

I am grateful to the Committee for inviting me to contribute to the consultation on this important topic.

The consultation website lists six topics that the Committee will consider. My evidence is organised below under those six headings. It begins with a short summary of the evidence that follows.

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15 August 2022

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Summary

1. Welsh Government's current approach to decarbonising housing in the private rented and owner-occupied sectors in Wales is not effective.
2. Wales does need sector specific retrofit targets to help drive change. The use of EPCs for setting targets and measuring the progress of decarbonisation is not helpful – we need new metrics and targets that are aligned with the goal of Net Zero.
3. There are many actions that Welsh Government should take to progress a programme of retrofit for these sectors in the short, medium and long term. Some can and should be started immediately; work will be needed to determine what further actions are needed and this should begin immediately.
4. Some of the key challenges to delivering a programme of retrofit in the private rented and owner-occupied sectors in Wales are Westminster-based and there is little that Welsh Government can do to overcome them. But how Welsh Government operates is itself a blocker and internal change is required. Welsh Government is not effectively held to account and this needs to be improved.
5. To ask about striking the right balance between influencing/incentivising and regulating homeowners and private sector landlords to retrofit their properties is to miss a more fundamental point. What is needed is a systems approach that is based on an evidence-based framework for designing and delivering interventions to change behaviours at the individual, organisational, community and population levels.
6. Welsh Government cannot be effective in influencing decisions on reserved matters while Westminster does not listen.

The current approach to decarbonising housing in the private rented and owner-occupied sectors in Wales, including the effectiveness of existing programmes and support for retrofit

Homes in Wales are responsible for about one fifth of all Welsh greenhouse gas (GHG) emissions¹. That is why it is so important to decarbonise Welsh homes.

The table, image and graphs below contain some basic information about the Welsh housing stock, which are discussed in the sections that follow.

<i>Tenure of Welsh homes</i>				
Owner occupied	Privately rented	Rented from housing associations	Rented from local authorities	All dwellings (millions)
70%	14%	10%	6%	1.4

Data source: StatsWales (2020) Dwelling stock estimates by local authority and tenure

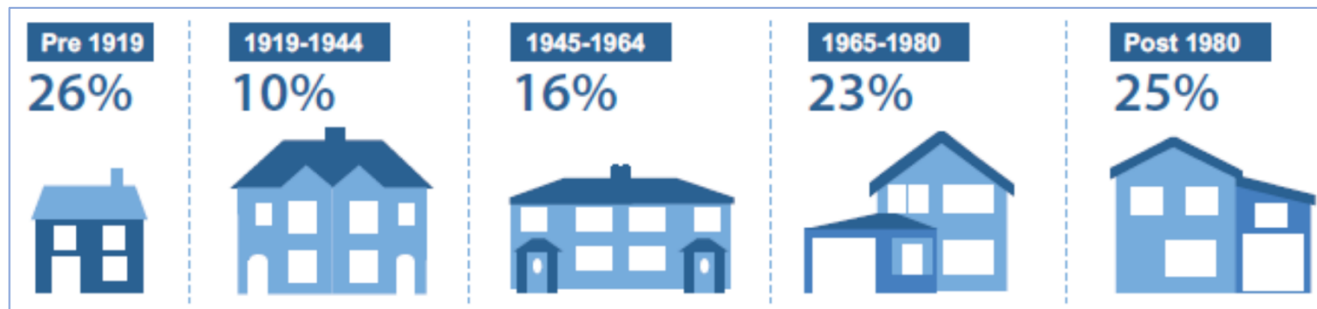
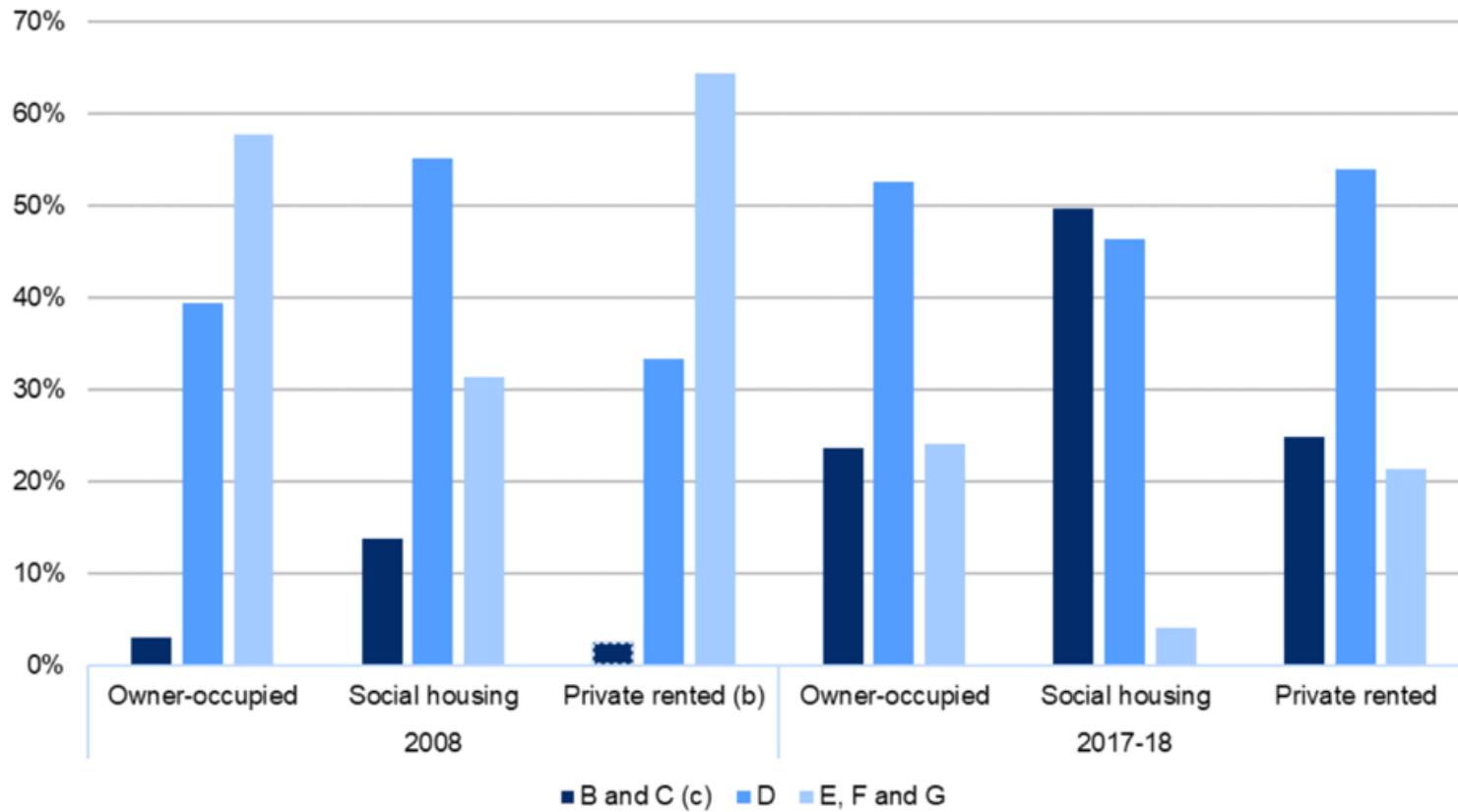


