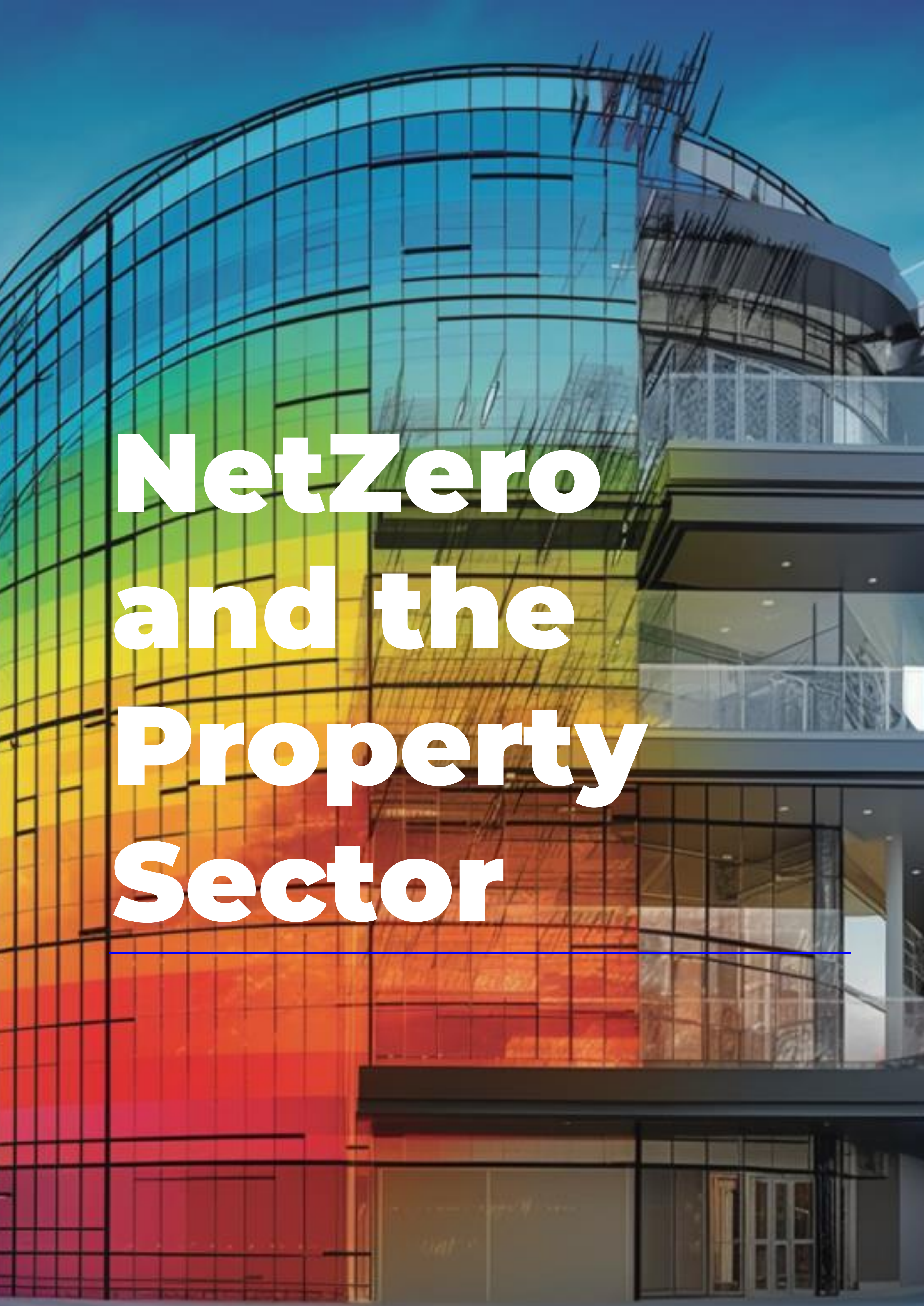
NetZero and the Property Sector



Summary

The UK Government's Net Zero strategy is to largely eliminate carbon emissions from domestic properties by 2050. So in the next 30 years, property needs to be much more energy efficient. The rating of a property's energy efficiency is known as EPC rating.

