



## Minister for Climate Change and Deputy Minister for Climate Change

### Evidence Paper for the Climate Change, Environment and Infrastructure Committee, November 2022

#### Decarbonisation of privately-owned homes

1. Heating constitutes a major part of the decarbonisation challenge, as it accounts for almost half of UK energy use and a third of carbon emissions.
2. Net Zero Wales sets the context for decarbonisation of Wales. We will publish a heat strategy for Wales in 2023 which will build on Net Zero Wales with more detailed policies and proposals to decarbonise heat. We will set out how we intend to take forward policies and programmes to decarbonising heating and cooling in buildings, alongside heat related emissions from the industrial sector.
3. Net Zero Wales also sets out our vision for new homes which are built low carbon and to the highest standards. To reduce emissions, we need to set challenging housing retrofit standards so people living in these in homes are able to manage energy use efficiently. Retrofitting existing homes is a complex and iterative process. Homes are likely to need to go through several stages of retrofit work to reduce their carbon incrementally, embracing innovation and experimentation over time.
4. We need to deploy energy efficiency as part of whole building approach to reduce carbon emissions. In future there will be a reduced role for gas in heating, being replaced by low carbon heat technologies such as heat pumps, heat networks, and potentially hydrogen.

#### Decarbonising Homes

5. The Future Generations Commission's report "Homes Fit for the Future: the Retrofit Challenge" estimated the costs of decarbonising Welsh homes at circa £15 billion, broken down as follows.

Tenure/ status	Number of homes	Average investment required per home	Total Investment (bn)
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<b>Social housing</b>	230,000 (~21,000 are in fuel poverty)	£24,000	£5.52
<b>Fuel poor housing</b>	155,000 (~21,000 are socially rented)	£35,984	£4.82
<b>Private Rented Sector</b>	180,000 (~36,000 are in fuel poverty)	£4,700	£0.67
<b>Owner Occupier</b>	924,000 (~99,000 are in fuel poverty)	£4,525	£3.73
<b>Total</b>		-	<b>£14.75</b>

6. The areas requiring the greatest investment are social housing and fuel poor housing which are targeted by the Optimised Retrofit Programme and the Warm Homes programme respectively.
7. In terms of funding, the Welsh Government has agreed to prioritise investment in social housing decarbonisation through funding made available to social landlords through the Optimised Retrofit Programme. We are starting in social housing before moving to other tenures as this is where we have the most levers.
8. Initially the investment in social homes was targeted to be £220 million over the term of government, with around £70 million invested to date. However, this year £60 million has been allocated to social landlords and indicative funding of £70 million per annum provided for the following two financial years, increasing the overall budget to £270 million.
9. Channelling Optimised Retrofit Programme investment through social landlords supports a 'testing and learning' approach to how to decarbonise homes effectively and efficiently. As well as evaluating the technical and tenant aspects of the work, actual costs will be monitored and used in the assumptions of future models of residential decarbonisation. This will provide the springboard to start the decarbonisation of homes in other tenures from 2023.
10. In Wales, we have a strong history of working in partnership with social landlords to provide high-quality homes for our most vulnerable households and communities. We are using those trusted relationships to ensure, in a new and rapidly evolving market, we can assure ourselves of the quality and appropriateness of interventions. Working with the social housing sector first also helps support the growth of the skills base and offers opportunities to develop the secure materials and supply chains needed to decarbonise Welsh homes at scale and pace.
11. We are clear that in terms of retrofit, there are few simple solutions and no one size fits all for the housing stock here in Wales. Considering this, we are committed to getting a clear understanding of the issues and to working with partners across the sector to ensure our approach is evidence based and, while ambitious, is ultimately achievable.
12. We are gathering evidence and collecting baseline data from properties currently being retrofitted. This data will ensure we can measure the impact of

our investment activities. Only through an evidence-based approach can we ensure future investment relies on solutions which we can be confident work across different homes and different tenures.

