



NET ZERO HOMES: TIME FOR A RESET, THE ENGLISH STORY

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Abstract: The built environment features prominently in the English strategy to attain net zero, because it is the second highest emitter of carbon after transport. This paper will reviews the English government's journey on homes' contribution to achieving net zero, taking The UK Finance Report *Net Zero Homes: Time for a Reset* (2022) and the *Mission Zero Review* (2023) observations as a guide. It will conclude that even before the current change of tack, the Government's proposals were falling short and now the Government has all but given up on serious attempts to address homes' contribution to net zero. Economic headwinds, but more significantly political opportunism, is creating dangerous messaging and divisions which can only undermine the UK's net zero strategy at a time when around the globe the effects of climate change are being destructively felt. Net zero by 2050 remains a legal commitment but the strategy to effectively achieve net zero homes is now seriously undermined and likely to be challenged in the courts. This worrying development can only deflect attention away from tackling those constituent elements required to deliver net zero, be that investment, technical innovation, skills development as well as effective legal frameworks, which have drawn serious attention only amongst a select few.

Title: Net Zero Homes: Time for a Reset, The English Story.

Keywords: Net-zero, homes, strategy, England

Resumen: El parque inmobiliario ocupa un lugar destacado en la estrategia inglesa para alcanzar la descarbonización, ya que es el segundo mayor emisor de carbono después del transporte. En este documento se examina el camino recorrido por el Gobierno inglés en relación con la contribución de los hogares a la consecución del objetivo de cero emisiones, tomando como referencia el informe de UK Finance *Net Zero Homes: Time for a Reset* (2022) y las observaciones del *Mission Zero Review* (2023) como guía. Se concluye que, incluso antes del actual cambio de rumbo, las propuestas del Gobierno se estaban quedando cortas y que, actualmente, prácticamente ha renunciado a abordar la contribución de los hogares a los objetivos de sostenibilidad. La turbulencia económica, pero sobre todo el oportunismo político, están generando mensajes y divisiones peligrosas cuyo resultado será socavar la estrategia *net zero* del Reino Unido, en un momento en que los efectos destructivos del cambio climático se están sintiendo en todo el mundo. El objetivo de descarbonización de las viviendas para 2050 sigue siendo un compromiso legal, pero la estrategia para conseguirlo se ve ahora seriamente debilitada y es probable que genere litigación. Esta preocupante evolución desvía la atención de los elementos necesarios para alcanzar el objetivo de viviendas *net zero*: inversión, innovación técnica, desarrollo de capacidades y marcos jurídicos eficaces, que solo han atraído la atención de una selecta minoría.

Título: Viviendas *net zero*. La experiencia inglesa: es tiempo de reinicializar.

Palabras clave: Net zero, viviendas, estrategia, Inglaterra

Resum: El parc immobiliari ocupa un lloc destacat en l'estratègia anglesa per a aconseguir la descarbonització, ja que és el segon major emissor de carboni després del transport. En aquest document s'examina el camí recorregut pel Govern anglès en relació amb la contribució de les llars a la consecució de l'objectiu de zero emissions, prenent com a referència l'informe d'UK Finance *Net Zero Homes: Time for a Reset* (2022) i les observacions del *Mission Zero Review* (2023) com a guia. Es conclou que, fins i tot abans de l'actual canvi de rumb, les propostes del Govern s'estaven quedant curtes i que, actualment, pràcticament ha renunciat a abordar la

contribució dels habitatges als objectius de sostenibilitat. La turbulència econòmica, però sobretot l'oportunisme polític, estan generant missatges i divisions perilloses, el resultat de les quals serà minar l'estratègia *net zero* del Regne Unit, en un moment en què els efectes destructius del canvi climàtic s'estan sentint a tot el món. L'objectiu de descarbonització dels habitatges per a 2050 continua sent un compromís legal, però l'estratègia per a aconseguir-ho es veu ara seriosament afeblida i és probable que generi litigació. Aquesta preocupant evolució desvia l'atenció dels elements necessaris per a aconseguir l'objectiu d'habitatges *net zero*: inversió, innovació tècnica, desenvolupament de capacitats i marcs jurídics eficaços, que només han atret l'atenció d'una selecta minoria.

Títol: Habitatges *net zero*. L'experiència anglesa: és hora de reinicialitzar.

Paraules clau: Net zero, habitatges, estratègia, Anglaterra

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1. INTRODUCTION

There is no doubt that attaining net zero is going to be a challenge for all sectors of the economy and society. The built environment will be no exception. In 2021 the government set out its initial strategy for the built environment in England’s contribution to attaining net zero.¹ This strategy has received high-level scrutiny. For example, in the autumn of 2022 UK Finance, representing the financial sector, published a detailed assessment of the government’s strategy entitled *Net Zero Homes: Time for a Reset* (UK Finance’s Report).² The finance sector, of course, will play a major role in supporting delivery of net zero, thus their views are particularly insightful. The UK Finance Report was followed at the beginning of 2023 by an independent review of the country’s progress towards net zero which included recommendations regarding buildings and homes. This review, entitled *Mission Zero*³ (Mission Zero Review), was commissioned by Liz Truss, the then prime minister and was headed by Right Honourable Chris Skidmore MP, a former energy minister in the ruling Conservative Party. Yet despite the observations and recommendations made by both UK Finance’s Report and the Mission Zero Review, the present Conservative government has chosen to ignore detailed findings and to row back on their initial strategy for the built environment’s contribution to achieving net zero by 2050. Their reasons for doing so

¹ HM Government, Heat and Buildings Strategy CP388 (October 2021). See also HM Government, Powering Up Britain (March 2023).

