



Llywodraeth Cymru
Welsh Government



Just Transition to Net Zero Wales: Call for Evidence

Overview

Call for Evidence for informing the development of Wales' decarbonisation pathway to Net Zero by 2050. It will also provide an initial step towards potentially developing a *Just Transition Framework* for Wales to be published in 2023.

How to respond

Submit your comments by 15 March 2023, in any of the following ways:

Online

Responses to this call of evidence can be emailed to the climatechange@gov.wales mailbox or using the online form to arrive by 15 March 2023 at the latest.

Post

Download the response form. Complete and return to:

Climate Change & Energy Efficiency Division
Welsh Government
Cathays Park 2
Cardiff
CF10 3NQ

Further information and related documents

Large print, Braille and alternative language versions of this document are available on request. This document can be accessed from the Welsh Government's website www.gov.wales/consultations.

Contact details

For further information:

Climate Change & Energy Efficiency Division
Welsh Government
Cathays Park
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Email: climatechange@gov.wales

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When responding to the Call for Evidence you are required to provide your name, address, email address, and phone number. If responding on behalf of an organisation you will also be asked to provide the organisation’s name and address.

In order to show that the Call for Evidence was carried out properly, the Welsh Government intends to publish a summary of the responses to this document. We may also publish responses in full.

Normally, the name and address (or part of the address) of the person or organisation who sent the response are published with the response. If you do not want your name or address published, please tell us this in writing when you send your response. We will then redact them before publishing.

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The contact details for the Information Commissioner’s Office are:

Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF

Phone: **01625 545 745** or **0303 123 1113**

Website: www.ico.gov.uk

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Purpose

1. In Net Zero Wales¹ (2021), the Welsh Government re-stated its commitment to affect a ‘just transition’ away from the fossil-fuelled economy of the past to a new low carbon future. Delivering a just transition will mean, that as we move to a cleaner, stronger, fairer Wales, we leave no-one behind. We will develop a clear understanding of the impacts of change, positive and negative, and how to make sure these are fairly distributed in society. In doing so, we have committed to learning lessons from the past and building a future for Wales that supports a wellbeing economy.

2. This Call for Evidence is important in ensuring we base our plans on robust evidence. The evidence gained will inform the development of Wales’ decarbonisation pathway to Net Zero by 2050. It will also provide an initial step towards potentially developing a *Just Transition Framework* for Wales to be published in 2023.

The key aspects of this Call are to seek evidence to:

- **identify best practice, wherever that may be found, for the implementation of a just transition in Wales;**
- **identify the impacts and opportunities across our society and economy;**
- **identify the infrastructure and support we need to ensure a just transition.**



1 42949 Second All Wales Low Carbon Delivery Plan (2021–2025) (gov.wales)

Introduction

3. With less than ten years left to avoid a climate system breakdown as cautioned by the Intergovernmental Panel on Climate Change the need to decarbonise our economies has never been more urgent. Decarbonisation and building resilience to the impacts of climate change is a major policy challenge. The Welsh Government has stated its ambition for a target of Net Zero by 2050. However, the impacts of climate change and decarbonisation may neither be straightforward nor necessarily equitable, impacting on different sectors, organisations and people in different ways.

4. We need to ensure the transition away from fossil fuels to a cleaner, fairer future in Wales is carefully managed. We have a number of key legislative requirements including the Well-being of Future Generations Act and the public sector equality duty reinforce the need to ensure that decarbonisation and climate resilience are carried out in a way that avoids creating or exacerbating inequalities, using the transition to reduce or remove these inequalities. The changes driven by the need to decarbonise and adapt our economy will have impacts on industries, elements of the workforce, and different communities in different ways, depending on the pathways the Welsh and UK Governments follow, as well as wider organisations and businesses and global technological and structural shifts.

5. Over the second carbon budget (CB2 2021–25) we will develop our evidence base and further improve our understanding of how the transition will impact the people of Wales in order to inform our policy response. In doing this, we will draw out where there are existing disparities that will need to be addressed; or where there is a risk of disadvantage emerging, which will need to be addressed. It is therefore essential we engage a broad range of stakeholders in our approach. This includes people with protected characteristics – such as disabled people and Black, Asian and Minority Ethnic people, where our strategic impact assessment has already identified disparities in areas relevant to transition – and people from a wide range of socio-economic backgrounds. In addition, reflecting our duty to have due regard to children’s rights, it will be important to engage children and young people in this process.

6. We require your support and evidence to develop our approach, plan for the transition and to understand the impact of transitioning to Net Zero across Welsh society. We need to identify the main impacts, opportunities, actors, governance, regulatory/policy levers, technological drivers and inhibitors of the transformation.

7. This Call is the next step in developing the evidence base and will help inform our approach and actions, with the current intent to set this out in a *Just Transition Framework* published in 2023. The Framework as currently envisaged would suggest ways of working, not just for Welsh Government, but for all involved in developing and delivering climate actions. It is expected that it will provide guidance on how to implement climate action in a way that is consistent with delivering a Just Transition, aligned to the WFG and fulfilling our obligations in respect of children’s rights and the public sector equality duty.

Just Transition Framework

As currently envisaged, the *Just Transition Framework* will provide a strategic approach to achieving a just transition which is fair, inclusive, and built on a vision that is driven by improved ‘wellbeing’ for society, and working towards achieving the sustainable development goals, with the guiding principle of ‘leave no-one behind’. The Framework will consist of three main components:

- **research and evidence base building, to understand the potential negative impacts on different people and groups and the opportunities to reduce disadvantages;**
- **maximise integration across our decision-making processes, sectors and plans; and**
- **embed engagement with the public, businesses and communities.**

What we've done to date

8. Our first statutory decarbonisation plan, *Prosperity for All: A Low Carbon Wales*² (LCW) published in 2019 recognised the impact policy efforts to decarbonise, both nationally and internationally, could have on the people of Wales. Proposal number 2 of a LCW was to establish a Climate Just Advisory Group to advise government on the transition away from a fossil fuel-based economy. The Welsh Government initially worked with the Wales Centre for Public Policy (WCPP), who were also looking to develop a group and undertake a similar piece of work.

9. The work with the WCPP highlighted that existing governance such as the *Well-being of Future Generations (Wales) Act 2015* (WFG) already provided the opportunity to frame a just transition in Wales³. This is reinforced by our duties under the Equality Act 2010 and the Rights of Children and Young Persons (Wales) Measure 2011.

10. This means our approach to just transition is underpinned by legislation that encourages policy makers to take a macro view – considering key areas and impacts such as on labour markets and business competitiveness (jobs, skills, workforce, etc) as well as people (protected characteristics, socio-economic status and children's rights).

11. Following publication of LCW and *Prosperity for All: A Climate Conscious Wales*⁴, our national adaptation plan, which also recognises the risk and opportunities, the commitment for a just transition was strengthened in Net Zero Wales (NZW) where it was made the number 1 policy, recognising the significance and the need for action. The policy committed to progress just transition over the period of Carbon Budget 2 (CB2) (2021-25) and committed to working closely with our partners to develop our evidence base and further improve our understanding of the transition.

12. Work to date has also included reviewing the work happening across the United Kingdom, Ireland, the European Union and the **Climate Group**, identifying lessons Wales can learn to complement and accelerate our efforts.



² [Prosperity for all: a low carbon Wales | GOV.WALES](#)

³ [Governing the Just Transition | WCPP](#)

⁴ [Prosperity for All: A Climate Conscious Wales \(gov.wales\)](#)

Our approach to Just Transition

13. Having arisen in the context of the 1970s labour movement, the concept of just transition has evolved and spread to other areas and domains, such as environmental justice groups, the international trade union movement, and the private sector⁵. Since its inclusion in the preamble of the 2015 Paris Agreement, it has also been adopted in global, national and subnational policy circles⁶.

14. The impacts of energy transitions are likely to extend far beyond just those felt by workers directly employed in the coal, oil and gas industries. The transition must include a broader set of actors and issues, with more complex interventions than simple job substitution and worker retraining, needed.