### Privately owned homes

13. Decarbonisation of privately owned homes, those in the privately rented and owner-occupied sectors is undoubtedly more complex. For example, in the private rented sector there are significant numbers of landlords compared to the discreet group represented by Registered Social Landlords. Many private rented sector landlords own only 1 or 2 properties and may not keep these properties for long periods and may not have records of the investments previous owners have made in the homes. This contrasts with the Registered Social Landlords who keep stock over the entire lifetime of the building and have records of their investments over long periods of time.
14. Moreover, we know innovative funding models will be needed to pay for the decarbonisation of these homes, the costs of which cannot rest fully on Welsh Government. However, we are confident the learning from Optimised Retrofit Programme and other schemes will put us in a strong position to start the work in other tenures, along with learning from the wider system such as other government schemes and our expert Decarbonisation Implementation Group,
15. In terms of privately owned homes, initial actions have begun to be considered. Welsh Government has for example started evaluating a variety of options for financing retrofit in the owner-occupied and private rented sector. These incorporate both grant funding and repayable finance. The financial capacity of the end user will help direct them to the most appropriate financing solution in the medium term.
16. Some of the models for financing which will be considered include Property Assessed Clean Energy, in which the loan is linked to the property rather than individual; low interest loans; equity release loans and green mortgages. A grant mechanism may also be needed for lower income households although, for those in fuel poverty that meet the scheme criteria, the Warm Homes Programme NEST has been providing support.
17. Decarbonising and improving the energy efficiency of homes in Wales across all tenures, and how we might fund this, is complex. There are significant challenges in terms of the infrastructure needed and funding. Welsh Government continues to work with partners to explore approaches. Specifically, we have recently begun work with the Development Bank of Wales looking at funding options for the owner occupied sectors. We are also bringing together a panel of experts from across the finance sector to work with us on evaluating options and shaping those viable funding solutions.
18. There are also wider impacts to be taken into consideration. For example, the Minimum Energy Efficiency Standard which apply in the private rented sector are not a devolved matter. The UK Government is currently reviewing responses to a consultation in respect of the Minimum Energy Efficiency

Standard, which private landlords will be expected to meet. Pressing ahead in Wales, ahead of decisions taken at a UK level, risks pre-empting the results of the consultation, meaning landlords may have to undertake multiple works to meet both requirements.

19. This in turn risks affecting the quality of life of private tenants, and potentially pushes private landlords into selling their properties rather than undertake remediation works, reducing the number of private rental properties in Wales. The low rental values in Wales and therefore the financial capacity of landlords to undertake significant improvement work on homes in terms of the Minimum Energy Efficiency Standard target has been raised with the Department for Business Energy and Industrial Strategy and should be considered by them in developing the response to the consultation.
20. To mitigate these issues, we are currently exploring a project to support private landlords in decarbonising their properties, a tie in between the Leasing Scheme Wales and Optimised Retrofit Programme. Under proposals currently being explored homes entering the Leasing Scheme Wales would be eligible for grant funding to improve the energy efficiency of the property.
21. We recognise the interconnected nature of the challenge of the decarbonisation of homes and tackling fuel poverty. We are working to ensure coherence across these policy areas.
22. Many of those in the “able to pay” sector are keen to begin their home’s decarbonisation journey. To support them and provide confidence they are taking the right steps for their homes, as well as provide wider advice, support and guidance to all those involved in residential decarbonisation, there will also be an investment into a new a Housing Net Zero Carbon performance Hwb. The ‘Hwb’ brings together expert guidance on all aspects of decarbonising residential homes on a ‘For Good’ basis. Again, in the first instance, the Hwb will provide social landlords with access to expert advice, research and development, materials guidance, procurement, and best practice under one virtual roof. However, after the first year, it is anticipated the services offered by the Hwb will be expanded to help private landlords and homeowners too.

#### Welsh Quality Housing Standard

23. The Welsh Quality Housing Standard (WHQS) was introduced in 2002 to set the standard for the 230,000 social homes in Wales and has been encouraging social landlords to improve energy efficiency. The Welsh Government has provided £2 billion of funding since 2004 to support the original WHQS programme. The current SAP 65 (EPC D) target has been in place since 2008 and as at 31 December 2020, 99% of the social housing stock has achieved the standard.
24. A new WHQS standard (WHQS2023) was consulted on over the summer months and closed on the 3 August. We continue to monitor the maintenance of the existing WHQS whilst we drive forward the development of an updated

version. The proposal for WHQS2023 introduces more energy efficiency elements than the previous standard and will require landlords to update their properties to achieve net zero carbon emissions as well as making homes affordable to heat. The main challenges to the new standard focus on the availability of funding, the skills capacity within the country to deliver the required work, the ambitious timeline being proposed and the need for robust tenant engagement to facilitate the delivery of the standard. The results of the consultation are currently being analysed by external consultants and are expected in November this year. Following consideration of the responses a final standard will be published sometime next year.