² UK Finance, *Net Zero Homes: Time for a Reset* (November 2022) available at <https://www.ukfinance.org.uk/policy-and-guidance/reports-and-publications/net-zero-homes> accessed 15th August 2023.

³ Rt Hon Chris Skidmore MP (Chair), *Mission Zero: Independent Review of Net Zero* (January 2023) available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128689/mission-zero-independent-review.pdf accessed 15th August 2023.

have been triggered by the rising cost of living and perceived electoral advantage in watering down their net zero strategy. Nevertheless, they maintain that the 2050 net zero obligation remains.

This paper will review the English government's journey on homes' contribution to achieving net zero taking UK Finance's Report and Mission Zero Review's observations as a guide. It will conclude that even before the current change of tack, the Government's proposals were falling short and now the Government has all but given up on serious attempts to address homes' contribution to net zero. Economic headwinds, but more significantly political opportunism, is creating dangerous messaging and divisions which can only undermine the UK's net zero strategy at a time when around the globe the effects of climate change are being destructively felt. Net zero by 2050 remains a legal commitment but the strategy to effectively achieve net zero homes is now seriously undermined and likely to be challenged in the courts. This worrying development can only deflect attention away from tackling those constituent elements required to deliver net zero, be that investment, technical innovation, skills development as well as effective legal frameworks which have drawn serious attention only amongst a select few.

The paper will first set the distinct context of the English housing market before looking at the government's building related proposals. These proposals focus upon the position in England, the Devolved Nations of Scotland, Wales and Northern Ireland are taking an independent but similar path.⁴ It will then evaluate UK Finances' Report and its recommendations and the likelihood of these being implemented, looking to additional insights from the Mission Zero Review.

2. THE ENGLISH CONTEXT

England is committed to net zero by 2050. This commitment is enshrined in legislation⁵ and the government has developed and published a strategy to that end.⁶ Buildings feature prominently in this strategy because they constitute the second highest emitter of carbon after transport, and a dedicated Heat and Building Strategy (H&B Strategy) was published in October 2021.⁷ This paper will concentrate on residential buildings which contribute 14% to the UK's present carbon emissions.⁸ This percentage has not

⁴ For example, Scotland hopes to attain net zero by 2045, see <https://www.gov.scot/policies/climate-change/> accessed on 11th September 2023.

⁵Climate Change Act 2008 (2050 Target Amendment) Order 2019 amending section 1 Climate Change Act 2008.

⁶ HM Government, Net Zero Strategy: Build Back Greener (October 2021).

⁷ HM Government, Heat and Buildings Strategy CP388 (October 2021).

⁸ Buildings as a whole contribute 30% of UK's greenhouse gas emissions and 20% of direct greenhouse gas emissions (i.e. largely from heating) see Mission Zero Review [944].

reduced significantly since 2015.⁹ Reducing these emissions presents a real challenge given that housing in England is amongst the least efficient in Europe. Over 50% of dwellings were built before 1965 and 20% or so were built before 1919.¹⁰ Furthermore, the heating of homes in England is largely from hydrocarbon sources – heating by gas accounts for approximately 80% of all homes with another 10% heated by oil.¹¹ Compounding this challenge is the poor insulation of many homes. Government programmes to subsidise insulation were unfortunately halted in 2012 and are only beginning to be ramped up once more.

The UK Finance Report estimated that approximately two thirds of England's housing stock will need to be retrofitted. It identifies significant regional differences, with more housing below standard as well as higher levels of fuel poverty in the north of England. Nearly half of low-income households in England live in homes with an Energy Performance Certificate (EPC) of D or below and consequently use and pay for more electricity and gas than the average EPC C rated home.¹² The H&B Strategy sets out an aspiration for all homes to have a Minimum Energy Performance Standards (MEES) of EPC C or above where this is feasible. Clearly a small proportion of homes, given for example their age, means of construction, historic or cultural significance, will not be able to meet this requirement. Nevertheless, the UK Finance Report estimates that 16.7 million dwellings fail to meet EPC C and that 1.285 million dwellings will need to be retrofitted every year to meet the 2050 net zero target. That equates to 3,500 dwellings per day! Yet only 200,000 dwellings were upgraded in 2021, a mere 15% of the required total.

The government strategy took a sectoral and graduated approach to the MEES target of EPC C with rental properties being the initial target. Social rented housing is expected to meet a MEES of EPC C by 2035 with an earlier target of 2030 for 'the fuel poor.' Private rental properties are currently required to have an EPC rating of E. It was proposed that this rating would raise to C by the end of 2025 for new tenancies and 2028 for all tenancies.¹³ A price cap of £3,500 was proposed where landlords could not raise third party finance and were wholly self-funded. An exemption could be obtained should £3,500 be insufficient for the property to upgrade to EPC E. Clearly this cap was only going to enable minimal measures for instance improved insulation. But these modest proposals are a victim of the government's change of policy with this private sector strategy presently scrapped with the prospect of the most fuel poor condemned

⁹ Ibid.

¹⁰ See Mission Zero Review Footnote 686.

¹¹ Mission Zero Review Footnote 690.

¹² See Mission Zero Review Footnotes 687 & 688.