It is 2022 and the UK Government has committed significant funding support to retrofit through its £2 billion Green Homes Grant, the £1 billion Public Buildings Decarbonisation Fund and the £50 million Social Housing Decarbonisation Fund demonstrator, which is the precursor to an overall £3.8 billion Social Housing Decarbonisation Fund.

But to access help and funding, landlords need to develop an investment pathway to net zero. With strategies, investment plans and project programmes in place, they can work out which changes to make, which are efficient and represent good value for money, and which will get to the goal of net zero better.

Introduction

Property, as a sector, is a significant part of the UK economy.

> *The total net wealth of the entire world comes to a staggering $431 trillion (£310tn), according to a new report from Boston Consulting Group (BCG)*
>
> *The total global value of real assets, such as property, was $235 trillion (£169tn) in 2020 according to BCG. People in Asia hold the largest amount of real assets, at $84 trillion (£60.6tn), which is 64% of their region's overall wealth. By contrast, in North America the amount invested in real assets is just 28% of total wealth at $43.7 trillion (£31.5tn). Western Europeans own real assets worth $63.8 trillion (£46bn).*

https://www.lovemoney.com/gallerylist/112489/the-worlds-total-wealth-and-how-its-divided-up

McKinsey: Two-thirds of global wealth stored in real estate

McKinsey & Company, a management consulting firm, says two-thirds of global net worth is stored in real estate — with only about 20 percent channelled toward other fixed assets.

https://www.thecable.ng/mckinsey-two-thirds-of-global-wealth-stored-in-real-estate

https://www.savills.com/impacts/market-trends/the-total-value-of-global-real-estate.html

Domestic property is 79% of the total real estate market and the world's biggest store of wealth.

Social housing

In the UK about a sixth of all domestic properties are social housing (4.4m), and there are a further 1.1 million households on waiting lists for social housing. The total value of UK social housing assets is around £500billion.

Around half of social housing is owned and managed by local authorities and the rest by non profit housing associations or "registered social landlords" (1500 in the UK). 15% of local authorities use an Arms Length Management Organisations (ALMO) to manage their housing stock.

Social tenants represent the section of society that is most vulnerable to the financial and health impacts of energy inefficient housing.

https://www.fool.com/investing/stock-market/types-of-stocks/esg-investing/esg-rating/#:~:text=An%20ESG%20rating%20measures%20a,independence%20%2D%2D%20have%20financial%20implications.

https://www.gov.uk/government/news/social-housing-sector-stock-and-rents-statistics-show-impact-of-pandemic

https://www.housing.org.uk/resources/people-in-housing-need-2021/

https://pdf.euro.savills.co.uk/uk/residential---other/spotlight---housing-association-finance.pdf https://en.wikipedia.org/wiki/Public_housing_in_the_United_Kingdom

https://www.gov.uk/government/publications/registered-providers-of-social-housing

Net Zero Impacts - Importance

Landlords

Key to the UK Government's net zero plans is to largely eliminate carbon emissions from domestic properties by 2050.

As part of this, landlords are already obligated to meet minimum energy efficiency standards in the homes they let, but new proposals under consideration would substantially raise that requirement in the coming years. As well as increased standards, the minimum amount landlords are expected to pay to make improvements is also set to rise from £3500, to £10,000.

Landlords' properties are currently required to reach a minimum EPC rating of E. Under the new proposals, this would be raised to a **C rating by 2025** for new and renewed lets, and 2028 for existing tenancies.

There is a huge challenge to be had in making the necessary improvements both in terms of cost, but also the logistical challenge of scheduling in works around existing tenancies and a shortage of skilled labour.

Some lenders in the buy-to-let market are already offering discounted mortgages to those with more energy-efficient homes as the threat of properties becoming unlettable and tenants defaulting on rent rises.

Emissions from housing stock will have a key role to play if the UK Government is to meet the target of net zero emissions by 2050. UK domestic properties account for 35% of all the energy used and emit 20% of the carbon dioxide emissions. The housing stock is the oldest in Europe and so for the Government to deliver its Net Zero ambition it will have to address these emissions largely through retrofitting and other improvements with a typical cost of £30k per property to make the necessary changes.