15. The transition takes place against a background of pre-existing inequalities. For example, with disparities in income levels; tenure of home; level of overcrowding in homes between different groups. A just transition is one that enables these disparities to be reduced, does not exacerbate disadvantage and results in a society and sectors that are more equal.

International Approaches

16. There is no universally accepted definition of a 'just transition' and a great deal of debate exists around the term, which has led to several different approaches towards its adoption. However, there are consistent themes emerging from the policy approaches that countries and regions have taken towards a just transition. These include the creation of a coordinating framework, long-term planning, capacity building and funds. The *Just Transition Framework* we currently envisage will be developed and published in 2023 and will be consistent with these approaches.

17. Our response to climate change requires a globally coordinated and cooperative approach where we can continue to learn the lessons from international partners. The Welsh Government is already working with Scottish Government, Under2Coalition and the Powering Past Coal Alliance on just transition.

Well-being and a Just Transition

18. Building on the work described in paragraph 9, the WCPP highlighted in recent research there are many approaches to just transition, and therefore creating a universal definition, framework or policy approach to a just transition is problematic. However, the WFG as a guiding framework, would align with a number of international examples, such as those found in Scotland and New Zealand, where adopting a just transition within a wellbeing framework has been beneficial⁷.

19. These indicate that just transition approaches align with the fundamental goals and intentions of the WFG, although adjustments to reflect different national contexts are important.

Developing our approach to implementation

20. Our approach will be to build on the framework provided by WFG Act framework and equality, children's rights and human rights legislation to develop principles to guide the development of a context-specific approach. But it will need to engage a broader set of actors from national governments to local governments, to citizens and the business sector. They will all be key to ensuring equitable implementation.

⁵ Part One: The scope and background of 'just transitions' - Just Transitions: a comparative perspective - gov.scot (www.gov.scot)

⁶ Just Transitions: a comparative perspective - gov.scot (www.gov.scot) / report-jtrc-2018.pdf (unclearn.org)

⁷ Morgan, C., Carter, I., Tilly, H., Haines-Doran, T. & Taylor-Collins, E. (2023). International approaches to a just transition. Wales Centre for Public Policy.

21. With the WFG and our equality duties at its heart, our approach will need to include four types of justice:

- Distributive, which seeks to share the burden and benefits of the transition's impact in a fair way and to recognise and address existing disparities between groups.
- Procedural, which aims to provide fair inclusion in decision-making.
- Restorative, which attempts to repair the impact fairly and harness the benefits to boost communities.
- Intergenerational justice.

22. This universal approach could be applied in a range of scenarios including spatial, sectoral or organisational. The approach could also be applied in the development of decarbonisation and climate adaptation policy. We are also keen to understand how existing decision-making processes and/or how the role of finance could be applied or developed for a planned just transition to ensure success. Understanding how the implementation of Wales' climate plans will impact individuals, specific communities and businesses will be critical in ensuring that the transition overcomes existing inequalities.

23. To start the process of developing our approach we are seeking both research and practical examples.

Questions

Governance

- 1.** Do you have any evidence to show how the WFG Act has, or could be, used to inform a just transition?
- 2.** What examples do you have of decision-making processes or guiding principles that could be used across public, private and third sectors to plan for and ensure a just transition?
- 3.** Do you have any evidence on how we can best fulfil the public sector equality duty in pursuing a just transition?



The Impacts and Opportunities of the Net Zero Transition

Background

24. As the speed and scale of climate action increases, it is vital that we address the risks posed by an unplanned transition towards net zero. We need to ensure a fair transition that advances Wales' wellbeing and contributes to global prosperity and long-term sustainability, without exacerbating existing inequalities.

25. There are significant opportunities that may be grasped from this process however there are also challenges and vulnerabilities on different groups of society, at different times and different places across Wales.

Impacts and Opportunities for different groups of society

26. In Wales, lower income groups may be more at risk of experiencing negative impacts, which in turn, means those with protected characteristics are also more at risk. For example, Households Below Average Income (HBAI) data for Wales shows that those with a head of household from a white ethnic group had a lower likelihood of being in relative income poverty. Similarly, there are strong links between disability and poverty⁸. Disabled people are much more likely to have low incomes than non-disabled people, as are people who live in a household with someone who is disabled. Across the UK in 2019–20, working-age adults who were disabled had a 32% risk of being in relative income poverty compared with 17% of non-disabled working-age adults⁹. The current economic situation highlights the inequalities that continue to exist in our social system and makes the need for fairness in the delivery of decarbonisation in a way that improves people's lives, more important than ever.

27. Additionally, the impact of the COVID pandemic, followed by economic challenges has further entrenched health inequalities across Wales¹⁰. The impacts on our physical and mental health have undoubtedly been felt across communities throughout Wales but these have had disproportionate impacts on some people and communities. We know that food and physical activity choices have been adversely impacted upon within communities where there were already existing levels of health inequalities.

28. Whilst adapting lifestyles to meet the cost of living and climate crises brings some opportunity to reduce energy and the consumption of goods and materials. We know that not everybody across the population creates carbon emissions equally or are able to respond to the challenges having less opportunities or resources. Those most vulnerable to the cost-of-living crisis and the impacts of climate will tend to have lower carbon footprints¹¹. We will aim to unlock benefits to improve wellbeing, and to create a more equal and low carbon society for all.

29. In ensuring a truly just transition, our policy development will prioritise engagement with those who can make the change and the most vulnerable to the transition including those groups most marginalised to ensure a truly fair approach. We will ensure we mitigate any negative 'spill-over effects' of decarbonisation, grasp any opportunities to maximise benefits to society take opportunities to reduce disparities and avoid offshoring carbon emissions or environmental and social harms.

30. We will need to involve people at every stage and that is why just transition is embedded in our guiding principles to public engagement.

⁸ <https://gov.wales/relative-income-poverty-april-2019-march-2020-html>

⁹ www.gov.uk/government/statistics/households-below-average-income-for-financial-years-ending-1995-to-2020

¹⁰ [A review of evidence on socio-economic disadvantage and inequalities of outcome \(gov.wales\)](#)

¹¹ [It's high time to talk about the climate impacts of high consumers | Sheffield Hallam University \(shu.ac.uk\)](#)