¹³ A landlord can apply for an exemption on limited grounds, see <https://www.gov.uk/guidance/domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance> accessed on 03/09/2023.

to continued high energy bills and poorly insulated and heated homes. This is particularly disappointing in the light of research that showed that private sector landlords were making investment decisions based on the expected standards, with 71% of landlords saying they would only invest in properties with an EPC C rating and a third of landlords indicating they would sell their properties that failed to meet this MEES.¹⁴

UK Finance Report and the Mission Zero Review both also recommend the careful and phased introduction of MEE standards for all owner-occupied home.¹⁵ Careful in the sense of protecting vulnerable home-owners who do not have available funds to pay for the upfront costs of retrofitting and phased in the sense of a realistic timeline for retrofitting in the light of some of the obstacles already considered. The Mission Zero Review in fact calls for an earlier target of 2033 for meeting EPC C. Despite these calls, MEES have not yet been officially set for either owner occupiers or mortgage lenders portfolios and to an extent any MEES for these sectors will be inter-related.¹⁶ It was widely expected that EPC C would be required across lenders portfolios but in the current political climate it is unlikely that this minimum MEES will be officially adopted in the short term. Nevertheless, there are reports that mortgage lenders' plans to meet EPC C across their lending portfolios are so well advanced that it is unlikely that they will be delayed or abandoned.¹⁷

The government envisages that MEES targets will be reached through carbon-reducing heating initiatives. Prominent is the installation of heat pumps, primarily air-sourced heat pumps, with the aspirations that these will be as economical to install as gas boilers. The target is for 60,000 heat pumps a year to be installed by 2028. The renewal of fossil fuel boilers was to be banned from 2026 but this date has now been pushed back to 2035 and with plans to exempt the poorest households entirely. Other initiatives are also being supported. These include the promotion of roof and cavity wall installation, solar panel energy generation and storage systems and research into the use of hydrogen as a viable domestic heating source.

These measures and their implementation have come in for criticism and challenge for not going far enough. The Climate Change Committee, as an independent expert adviser to the government on net zero, was scathing of progress in their 2022 report. They reported that that heat pump targets had not been met and that "current policy [is] insufficient" to meet a MEES of C by 2035. The UK Finance Report and the

¹⁴ Research conducted by BVA BRDC for Foundation Home Loans widely reported in the landlord trade press, see for example <https://www.landlordzone.co.uk/news/properties-with-epcs-under-a-band-c-already-harder-to-sell-to-other-landlords> accessed 12 October 2023.

¹⁵ Mission Zero Review at [978] and [990] and UK Finance Report at p40.

¹⁶ Owner occupiers only require an EPC of whatever rating to sell.

¹⁷ See for example <https://www.telegraph.co.uk/money/net-zero/banks-onerous-green-plans-despite-sunak-net-zero-rollback/> accessed 12 October 2023.

Mission Zero Review also call for more action and make recommendations to that end which we will consider shortly. The government has been forced to make some revisions to their original H&S Strategy when a trio of environmental organisations brought a successful court challenge to that strategy. The court required the government to revise the strategy by 31st March 2023.¹⁸ However, this revised strategy¹⁹ also has been branded as inadequate. For example, plans have been announced to fund the insulation of 300,000 homes but this is a very small proportion of those homes that could benefit and there is little else that specifically targets energy saving measures.²⁰ Future legal challenges are on the way and can only be encouraged by the government's September 2023 announcements.

3. PRIMARY BARRIERS TO MEES

Not only is reducing home carbon emissions a necessity to address climate change, but there are clear advantages to the individual homeowner. Retrofitting homes should bring down energy bills, provide energy security and be more efficient in terms of keeping homes warmer in winter and cooler in summer with associated health and wellbeing benefits.²¹ For example, it is estimated that increasing energy efficiency in homes would save those in the least efficient homes £950 a year.²² Given these advantages and the drive to improve EPCs, homes with a higher A-C rating should also hold or increase their capital value. Just as buyers look for fast internet connections, they are likely to look also for energy efficient homes. It is suggested that homebuyers are willing to pay almost 10% more for energy efficient homes.²³ So why are homeowners reluctant to improve the energy efficiency of their homes? The UK Finance Report identifies four primary barriers to domestic buildings reaching the target of MEES of C or above.

3.1. NO ONE EASY SOLUTION

¹⁸ *R (on the application of Friends of the Earth) v SS of Business, Energy & Industrial Strategy, R(on the application of Client Earth v SS of Business, Energy & Industrial Strategy, R (on the application of the Good Law Project)* [2022] EWHC 1841.

¹⁹ HM Government, Powering Up Britain (March 2023).

²⁰ See for example The Guardian, "UK insulation scheme would take 300 years to meet government targets, say critics" 9th April 2023 at <https://www.theguardian.com/environment/2023/apr/09/uk-insulation-scheme-would-take-300-years-to-meet-its-own-targets-say-critics> accessed on 15th August 2023.

²¹ For a convenient summary see Mission Net Zero [952].

²² Citizen's Advice Mission Net Zero Footnote 671.

²³ Santander(2022), 'A Green Premium' see <https://www.santander.co.uk/about-santander/media-centre/press-releases/a-green-premium-house-buyers-willing-to-pay-almost-10> accessed 13 October 2023.

First, there is no one size fits all. There is a huge variety of homes, and each may need a tailored solution. There is variety of age with generally older properties lacking insulation and more likely to suffer from ill-fitting windows and doors. The type of construction and building materials employed also vary considerably across the country. Existing heating systems can present challenges to convert with upgrades required not only to the source of heat generation but to heat delivery, whether through radiators, underfloor heating, and improvement of insulation, whether through upgraded glazing or insulation of roof and wall voids. Some rural homes present a particular challenge. They are not connected to mainstream energy supplies and presently rely on bottled gas or oil stored on site.