Image source: Welsh Housing Conditions Survey 2017-18: Headline Report

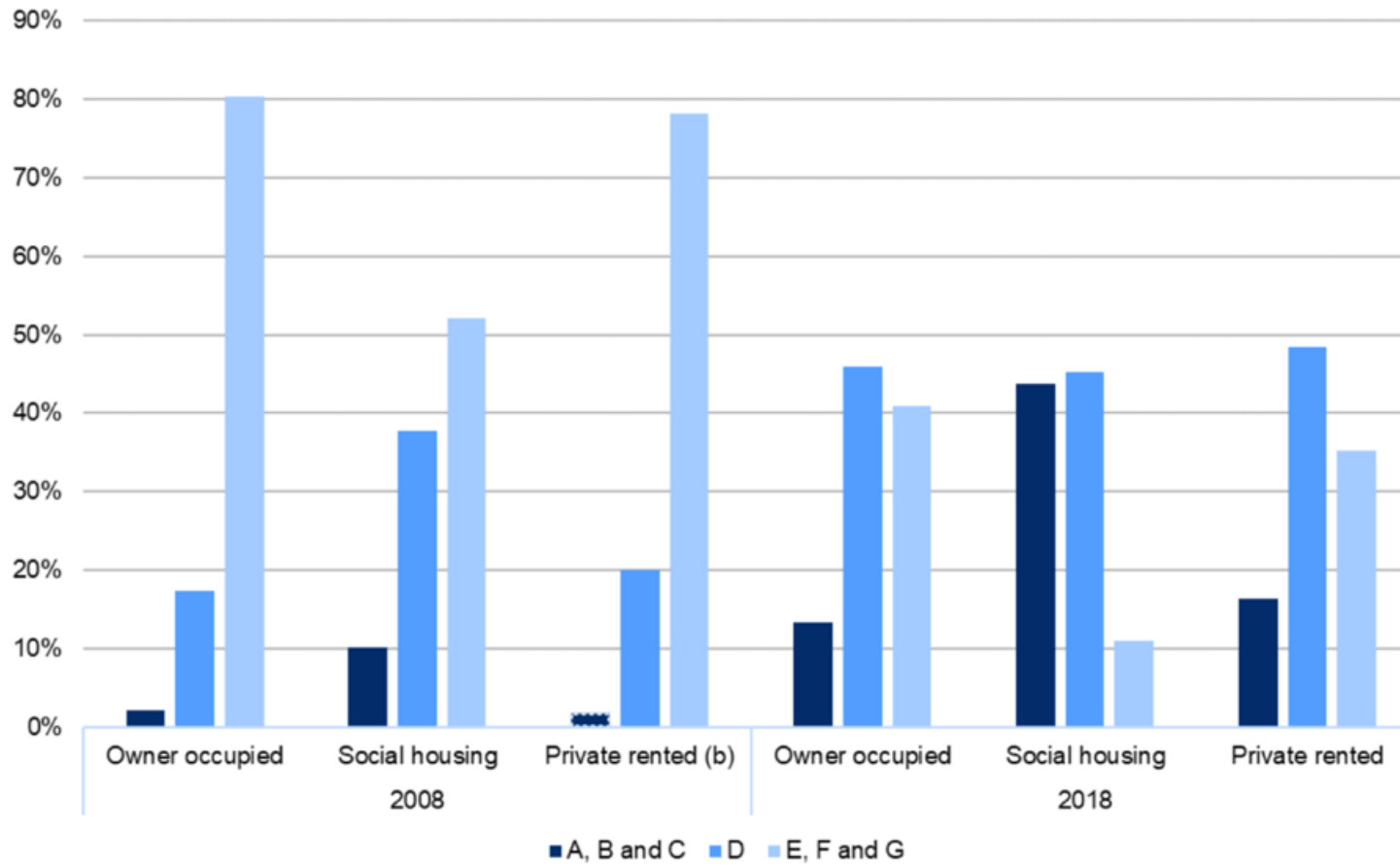
¹ National Atmospheric Emissions Inventory (2022) Devolved Administration GHG Inventory 1990-2020

Chart 2.2: EPC bands by tenure, Wales, 2008 and 2017-18 (a)



Downloaded from <https://gov.wales/sites/default/files/statistics-and-research/2019-10/welsh-housing-conditions-survey-energy-efficiency-dwellings-april-2017-march-2018-795.pdf>

Chart 2.7: Environmental Impact (EI) bands, by tenure, Wales, 2008 and 2017-18 (a)



Downloaded from <https://gov.wales/sites/default/files/statistics-and-research/2019-10/welsh-housing-conditions-survey-energy-efficiency-dwellings-april-2017-march-2018-795.pdf>

Private Rented Sector

14% of Welsh homes are privately rented and, as the graphs above show, these are on average the lowest rated homes in Wales in terms of the cost of heating and environmental impact. The private rented sector generally has the oldest housing stock and a higher proportion of poor quality housing than other sectors (e.g. containing damp or other hazards).

Leasing Scheme Wales

Welsh Government has introduced its Leasing Scheme Wales² which offers financial incentives for property owners who lease their properties to the local authority for between 5 and 20 years. Where necessary, Welsh Government provides a grant of up to £5,000, to bring properties up to an agreed standard and/or to increase the EPC rating to level C. Additional grant funding of up to £25,000 is available for empty properties.

MEES

The energy efficiency of homes in the private rented sector in Wales is governed by the ‘MEES’ Regulations. This is shorthand for the Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015, which introduced a minimum energy efficiency standard of EPC E for the private rented sector. From 1 April 2018, private rented properties in scope of the MEES Regulations had to meet the minimum energy efficiency standard before they can be let on a new tenancy, unless a valid exemption has been registered. The MEES Regulations applied to all domestic properties in scope from 1 April 2020 and will apply to all non-domestic properties in scope from 1 April 2023.

Between September 2020 and January 2021 BEIS consulted on changes to the MEES Regulations. It seems likely that the proposed changes to the regulations will be announced at the Conservative party Conference this autumn, with a phased trajectory for achieving the improvements for new tenancies from 2025 and all tenancies from 2028. The new minimum energy efficiency standard is expected to be EPC C.

² <https://gov.wales/leasing-scheme-wales-guidance>

Rent Smart Wales

Welsh Government is constrained in what it can do until the proposed new regulations are announced. One thing it can and should do is to capture useful information about the construction of privately rented homes. All such homes must be registered every 5 years with Rent Smart Wales. A condition of registration and re-registration should be that adequate information about the construction of the homes is provided. This idea was proposed to Welsh Government before but was not acted on. Below, under *Actions the Welsh Government should take to progress a programme of retrofit for these sectors in the short, medium and long term*, I describe the importance for both policy and delivery of having comprehensive data about every home in Wales.

ORP

Requiring social landlords to decarbonise some privately rented homes in the second phase of the Optimised Retrofit Programme was discussed, but the idea was dropped. The third phase, currently being scoped, offers an opportunity to learn lessons from the involvement of private landlords. This opportunity should not be missed.

Conclusion

I am unaware of any other actions or plans by Welsh Government to decarbonise the private rented sector. This falls a long way short of what Welsh Government should be doing to progress a programme of retrofit for this sector. I list what it should be doing below under *Actions the Welsh Government should take to progress a programme of retrofit for these sectors in the short, medium and long term*.