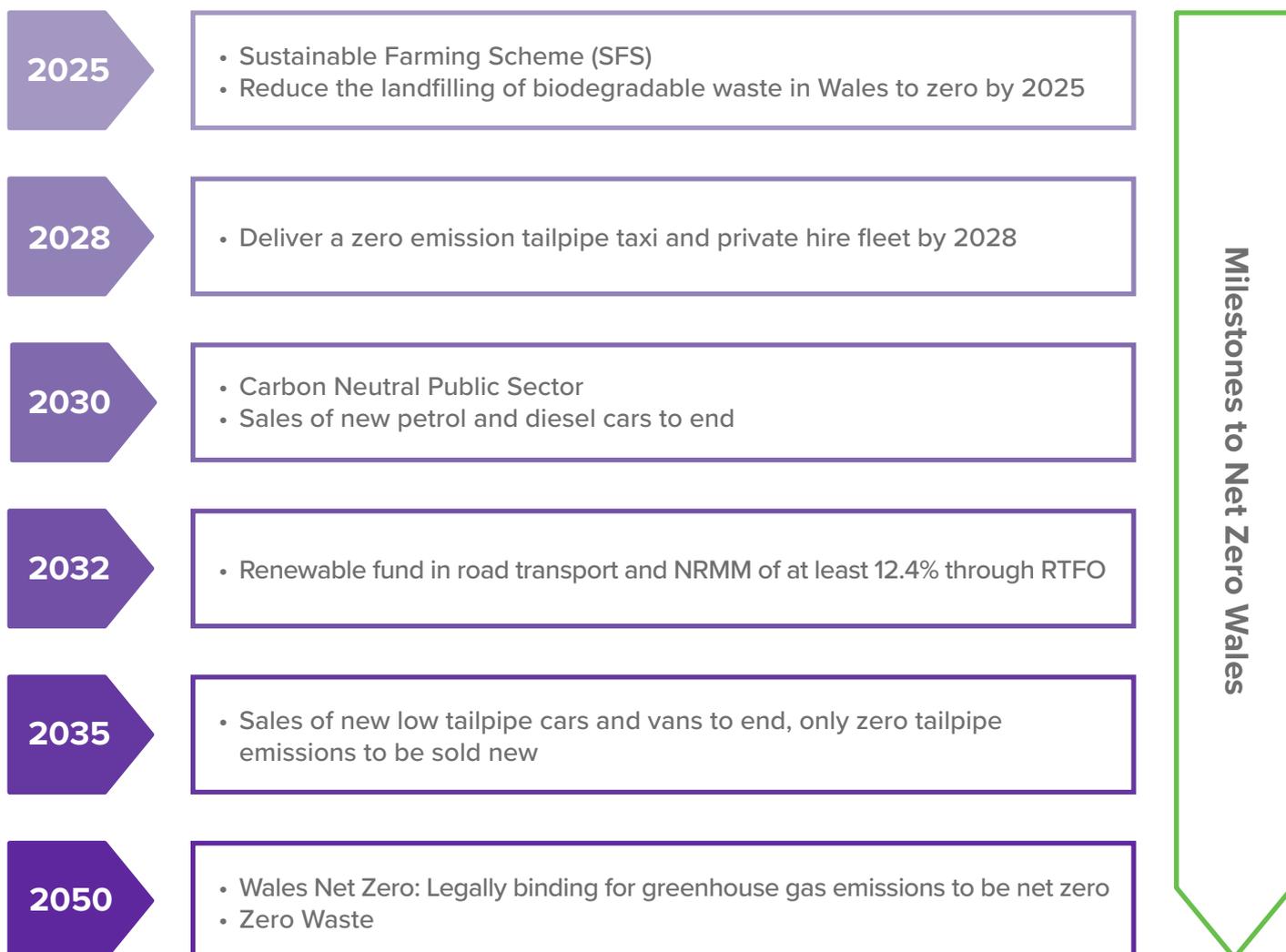
A Strategy for Public Engagement and Action (2022–2026)

Adapting our lifestyles to meet the current cost of living and climate crises must be done in a fair way. But to achieve this we know we need to continue to deepen our understanding on the impact of climate change on the wellbeing of all people, communities, workers and business as part of the transition. The Strategy will ensure we will drive a people-centred approach, which will encourage active participation of people in decision-making of the transition. The draft Strategy published on 20 October for consultation sets out a framework and guiding principles around how this will be achieved. The final strategy will be published in the spring of 2023, demonstrating a cross government and cross sector way of working to ensure that we are fully coordinated in our approach.

Impacts and Opportunities at different times

31. The transitioning of sectors will happen at different times. Some parts of our economy could change at a faster rate as new opportunities emerge, and/or in different locations, which could present challenges for businesses and workers to successfully transition, in a timely manner, whilst acquiring new green skills. In addition the third sector, including volunteers, community organisations and community facilities has an important and, in many ways, unique role to play, but also faces distinctive challenges. The Climate Change Committee (CCC) balanced pathway provides us with the starting point for identifying a high-level timeline for the UK and Wales’ net zero policy and targets set out to date. While these provide some added clarity, there are still gaps across a variety of sectors. Further detail is provided in the sector specific sections.

Fig 1 Key Policy Milestones to 2050



32. We will need to consider the timing of the impacts, which will include the adoption of low-carbon processes, which could affect the size of the workforce and the skills required. Other areas to consider include the adoption of new technologies as well as cross cutting issues such as digital transition, leadership, management and people skills, which will all be important for the future workforce.

Impacts and Opportunities in different parts of Wales

33. Wales' economic and human geography are still shaped by the legacy of industrialisation and prior economic transitions: large urban and peri-urban areas. South Wales developed around coal extraction and heavy industry, and in North Wales settlements and the landscape have been heavily influenced by slate mining, agriculture and the sea. Wales has largely transitioned away from a resource extraction-based economic model, but manufacturing remains a proportionally larger part of the Welsh economy than in the rest of the UK¹². This includes carbon-intensive industry such as liquid natural gas terminals and oil refineries in Pembrokeshire and steelworks in Port Talbot and Newport, and fossil-fuel powered vehicle component and aeroplane manufacturing.

34. The impacts of the transition will be unevenly distributed across the country, with sectors most exposed to the transition being concentrated in specific regions, many of them already dealing with other socioeconomic challenges. High risk areas are likely to include Neath Port Talbot, which has the highest percentage of workers employed in heavy industry¹³ whilst also having the second highest rate of economic inactivity of all local authorities in Wales¹⁴. A just transition does not mean these jobs will leave Wales. It means we need to work with and transition these industries so they produce products in lower carbon ways. This will require new skills and knowledge.

35. There will also be opportunities around roles required to support the transition to net zero in sectors which are not location specific and will be needed across Wales, such as heat pump installation and jobs for retrofitting buildings.

36. In 2020, estimates suggested that there were approximately 11,000 direct workers in the low-carbon economy in Wales¹⁵. The majority of employees in the low-carbon economy work in 'energy efficient products', which include producing and installing energy efficient lighting, and energy control systems like smart meters. However, major changes are expected in the future around where new job opportunities will arise.



¹² [Developing-skills-for-a-just-transition.pdf \(wcpp.org.uk\)](#)

¹³ [Developing-skills-for-a-just-transition.pdf \(wcpp.org.uk\)](#)

¹⁴ [Economic inactivity rates \(excluding students\) by Welsh local area and year \(gov.wales\)](#)

¹⁵ [ONS Low Carbon and Renewable Energy economy \(LCREE\) survey 2020 - Low carbon and renewable energy economy, UK - Office for National Statistics \(ons.gov.uk\)](#)

The impacts and opportunities for emission sectors

37. The following section of this paper provides more context for each area for which we need evidence. We need to understand the impact and opportunities for businesses and communities across our green-house gas emission sectors. This includes housing, transport, industry and business, the power sector, agriculture, land use, the public sector and waste. This will allow us to align with greenhouse gas emissions sectors in line with Net Zero Wales and the Climate Change Committees balanced pathway¹⁶, which is our starting point for our Net Zero pathway development, to make the right decisions for the people of Wales. The emissions information provided in the following paragraphs is based on our initial analysis of 2020 greenhouse gas data¹⁷.

38. We are seeking your views and evidence. We are also keen to hear about case studies and examples of best practice and innovation.

39. Please provide evidence around the following questions:



Questions

Impacts and Opportunities

4. What evidence do you have on the main impacts and opportunities associated with meeting Wales' transition to net zero? Please provide evidence (or identify evidence gaps) for the short (2022 to 2025), medium (2026 to 2035) and long term (2036 to 2050).

5. Do you have any evidence to show what the well-being benefits and challenges for each sector could be?

6. What evidence do you have on how the transition in one sector may either accentuate or diminish a risk or opportunity in another sector?

7. What evidence do you have on the spatial impacts and opportunities across Wales?

8. What evidence do you have on the equality impacts of the transition? Where is there existing disparity which could be addressed via transition? What are the risks which need to be managed?

9. What evidence do you have on who is likely to be most affected by the transition?

10. Who are the key actors, governance, regulatory/policy, and technological drivers and inhibitors for transition of each sector?

11. Do you have any other evidence that will help identify the impacts opportunities across our emission pathways or are there evidence gaps?

¹⁶ [The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf \(theccc.org.uk\)](#)

¹⁷ [Emissions of Greenhouse Gases by Year \(gov.wales\)](#)

Residential Buildings

40. For a truly just transition, we need to understand the impact of reducing our carbon footprint on households and the challenges and opportunities for improving the wellbeing of all people.

Emissions associated with the residential buildings sector primarily cover emissions from direct fuel combustion in homes such as heating and cooking, which made up 97% of the sector emissions and 11% of total Welsh emissions in 2020.