## Decarbonising the Public Sector by 2030

25. The Welsh Government has set out its route map for decarbonisation across the Welsh public sector in a strategic overview of the key priority areas for action and milestones needed for the Welsh public sector to reach net zero greenhouse gas emissions by 2030.
26. The Welsh Government has introduced a strong framework to support this commitment which includes:
- The [Wellbeing of Future Generations \(Wales\) Act 2015](#), which directs us to consider long-term persistent problems such as poverty, health inequalities, and climate change,
  - The [Climate Emergency Declaration](#) made by Welsh Government in 2019,
  - The first statutory Low Carbon Delivery Plan, [Prosperity for All: A Low Carbon Wales](#) was published in 2019,
  - Prosperity for All: A Climate Conscious Wales, our most recent climate adaptation plan was published in 2019,
  - Net zero carbon status by 2030: public sector route map,
  - Public sector net zero reporting guide,
  - The Programme for Government, and
  - [Net Zero Wales Carbon Budget 2 \(2021 to 2025\)](#) was published in October 2021.

### Public Sector Reporting

27. The Welsh public sector emissions reporting process was set up in 2021 with the publication of the [Net Zero carbon status by 2030: public sector route map](#) and the [Public sector net zero reporting guide](#) to enable all public sector organisations in Wales to annually report their carbon emissions. The Welsh Government published the [all-Wales 2019/20 baseline with the results for 2020/21](#) in July 2022. These figures are:

Public Sector Emissions 2019-20 and 2020-21 (kt CO <sub>2</sub> e)							
	Agriculture	Buildings	Transport	Waster	Supply Chain	Land Use	Total
<b>2019-20</b>	2.1	581.4	301.1	66.8	2809.7	-408.4	3353
<b>2020-21</b>	2.1	520.9	268.1	61.9	2839.3	-413.2	3279

28. The deadline for the submission of data for 2021-22 was 9 September. The data is now being analysed and will be published in December 2022.
29. Effective measurement and reporting of carbon emissions is essential for the Welsh Government and public sector in Wales to meet our ambition of a collective net zero by 2030. The annual reporting of emissions enables us to undertake a number of functions:
- Demonstrate overall results
  - Effectively monitor the performance of decarbonisation actions plans
  - Inform future actions
  - Highlight areas of concern
  - Identify where we need to further our understanding and refine our calculation of carbon emissions
  - Define the size of the challenge to deliver this ambition.
30. The public sector reporting is an iterative process, with continuous engagement across the public sector to collate feedback and implement improvements for the next reporting cycle. It ensures we have a standard reporting process for carbon emissions across the public sector, with better data quality and monitoring to support decision making.
31. Reporting by the public sector is voluntary, and the level of engagement has been high. Over 50 organisations across the public sector reported their Carbon emissions from 2019/20 and 2020/21, a return rate of 80%. For 2021/22 we have already had 67 organisation respond by the deadline, a return rate of 95%. The current process utilised our revised guidance which implemented valuable lessons from the first two years of reporting.

### Collective Ambition

32. The increasing number and maturity of decarbonisations plans, the level of engagement on emissions reporting and the level of resources and people involved demonstrates the Commitment from across the Welsh public sector to achieving our collective net zero 2030 ambition. There are a number of forums / working groups across the public sector to co-ordinate and support the delivery of decarbonisation plans. This includes the Local Authorities Climate Change Strategy Panel and the Health and Social Care Climate Emergency.
33. The high level of engagement on the public sector emissions reporting further demonstrates the level of commitment to the collective ambition of net zero by 2030.

### Leadership

34. The public sectors commitment to net zero and the significant work being done to deliver on the 2030 ambition demonstrates its clear leadership role for the rest of Wales.

35. The Welsh Government has a leadership role for Wales and for the public sector. This is reflected in the creation of a department for Climate Change and the remit of the Climate Change Portfolio Board. The Board includes all areas of Welsh Government who contribute to tackling, or are impacted by, climate change. It ensures mandate holders (those with relevant policy or operational responsibilities) are accountable for their actions and we remain on course to deliver the desired outcomes in accordance with our legislative targets.
36. The Welsh Government will shortly be publishing its Net Zero Strategic Plan setting out how it will achieve Net Zero as an organisation. The Plan recognises the considerable work already made to reduce our emissions, for example the introduction of sustainable travel choices (including the option to lease ultra low carbon vehicles) and the 76% reduction in emissions from our administrative estate over the last 11 years. It will also galvanise further work to achieve the ambition of a collective net zero public sector by 2030.
37. The Welsh Government has supported the wider public sector by establishing effective programmes to support the collective vision, through leadership, advice and financial assistance. For example, since 2019 the Welsh Government has funded the WLGA to run a support programme for Local Authorities (LA's), focussing on leadership as the key driver for change, and supporting the development of key Local Authority commitments. The leadership role will help to maintain momentum and ensure continued collaboration across the public sector.

