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What you need to know about the heat strategy for Wales

August 2024



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Introduction

Wales has a legally binding target to reduce greenhouse gas emissions to net zero by 2050. The decarbonisation of heat is the largest challenge faced in ensuring Wales meets this net zero target.

The heat strategy will guide the Welsh government's approach to decarbonising heating and hot water for all buildings in Wales. Currently the production and management of heat across all buildings and industry in Wales accounts for around 50 per cent of the total energy demand in Wales. Emissions from our homes are the second largest contributors.

Delivering clean, affordable and secure heat is intrinsically linked to positive outcomes for people and businesses across Wales. Yet this will require systemic changes to the way we deliver and consume heat in Wales. This needs to also include improving the thermal performance of existing buildings in Wales. Construction and building maintenance supply chains are key in developing innovative solutions for retrofitting our existing buildings.

The heat strategy sets out the following benefits to net zero in Wales:

- **Affordable warmth:** Improving the performance of homes will lead to lower energy bills and healthier, more comfortable households.
- **Resilient businesses:** Wales' current industrial base provides a platform to lead modernisation towards a globally recognised low carbon industrial hub.
- **Green jobs and growth:** Employment opportunities for the existing workforce, and the ability to attract new talent, boosting local economies.
- **Cleaner air:** Reduced emissions will result in cleaner air across towns and cities, improving health outcomes.
- **Energy security:** Reducing reliance on imported fossil fuels with local and secure generation which will reduce price volatility.

Welsh government's approach

The vision for the heat strategy is:

Clean affordable heat will be available to all - we will recognise the opportunity of the transition and will secure our future wellbeing with a sustainable low carbon economy.

This is accompanied by five fundamental principles:

- **Net zero: Achieving Wales' net zero commitments:** Focussing on no and low regret technologies and actions that deliver carbon savings in the immediate term; while encouraging longer term innovation, technology development and strategic planning.
- **Just transitions: Growing the market for sustainable jobs and warm homes for all:** Enabling heat decarbonisation across all Welsh homes and businesses so no one is left behind. Distributing the costs and benefits of the transition fairly across society, and growing good job opportunities in delivery.
- **User centric: Recognising the practical challenges:** Empowering the right decisions to be made for homes and businesses, not underestimating the impact of disruptive change, and continuing to strive for more affordable upgrades for everyone.
- **Holistic: Working cross sector and capitalising on wider benefits:** Leveraging opportunities to drive progress across sectors, encouraging collaboration and delivering efficient and long-lasting change. Recognising heat impacts public health, social services and the wider economy.
- **Agile: Rapidly innovating, testing, reviewing and replicating:** Providing the leadership to stimulate activity at the scale and pace required, whilst being reactive to new innovations.

The sectors and actors

The heat strategy has identified the sectors and actors that are key to the transition to net zero heat in Wales.



Public sector

Public sector officers, supported by our Welsh Government Energy Service, will lead the way in demonstrating how net zero can be achieved, priming the low carbon heat market.

Businesses

Every business, from the smallest to the largest, will be empowered to make decisions on decarbonising heat with the aim of lower bills and greater resilient over the long-term.

Homes

Every homeowner, social landlord and private landlord will be empowered to make the right choices to decarbonise our homes. A warm home will be affordable for all.

Industry

Industrial businesses will lead the way in the green industrial transition, continuing to invest in energy efficiency and switching to low carbon alternatives.

Infrastructure

Long term, strategic, efficient investment in grid infrastructure will support the growth of renewable heat. Network operators and local planners will work together to deliver local ambitions.

The enabling framework

Some of the key policies outlined in the strategy as being key policy drivers are, the Wellbeing of Future Generations Act, the just transition framework, prosperity for all: economic action plan, net zero action plan, and Wales innovates. These together with the following objectives, form part of the enabling framework to transition to low carbon heat.

Transparent planning processes to support the roll out of low carbon heat solutions

This work will be led by local authorities' local area energy plans which will look across the whole energy system and identify opportunities to transition to low carbon heat at a local level.

Planning rules for heat pumps will also be considered as current rules meant that full planning permission would be needed for a significant proportion of the existing Welsh building stock.

Delivering the objective

Welsh government will:

- Support the delivery of local area energy plans and facilitate their implementation
- Ensure the planning rules for permitted development rights for heat pumps are fit for purpose.