41. The CCC balanced pathway includes a phase-out date for the installation of fossil fuel boilers in advance of 2035, in order for the uptake of low-carbon heat to be sufficient enough to decarbonise buildings by 2050. In addition, sales of oil boilers should be phased out by 2028, and gas boilers by 2033 in residential homes, with the exception of hydrogen-ready gas boilers in areas where the gas grid is set to convert to low-carbon hydrogen.

42. The cost-of-living crisis means that ensuring fairness in the delivery of decarbonisation is more urgent than ever. The current economic and social situation highlights the existing inequalities of our system through different dimensions. For instance, recent research suggests energy poverty is likely to have increased among ethnic minorities amidst the current energy crisis¹⁸. Preliminary research has drawn out this link highlighting that more research needs to be done¹⁹. Research has also shown that disabled people were more likely than the rest of the population to have reduced their spending on essentials like heating and food because of an increase in living costs, with four in ten disabled people cutting back in this area²⁰. Even prior to the recent increases in energy costs, disabled people were already more likely to live in a cold home over winter months. This may be because disabled people have higher costs of living due to extra disability-related costs. In particular, disabled people often face extra energy costs thus increases in fuel prices disproportionately affect the disabled population^{21, 22}.

43. Wealth across the UK, like in many economically developed countries, is unequally divided. The richest households own a disproportionate and increasing proportion of the country's total wealth, a trend that looks set to continue in the future²³.

44. HM Treasury (HMT) calculations show whilst the highest income households are responsible for around three times the carbon emissions compared to the lowest income households, spend a greater proportion of their income on carbon intensive goods and services such as heating and energy bills²⁴. Therefore, the current energy price rises that rely on fossil fuel sources will hit lower income households disproportionately, given that they spend a higher proportion on utility bills. So for Welsh households on lower incomes²⁵ there could be significant increases with up to 217,700 (98%) predicted to be in fuel poverty following the price cap increase of April 2022 and up to 91,700 (41%) predicted to be in severe fuel poverty²⁶. Even before energy price rises 196,000 households in Wales (14%) were estimated to be in fuel poverty, with 23% of households in the private sector estimated to be fuel poor in 2021 compared with 13% of both owner occupiers or householders in social housing. The remaining households on low incomes are all potentially at risk of fuel poverty (3,500, 2%)²⁷. It is therefore crucial that we look to both tackle the transition to net zero and the cost-of-living crisis hand in hand.



¹⁸ [Energy injustice and Ethnic Minorities in the United Kingdom - CREDS](#)

¹⁹ [The diversity penalty: Domestic energy injustice and ethnic minorities in the United Kingdom - CREDS](#)

²⁰ [Impact of increased cost of living on adults across Great Britain - Office for National Statistics \(ons.gov.uk\)](#)

²¹ [Disability Price Tag | Disability charity Scope UK](#)

²² [How is the cost of living crisis affecting disabled people in the UK? - Economics Observatory](#)

²³ [future-trends-report-wales-2021-narrative-summary.pdf \(gov.wales\) p19](#)

²⁴ [NZR_-_Final_Report_-_Published_version.pdf \(publishing.service.gov.uk\) p46](#)

²⁵ A lower income household is defined as one whose income is less than 60% of the median household income in the UK before housing costs as published annually in the HBAI report - Households below average income (HBAI) statistics (UK Government)

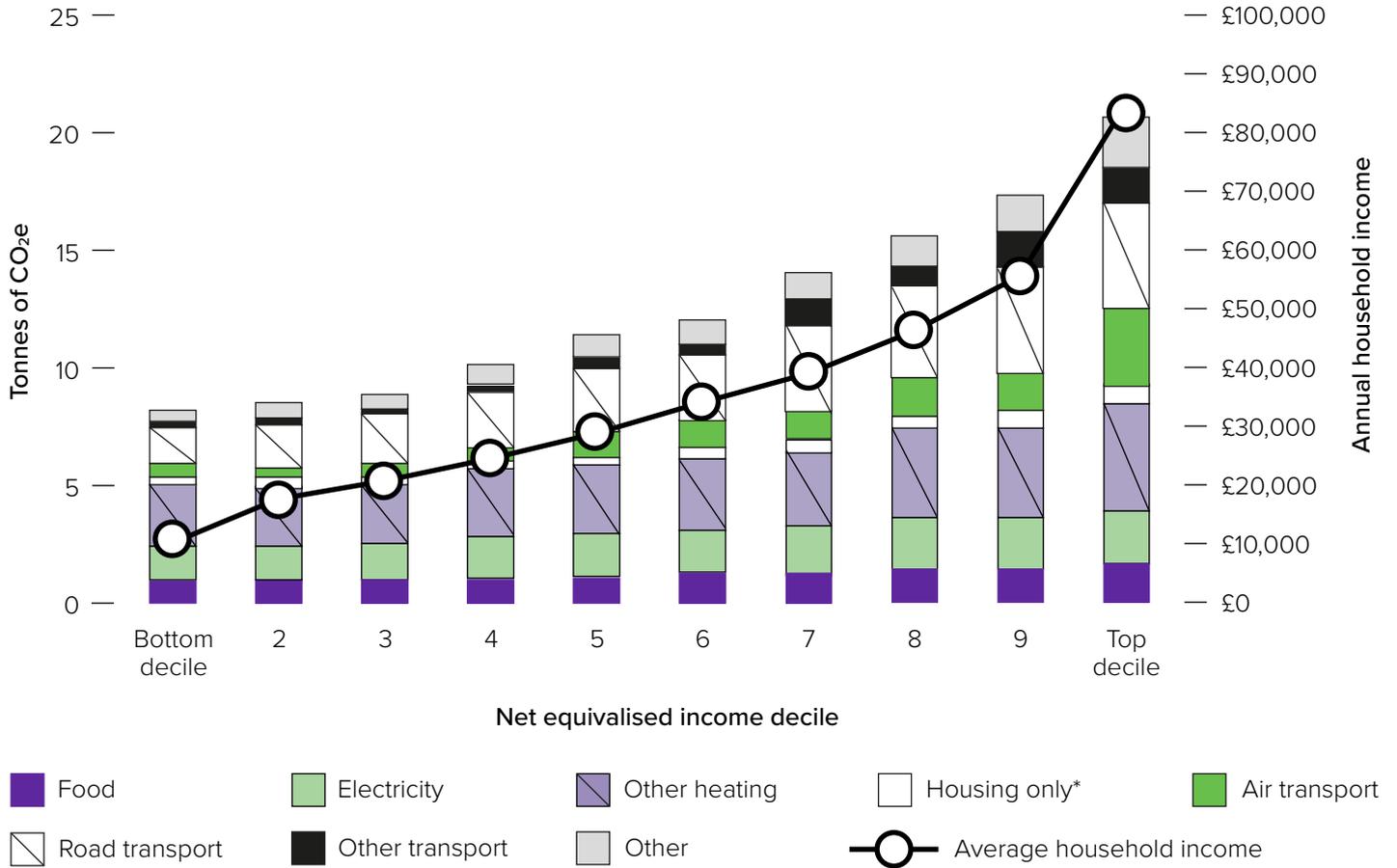
²⁶ [Fuel poverty modelled estimates for Wales \(headline results\): as at October 2021 | GOV.WALES](#)

²⁷ [Fuel poverty modelled estimates for Wales \(headline results\): as at October 2021 | GOV.WALES](#)