The focus of this paper is on retrofitting existing homes, but a target also has been set for new homes built from 2025 to reduce their carbon emissions by 75-80% from homes built under buildings regulations in force in 2022.²⁴ As a first step revised building regulations were introduced in June 2022 to reduce emissions by 31%. Future industry consultations are planned in 2023 to advance closer towards the 2025 target. The Royal Institute of British Architects, whilst acknowledging these positive steps, believes that these standards could be more ambitious, for instance by setting independent benchmarks rather than look to a comparative reduction.²⁵ The Mission Zero Review also urges prompt implementation of these standards and their application as a benchmark for existing as well as new homes.²⁶

Tenure too will affect retrofitting options. Owners of freehold houses generally enjoy the independence to make alterations to their property free of others control. A restrictive covenant could interfere or more significantly planning permission may be required. Permitted development rights do extend to most energy saving measures but planning permission is required for example if a heat pump cannot be sited a meter away from the boundary. There is a concern that the noise generated by heat pumps will be problematic in more densely populated neighbourhoods and a maximum decibel limit is mandated. The installation of an aired sourced heat pump to terraced homes can thus present difficulties.

The retrofitting of flats and other developments with communal structures and services, will require a communal decision-making process, a fair apportionment of costs and an effective means for their recovery. There may be a need to upgrade an existing common heating system or energy saving measures may need to be sited on the common parts of the building. The leasehold tenure employed in England as a vehicle

²⁴ See Dept of Levelling, Housing & Communities, Future Homes and Building Standards (December 2021). Local authorities can set higher standards.

²⁵ See RIBA, Future Homes Standard explained available at <https://www.architecture.com/knowledge-and-resources/knowledge-landing-page/the-future-homes-standard-explained> accessed 13th October 2023.

²⁶ Mission Zero Review at [974]-[975].

for flat ownership presents a real challenge. The involvement of the landlord as owner of the common parts of the development will thus be vital. That landlord may be an external entity, who may well be reluctant to be involved in what could be a time-consuming process. If the landlord is a corporate entity in which all flat owners are shareholders there is the challenge of reaching a consensus between all the flat or unit owners. Other interested parties from tenants to mortgagees also may need to be consulted and consent. Even if an agreement can be reached, the terms of many leases do not provide for the recovery of building improvements costs from flat owners. Professors Sue Bright and Frankie MacCarthy are leading academic experts who have explored these legal challenges.²⁷ Overcoming them may well necessitate legislation in an area where complexity is already legendary.

3.2. HOMEOWNER UNCERTAINTY

The second major barrier identified by UK Finance flows from the first and that is the high level of homeowner uncertainty over why and how they should improve the energy performance of their homes. As yet, there is no clear government message on what role homeowners need to play in meeting net zero and the individual benefits and costs that entails.²⁸ These issues are largely confined to policy papers from a range of government and non-government bodies. With no one obvious retrofit route property owners will need individual advice on what would best suit their needs, property and budget. Solar panels and insulation enjoy a more prominent profile with consumers than heat pumps which have yet to reach their 'Tesla' moment. Their press so far is mixed with noise, additional works and different performance and operational standards to gas or oil heating all feeding into consumer hesitancy. There is plenty of online guidance available, but it can be difficult to be sure of its quality or to determine which advice relates to different property types and consumers. The government's backtracking on net zero targets is only going to feed homeowner hesitancy.

3.3. SUPPLY SIDE CHALLENGES

The third barrier looks to supply side challenges. For example, there is presently a shortfall in qualified fitters of heat pumps and the component supply chain could be more robust. The Mission Zero Review refers to the Heat Pump Association's estimate that there are currently only 3,000 trained heat pump engineers in the UK when at least 27,000 will be needed over the next six years if targets are to be met.²⁹ A further immediate challenge is the inadequacy of the electricity grid to meet the growing demand from energy projects particularly the expansion of solar energy. A significant upgrade of the grid infrastructure is thus necessary but will take time. A streamlining of

²⁷ See <https://www.law.ox.ac.uk/private-law-research-group/futureproofing-flats> accessed 16th August 2023.

²⁸ See for example Mission Zero Review at [979]-[984].

²⁹ Mission Zero Review at [1010].

the planning process may be necessary in a similar way to that adopted to facilitate the upgrade and roll out of mobile data infrastructure.

3.4. THE COST!

Last but by no means least is just how to finance the daunting task ahead. UK Finance estimates that the cost of dwellings meeting an EPC C or above rating is a sobering £249.6 billion and £291 billion to achieve full energy efficiency potential. The government when issuing its Build Back Better Strategy in 2021 earmarked £3.9 billion with £950 million allocated to The Home Upgrade Scheme and £450 million to a Boiler Upgrade Scheme. Remaining funds look to support the decarbonisation of social housing and public buildings as well as promoting green heating technologies. The pressure to upgrade its strategy already referred to has led to further allocation of funds including an additional \$450 million to the Boiler Upgrade Scheme and £60million to support the installation of heat pumps. Additional funds have also been allocated to the training of more heating engineers and the social housing and public buildings decarbonisation.

These are the big numbers and clearly the current funding commitments fall far short of the expected cost. But of more immediate and individual concern for homeowners is the reality of what it will cost to retrofit their home. The Mission Zero Review quotes costs as the number one barrier to people improving their homes.³⁰ Offsetting the costs and benefits do not immediately stack up but emerge only over time. Initially homeowners could only claim a £5,000 grant towards the installation of a heat pump, but this is often a fraction of the cost. A heat pump for a standard three-bedroom house costs, on average, £10,000 but there will also be fitting costs and additional upgrades may be required in terms of larger radiators or insulation. The Nationwide Building Society estimate that improving the energy rating of a home rated F or G, would result in a saving of £1,780 a year but, with costs of installation likely to nudge £25,000, it would take 14 years to recover the cost. The picture is better for homes upgraded from EPC D to C, which they estimate to involve an upgrade cost £8,100.³¹ The Government's September 2023 announcement that the grant would increase to £7,500 is therefore very welcome. Even so loan finance is going to be vital, and it is to their recommendations of the UK Finance Report, with additional insights from the Mission Zero Review, that this paper turns.