Owner-Occupied Sector

70% of Welsh homes are owner-occupied and, as the graphs above show, these are on average worse than socially owned homes and better than privately rented homes in terms of the cost of heating and environmental impact.

I know of three schemes by Welsh Government aimed at owner occupiers, one of which supports work to improve a home's energy efficiency. Welsh Government is also sponsoring a study by the Welsh School of architecture into 'hard to treat' homes.

Owner-occupier loans

This is a Welsh Government funded scheme that offers interest free loans to help homeowners carry out repairs to their homes to make them safe, warm and secure. Both individuals and companies can apply for a loan however priority will be given to owner occupiers. The maximum loan amount will be £25,000 per property and providing there is no default on the loan, they will be interest free. Loans can be paid off by monthly instalments through to March 2029.

Leaseholder Support Scheme

This began on June 27. The new scheme will provide tailored, independent advice to leaseholders in fire safety affected homes. It is currently targeted at leaseholders who are owner occupiers and those who have become displaced.

Cost of Living Support

Welsh Government has announced that a £150 cost of living payment is to be made to all occupiers of properties that are in bands A, B, C and D, along with those that receive Council Tax Reduction (formerly known as council tax benefit), regardless of what band their property is in. The £150 is not a rebate on the council tax bill, but a payment to help with the rising cost of all utility bills.

Hard to treat homes

Welsh Government is sponsoring a study by the Welsh School of Architecture that seeks to establish whether the goals outlined in the Wellbeing of Future Generations (Wales) Act can be used to drive retrofit of the Welsh housing stock that

meets international decarbonisation targets, avoids worsening fuel poverty, and improves the quality of Welsh Housing more generally, such that it is fit for future generations.

Four case studies will explore the potential to retrofit different ‘hard to treat’ homes to meet decarbonisation targets, while improving the quality of the home more generally. The four case studies will have distinct characteristics that make them relevant for the wider Welsh housing stock, including dwelling type, form, density, context, condition and energy supply.

Conclusion

I am unaware of any other actions or plans by Welsh Government to decarbonise the owner-occupied sector. This falls a long way short of what Welsh Government should be doing to progress a programme of retrofit for this sector. I list what it should be doing below under *Actions the Welsh Government should take to progress a programme of retrofit for these sectors in the short, medium and long term.*

The role of sector specific retrofit targets to help drive change

The sustainability landscape has evolved significantly in the last decade and the risks of inadequate action are growing. The conventional targets we have used to date are no longer enough to drive the transformational change required.

The use of EPCs for setting targets and measuring progress of decarbonisation is not helpful, because EPCs were not designed for and are not well-suited for this.

As Wales has committed to achieving net zero, that should be the overarching target for homes, even though it is not practicable for every home to achieve that. The date by which homes should achieve net zero will influence costs, as I explained in my response to the Committee of 14th May 2022.

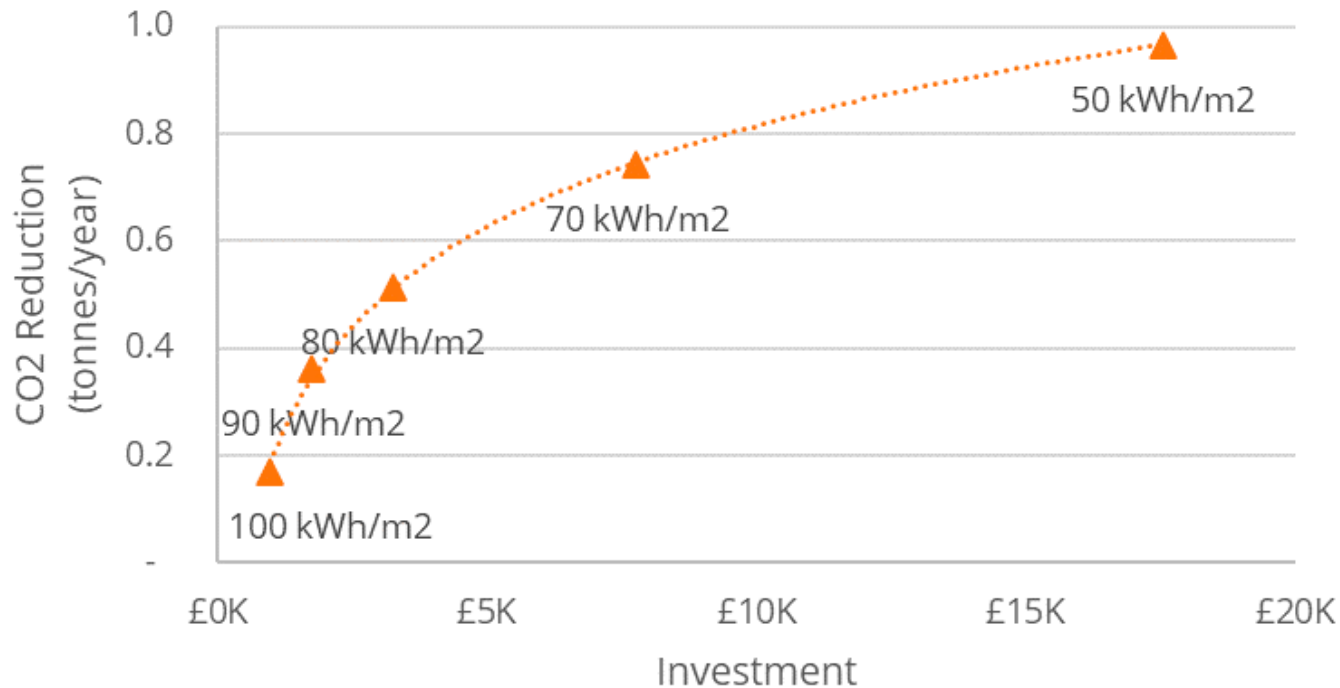
When considering what should be done to decarbonise a particular home, the first question is the extent to which its consumption of heat should be reduced. This is because space heating is responsible for almost 2/3 of all energy used in the home.

We need a minimum standard for fabric energy efficiency that ensures that homes can be heated efficiently and affordably and that mitigates the home's increased demand on the electrical supply system when the fuel used to heat the home switches from oil or gas to electricity.

The standard could be expressed in kWh/m²/year (the total amount of heat required to maintain a comfortable temperature in a home throughout the year, per square metre of the floor area of the home). An alternative approach, adopted by the Sustainable Energy Authority of Ireland, is to define a maximum rate of heat loss from the home in W/Km².

Setting the right target for heat loss needs careful consideration. There reaches a point at which it becomes disproportionately more expensive to reduce heat losses any further. I was involved in a 2020–2021 study for BEIS's City Decarbonisation Delivery Plan (CDDP) programme that investigated decarbonising homes in Leeds. We found that trying to achieve less than

about 70kWh/m²/year started to push up costs rapidly. The London Energy Transformation Initiative (LETI) found an inflexion point of about 50kWh/m²/year. The graph below shows the diminishing returns when investing in fabric improvement for one hard to decarbonise home.



*Annual CO₂ reduction against investment of various retrofit packages for an example address
Source: Parity Projects (2022). Hard to decarbonise social homes.*

The total costs clearly depend on the composition of the housing stock both in terms of built form (flats, detached houses, mid terrace, etc) and of construction details (for example cavity walls vs. solid walls vs. system-built walls, etc.), and on how the work is procured (individually or at scale as part of an area-based scheme).