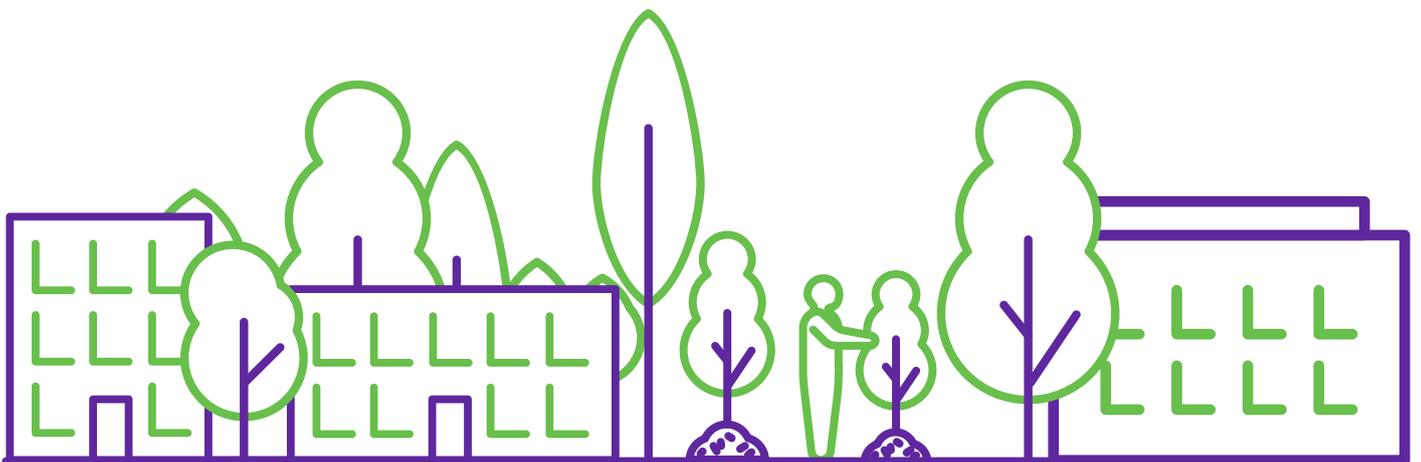
Household Emissions

In this document household emissions correspond with the HMT approach (see below). These emissions fall across multiple emissions sectors from Net Zero Wales as well as consumption emissions (see graph below)²⁸.

Figure 2: Average greenhouse gas footprint by net equivalised household income decile



Source: Net Zero Review Final Report, HM Treasury (2021), Chart 3.D, page 47



28 Net Zero Review Final Report, HM Treasury (2021), Chart 3.D, page 47

45. Decarbonising heat and buildings will mean households need to install energy efficiency measures as well as replacing fossil fuel heat sources with green alternatives. HMT analysis suggests that households' exposure will depend on a number of factors including dwelling size, with larger properties facing higher costs, and dwelling type, as detached properties are likely to require twice the investment of a high-rise flat²⁹. The cost of addressing poorer quality housing may disproportionately fall on the poorest in society, exacerbating the effects of fuel poverty.

46. There will also be key wellbeing benefits for society as we decarbonise. These could include improved health benefits, for example, lower numbers of respiratory GP visits through warmer homes³⁰. There is potential for significant numbers of new green jobs and training opportunities to be created around low carbon heat, retrofitting homes, more resource efficient construction and in the supply chain due to benefits of keeping and using resources in circulation e.g. recycled material captured in Wales. Programmes will be needed to upskill people already in the sector, as well attracting new entrants into the green skills arena. Research from the Construction Industry Training Board estimates that the UK will need 60,000 workers for heat pump installation in domestic and non-domestic buildings over the next seven years (compared to 900 installers in 2019)³¹.

Transport

47. Emissions in the transport sector include those within Wales along with Wales' share of emissions from international aviation and international shipping. The transport sector accounted for 15% of all Welsh emissions in 2020. The key transport decarbonisation policies cover transport demand management, including promoting a shift to more sustainable travel such as public transport and active travel and promoting the uptake of zero emission vehicles. In the transport sector, the CCC balanced pathway includes the UK phase out dates for sales of new petrol and diesel cars and vans, which is 2030 and 2040 for HGVs.

48. We need to understand and anticipate the impacts of the roll out of transport technologies, change in fuels (such as hydrogen) and changes in transport modes across all Welsh society. For instance, while the ability to charge Electric Vehicles (EVs) at home is seen as an advantage in terms of convenience and access to cheaper

electricity this option isn't available to all. Should government continue to subsidise public charging for electric vehicles?

49. The move to a decarbonised transport system must also be used to reduce inequality and make the systems we rely on every day fairer. However, this transition must also be fair in itself. In essence, we need a just transition that ensures that not only do we create a more equal and more sustainable transport system, but that the benefits and costs of this decarbonisation are shared fairly.

50. Around 15% of households in Wales do not have access to a car³², so rely on lift sharing, public transport or walking or cycling to get to work, school, medical appointments, social and leisure activities. Walking and cycling are not just the transport modes with the lowest or no emissions, at the lowest cost, but also offer a large number of wider environmental, economic, social and health benefits. Therefore, for shorter journeys, walking and cycling should become the natural modes of choice. To achieve this we need to create the conditions that make this safe and attractive. The extent to which these modes of transport are used varies. The 2021/22 National Survey for Wales found people living in rural areas are less likely to walk as a mode of transport than those in urban areas – with 20% of people in urban areas walking every day (13% rural). In addition, people with a limiting long-term illness or condition were less likely to walk every day (13%) for more than 10 minutes than those without a limiting illness (20%), whilst men are significantly more likely to cycle as a mode of transport compared to women³³.

51. A just transition for transport will be ineffectual and incomplete without achieving a public transport system that is affordable, accessible, and desirable to its users, including those in rural communities. Linked to this, the Welsh Index of Multiple Deprivation (WIMD) 2019 access to services domain consists of 17 indicators of travel time to key services by public and private transport, alongside an indicator of unavailability of superfast broadband. For both, the overall domain and for individual travel time measures, high deprivation was widespread across rural areas of Wales. There were also some deprived pockets near large urban areas. The local authorities with the highest proportion of small areas in the most deprived 10% in Wales for access to services were Powys (50.6%) and Ceredigion (50.0%).

29 [NZR_-_Final_Report_-_Published_version.pdf \(publishing.service.gov.uk\)](#)

30 [The impact on health of the Welsh Government Warm Homes Schemes | GOV.WALES](#)

31 [Net-zero-jobs.pdf \(resolutionfoundation.org\) Page 7](#)

32 [Welsh Government \(2022\). National Survey for Wales](#)

33 [Active travel \(walking and cycling\) | GOV.WALES](#)

52. Detailed analysis of The Welsh Index of Multiple Deprivation (WIMD) 2014 data has shown that areas identified as having particular access to services issues in terms of long travel times are mainly (but not exclusively) in the smallest settlements of less than 2,000 people, a category which altogether accounts for around 20% of the people in Wales. Areas with particularly long travel times also tend to have relatively high rates of car ownership. These are all factors that need to be considered when assessing the impact of our policies towards Net Zero.

53. Data from the 2019-20 National Survey for Wales indicates that certain groups already use the bus more than others³⁴. For example, whilst 16% of adults used the bus at least on a weekly basis, this percentage increases to 27% for young people aged 16–24 and to 21% of older people aged 65–74. Moreover, 23% of those in material deprivation used buses at least weekly, along with 19% of those with a limiting long-term illness or condition. In terms of train travel, evidence suggests well over half of older age groups report not using train services at all (61% of 65–74, 78% of 75+). 61% of people with a limiting long-term illness or condition also report not using train services.

54. Furthermore, evidence has demonstrated that disabled people are faced with additional ‘hidden’ travel costs related to their disability and thus emphasising importance of affordable transport³⁵. For example, the cost to cover carer’s travel in addition to their own travel, can result in more expensive travel costs. Moreover, accessibility reasons may result in disabled people travelling via train or taxis as opposed to buses – thus increasing the cost of transport³⁶.

55. Research undertaken by Titheridge and colleagues (2014) indicated the importance for affordable transport for some groups³⁷. The authors highlight that whilst the association between transport and poverty in the UK is complex, certain groups were at an increased risk of experiencing ‘transport poverty’. These groups include ethnic minorities, young people who are not in education, employment or training, students, older people and women.

56. The transport system should contribute to creating cohesive, vibrant and cohesive communities. Therefore, the opportunity for improving mobility and connectivity must be inclusive and contribute to the wellbeing of Welsh society. A recent report undertaken by NatCen Social Research (2019)³⁸ highlights the crucial role that transport policy more widely plays in reducing inequalities by aiding access to jobs, education and services. For example, the report highlights the importance of affordable transport for older people through connecting them to wider social networks. Moreover, the report indicates that additional barriers are faced by women when public transport is inadequate and unaffordable – affecting their employment and educational prospects. This can be due to variations in work patterns resulting from childcare commitments, often resulting in the need for multiple short journeys. As indicated in a report by Starkey and Hine (2014)³⁹ transport is a complex issue for women, with concern around safety, affordability, child-care related responsibilities and safety at play.