Low carbon heat is understood and supported by all heat users

Delivering the objective

Welsh government will:

- Engage with households to improve their understanding of low carbon heat
- Build and share knowledge of the potential route to market for low carbon heat, technologies and processes
- Review and share supply chain certification for low carbon heat solutions to help build trust between homeowners and businesses
- Continue championing use of publicly available specifications in their programmes for low carbon heat.

Our highly skilled workforce supports local suppliers and manufacturers in transitioning to low carbon heat

The national grid estimates that net zero energy will require an additional 25,000 jobs in Wales by 2050, and within this, an estimated 12,000 additional workers will be required to meet the needs of domestic energy improvements alone.

Delivering the objective

Welsh government will:

- Utilise the net zero skills action plan to identify the skills required to support low carbon heat solutions
- Continue to attract talent into the low carbon heat sector
- Attract investment by providing certainty and long-term opportunities as part of the transition
- Develop a better understanding of existing supply chains in Wales identifying opportunities to support them to grow.

Costs of the transition are fairly distributed, and the benefits support our economy and communities

The strategy acknowledges that the operational costs of heat pumps compared to gas boilers are one of the major barriers to the transitions. Ensuring that energy pricing mechanisms support low carbon heat is one of the critical changes needed to kick start the transitions at scale.

It is also important to take a whole building approach to reduce primary energy demand which will reduce costs for heat users. Vulnerable households may require additional financial and operational support to increase the level of insulation in their homes.

Delivering the objective

Welsh government will:

- Identify the financial and other support needed to deliver a fairer transition to low carbon heat
- Work with the UK government on the review of future electricity prices comparative to gas
- Work with district network operators to support the adoption of smart solutions to reduce demand.

Improving the energy performance of our homes

Almost a quarter of energy consumption in Wales is attributed to space and water heating in our homes. In more than 80 per cent of homes this energy consumption is fulfilled by fossil fuels, making domestic heating a primary source of nationwide emissions.

Decarbonising our housing stock must not create unintended and perverse outcomes such as reduced housing options, increased rental costs or privileged access to high efficiency homes. The transition must include everyone.

A clear regulatory framework that supports net zero homes across all housing tenures

Welsh government will consult on potential regulations that will support domestic heat decarbonisation by:

- Reducing fuel demand and energy bills by driving energy efficiency improvements, a review of standards at the point of sale, or letting together with supporting ambitious improvements to the social housing stock
- Exploring the potential for a ban restricting the sale of fossil fuel heating systems, with clear dates for implementation in new developments and existing developments.

Engaging with UK government will be key to putting the regulatory requirements in place. This will mean influencing plans to ban gas boilers in new builds by 2025, and to phase out the installation of all new gas boilers beyond 2035.

Delivering the objective

Welsh government will:

- Continue to drive standards through Welsh Development Quality Requirements and Welsh Housing Quality Standards where all new social housing must achieve EPC A, and existing social housing must have a target energy pathway in place to achieve EPC A by 2034, or by a date after this that Welsh government has authorised
- Explore options to restrict fossil fuel boilers in new developments and accelerate phasing out of fossil fuel boilers in existing dwellings

- Investigate options for the use of energy performance standards at the point of sale, or letting as a mechanism to drive low carbon heat uptake.

Homes are thermally efficient served by heat pumps and a whole building approach has been taken to the transition

Due in part to their age Welsh homes are some of the worst performing in Europe. Currently 34 per cent of homes in Wales were built before 1929 while 68 per cent are EPC rating D or lower. Reducing heat demand is a key part of the solution together with using low carbon heat sources. Over 85 per cent of Welsh homes are served by fossil fuel heating and will need support transitioning to low carbon heat sources.

Delivering the objective

Welsh government will:

- Provide homeowners with advice and support for the transition to low carbon heat
- Continue to prioritise low carbon heat as part of the warm homes programme
- Support social landlords in delivering the optimised retrofit programme and explore longer term options to help social landlords achieve EPC A
- Share best practice on how historic and traditionally constructed buildings can effectively decarbonise heat
- Support smart meter roll out
- Explore how the owner occupied and private rental sectors can transition to low carbon heat.

Low carbon heat solutions will be affordable to install and affordable to operate

The transition to clean technologies is also a transition to more efficient, more integrated and smarter heating systems and an opportunity to eradicate fuel poverty in Wales. To do so, low carbon heating systems must be affordable to purchase and have lower operating costs compared to current systems.