For context, the average UK home's space heating demand is around 120kWh/m²/year, so based on the CDDP and LETI work we are looking at a reduction in annual space heating of between about 40% and 60%.

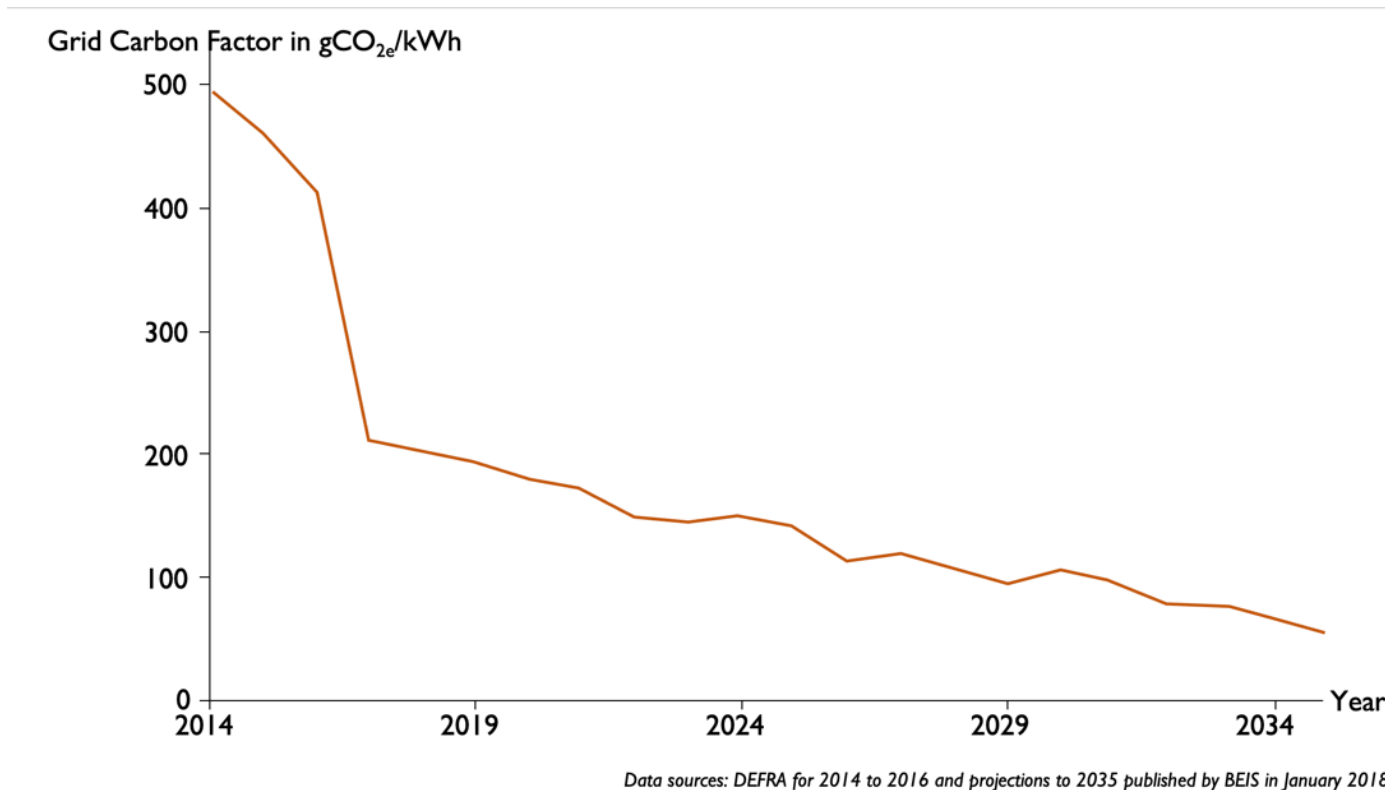
I recommend that a team be commissioned to analyse the thermal behaviour of the 14 archetypes of Welsh homes that the Welsh School of Architecture identified in earlier work, to identify the optimum %age reduction in space heating demand for each archetype. From that study it should be possible to set target reductions in annual space heating demand that are appropriate for different built forms. This information is needed urgently, so that homeowners who wish to act soon can proceed with confidence.

Once a home's space heating demand is reduced it is much easier to decarbonise the heat supply and for that home to achieve net zero by a certain date.

That suggests that the next target should be the date by which a home is net zero ready. So, for example, Welsh Government could announce the following four targets for privately-owned homes:

1. Every home to be properly surveyed and its Building Renovation Passport³ (BRP, also known as Building Renovation Plan or Home Logbook)) created by the end of this Senedd term in 2026. The BRP would define the home's pathways to zero (i.e. what measures are required, and in what order), with the goal of every home becoming net zero (or as close to it as practicable) when the electricity grid reaches a predetermined level of carbon intensity. The graph below shows historic and predicted average grid carbon intensity through to 2035.

³ <https://www.greenfinanceinstitute.co.uk/programmes/ceeb/building-renovation-plans/>



Historic and predicted average grid carbon intensity through to 2035

2. Space heating demand of every home to be no more than X-Y% of current demand by the end of the next Senedd term in 2031. (X and Y to be chosen based upon the analyses outlined above). Homes that already have acceptably low space heating demand would be exempt.
3. Every home to be net zero ready (or as close to it as practicable) by the end of the following Senedd term in 2036.
4. Every home to achieve net zero (or as close to it as practicable) by the end of the following Senedd term in 2041.

Actions the Welsh Government should take to progress a programme of retrofit for these sectors in the short, medium and long term

There are many actions that Welsh Government and others must take to ensure that owner-occupied and privately rented homes are decarbonised.

A fundamental action is for every home to be properly surveyed and its Building Renovation Passport created. This information is essential for both delivery and policy. Another is for Welsh government to have access to smart meter data about energy consumption in homes, so that progress can be monitored, lessons learned, and corrective action taken if necessary. More on both of those later.

Identification of necessary actions by Welsh Government and others needs to be undertaken, using a systems-based approach that is based on an evidence-based framework for designing and delivering interventions to change behaviours at the individual, organisational, community and population levels. I described such an approach in my response to the Committee on 14th May 2022, in a document entitled *Approach to homeowners.pdf*. The behaviours of owner-occupiers and private landlords are influenced by the actions of many other actors in the energy system, some of whom are listed in the table below.

Private homeowners are not a homogeneous group. A helpful way to segment them might be private landlords with mortgages, private landlords without mortgages, owner-occupiers with mortgages, owner-occupiers without mortgages; each of these will further subdivide according to ability to access finance for retrofit and other criteria. Welsh Government should urgently commission work to identify who needs to do what to create an environment in which every homeowner has the capability, opportunity and motivation to decarbonise their home. This would build on the behavioural work⁴ carried out under the guidance of the UCL Centre for Behaviour Change by the independent Decarbonisation Advisory Group that I chair, while preparing our policy advice⁵ to Welsh Government.

⁴ <https://ucl.scienceopen.com/hosted-document?doi=10.14324/111.444/000117.v1>.