³⁰ Mission Zero Review at [966].

³¹ Mission Zero Review Footnote 694.

4. POLICY RECOMMENDATION 1: INSPIRING ACTION

Climate change is happening. The scientists are in no doubt and worldwide governments are reacting to the inevitable with commitments agreed at recent UN Climate Change Conferences most notably in Paris (COP21) and Glasgow (COP26). The UK Finance Report refers to polls that suggest 85% of the public see climate change as an important issue that needs to be addressed but only 35% have or are planning to adopt energy efficient measures. This gap will need to be closed if net zero is to become a reality.

The first of UK Finance's recommendations is the establishment of a government led delivery body to co-ordinate stakeholder action. The shift from targets to delivery is a vital step. It is easy to set targets but much more challenging to meet them. Greening homes is a complex and inter-related task requiring action from across the economy and society. Co-ordination is thus key. Some advance has been made in this direction with the setting up in February 2023 of the governmental Department of Energy Security and Net Zero with one of its aims being "to improve the energy efficiency of UK homes, businesses and public buildings."³² This was closely followed by establishment of the Net Zero and Energy Efficiency Task Force a month later. This task force brings together experts from different sectors with the stated aim of "drawing up priorities and ways forward to turbocharge energy efficiency, including accelerating household insulation and boiler upgrades."³³ The UK Finance Report and the Mission Zero Review also see a key role for local initiatives, for instance local authorities know and are closer to their communities and local groups can often generate local interest and harness local enthusiasm effectively. For example, they call for the development of Local Area Energy Planning,³⁴ local retrofit hubs³⁵ and support for key local areas to pioneer carbon saving initiatives.

The second recommendation to inspire action is to establish a retrofit advisory service for homeowners to provide accurate advice on both retrofit options and funding finance. The internet is awash with generic information, but this can be confusing, sometimes inaccurate and cannot be bespoke to the individual homeowner. Homeowners need to have confidence that their hard-earned money is going to be spent on heating systems that suit their needs and the environment. Unfortunately experience from other home related upgrades is too often misinformation and 'cowboy' installers. An accessible and government endorsed advisory service would thus be a

³² Department for Energy Security and Net Zero at [About us - Department for Energy Security and Net Zero - GOV.UK \(www.gov.uk\)](https://www.gov.uk/about-us) accessed 9th August 2023.

³³ HM Government, at [Government announces team of leading experts to boost energy efficiency - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/announcements/government-announces-team-of-leading-experts-to-boost-energy-efficiency) accessed 9th August 2023.

³⁴ Such local energy plans have been pioneered by local NGO's see for example Catapult Energy Systems at [Local Energy Planning Clean Growth | Energy Systems Catapult](https://www.catapultenergy.co.uk/local-energy-planning-clean-growth-energy-systems-catapult) accessed 9th August 2023.

³⁵ See for example UK Finance Report at p32 and Mission Zero Review [985].

valuable support. An accreditation scheme, particularly for suppliers and installers, would also engender confidence. The UK Finance Report and the Mission Zero Review also pick up suggestions for a passport system for each property made by the Green Finance Institute Coalition for Energy Efficient Buildings. This passport would provide a convenient record of what has and what could be done to improve a building's energy efficiency and in so doing highlight the central importance of energy efficiency.

The last strand of the UK Finance Report's recommendations to inspire action is to support supply chain confidence. Ensure that retrofitting can be physically delivered is crucial in reaching net zero. This will involve global supply chains, business investment and suitably qualified advisors and installers. Both reports emphasise the need for a clear policy steer from government to support business and funder confidence to plan their businesses and make these critical investments. This is not the time for mixed messages or wavering resolve. All down the supply chain certainty and clarity is required from overall policy to delivery where initiatives need to include accreditation schemes, for example through Publicly Available Specifications (PAS Standards)³⁶ and linked financial incentives. Critically, present government backtracking is undermining this certainty.

Many of the players within the supply chain are likely to be small and medium size businesses that lack the research and development skills of larger corporations. Government or industry-based support is thus going to be particularly significant. Reference has already been made to the changes to building regulations for new build homes through the Future Homes and Building Standards, but similar guidance is necessary for retrofitting. The Committee on Climate Change estimates that an additional 200,000 workers across all sectors will be required to deliver net zero by 2050. The Government has announced a £8.85million to be made available for retrofit training and a target of training 8,000 more workers through free or low-cost courses.³⁷ But these plans are modest, with the Federation of Master Builders already reporting worrying construction worker shortages which delay building projects and result in increased prices.

But are these recommendations enough to inspire action? The UK is currently enmired in a cost-of-living crisis. Inflation is proving stubbornly high and to bring it down the Bank of England is rising interest rates to dampen demand. With rising interest rates come rising mortgage costs and with fixed rate mortgages generally limited to 2-5 years in the UK many mortgage holders are facing high uplifts in their monthly mortgage repayments. One of the last things on their mind is refitting their homes even if that brings the prospect of lower heating bills.

³⁶ See PAS 2030 under the TrustMark scheme. For further details see <https://www.trustmark.org.uk/business/information-guidance/become-pas-mcs-certified> accessed 13 October 2023.

³⁷ HM Government, <https://www.gov.uk/government/news/thousands-to-be-trained-to-boost-energy-efficiency-in-homes-across-the-country> accessed 13th October 2023.