Delivering the objective

Welsh government will:

- Work with stakeholders to address financial barriers for low carbon heat solutions across the domestic sector
- Work with the development bank for Wales to champion a whole home approach to low carbon heat solutions as part of its housing development finance offers
- Consider options for further funding to social landlords to meet EPC A across all homes.

Leading the way with public services

Together with providing services public bodies have a leadership role to play in the transition to a net zero future. They have an important role in enabling low carbon heat across all sectors in Wales with local authorities delivering the planning services needed to implement the transition.

The public sector will work towards net zero by 2030 and support delivery on a regional and local basis

Local authorities in particular have an important leadership role to play. They set the planning policy for their area, and their approach to running the planning function is important to the transition across all sectors. Local authorities also lead local area energy plans working in partnership with other public bodies, communities, businesses and energy providers to set out as strategic plan for the energy system. Continuation of this leadership role together with building further momentum will be needed.



Delivering the objective

Welsh government will:

- Communicate success and share learnings across public bodies and to wider sectors
- Ensure the public sector collaboratively drives decarbonisation both regionally and locally through energy planning
- Seek to build local supply chains, grow skills and realise social value through the public sectors transition to low carbon heat.

All public sector buildings will be served by low carbon heat solutions championing a whole building approach to the transition

Public bodies will need to plan, actively consider and support a just transition, recognising the wellbeing benefits in Wales as part of their low carbon heat transition. Welsh government are keen that public bodies support the Welsh economy. To help this Welsh government will explore opportunities for Welsh procurement frameworks that champion the Welsh supply chain.

Delivering the objective

Welsh government will:

- Support public bodies by facilitating access to funding to deliver financially challenging low carbon heat projects
- Review funding options to support a net zero public sector by 2030
- Explore practical solutions for public procurement to build market capacity
- Build capacity to deliver a whole building approach to low carbon heat deployment.

Energy networks, infrastructure, business and industry

Whilst many of the objectives and key deliverables relating to these sectors may not directly impact the housing sector in Wales there are some that will be crucial to ensure a whole Wales approach as part of the just transition to a net zero Wales.

Energy networks and infrastructure

Welsh government is looking to use heat networks across Wales to provide low carbon heat in suitable areas. This will utilise the evidence from the local area energy plan to identify the opportunities for zonal planning of heat networks. Welsh government will also work with the networks to align network plans with local ambitions to support electrified heat as part of the net zero energy system.

Business

Welsh government has committed to preparing a regulatory route map in order to understand the legislative barriers and implications of phasing out the installation of all new gas boilers for commercial properties by 2023. They will also be looking at the use of onsite renewable energy technologies to assist the cost effectiveness of businesses transition to low carbon heat. Best practice for the role of low carbon heat for sustainable business in Wales will be shared in order to build confidence in the transition.

Industry

Welsh government will continue to support industry in Wales to access available funding and other support options to enable its transition to affordable low carbon heat. This will include maximising the opportunities to leverage funding from UK funding streams. There will also be the establishment of hydrogen hubs looking at ways to support innovation so that Wales can benefit from the opportunity for a green economy.



Costs and savings

The UK's independent climate change committee has estimated that the total cost of decarbonising heat in Wales is £80 billion over the period to 2050. This is total cost and for many consumers replacing their heat infrastructure, will be required before 2050. The costs for each sector are shown below:

Sector	Description	Scale of challenge	Investment to 2050 (% of which additional)
Domestic	Social Housing	~223,000 homes	£56.7bn ⁷ (23%)
	Private: Rental	~231,000 homes	
	Owner-Occupied	~895,000 homes	
Public Sector	Local authorities, health, and other public bodies	~4000 sites	£1bn
Businesses	Arts, Community and Leisure	~3,800 buildings	£3.2bn ⁷
	Hospitality	~14,400 buildings	
	Offices	~17,000 buildings	
	Shops	~27,000 buildings	
	Warehouses and Other	~21,000 buildings	
Industry	Manufacturing	~6,785 enterprises	£20bn ⁷ (14%)