57. For new forms of transport new skills in both manufacture and maintenance will also be required. This is covered in the following Industry and Business section.

Industry & Business

58. The industry and business sector accounted for 41% of Welsh emissions in 2020. Industrial emissions in Wales are dominated by iron and steel production and petroleum refining. Wider industry including manufacturing and construction, solid fuel production, cement, gas production and distribution, operation of machinery, minerals and mines, chemical production, the processing and manufacture of food and drink as well as paper and pulp also account for a significant proportion of emissions.

59. There is the potential for the majority of industry to decarbonise but this will require significant transformation of processes for some industries and the speed of the transition will have an impact on jobs. The process of transitioning to a net zero future will require re-skilling and the size of the workforce in specific industries may change.

34 [National Survey for Wales: results viewer | GOV.WALES](#)

35 [Disabled people’s costs of living : more than you would think \(lboro.ac.uk\)](#)

36 (PDF) [Mode choice of older and disabled people: a case study of shopping trips in London | Jan-Dirk Schmöcker, Robert B Noland, Michael Bell, and Michael Bell - Academia.edu](#)

37 [Transport and Poverty: a review \(ucl.ac.uk\)](#)

38 [www.assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/953951/Transport_and_inequality_report_document.pdf](#)

39 [www.assets.publishing.service.gov.uk/media/57a089f5ed915d622c00049f/odi-unhabitat-slocat-transport-poverty-review-starkeyhine-141105.pdf](#)

It is highly likely that some jobs or job types will be replaced, while others are created⁴⁰ and others relocated offshore. The impact of this will vary for different groups of people. For instance, over 3 times as many males are employed in the manufacturing industry in Wales relative to the number of females⁴¹.

60. The current Welsh industrial structure generates a higher carbon footprint than the UK average⁴². This includes carbon-intensive industry such as liquid natural gas terminals and oil refineries in Pembrokeshire and steelworks in Port Talbot and Newport, and fossil-fuel powered vehicle and aeroplane manufacturing. Wales has a number of local authorities where such carbon-intensive employment is concentrated. It is likely, given current trends, that some sectors will be affected by and need to adjust to decarbonisation sooner than others. These sectors include home efficiency and decarbonisation of heat; the automotive industry and clean energy⁴³.

61. In addition, there could be knock-on or indirect effects of decarbonisation on employment and skills in the wider economy because the impact of decarbonisation of a particular sector could have an impact on wider employment associated with that sector. For example, where there are 156,400 workers employed in vehicle manufacturing in the UK, there are 797,300 workers in the broader automotive sector including retail and finance⁴⁴. To enable the transition to electric vehicles (EVs), there are gaps in the automotive sector workforce that will require retraining and upskilling of current workers, and a push in new recruitment⁴⁵. 'Indirect/induced' effects could also affect local 'foundational economy' services through reduced demand or people moving away⁴⁶. For circular economy and resource efficiency see Waste section.

62. It is important to ensure any increased demand for more technical skills and the creation of more jobs serves to benefit all population groups. Older people, disabled people and ethnic minority communities may be less well placed to take

advantage of the new opportunities available. Disabled people in Wales, for instance, are more likely to have no qualifications than non-disabled people and are less likely to hold qualifications above level 2. Similarly, working age adults from ethnic minorities (excluding White minorities) in Wales are more likely to have no qualifications than White (including White minorities) working age adults⁴⁷. In terms of apprenticeships in Wales, evidence suggests they are strongly gender-segregated, such that in 2016/17 there were only 360 female apprentices on the construction and engineering programmes, for example, compared with 8,330 male apprentices⁴⁸. In addition, there continues to be a substantial disability employment gap in Wales⁴⁹, whilst employment rates remain lower for Black, Asian and Minority Ethnic groups⁵⁰.

Heat and Power

63. The electricity and heat production sector covered 16% of Welsh emissions in 2020, and comprised of emissions from the production of electricity in power stations heat utilised as a by-product and heat from gas derived from sewage and waste. 99.8% of sector emissions were from power stations with the remainder attributed to power stations using gas from sewage treatment works, municipal solid waste, and landfill sites.

64. The CCC in its advice to Welsh Ministers included key phase out dates where no new unabated gas plants should be built after 2030, and the burning of unabated natural gas for electricity generation should be phased out entirely by 2035. Any gas plant built before 2030 should be made ready for a switch to Carbon Capture and Storage (CCS) or hydrogen (this should be both technically feasible and the plant should be located in a part of the country that will be served by the necessary infrastructure)⁵¹.

65. In 2021 under 1% of workers in Wales were employed in the electricity and gas supply sector⁵². In transitioning the Green Jobs Task Force

40 [Developing-skills-for-a-just-transition.pdf \(wcpp.org.uk\) page 8](#)

41 Nomis (2022). Workforce jobs by industry (SIC 2007) and sex – unadjusted

42 [PIP007-Wales-Productivity-Challenge-FINAL-011221.pdf](#)

43 [skills-and-training-for-the-green-economy.pdf \(cbi.org.uk\) / Developing-skills-for-a-just-transition.pdf \(wcpp.org.uk\)](#)

44 [SMMT-Motor-Industry-Facts-Sept-2021.pdf](#)

45 [2040_Gigafactory_Report_FINAL.pdf \(faraday.ac.uk\) page 20](#)

46 [Developing-skills-for-a-just-transition.pdf \(wcpp.org.uk\) page 10](#)

47 Welsh Government (2022). Levels of highest qualification held by working age adults: 2021

48 Equality and Human Rights Commission (2018). Is Wales Fairer?

49 Welsh Government (2022). Summary of economic activity in Wales by year and disabled status, from April 2013

50 Welsh Government (2022). Summary of economic activity in Wales by year and ethnicity

51 [Advice-Report-The-path-to-a-Net-Zero-Wales.pdf](#)

52 [Employee jobs in Wales by industry and year \(gov.wales\)](#)

highlighted that according to industry estimates, the UK's offshore wind sector could employ around 70,000 workers (40,000 direct jobs and 30,000 jobs in the supply chain) by 2026. This compares to around 26,000 presently (15,000 direct jobs and 11,000 jobs in the supply chain)⁵³. They estimate that employment should grow in all phases of the project lifecycle but particularly in construction and installation, and in operations and maintenance with demand strongest for technicians and engineers as a result.

66. Wales will need to maximise these opportunities presented by transitioning towards renewables, providing opportunities for skills and employment. For instance, the Aberthaw Power Station site provides an example of the redevelopment of an existing coalfired generation facilities into a green energy site with the potential to create thousands of jobs⁵⁴.

Agriculture

67. Agriculture accounted for 15% of all Welsh emissions in 2020. The CCC balanced pathway is aligned with a 20% cut in demand through dietary shift away from meat and dairy by 2030, rising to 35% by 2050 for meat only. A 50% cut in food waste by 2030 and 60% by 2050. The balanced pathway also includes increasing average crop yields, livestock stocking rates on grassland and shifting horticulture indoors. In addition, it includes a 50–75% take up of low carbon farming practices for both behavioural and innovation and the electrification and take up of hydrogen for agricultural machinery.

68. The impacts and opportunities to provide a stable and sustainable future for the farming industry and rural communities in Wales in a way that tackles climate change and biodiversity loss needs to be understood. Agriculture is a carbon intensive sector and accounts for just over 3% of the Welsh workforce in 2019⁵⁵. However, this does not take into account the supply chain workforce involved in the manufacture and processing of food. The Green Jobs Task Force have identified occupations, skills requirements and qualifications to support change of the sector such as soil husbandry, carbon auditing and advice, tree and biomass management, conservation and biodiversity⁵⁶.