Worryingly instead of redoubling efforts to keep net zero by 2050 as a feasible goal in the face of the cost-of-living crisis, the Government has rowed back on targets causing a wave of dismay amongst investors and industries who needed confidence that the investments they have made and will need to continue to make are sustainable. Signs of government hesitancy emerged with the resignation of a prominent Government minister with responsibility for the environment, Zac Goldsmith, in June 2023. He accused the Prime Minister, Rishi Sunak of being “simply uninterested” and the Government of “apathy” on environmental issues.³⁸ His warns proved prescient with the September 2023 climate change cutbacks.

Unfortunately, these may well not be the last of climate change scepticism by the government. A controversial bye-election win by the Conservative Party is widely attributed to questioning clean air policies and has inspired the Conservative Party to politicizing climate change policies. These divisive tactics are sadly likely to grow louder with a general election due in 2024. The Labour Party by contrast have reiterated their support for the earlier implementation of net zero strategies, marking a clear divide between our two main political parties. It is easy, but simplistic, to point to the individual cost of retrofitting a home but climate change is inevitably bringing costs -it is rather a question of what costs and how they are going to be met. What is needed is not political division but continued cross party consensus and a clear and authoritative message on the need and benefits at an individual, national and global level, flowing from reduced carbon emissions and energy efficiency from the built environment.

5. POLICY RECOMMENDATION 2: DELIVERING FUNDING

The UK Finance Report puts forward four recommendations on their second theme of delivering funding.

Their first recommendation is to prioritise the retrofitting of social housing as a more coherent sector than either the private rental sector or owner-occupied housing. It already has firm links to government through regulatory oversight and funding provision and thus can be more readily open to policy advancement. It also houses vulnerable and fuel poor sectors of society who can benefit the most from energy savings. In October 2021 research commissioned by the Housing Federation, representing housing association landlords, estimated that £36 billion would be required to retrofit the UK’s social housing stock.³⁹ The Government established a Social Housing Decarbonisation Fund in 2020 which earmarked a total of £3.8 billion over ten

³⁸ Zac Goldsmith’s resignation letter available at [Read Zac Goldsmith’s resignation letter in full as he attacks Tory election hopes | The Independent](#) accessed 11th August 2023.

³⁹ This figure would meet the cost of bringing the social housing stock up to an EPC rating of C plus fitting heat pumps and low carbon technology to 27 million housing association homes see Savills, Decarbonising the Housing Association Sector: Costs and Funding Options (October 2021) and Housing Federation, Decarbonisation, A Guide for Housing Associations (October 2021).

years with funds being made available in phases.⁴⁰ Extra money was allocated to this decarbonisation fund in March 2023 with the expectation of matched funding from social landlords.⁴¹

The UK Finance Report also emphasises the importance of funding the supply chain, the backbone of which are small and medium size businesses who are dependent on loan finance but may well lack the experience of funding expansion of their businesses.

A further recommendation is to look at the incentives that fiscal measures can provide. Value added tax is already zero rated for energy saving materials including insulation, heat pumps and solar panels until at least 2027. Building costs for new buildings are also zero rated and this could be extended to renovations. Incentives through stamp duty (a form of purchase tax) are also suggested by providing lower rates for homes which satisfy the relevant MEES or a tax rebate offered upon retrofitting.

However, the UK Finance Report is surprisingly silent on their role in financing the transition to net zero. They do call upon Government to provide further funding which should be targeted to the more vulnerable who are unlikely to meet the commercial criteria required by lenders. Also, they see a role for Government in providing guarantees to support green lending. Such guarantees have been successful in facilitating access to home ownership.

Banks and other lenders will be a key source of funding for retrofitting or the purchase of dwellings with a low carbon footprint and a growing number of lenders offer green mortgages. The Green Finance Institute seeks to encourage green mortgages by setting Green Finance Principles which promote clear and consistent lending methodology.⁴² In an effort to bring key players together to enhance a consistent message they also hosted the first Green Mortgage Summit in July 2023.⁴³ Green mortgages offer incentives by way of slightly lower interest rates or cash backs. But after a decade the take up of green mortgages is disappointing. Interest rate differentials are often insufficient to entice homeowners with traditional mortgage products often offering more competitive rates. It is also suggested that they target those borrowers

⁴⁰ The first wave allocated £179 million and the second wave £800 million.

⁴¹ Amounting to £774 million see <https://www.gov.uk/government/news/18-billion-awarded-to-boost-energy-efficiency-and-cut-emissions-of-homes-and-public-buildings-across-england> accessed on 11th August 2023.

⁴² See <https://www.greenfinanceinstitute.com> accessed 12th August 2023.

⁴³ Ibid.

with healthy credit profiles rather than those who are dependent on loans to fund retrofitting.⁴⁴

There are measures that could be taken to encourage lenders to offer more attractive green mortgages terms. The central Bank of England could provide a Green Fund Lending Stream to banks and the Prudential Regulatory Authority could also adopt lower regulatory capital requirements for green mortgages. From a wider perspective the growth of green finance and the Environmental, Social and Governance corporate agenda should encourage corporations to see how they can support greening buildings as an important strand in this agenda.

The progress towards greening lenders mortgage portfolios by looking for an average MEES of EPC C across a lender's portfolio has already been referred to. However the UK Finance Report raises several concerns in setting EPC requirements in lending decision making. First, are affordability issues. There are borrowers whose properties or financial vulnerability may make an EPC of C beyond reach and risk becoming mortgage prisoners. An effective advice scheme directing borrowers to viable sources of funding could help to alleviate this risk. Secondly, the recording of, and accounting for, environmental data is an unfamiliar hurdle that lenders need to address. For example, how can MEES be incorporated into property valuations or how can energy cost savings be factored into affordability assessments? These will take experience to overcome but, in the meantime, there is an increased risk of miss-selling.