⁵ <https://gov.wales/sites/default/files/publications/2019-07/independent-review-on-decarbonising-welsh-homes-report.pdf>

Some of the people and organizations in the broader energy system that directly or indirectly influence Welsh homeowners about residential decarbonisation

Banks and building societies	Green Construction Board	Professional trade bodies (e.g. Federation of Master Builders)
Builders	Green Finance Institute	Public Health Wales
Builders' merchants	Greenpeace	Public Services Boards
CADW	Heating engineers	Qualifications Wales
CBI Wales	Higher and Further Education colleges	Registered Social Landlords
Centre for Alternative Technology	Institute of Welsh Affairs	Religious organisations based in Wales
Citizens Advice	Insurance companies	Rent Smart Wales
City Regions	Local Authority building control departments	Retrofit Academy CIC
Climate Change Committee	Local Authority planning departments	Role models
Community Energy Wales	Local Enterprise Partnerships	Royal Welsh Agricultural Society
Community Housing Cymru	Local Partnerships LLP	RSPB Cymru
Constructing Excellence Wales	Manufacturers and suppliers	Schools
Construction Industry Training Board	National Eisteddfod of Wales	Sustainable Energy Association
Construction Leadership Council	National Energy Action	Third Sector Support Wales
Conveyancers	National Federation of Women's Institutes	Transition Network
Cynnal Cymru	National Home Improvement Council	TUC Wales
Designers (architects, engineers, quantity surveyors)	National House Building Council	UK Government departments, e.g. BEIS and DLUHC
Development Bank of Wales	National Residential Landlords Association	UK Investment Bank
Distribution Network Operators	NHS Wales	Universities
Electricians	Office of the Future Generations Commissioner	Urdd Gobaith Cymru
Energy Saving Trust	PAS 2035 duty holders	Valuers
Energy suppliers	Plumbers	Welsh Government
Estate agents	Professional design institutions (e.g. Royal Institution of Chartered Surveyors)	Welsh Local Government Association

While systematically identifying who needs to what is an essential task that will take some time, it is possible before doing that to list some urgent actions by Welsh Government that are obviously necessary, and these are listed below in alphabetical order.

Necessary and urgent actions by Welsh Government

Access to smart meter data

As stated earlier, it is essential that Welsh government and its agents have access to smart meter data about energy consumption in homes, so that progress can be monitored, lessons learned, and corrective action taken if necessary.

At present this data is held by the Data Communications Company (DCC), which is not allowed to release it without the written consent of the bill payer. Welsh Government should work with BEIS so that the DCC can make smart meter data available without bill payer consent to trusted organizations under the appropriate data confidentiality protocols.

The current system for assessing GHG emissions is that each year a report on Devolved Administration Greenhouse Gas Inventories is published on the National Atmospheric Emissions Inventory website⁶. The emissions data takes 18 months to compile. This means, for example, that the 2022 data is published in summer 2024. Access to smart meter data, combined with data about the instantaneous carbon intensity of the electricity grid, will allow a much faster, more accurate and more granular assessment to be made of residential emissions, which, as the chart in the *influencing decisions in the reserved matters* section shows, are responsible for about one fifth of all Welsh emissions.

Communications

Welsh Government needs to do better when it comes to communicating not only with the public but also with all the organisations and institutions who influence the behaviour of homeowners. It does not appear to have an underlying narrative on which to base its public utterances: for example, will we be saved by heroic technology or are we all on a learning journey?

⁶ https://naei.beis.gov.uk/reports/reports?section_id=4

Its [14th July press release](#) about the recent heat wave offered sensible advice from the Deputy Chief Medical Officer for Wales but missed the opportunity to link the extreme temperatures to climate change caused by GHG emissions. Its Summer 2022 Climate Change Bulletin, published on 4th August, makes no mention of the heatwave and its link to climate change.

When UK Government launched its Boiler Upgrade Scheme, Welsh Government was urged to respond with advice to homeowners to have a proper home assessment before deciding what to do, but it did not do so.

Development Bank of Wales

In April 2022 Welsh Government refreshed the remit of the National Infrastructure Commission for Wales to consider the climate and nature emergencies in all its work. By the same token Welsh Government needs to enhance the remit of the DBW so that it actively supports and helps accelerate residential decarbonisation. Three examples of what DBW could do are given below.

1. DBW should play a key role in supporting the development of financial support mechanisms for owner-occupiers and private landlords. The importance and urgency of tackling climate change require urgent action and some risk taking by DBW.
2. DBW should lead the trialling of variable Land Transaction Tax. The proposal to use a variable Stamp Duty Land Tax (Land Transaction Tax in Wales) based on the energy efficiency of a home at point of sale, whether based on EPC or directly on SAP, is not a novel idea. This fiscal approach has been particularly championed by the Green Task Force, as a recommendation of its 2018 *Accelerating Green Finance* report; and by UKGBC in its 2021 *A housing market catalyst to drive carbon emission reductions Low energy adjustment to Stamp Duty Land Tax* report. The *Affordable Warmth, Clean Growth* report, published by Frontier Economics in 2017, found that if implemented across the UK, a variable Stamp Duty scheme could incentivise around 16 million homes to make energy efficiency improvements by 2035. In September 2021 the Green Finance Institute wrote⁷ to the chancellor to call for an energy-adjusted Stamp Duty Land Tax to drive demand for energy efficiency works and further support the UK's green home finance market. The Energy

⁷ <https://www.greenfinanceinstitute.co.uk/news-and-insights/letter-to-chancellor-of-the-exchequer/>

Efficiency Infrastructure Group (EEIG) has led the work to identify the key elements of the idea⁸. I have introduced Welsh Government officials to the EEIG's lead on this topic, and he has shared the EEIG's latest thinking and calculator with them.

3. DBW should play a key role in developing and supporting the process for homeowners applying for financial support, which should be as straightforward as possible, and be linked to the requirement for a Building Renovation Passport.

EPCs

Too many EPCs are old and invalid. Welsh Government should make the argument to Westminster that a condition for a new mortgage is a recent (valid) EPC.

Holiday lets and second homes

Welsh Government has the power to impose MEES-like requirements on holiday lets and second homes. This is something it should seriously consider.

Homes whose decarbonisation cost is not matched by an increase in property value or whose owners cannot afford to carry out the work.

Many homes that might need to have say £20k spent on them and are worth less than say £150k are located where the expenditure will not be matched by an increase in value. Many homeowners simply cannot afford to have the work done. Welsh Government should commission work to identify those homes and hence understand the size of the problem, by combining sales data from companies such as Rightmove with data held by the recently created Wales building stock model and confidential socio-economic data. After that it will be for Welsh Government to decide how best to help decarbonise these homes. There may be lessons learned in the Leasing Scheme Wales⁹ that can be applied to owner-occupied homes.

⁸ <https://www.theeeig.co.uk/stamp-duty/>

⁹ <https://gov.wales/leasing-scheme-wales-guidance>

Planning - ASHPs

Current Welsh planning guidance¹⁰ forbids the installation of an ASHP within 3m of the boundary of a property. That will cause serious problems for a very large number of Welsh homes. The equivalent distance in English planning guidance is 1m. Welsh Government should urgently revise its planning guidance to allow ASHPs much closer to a property boundary, or an openable window, provided the appropriate acoustic criteria are met.

Planning – conservation areas and areas of distinctive local character

LETI's Climate Emergency Retrofit Guide¹¹ estimates that heritage or architectural constraints involve 25% of all UK homes. The London Borough of Islington's Local Plan 2021-22 states "As part of evolving character, protection of the historic environment must be reconciled with the environmental needs and aspirations of people." This is as true in Wales as it is in Islington, or Bath, or any area of distinctive local character.