#### Welsh Government Energy Service

38. Welsh Government's Energy Service provides technical, strategic and financial support for renewable energy and energy efficiency projects across the public sector and communities. The support helps the public sector deliver their decarbonisation plans, reducing their carbon emissions and generating savings. Since July 2018, it has supported 408 projects across Wales, saving 432,000 tonnes of CO<sub>2</sub>, and generating £212 million of local income and savings.
39. The technical support provided through the service ensures funding is targeted effectively and increases capacity for the public sector to deliver. The support also include workshops to help share best practice and knowledge, addressing some of the skills gaps in the public sector.
40. An example of a project supported through the Energy Service is Brynwhillach Solar Farm at Morrision Hospital, Swansea. This is the first hospital in Wales to develop its own full-scale solar farm, at a cost of £5.7 million. The 4MW project has been developed on land at Brynwhillach Farm, linked to Morrision by a 3km private wire. It will supply almost a quarter of Morrision's power, cutting the electricity bill by around £500,000 a year and significantly reducing carbon emissions. At peak production times it could meet the electricity demand for the entire hospital. The solar farm is not linked to the grid. The project included a solar farm and other energy-saving and carbon reducing

measures, such as lighting and insulation, repayable on an invest to save basis. We are now supporting plans to provide battery storage for the solar farm. Another examples is Blaenau Gwent Local Authority who received total of £3.9 million in support for energy efficiency covering fleet and refit of estate. The results over the lifetime of these measures are a savings of 23.3k tCO<sub>2</sub> and £9.2 million.

### Designated Landscapes Contribution to Decarbonisation

41. National Park Authorities (NPAs) and Areas of Outstanding Natural Beauty based within Local Authorities have made good progress on decarbonisation in recent years underpinned by the Welsh Government's Sustainable Landscapes, Sustainable Places capital scheme. Primarily this has taken the form of reducing NPA carbon footprints by retrofitting buildings and transitioning to electric vehicles for staff. Snowdonia NPA's Headquarters at Penrhyndeudraeth has seen battery storage, a PV array and insulation leading to energy usage falling by over half, although those financial savings have been wiped out by inflation. Around 15 electric vehicles have been purchased across the three NPAs and over 100 EV charging points installed.
42. Landscape bodies have also recognised the need to support decarbonisation across their wider landscape, where they have the policy levers to do so. Promoting more sustainable travel, such as subsidised shuttle bus services and Snowdonia NPA's partnership with Transport for Wales to seek more sustainable travel for users at Yr Wyddfa/Snowdon and surrounding area. Carbon sequestration is also a major area of interest and Brecon Beacons NPA and Snowdonia NPA now have programmed in ongoing peatland restoration programmes supported by Welsh Government funding. There are ongoing discussions around attracting private sector funding in order to increase impact.

### Resource Efficient, Low Carbon Procurement

43. The net zero by 2030 target for the public sector in Wales includes Scope 3 supply chain emissions, both upstream in terms of the products procured, and downstream in terms of how wastes produced by the public sector are managed. For example, the 2021 NHS Wales Decarbonisation Strategic Delivery Plan identifies that Scope 3 emissions make up 81% of the NHS Wales carbon footprint in 2018/19, and, by category of expenditure, procurement of goods contributes 61% of the carbon footprint.
44. Construction of public buildings has a high carbon footprint. Resource efficiency and moving to a circular economy approach can help make significant Scope 3 carbon emission savings, both in terms of products procured, and wastes created (or, ideally, avoided). This is particularly the case in construction.
45. We grant fund WRAP Cymru to provide advice to public bodies in Wales on sustainable, resource efficient, low carbon procurement. As well as providing bespoke support to individual public bodies, WRAP Cymru has also supported



the development of resource efficient common frameworks for key goods, for example office furniture, and has also published general guidance. Recognising the importance of decarbonising construction, WRAP Cymru has also published a guide for Low Carbon & Resource Efficient Construction Procurement.

46. On decarbonising the downstream Scope 3 emissions associated with waste, waste prevention and reuse are strongly encouraged. Also, increasing high quality recycling will help reduce Scope 3 emissions, whilst also providing high quality materials for manufacturing in Wales, which will also help them reduce their carbon emissions. Next year the Welsh Government plans to introduce new regulations to require all public sector and business premises to segregate key recyclable materials, and for them to be collected separately for recycling.

### Finance

47. The Welsh Government provides financial assistance through a variety of mechanisms, such as the Wales Funding Programme, which provided £16 million of investment in public sector projects in 2021-2022. Whilst there are increasing budgetary pressures, for example from the consequences of Covid and the cost of living crisis, we continue to place importance on this investment to enable the Welsh Government and public sector to progress our collective ambition.