Clearly, innovative financing instruments will be needed, and the UK finance industry should be well placed to develop schemes and products that work. The government has recently updated its green finance strategy, but this is focussed on the big picture and there is little in this strategy which outlines how an individual homeowner can finance the retrofit of their home.⁴⁵ At the micro-level the government have funded competitive programmes to promote green lending products. The Green Home Innovation Fund was launched by the government in 2019 and the three funded projects reported in 2022.⁴⁶ This has been followed by the Green Home Accelerator,

⁴⁴ See generally Shepherd and Wedderburn, A Guide to Green Mortgages available at <https://shepwedd.com/expertise/banking-and-finance/financial-products-services> accessed 12th August 2023.

⁴⁵ HM Government, Mobilising Green Finance (March 2023) available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1149690/mobilising-green-investment-2023-green-finance-strategy.pdf accessed 3rd September 2023.

⁴⁶ See <https://www.gov.uk/government/publications/green-home-finance-innovation-fund-competition-successful-bids/green-home-finance-innovation-fund-competition-successful-bids> and its evaluation <https://www.gov.uk/government/publications/green-home-finance-innovation-fund-evaluation> accessed on 3rd September 2023.

which was launched in the autumn of 2022 and is expected to report in 2025.⁴⁷ In the meantime, there are examples from around the world that link repayments to energy saving costs or link the finance to the property rather than the individual homeowner to make long term investment attractive.

6. POLICY RECOMMENDATION 3: REDEFINING STANDARDS

The final strand to UK Finance’s Report is the call to refine standards, in particular EPC ratings.⁴⁸ As we have seen much of the government’s net zero strategy for buildings depends on EPC ratings as a basis for MEEs. An accurate methodology including metrics that will support the road to Net Zero is thus crucial. However currently EPCs are falling short. They were devised for a different purpose and fail to take account of new technologies. For instance, installing a heat pump bizarrely can increase the EPC rating of a dwelling. There is work ongoing on redefining the EPC methodology. An action plan was published in September 2020 with the hope that its recommendations, including a more accurate measure, will be implemented by 2025.⁴⁹ Not only is there a call for more appropriate metrics but also for a more accurate and live database. Currently the database is too slow to update, sometimes taking months to record changes.

7. MISSING IN ACTION

The UK Finance Report is important and useful but what does it overlook? Reading it and the Mission Zero Review there is much common ground on what needs to be done. However, achieving energy efficient homes is not just about the engineering and the finance. There are two key gaps, first a need for public engagement and secondly a recognition that the law is a vital component.

7.1. PUBLIC ENGAGEMENT

There is a feeling that both reports are speaking to a limited audience –an audience that is largely converted or at least open to their messages. The Mission Zero Review highlights that to ensure that net zero works for everyone there is a need for “Agency, Affordability and Accessibility”.⁵⁰ We have already considered accessibility and affordability to ensure that there are the heating and insulation systems that compare favourably with carbon-based options, and which are accessible to all because they are

⁴⁷ See <https://programmes.carbontrust.com/ghfa/> and <https://www.gov.uk/government/publications/green-home-finance-accelerator> accessed 3rd September 2023.

⁴⁸ Net Zero Homes: Time for a Reset at p38.

⁴⁹ Department for Business, Energy & Industrial Strategy and the Ministry of Housing Communities and Local Government, Energy Performance Certificates for Buildings: Action Plan (September 2020).

⁵⁰ New Zero Review at [869].

affordable both in terms of cost and monetary assistance to meet the upfront capital outlay. What is also key under the agency imperative is public engagement. The Mission Zero Review describes public engagement as “the missing piece of the puzzle.”⁵¹

The actions outlined in the H&S Strategy require actions by individuals yet there has been little to engage the public on what net zero entails, what benefits it can bring and how those benefits can be achieved. The consequences of sitting back and doing nothing also need to be underlined for climate change will require action whether to minimise or address its impact. Too often the need to tackle climate change is presented as offshore weather-related catastrophes from wild fires in Southern Europe, North America or Hawaii to devastating floods in Pakistan, China and Libya. Domestic consequences may not appear so immediately dramatic, but in this interconnected world they cannot be ignored.

The benefits of improving the thermal efficiency of homes also needs to be communicated (for example, reduced heating costs and consequential benefits to health and wellbeing). Almost all are aware of net zero, with 65% very concerned about the impact of climate change, but just less than half know much about it.⁵² There is a real deficit between those who want to do something and knowing what to do and the support available to make that happen. Even those who get so far as finding out what they could do are faced by conflicting and confusing information.

The New Zero Review thus calls for a widespread public information campaign that is sufficiently nuanced to address the concerns of different groups and makes sure that no one is left out.⁵³ They point to the work of the Scottish and Welsh governments in developing a public engagement strategy and to the Covid-19 response as examples of initiatives that can radically change behaviour. Instead, the current Government message is that action can be delayed and that the individual can be excused from engagement.⁵⁴

7.2. THE LEGAL DEFICIT

Achieving energy efficient homes strikes right at the heart of peoples’ relationship with property. The rules that govern that relationship must thus feature prominently to facilitate rather than obstruct the drive to net zero.

⁵¹ Ibid at [874].

⁵² Ibid at Footnotes 616 & 617.

⁵³ Ibid at [887]-[896].

⁵⁴ See Prime Minister Sunak’s speech available at <https://www.gov.uk/government/speeches/pm-speech-on-net-zero-20-september-2023> accessed 3rd October 2023.