69. There could be impacts to existing agricultural and food businesses in Wales if national and international consumer diet choices change and people shift to eating less meat and dairy. A push for local food to support decarbonisation does not necessarily always help from an emissions and cost perspective. “Local food” does not always have a lower carbon footprint. Logistics, with the exception of air freight, is often the smallest part of a product's carbon footprint, so local production, depending on the detail of the production process, can have a higher carbon footprint than the same product produced far away. “Local food” can be more expensive than alternatives because the production process is not the economically most efficient. This means “local food” may not alleviate the cost of living crisis for people, as it is usually more expensive than alternative choices sold in mainstream retail like supermarkets.

70. UK consumers are currently facing rapid food inflation, with food and non-alcoholic beverage prices rising by 14.6% in the 12 months to September 2022⁵⁷. Analysis by the National Institute of Economic and Social Research suggests that the lowest income decile households in Wales spend over a quarter of their income (26.2%) on food and energy, compared to the highest income decile who spend 11.8% of household income – this means that the poorest households in Wales are likely to be hit hardest by price increases to necessities such as food⁵⁸. ONS survey data shows disabled people, those living in the most deprived areas, those with lower incomes, and those in rented housing are more likely to have reduced their spending on food and essentials because of their increased costs of living⁵⁹.



⁵³ [Green Jobs Taskforce \(publishing.service.gov.uk\)](https://publishing.service.gov.uk) page 19

⁵⁴ [Cardiff Capital Region's green energy plans for Aberthaw Power Station set to create thousands of jobs - Cardiff Capital Region](#)

⁵⁵ [Workplace employment by industry and area \(gov.wales\)](https://gov.wales)

⁵⁶ [gjtf-annex.pdf \(publishing.service.gov.uk\)](https://publishing.service.gov.uk) page 16

⁵⁷ [Consumer price inflation, UK - Office for National Statistics](#)

⁵⁸ [How is the cost of living crunch affecting heating, eating and housing in Wales? \(senedd.wales\) / UK-Economic-Outlook-Winter-2022-1.pdf \(niesr.ac.uk\)](#)

⁵⁹ [What actions are people taking because of the rising cost of living?](#)

Land Use and Forestry (LULUCF)

71. At -0.6 MtCO₂e, LULUCF provided a net reduction in Welsh emissions in 2020. The emissions reduction is largely due to the action of forest land removing carbon dioxide from the atmosphere. However, the sector comprises both sinks (activities that remove carbon dioxide from the atmosphere) and sources of emissions. In 2020, the largest sinks were existing forest land (68%), harvested wood products (11%), and cropland conversion to grassland (8%). The largest emission sources in the sector arise from grassland conversion to cropland (35%), existing cropland (14%), existing settlements (13%) and grassland conversion to settlements (9%).

72. The CCC balanced pathway requires 4,500 hectares of forestry per year by 2025, rising to 7,500 hectares by 2035. It also requires restoration and sustainable management of our peatland.

73. Policy measures aimed at increasing forestry/woodland and restoring or increasing peatland will provide wider benefits for farmers and society. For instance, alleviating the impact of climate change such as flooding and wildfires to at risk communities and providing improved water regulation. They provide benefits for biodiversity and ecosystems, economic benefits for farmers and the rural economy and also provide societal recreational benefits improving health and well-being. Initiatives such as the National Forest for Wales will do this by connecting and enhancing woodlands and improving access to green space and woodlands for all people in Wales, which in turn also provides an opportunity to highlight the outdoor space in Wales for physical activity, social isolation and mental health benefits. There are also opportunities from well managed resilient ecosystems relating to blue growth. This sector could potentially also see significant expansion across environmental and conservation professionals, such as countryside rangers, forestry workers and horticultural tradespeople and also skilled machinery operators, restoration practitioners, drone operators, hydrologists and ecologists. The Green Skills Task Force reported⁶⁰ that there are currently few existing training opportunities or qualifications in peatland or other restoration and there will be a need to increase training schemes to meet the labour demand.

74. Forestry and the timber industry also have great potential to mitigate climate change by using our timber for higher value products that can capture and store carbon for instance by using timber in construction. The timber industrial strategy will consider how we can develop and sustain the high value production and processing of Welsh wood. This will have impacts for those currently working in the sector and for the workforce and skills that will be needed in the forestry and construction sectors.

Waste

75. At 1.0 MtCO₂e, Waste accounted for 3% of Welsh emissions in 2020. Sources are primarily landfill and waste water treatment but measures around resource efficiency will affect most sectors. The CCC balanced pathway includes a 51% fall in edible food waste by 2030 and 61% by 2050; a 33% reduction in all waste by 2037 (UK); and 70% recycling in Wales by 2025. For Wales, it also includes a 2025 ban on all wastes and 80% methane capture and 10% oxidation by 2050 (UK). Finally, it includes 21% improvement in wastewater treatment by 2030 and composting improves by 23% (UK data)⁶¹.

76. How we manage resources also has a significant impact on other sector emissions within Wales and internationally. Given 45%⁶² of global emissions come from the goods and products made and used every day, we need an approach which keeps resources in use and avoids all waste: a circular economy.

77. This means accelerating actions to increase resource efficiency, re-use, repair and re-manufacture across all sectors of the economy, seeking to retain and increase good quality jobs across Wales, and where appropriate, substitute high carbon, energy intensive materials with sustainable ones, including natural materials. Research suggests that the growth of circular economy could create between 54,000 to 102,000 net jobs across all regions in the UK by 2030⁶³. A significant proportion of electrical products (over 80%) consumed in the UK are imported. Shifting towards more circular economy activities has the potential to decrease demand for imported goods and increase jobs locally, especially through repairs. These workers will require skills in repair and manufacturing.

⁶⁰ [gjtf-annex.pdf \(publishing.service.gov.uk\) page 16](#)

⁶¹ [The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf \(theccc.org.uk\)](#)

⁶² [Net Zero Wales | GOV.WALES page 25](#)

⁶³ [Green Jobs Taskforce \(publishing.service.gov.uk\) page 25](#)

78. The enhanced circularity of resources and slowing of material flows through reduction, reuse and repair of products, recycling and sharing of assets will potentially lower the demand for fossil fuels and other non-renewable primary resources. Therefore the workers, business and countries that rely on the extraction and export of fossil fuels, metals and minerals could be adversely affected by the circular economy transition.

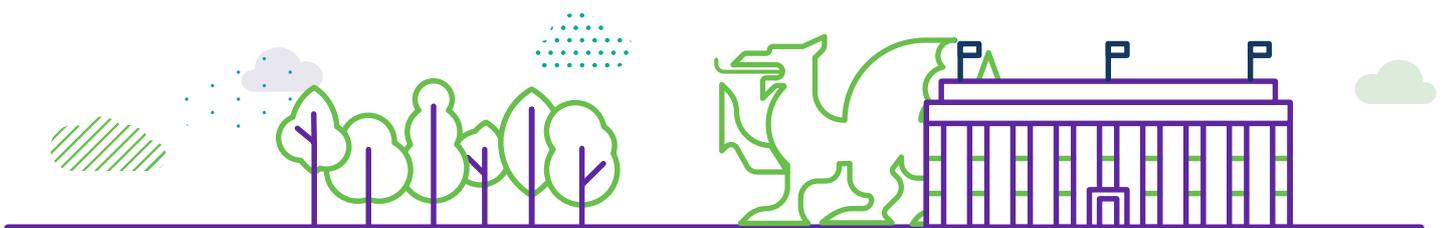
Public Sector

79. In terms of the greenhouse gas inventory the public sector only covers emissions from public sector buildings, which is small. However, the scope and influence of the public sector goes beyond its immediate emissions and this is why in Wales we have an ambition of achieving a carbon neutral public sector by 2030.

80. Based on the evidence available from public sector organisations⁶⁴ we believe these emissions are broadly split across procurement (60%), buildings (20%) and mobility and transport (20%). There are a number of factors that will require significant public sector involvement as the public sector holds significant levers, however it also has an important leadership role in its local communities. The public sector holds levers at UK, Wales and local government level.