Welsh Government should instruct and support local authority planners and conservation officers to provide guidance that tells people what they can do to decarbonise their homes in conservation areas and in areas of distinctive local character. There are precedents for this in England (Port Sunlight and Leeds). Planners, architects, engineers and conservation experts should work together in each local authority or cluster of authorities, consult with the public, and publish what changes to the appearance of homes are locally acceptable and do not require planning permission. These should be accompanied by well thought through and tested standard construction details.

Consider, for example, a street of private rented student accommodation in one of Cardiff's city centre conservation areas. To improve the energy efficiency of the properties as required by MEES, it may well be appropriate to install external wall insulation. To require every landlord to seek planning permission is unworkable, not only from the perspective of the landlords, who have only two months each year to carry out work on their properties, but also from the perspective the planners, who do not have the resources to deal with ever-increasing numbers of requests.

¹⁰ <https://gov.wales/planning-permission-heat-pumps>

¹¹ <https://www.leti.london/retrofit>

Redress scheme

An effective redress scheme will be needed, so that if work is carried out that is unsatisfactory homeowners are protected against loss. Welsh Government has a major role to play in the creation of such a scheme.

Surveys and Passports

While no Welsh Government cannot make commitments on behalf of future administrations, each can ensure that work carried out during its term in office supports the decarbonisation effort of future governments. That is why collecting data about the construction of homes and the energy consumption of their occupants is such an urgent task. If completed during the 2021-2026 term, it can inform decisions made by subsequent administrations. Welsh Government should mandate that every home is properly surveyed and its Building Renovation Passport created by the end of this Senedd term. It is possible that this work can be carried out at no cost to Welsh Government or to private homeowners.

Targets

As recommended above, Welsh Government should commission a study to analyse the thermal behaviour of the 14 archetypes of Welsh homes that the Welsh School of Architecture identified in earlier work, to identify the optimum %age reduction in space heating demand for each archetype. The impact of electric heating and electric vehicle charging on low voltage networks needs to be considered in this study.

Not every homeowner will be willing to act, so it is likely that some coercion will be necessary. That highlights the importance of Welsh Government setting some explicit long-term mandatory targets, in a way that is recognised by buyers, with failure to comply preventing further transactions (sale or renting) of the property. For example – no detached home's annual space heating is to exceed X kWh/m²/year by 2031.

Third sector organizations

Many organisations exist in Wales whose values and goals are relevant to residential energy efficiency, fuel poverty and climate change. It is important to identify them and to understand their purposes (their intention or goal; what change they

are trying to achieve), what type of objectives they have (e.g. community building, filtering information, facilitating learning, providing resources, convening stakeholders and so on), and their geographic area of activity (community, city, regional, national, international).

The table below explores some possible goals of third sector organizations.

<i>Possible goals of third sector organizations</i>	
Policy action	Practitioners support each other to understand and act, usually to meet/implement policy or targets for sustainability or climate change.
Policy influence	To gather a critical mass of people, organisations and evidence around a subject to help influence agendas and help policy makers with decision-making.
Knowledge sharing	To share knowledge and experience. Various channels (online libraries, face-to-face events) may be used to maximise the potential audiences and new knowledge creation and sharing.
Capacity development	To provide external expertise to help implement best practice in the field. May involve formal process of peer-to-peer sharing and learning.
Collaboration	To provide peer-to-peer support, mostly through face-to-face events. Identifying opportunities for collaboration on other projects. Knowledge sharing is informal and is limited outside of events.

Welsh Government should begin by organising workshops with Third Sector Support Wales and relevant third sector organisations to

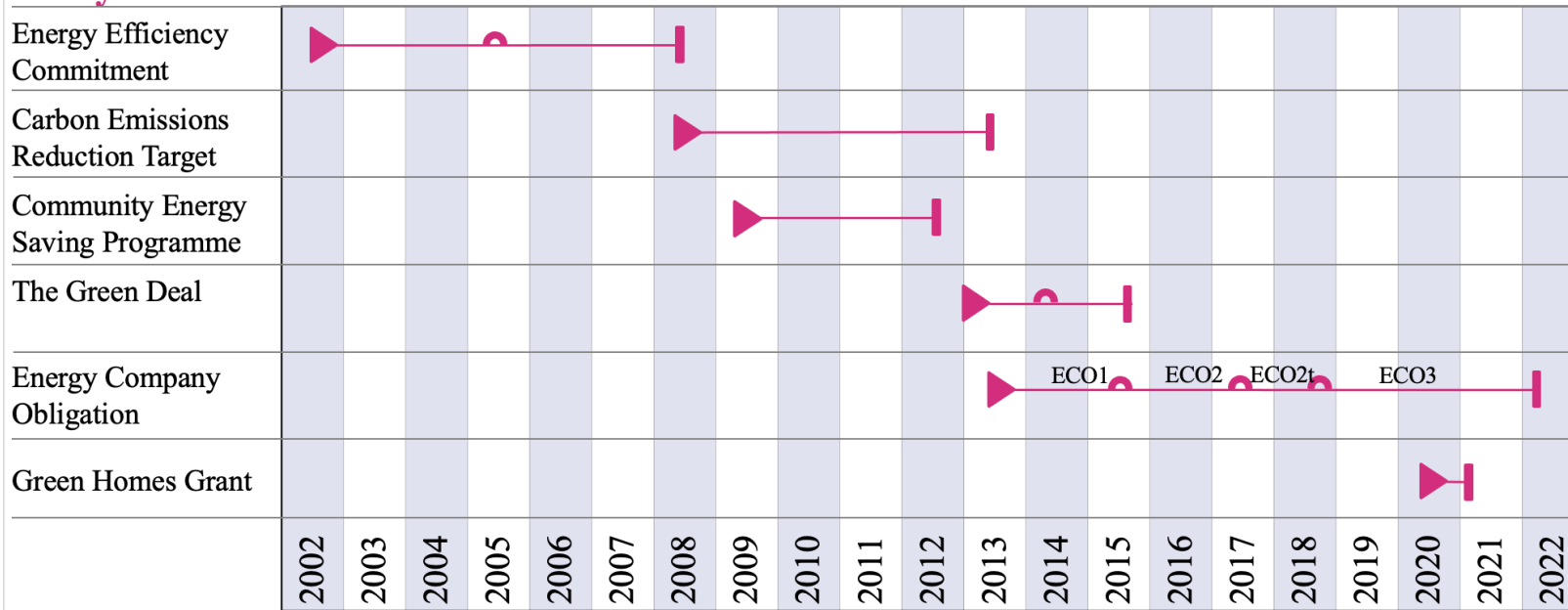
- a) review expectations and create a common understanding of the scope, resources and timeline of a national programme of residential decarbonisation, and
- b) identify the roles that different parties could play.

The key challenges of delivering a programme of retrofit within these sectors, including financial, practical and behavioural, and action required from the Welsh Government (and its partners) to overcome them

UK Government – policy environment

Successive UK Governments have created a fluctuating policy environment since 2002. The diagram below shows some of the policies that have come and gone. Most recently we have seen The Boiler Upgrade Scheme (England and Wales) Regulations 2022 and UK Government has announced but not implemented ‘The Great British Insulation Scheme’. Such a policy environment discourages investment and innovation.

Policy



Key: Introduced Overhauled Withdrawn

It is not so much the impact of any individual policy as the uncertainty and confusion caused by so many policy changes that has impaired the decarbonisation of UK homes. The National Infrastructure Commission has referred to the damage caused by “frequent, almost arbitrary changes in [government] policy... with numerous and sometimes conflicting aims”.

