Glover B, Collinson S, Hoole C, Kitsos A, Gutierrez Posada D, Tilley H, Mukherjee A, Gilbert N, and Driffield N. (2021). **Delivering Levelling Up: Don't turn on the taps without fixing the pipes**. LIPSIT Report. Retrieved from: <https://lipsit.ac.uk/wp-content/uploads/2021/09/FINAL-Levelling-up-Report-digital.pdf>

Notman, G., and Price, J. (2023). **Accelerating deployment of energy infrastructure**. Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/wp-content/uploads/2023/12/Accelerating-deployment.pdf>

Notman, G., Coles-Riley, J., and Tilley, H. (2024). **How could Wales heat and build low carbon homes by 2035?** Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/publication/how-could-wales-heat-and-build-low-carbon-homes-by-2035/>

Notman, G., Coles-Riley, J., Tilley, H., and Price, J. (2023). **Net zero skills: Insights and evidence from emissions sectors in Wales**. Wales Centre for Public Policy. Retrieved



from: <https://www.wcpp.org.uk/wp-content/uploads/2023/02/Net-zero-skills-Insights-and-evidence-from-emissions-sectors-in-Wales.pdf>

Notman, G., Johnson, E., Price, J., and Tilley, H. (2024). **A local authority-led transition to net zero: Lessons for Wales from other countries and regions.** Wales Centre for Public Policy. <https://wcpp.org.uk/publication/public-sector-net-zero/>

Phillips, R., Price, J., and Tilley, H. (2024). **What could education, jobs and work look like across Wales by 2035?** Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/publication/what-could-education-jobs-and-work-look-like-across-wales-by-2035/>

Price, J. (2020). **Delivering a Just Transition: What would it look like?** Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/commentary/delivering-a-just-transition-what-would-it-look-like/>

Price, J., Roberts, M., and Bristow, D. (2021). **Towards a just transition in Wales.** Wales Centre for Public Policy. Retrieved from <https://wcpp.org.uk/wp-content/uploads/2021/01/Towards-a-Just-Transition-in-Wales.pdf>

Price, J. (2023). **Challenges and opportunities of decarbonising Wales' energy system by 2035.** Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/wp-content/uploads/2023/12/WCPPPO1.pdf>

Price, J. and Tilley, H. (2024). **Reaching net zero in Wales.** Institute of Welsh Affairs. Retrieved from <https://www.iwa.wales/agenda/2024/09/reaching-net-zero-in-wales/>

Price, J. (forthcoming). **Reaching net zero by 2035? Reflections on supporting the Challenge Group.** The Welsh Agenda, Institute of Welsh Affairs.

Regan, A. (2023). **Pathways for meeting Wales' energy needs into the future.** Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/wp-content/uploads/2023/12/Pathways-for-Wales-future-energy.pdf>

Silva, L., Price, J., and Tilley, H. (2022). **Developing skills for a just transition.** Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/wp-content/uploads/2022/08/Developing-skills-for-a-just-transition.pdf>

Skeels, A. (2022). **'Levelling Up': continuing the conversation.** Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/commentary/levelling-up-continuing-the-conversation/>

Tilley, H. (2022). **'Levelling Up': a critical conversation for Wales.** Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/commentary/levelling-up-a-critical-conversation-for-wales/>

Tilley, H. Newman, J., Connell, A., Hoole, C., and Mukherjee, A. (2023). **A place-based system? Regional policy levers and the UK's productivity challenge.** Regional Studies, 57:10, 2102-2114. Retrieved from: <https://www.tandfonline.com/doi/full/10.1080/00343404.2022.2152436>

Thorman, D., Lloyd, A., Phillips, R., and Tilley, H. (2024). **Decarbonising Wales' transport system while connecting people and places.** Wales Centre for Public Policy. Retrieved



from <https://wcpp.org.uk/publication/decarbonising-wales-transport-system-while-connecting-people-and-places/>

Tizard, J. and Mathias, M. (2019). **Beyond Contracting: Public Service Stewardship to Maximise Public Value**. Wales Centre for Public Policy. Retrieved from: <https://www.wcpp.org.uk/publication/beyond-contracting-public-service-stewardship-to-maximise-public-value/>