We are beginning to see instances where legal challenges are raising their head. For example, the green leases of commercial property, which impose, or at least protect existing, environmental standards are becoming increasingly common. This has prompted the question of whether a landlord can insist upon green lease provisions upon a statutory lease renewal under the Landlord and Tenant Act 1954. Different terms can only usually be imposed where they are 'fair and reasonable.'⁵⁵ Cases to date have shown the court's reluctance to shift the responsibility to meet MEES or other environmental standards from the landlord on to the tenant but have accepted a willingness to see tenants take responsibility for not compromising existing MEES standards.⁵⁶ The Law Commission is reviewing the Landlord and Tenant Act 1954, and it will be interesting to see what they recommend on this issue in the drive to net zero.

This paper has already alluded to the challenges that will need to be addressed where property is communally owned most obviously in blocks of flats. There are also initiatives to increase the number of shared heating networks that bring different but equally challenging legal issues. Communal entities and decision-making mechanisms will be key. Sharing rather than exclusion is likely to become an ever more important norm of property relations. Engaging with commons scholarship from Ostrom⁵⁷ to Fournier⁵⁸ to determine how common pooled resources can be effectively regulated will be helpful in shifting this focus.

Property rules may also need to address temporal questions. The allocation of rights and responsibilities between present and future owners that have traditionally been addressed through trust mechanisms and notions of waste may need to be revisited in a similar manner to the emergence of rights and responsibilities in green leases. For example, innovative green financing may bring the need to spread the cost of retrofitting buildings beyond one owner to effectively pass financial repayment obligations to the owner for the time being of the building. Thus, green mortgages may be transferred from one mortgagor to the next or the repayment obligation attached to the property. Whatever mechanisms emerge there is no doubt that property lawyers will need to be as inventive as they have been in the past to facilitate dealings with land. The development of Islamic financing provides a recent example of such innovation.

In their seminal article, *The Rhetoric of Realty*, Kevin and Susan Gray highlight the developing meta norm of reciprocity in property relations reflecting the 'community value' of land in an eco-system we all inhabit.⁵⁹ In what the Grays' described as a *civic*

⁵⁵ *O'May v City of London Real Property Company Limited* [1983] 2 AC 762.

⁵⁶ *Clipper Logistics Plc v Scottish Equitable Plc* (unreported, County Court at Sheffield, 7 March 2022).

⁵⁷ See in particular E Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (1990), Cambridge CUP.

⁵⁸ V Fournier, 'Commoning: Or the social organisation of the commons' (2013) 16 *M@n@gement*

⁵⁹ In Joshua Getzler (ed), *Rationalizing Property, Equity and Trusts: Essays in Honour of Edward Burn*

equity that “all are equally obliged to conserve and promote the quality of the natural or man-made environment.” An obligation that is exemplified for instance in environmental burdens imposed on landowners or other measures which provide public goods but at the expense of individual property rights. Such a norm underlies the principles of progressive property and the social obligation norm expected of property owners articulated by a group of American legal theorists. Progressive property theory is increasingly finding a voice in property discourse as we appreciate the inter-related fundamentals of property law in modern society.⁶⁰ Those fundamentals are enshrined in the qualified nature of the right not to be deprived of ones’ property save in the proportionate pursuit of the public interest found in Article 1 Protocol 1 of the European Convention on Human Rights. The boundaries of this “interlinked network of socialised duty” will need to be probed and determined. For example, the proportionality of positive obligations in meeting MEES standards or other demands that compliance with net zero brings may emerge most obviously if vulnerable groups are called upon to bare an excessive burden.

8. CONCLUSION

The Mission Zero Review concludes that “[h]omes are at the heart of the net zero equation.”⁶¹ The United Kingdom Government purports to have a strategy to achieve net zero by 2050 within which they have articulated the contribution that the built environment, including homes, would need to make to achieve that goal. That contribution has revolved largely around attaining MEES through the low carbon heating solutions in particular heat pumps, solar heating and improved insulation. In this aspiration they have much in common with other European countries.

The implementation of this strategy was already subject to expert criticism as being too little too late before the current government faced with a cost-of-living crisis, empty government coffers and perceived political expediency has thrown key elements of the strategy into reverse. They have abandoned targets for private rental properties and put back to 2035 measures to phase out fossil fuel heating where feasible. This backtracking will make achieving net zero that much more difficult. However, there is emerging a clear policy divide between our major political parties with the Labour opposition party reiterating their plans to pursue a green agenda should they win an election and form the next government. With an election of the horizon in 2024, the

(Butterworths, London 2003), 204.

⁶⁰Most obviously compulsory purchase acquisitions for public facilities or planning restrictions on the individual exploitation of ones’ property.

⁶⁰ G Alexander, E Penalver, J Singer and L Underkuffler, A Statement of Progressive Property (2009) 94 Cornell Law Review 743.

⁶¹ At [944].

strategy to achieve net zero is likely to take a political turn and become much more heated.

This is worrying when what is needed most is a clear and consistent long-term strategy to reduce our dependency on fossil fuels for heating (or cooling) our homes. There is a plethora of experts offering guidance and there is emerging common ground on what that strategy could or should be. The two policy documents examined in this paper are just two. They may overlook the legal issues but lawyers are needed to play their part in formulating the necessary legal frameworks to balance the parties' rights and obligations in what is often a communal endeavour.

What is now needed is, on the one hand, certainty to give investors, industry and business the confidence to put in place the necessary infrastructure and skills. Whilst, on the other hand, a positive aspirational public information campaign that can turn a wish to address climate change into a willingness to act supported by appropriate incentives. For all the finances will need to stack up and it is here that government and financial institutions will need to provide support at least until the virtuous circle of cheaper and sustainable energy and energy delivery infrastructure can be achieved. The bottom line is that climate change inevitably will bring the costs of change, our choice is what those costs will be.



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