UK Government - Poor policy and delivery.

On 29th June 2022, the UK Climate Change Committee (CCC) published its latest ‘Progress Report to Parliament’ on the UK’s net-zero journey, warning that “major failures in delivery programmes” relating to home energy efficiency and agriculture are jeopardising progress. Regarding buildings and heat, the CCC has singled out the UK’s housing stock as a source of emissions which will derail net-zero progress without effective policy interventions soon. The CCC gave UK

government 9/10 for ambition and 4/10 for delivery. This is exemplified by the recent Green Homes Grant Voucher scheme, on which the National Audit Office has reported¹².

Welsh Government

Having made an excellent start with the Optimised Retrofit Programme, which improves socially owned homes, Welsh Government appears to have run out of steam. I speculate that there is a capacity and continuity issue at officer level, with not enough civil servants across the board and a lack of expertise in decarbonisation in the Housing and Regeneration department. For example, it has taken over a year for Welsh Government resolve a GDPR issue that has been delaying data capture in ORP. The civil servants I deal with in my role as chair of the advisory group on residential decarbonisation do not have any background in the decarbonisation of existing homes, and neither did their immediate predecessors.

While it is true that lack of data about the construction of privately-owned homes and their energy consumption makes it very hard for Welsh Government to know what to do, it has not acted to make that data available.

Ministers have very wide areas of responsibility. The Minister for Climate Change is responsible for 43 topics. It is not surprising, with so many demands on her attention, that residential decarbonisation does not receive much of it. The full list, downloaded from the Welsh Government website, is as follows.

Responsibilities of the Minister for Climate Change

Access to the countryside, coast and rights of way and Areas of Outstanding Natural Beauty
Active travel
Aids and adaptations, including Disabled Facilities Grants and Physical Adaptation Grants
Arms-length oversight of Cardiff Airport

Best and most versatile land policy, mineral site restoration advice and Agricultural Land Classification and implementation of the EIA (Agriculture) Regulations
Biodiversity policy, including the implementation of the Nature Recovery Plan
Building regulations
Bus services

¹² <https://www.nao.org.uk/report/green-homes-grant/>

Responsibilities of the Minister for Climate Change (continued)

Climate change, emission reduction targets and carbon budgets
Coal tip safety
Cross Government Digital and Data Policy & Strategy
Cross-cutting measures of mitigation and adaptation in relation to climate change, including water; land drainage; flood and coastal risk; and control of marine and air pollution
Developments of National Significance: determination of planning applications and connected consents
Digital connectivity infrastructure, including Public Sector
Broadband Aggregation, fast broadband and mobile
Energy policy including small-medium scale energy production, domestic energy, energy efficiency
Forestry policy and legislation, including re-stocking, tree health and forest reproductive material
Future Wales: the national plan 2040
Genetically modified crops
Homelessness and housing advice
Housing and housing-related activities of Local Authorities and housing associations, including housing management and the allocation of social and affordable housing
Local environment quality, including litter, fly-tipping, noise policy and regulation
Marine and freshwater planning, biodiversity, conservation and licensing
Matters relating to housing provided by the private rented sector and regulation of registered social landlords
National Forest
National Infrastructure Commission
National Parks

Natural Resources Management, including oversight and implementation of the Environment (Wales) Act and Natural Resources Wales
Oversight and implementation of the Planning Acts and all aspects of planning policy and the determination of called-in planning applications and appeals
Planning gain – Section 106 Agreements contained in the Town and Country Planning Act 1990
Protection and management of wildlife, including control of pests, injurious weeds and vermin and the regulation of plant health, seeds and pesticides
Provision of housing-related support (but not the payment of Housing Benefit)
Rail services through the Wales and Borders franchise
Regeneration, including Strategic Regeneration Areas; legacy regeneration; Transforming Town Centres and provision of sites and premises, derelict land and environmental improvements relating to regeneration
Regulation of commercial tenancies let by Local Authorities
Renewable Energy
Road safety; safer routes to schools; transport for children and young people; regulation of pedestrian crossings and on-street parking
Roads, including construction, improvement and maintenance of motorways and trunk roads
Second Homes
Strategic lead on allotments and urban green infrastructure
Supply and quality of market, social and affordable housing
Sustainable resource and waste management
Transport for Wales
Transport policy
Water

Other blockers to action

1. Reserved Powers.
2. As described above, Welsh Government must wait for the changes from Westminster to the MEES regulations.
3. Until very recently, there has been no all-Wales building stock model that would allow Welsh Government and LAs to test different strategies, set targets and develop local area plans.
4. Decarbonisation requires cross-sectoral thinking by Welsh Government, for example the electrification of transport and heating.
5. While the UKGBC's Accelerator Cities project¹³ exists to catalyse action, Welsh LAs lack the resources to act.
6. Decarbonising homes is not a socially normal thing to do, compared with having a new bathroom or kitchen. It has no cachet the way that, for example, an electric vehicle has.
7. There is conflicting publicly available information both about what to do and about the need to act; homeowners need an easily accessed single source of the truth.
8. The cost of decarbonising a home is too high for many people. Procurement at scale can help to reduce costs.
9. The right funding is not yet available for all segments of the homeownership population.
10. There is a shortage of suitably skilled builders because they do not trust that there will be a steady and growing pipeline of profitable work and therefore do not seek such work.
11. The ratio of electricity unit cost to gas unit cost is still too high, which makes it hard to justify ASHPs on running cost grounds without additional expenditure to allow the storage and use of off-peak and/or pv-generated electricity.

Actions required from Welsh Government (and its partners) to overcome the challenges

Earlier in this submission I proposed some actions by Welsh Government. It may be helpful to categorise the ways in which the public sector and others can act. The headings under which the public sector can act are listed below and are taken from Michie et al¹⁴, which also provides guidance on how to decide what actions are most appropriate to achieve a desired goal.

¹³ <https://www.ukgbc.org/ukgbc-work/accelerator-cities/>

¹⁴ Michie S, Atkins L, West R. (2014) *The Behaviour Change Wheel: A Guide to Designing Interventions*. London: Silverback Publishing. www.behaviourchangewheel.com

Public sector actions	Typically characterised by¹⁵	Example
Guidelines	The development and dissemination of documents that make evidence-based recommendations for action in response to defined situations	Guidance for people with symptoms of a respiratory infection, including COVID-19
Environ. and social planning	Architecture, urban and rural planning, object and location design, and planning for housing, social care, employment, equality, benefits, security and education	Managing Conservation Areas in Wales
Comms. and marketing	Mass media campaigns, digital marketing campaigns, and correspondence	CCBC Communications & Engagement Strategy 2019 - 2022
Legislation	Use of laws, bylaws and similar legislative instruments to set the boundaries for acceptable behaviour with penalties for infringement	Renting Homes (Amendment) (Wales) Act 2021.
Service provision	Provision of services, materials and/or social resource and aids, whether they be structured or ad hoc, financed or unpaid	Local authority 'One Stop Shops' that help homeowners to retrofit their homes.
Regulation	Development and implementation of rules regarding behaviour that instruct the behaviour and possibly provide rewards and punishments for conforming	Building Regulations
Fiscal measures	Use of taxation, tax relief and financial incentives	Varying Council Tax or Land Transaction Tax by linking rates to the energy efficiency of a property, or by offering a rebate when measures are installed.