81. Wales needs to play its part by changing what it buys, consumes and invests in, since these choices can drive unethical practices and environmental degradation overseas, pushing problems up the supply chain, destroying global habitats and creating social problems. Procurement can help ensure supply chains are fair, ethical and sustainable, which is important for a number of reasons, including Wales' legislative obligation under the WFG 2015 to carry out sustainable development aimed at achieving the well-being goals, one of which is a Globally Responsible Wales. Similarly, the Public Sector Equality Duty (PSED) requires accounting for potential equality considerations at the different stages of the procurement cycle.

82. The impacts of just transition on delivery of services and the workforce – third largest employer in Wales – whilst not yet understood may have significant impact.



64 Net zero carbon status by 2030: A route map for decarbonisation across the Welsh public sector (gov.wales)

Support for a Just Transition

83. This section provides the cross-cutting mechanisms needed to support and drive a just transition for all of Wales.

Skills

84. Whilst many of the skills required for the net zero transition are specific to certain industries or sectors, the transition will require and support an array of skills not unique to green roles. Science, Technology, Engineering and Mathematics (STEM) skills will underpin jobs that are key to taking forward transition to net zero Wales. For instance, scientists will be needed to innovate the technologies in the field of research and innovation, engineers will be needed to utilise systems thinking to approach the complex challenges of decarbonisation. Beyond STEM the Green Skills Task Force identified several other areas that are also critical for the workforce to deliver net zero. These included:

- digital and data skills required for industries such as renewable electricity generation that will require sources better use of data and digitisation skills to address intermittency and storage flexibility
- project managers will be needed across all industries in the transition to net zero to ensure timescales are managed and budgets are met
- educators, trainers, and assessors are needed to mainstream green skills provision across both the public and private sector
- leadership skills are needed to drive cultural change for a green economy, while influencing and guiding the transition as new technologies, behaviours and systems need embedding.



Social Infrastructure

85. Our social infrastructure needs to be resilient and able to adapt to the changes that climate change will bring. Social Infrastructure includes a wide range of services and facilities such as those relating to health, education, childcare, culture and faith. These services underpin Welsh society and will play an essential role in supporting a just transition to net zero.

86. Our social infrastructure must also play an important role in driving the just transition. This can be understood in terms of driving the transition itself, for example by promoting carbon literacy and creativity in our museums and cultural centres, but also in terms of driving the emphasis on justice by delivering universal services, based on the principle of equality, such as the NHS.

87. In creating a just transition, there is an opportunity to positively impact the Healthy Weight: Healthy Wales agenda, through behaviour change and further awareness of how our partners' actions can influence change.

Third Sector, Volunteers and Communities

88. It is essential that civil society is recognised as a crucial part of our social infrastructure and fully included in the planning and delivery of the framework.

89. The third sector, volunteers and communities have a variety of roles to play, including as advocates and agents of change. There are numerous voluntary and community organisations, of all sizes, for which tackling climate change is central to their remit and ethos, plus many more who share similar values whatever their core purpose may be. Such organisations are frequently innovators and early adopters of new technologies and greener ways of working.

90. The third sector reaches deeply into every part of Wales and also constitutes a very substantial workforce in its own right, including both paid staff and volunteers, albeit one that is scattered across thousands of organisations.

91. The sector's contribution and potential is perhaps most strongly felt at the very local level, through community organisations, local volunteering and neighbour-to-neighbour support. This was powerfully demonstrated during the Covid

pandemic, in ways which may well provide pointers for how communities could best contribute to delivering Just Transition to Net Zero.

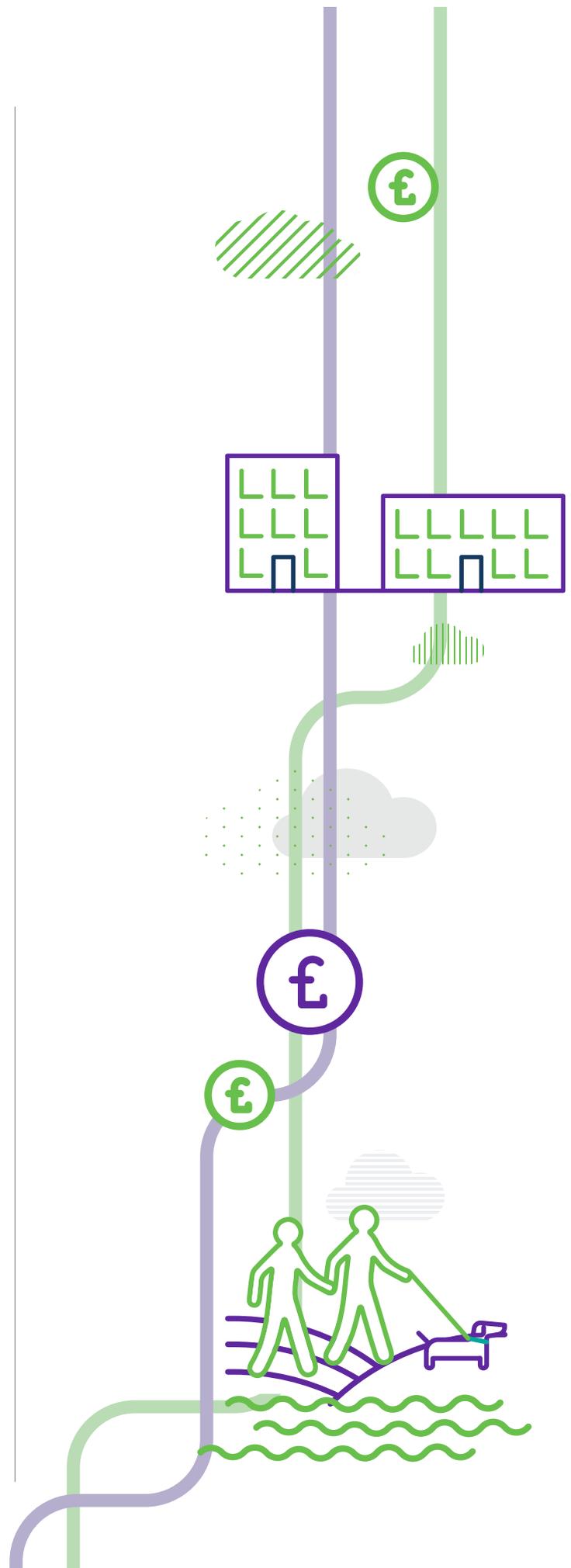
92. Community facilities are often at the centre of local action and can also face obvious challenges. They typically have similar characteristics to residential buildings, school halls etc., such as a large volume to heat and an antiquated system to do it with.

Finance

93. Finance will be a vital enabler of climate action across the whole of the economy. For Wales to deliver a just transition for all, it will need to enable action to deliver our climate goals in a way that is fair for all. Financial mobilisation can help deliver essential emission reductions, macroeconomic benefits and investment returns, but it can also be a driver of more and better jobs, revitalised communities and reduced inequality across the country⁶⁵. This means mobilising public, private and community finance in new and ambitious ways.

Questions

- 12.** What evidence do you have that demonstrates the role of finance and/or social infrastructure in facilitating or delivering a just transition?
- 13.** What evidence and information is there across Wales to identify and develop required net zero skills?
- 14.** What evidence is there to demonstrate the additional support and information needed to identify and develop required net zero skills?
- 15.** Are there any particular gaps in supporting just transition?
- 16.** What evidence do you have to show effective involvement of people, communities and organisations to enable their participation in developing and implementing a just transition? Including, enabling participation that fully represents the perspectives of diverse communities in Wales and specifically those with protected characteristics.?



65 [Financing a Just Transition - Grantham Research Institute on climate change and the environment \(lse.ac.uk\)](#)

Next Steps

94. We are keen to talk to people and engage extensively with our Call for Evidence. Responses to the Call for Evidence will be analysed and evaluated to:

- inform Wales' pathway development to reach net zero by 2050
- help develop a *Just Transition Framework* which, if appropriate, we will publish in 2023.

The responses will also form an important part of the evidence base for climate change policy development in Wales. We would be grateful for your general comments as well as responses to specific Call for Evidence questions.