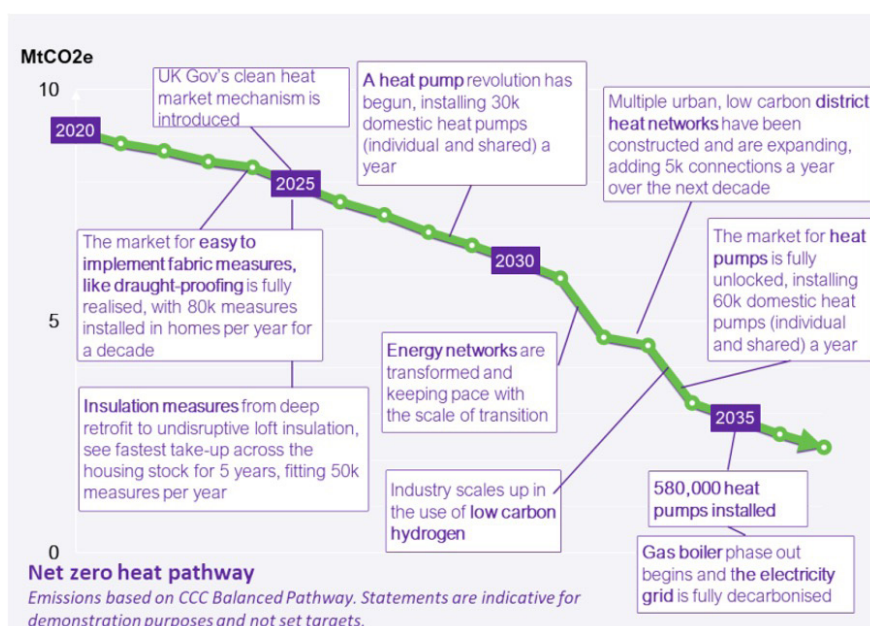
There will also be savings realised across society. It is estimated that a £15 billion programme over 10 years improving the energy efficiency of homes could provide £8.4 billion cumulative savings in energy bills for households up to 2040 with £3.54 billion of net tax benefit and 26,500 new jobs.

Poor housing conditions are estimated to cost the NHS in Wales £95 million due to the negative impact on an individual's health. By improving the energy efficiency and quality of our homes we can improve health outcomes reducing the cost burden on the NHS.

A timeline for change

The heat strategy sets out an emissions pathway to 2035 with indicative milestones as shown below:

Welsh government is clear that in planning their approach to transition to low carbon heat they will ensure a just transition across Wales where nobody is left behind.



Our view

We welcome the heat strategy, and the detailed overview of the work Welsh government will undertake to support all sectors in Wales in transitioning to low carbon heat. We also welcome the outline of the funding needed to ensure that we can transition the homes we live in to low carbon heating. However, it is not clear in the strategy what funding will be made available to the owner occupier sector. Owner-occupiers are the largest housing tenure in Wales. It is essential that we incentivise and support this tenure to embark on the decarbonisation journey and a move to green heating solutions to drive the pace and scale of change we need to meet low carbon heating aims. If we can get this element of the housing sector right, it will drive the market costs of installing green heating solutions down. Something everyone in the domestic sector can benefit from. Part of this solution is the banning of fossil fuel heating proposed in the strategy, but this must be carefully monitored.

The strategy outlines that the social housing sector will be supported by the optimised retrofit programme which provides funding to decarbonise our existing social housing stock. According to the Future Generations Commissioner's Homes Fit for the Future: The Retrofit Challenge (carried out by New Economics Foundation) there's a £2.7 billion funding gap in the amount needed to retrofit social housing and a £3.9 billion gap to retrofit homes in fuel poverty in Wales. It goes on to say that the total investment needed over the next

decade to retrofit social housing stock in Wales is £5.52 billion (£4.82 billion to retrofit homes in fuel poverty) with around £1.7 billion of that to come from Welsh government and £3.6 billion from Westminster.

Yet the budget for 2024/25 allocated just £92 million to decarbonising our social homes through the optimised retrofit programme. Significantly more monies will be needed for the optimised retrofit programme is we are to meet the decarbonisation targets.

We were disappointed that apart from ensuring our homes are thermally efficient there is a lack of action related to overheating homes in the summer. In order to reduce the energy use of homes, a whole building approach is used which in the main relies on insulating our homes. Yet in the summer this same insulation is overheating many of our homes so there is need to consider more widely how we can ensure effective low carbon heating in cooler months and effective cooling of our homes in warmer months.

Whilst we welcome this strategy, we also need to ensure that the right levels of funding are provided to decarbonising our heat provision across Wales. We know that low carbon heat is a vital part of a whole Wales approach to ensuring that we can meet our net zero emissions targets, but our funding levels must meet our ambition so that everyone can work towards a green and sustainable Wales for this generation and future generations.