¹⁵ West et al. (2020). [Achieving behaviour change: A guide for national government](#). PHE publications.

Earlier in this submission I listed some actions by others in the broader energy system that influence the behaviour of homeowners. There are many more ways to intervene than the commonly cited incentivization and provision of information and these are given below, with examples. The intervention types are taken from Michie et al¹⁶.

<i>Intervention</i>	<i>Definition</i>	<i>Example</i>
Education	Increasing knowledge and understanding by informing, explaining, showing and providing feedback	Explain how a heat pump works, the benefits of installing one, and the steps to be taken before doing so.
Persuasion	Using words and images to change the way people feel about a behaviour to make it more or less attractive	Use a video campaign to depict heat loss as money escaping from the home
Incentivisation	Changing the attractiveness of a behaviour by creating the expectation of a desired outcome or avoidance of an undesired one	Provide a financial reward such as a council tax rebate for installing energy efficiency measures
Coercion	Changing the attractiveness of a behaviour by creating the expectation of an undesired outcome or denial of a desired one	Publish evidence that, other things being equal, homes with low energy efficiency are worth less than homes with higher energy efficiency
Training	Increasing the skills needed for a behaviour by repeated practice and feedback	Provide courses for existing and new local builders in how to install low-carbon technologies to a high standard
Restriction	Constraining performance of a behaviour by setting rules	Welsh Housing Quality Standards
Environmental restructuring	Constraining or promoting behaviour by shaping the physical or social environment	Publish guidance on acceptable changes to the appearance of homes in conservation areas
Modelling	Showing examples of the behaviour for people to imitate	Show a celebrity installing EWI on their home
Enablement	Providing support to improve ability to change in a variety of ways not covered by other intervention types	Provide a Building Renovation Passport to help identify and plan suitable energy efficiency measures for a specific home

¹⁶ Michie S, Atkins L, West R. (2014) The Behaviour Change Wheel: A Guide to Designing Interventions. London: Silverback Publishing.
www.behaviourchangewheel.com

How the right balance can be struck between influencing/incentivising homeowners and private sector landlords to retrofit their properties and regulating to increase standards to drive progress

What needs to be done, by Welsh Government (and others) goes far beyond influencing, incentivising and regulating.

In this submission I have tried to make the case for a systems approach that is based on an evidence-based framework for designing and delivering interventions to change behaviours at the individual, organisational, community and population levels. As lessons are learned, the approach must be improved over time. That is because residential decarbonisation is a ‘wicked’ problem, one that cannot be solved in the conventional sense of the word.

Wicked problems:

- are difficult to define clearly
- have many interdependencies and are often multi-causal
- are often not stable
- usually have no clear solution
- are socially complex
- hardly ever sit conveniently within the responsibility of any one organisation
- involve changing behaviour
- are sometimes characterised by chronic policy failure

Attempts to address wicked problems often lead to unforeseen consequences.

To tackle residential decarbonisation requires:

- holistic thinking that can grasp the big picture, including the interrelationships between the full range of causal factors underlying the problem.

- additional core skills to allow working across organisational boundaries and engagement with stakeholders, which include communications, big picture thinking and influencing skills and the ability to work cooperatively.
- a better understanding of behavioural change by policy makers
- a comprehensive focus and/or strategy which involves a range of coordinated and interrelated responses requiring sustained effort and/or resources to make headway.
- tolerating uncertainty and accepting the need for a long-term focus.

What we think is the best way to decarbonise our homes will evolve. Both policy and delivery must learn from experience. How we do it now will not be the same as how we do it in 5-, 10-, 15- or 20-years' time.

For Wales to decarbonise its privately owned housing stock, Welsh Government must have a long-term focus and a commitment to speedy and effective delivery. These will require a sustained effort by successive Welsh Governments and others, a willingness to take risks in order to learn by doing, joined up working across Welsh Government, and engagement with civil society.

The Welsh Government website lists 228 groups¹⁷ that advise Welsh Government, among which are the Decarbonisation of Homes in Wales Advisory Group that I chair and the Bus Decarbonisation Task and Finish Group, but I could not find any advisory groups for the decarbonisation of transport, or business, or land use, or the public sector.

Reflecting on the magnitude of the challenge to decarbonise Wales and the need for urgent action, I believe serious consideration should be given to the creation of a new body, akin to the National Infrastructure Commission for Wales, with a remit to advise Welsh Government on the decarbonisation of all sectors, and possibly to hold it to account in ways that the CCC cannot.

The CCC holds Welsh Government to account after the end of each four year carbon budget period, but the process is slow: before the end of the second year after each budget period Welsh Government publishes a statement

¹⁷ <https://gov.wales/organisations>

setting out whether Wales has met the budget; no more than six months later the CCC must provide a report setting out its views on the way in which the carbon budget for the period was or was not met and the action taken by the Welsh Ministers to reduce net Welsh GHG emissions during the period. That is a feedback loop that is a) six years long and b) does not align with the Welsh electoral cycle. Wales needs to be nimbler than this. As I outlined earlier, access to smart meter data can ensure faster, more granular and more accurate data on emissions from homes. Part of the remit for the new body I am advocating would be to drive the development of methods for providing faster, more granular and more accurate data on emissions from other sectors of the Welsh economy.

How effective the Welsh Government is influencing decisions on reserved matters to support decarbonisation of these sectors

The Wales Act 2017 provided a new devolution settlement for Wales, with the Conferred Powers Model replaced with a Reserved Powers Model. The Reserved Powers Model allows the Senedd to make laws on matters that are not reserved to the UK Parliament. Among the reserved matters are

Head D – Energy

Section D1 – Electricity

Section D2 – Oil and gas

Section D3 – Coal

Section D4 – Nuclear energy

Section D5 – Heat and cooling

Section D6 – Energy conservation

Head E – Transport

Section E1 – Road transport

Section E2 – Rail transport

Section E3 – Marine and waterway transport etc.

Section E4 – Air transport

Section E5 – Transport security

Section E6 – Other matters

The graphic below shows the sectors most responsible for GHG emissions in the UK, and the Welsh picture is very similar¹⁸. The reservation of powers concerning heat and cooling and energy conservation restricts Wales's ability to act to reduce its residential GHG emissions. The reservation of all transport powers similarly hampers Wales.

¹⁸ National Atmospheric Emissions Inventory (2022) Devolved Administration GHG Inventory 1990-2020



Source: BEIS (2021) Annex: 2019 UK Greenhouse Gas Emissions, final figures by end user and fuel type

The effectiveness of any devolved administration in influencing decisions on reserved matters depends on the willingness of UK Government to listen and to act.

As the First Minister eloquently described on BBC’s PM programme on 22nd July, Westminster has not been very good at listening for a long time. I know from personal experience that not listening is not unique to the current administration. I was invited in 2016 to Number 10 to meet the Prime Minister’s energy SPAD to discuss a residential decarbonisation report I had just authored in my role as Arup’s global buildings retrofit leader, but the SPAD was much more interested in telling me about decommissioning North Sea oil rigs than in listening to what I had to say.

Welsh Government does need to persuade UK Government to act in several areas, as described in earlier sections of this submission:

- To allow DCC to share smart meter data
- To require that up to date EPCs must be provided as a condition of a mortgage offer
- To deliver consistent long term decarbonisation policies