The government has already made legislation to improve the environmental standards for residential properties. https://www.legislation.gov.uk/ukdsi/2015/9780111128350/contents

Any property sold or let must have an Energy performance Certificate that sets out the Energy Performance of the building and recommendations about how it can be improved. EPC Band A represents the highest standard (most energy efficient) and G the lowest. The average EPC Band for UK homes is D. There are existing minimum standards and targets in place for rented properties and these are set to be tightened in the future. Whilst there are issues and criticisms of the existing EPC system there is a review in progress which has recommended an action plan to make improvements to the system, and as such the EPC system is likely to be the driving force behind domestic refits into the future, even if changes are made to the system.

Net Zero Impacts - Financial Accounts

Net Zero effects have the potential to have the following impacts on housing revenue accounts:

Asset value

Research carried out by Nationwide and Moneysupermarket has shown a (not surprisingly) strong correlation between the Energy Performance Certificate rating (EPC) of a property and its value. The difference in value between the lowest and highest performing properties is up to 14% based on historical data, and is likely to increase with increased awareness of rising energy costs.

https://www.nationwidehousepriceindex.co.uk/reports/energy-efficiency-ratings-currently-having-limited-impact-on-house-prices-despite-push-to-go-green

https://www.moneysupermarket.com/gas-and-electricity/value-of-efficiency/

David Hitches, head of property risk at Paragon, a mortgage specialist, told The Telegraph that it was still early days but "in due course, we will see the differentiation in value becoming more evident".

https://www.telegraph.co.uk/news/2022/08/20/sash-windows-threat-latest-net-zero-plans-landlords/

The Royal Institution of Chartered Surveyors (RICS) has updated its Red Book, the standard used for valuing property for tax, secured lending and accounting to include Environmental, Social and Governance (ESG). This is the framework used assessing the impact of the sustainability and ethical practices on financial performance both of companies and investors, but also individual assets. ESG is inextricably linked to the Minimum Energy Efficiency Standards (MEES) which measures the energy performance of buildings.

https://www.rics.org/globalassets/rics-website/media/upholding-professional-standards/sector-standards/valuation/2021-11-25_rics-valuation--global-standards-effective-2022.pdf

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Darren Pape MRICS, Senior Valuer at Kirkby Diamond, comments "We are increasingly reporting Market Rents of nil because the EPC has either expired or the rating falls within Band F or G, and [we are] making allowances for capital expenditure required to improve the EPC rating in arriving at our opinion of value. Under the new Red Book, we will need to consider making similar allowances for properties within the 'at risk' categories of Bands D and E. It is, therefore, important for property owners to consider the impact of ESG, including energy performance, as part of good asset management now."

https://www.kirkbydiamond.co.uk/news/rics-red-book-update-february-2022/

Mortgages

Some mortgage lenders already offer discounts to homes with higher Energy performance ratings as they see the benefits of reduced risks that lower energy and future investment costs bring.

The government has consulted on introducing mandatory disclosure requirements for mortgage lenders on the energy performance of homes on which they lend, and on setting voluntary improvement targets to be met by 2030. This is likely to enhance the lending discounts offered to green homes.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936276/improving-home-energy-performance-through-lenders-consultation.pdf

New Builds

The property sector needs to achieve both net zero operational carbon by 2030 and net zero embodied carbon by 2050.

To effectively transition in time, the property sector in the UK has to meet some significant hurdles. 40% of buildings and 75% of infrastructure that are predicted to exist in 2050 have yet to be built. These new buildings will need to be net zero carbon across their lifecycle.

This includes embodied carbon – the emissions generated in creating building materials – which must be reduced by at least 40% by 2030 , with leading projects achieving at least 50% reductions. By 2030, 100% of new buildings must be net-zero carbon in operation. But it means much more. 80% of today's (European) building stock will still be here in 2050. As such, retrofitting every one of those assets to be energy efficient must either be complete or, at the very least, well underway by 2030 to be able to meet these targets. (https://www.schroders.com/en/insights/economics/how-to-get-to-net-zero-in-real-estate-investment/)

Income

Analysis of ONS data for rental values and energy costs show a correlation [John's work], increased energy costs drive lower rents as peoples' disposable incomes reduce and so does affordability. Improving the energy performance of properties will therefore have an impact on rental incomes.

This is compounded by the effect of rent arrears and bad debt (£704million and £94 millions respectively for English Housing Associations) when incomes are squeezed.

https://www.gov.uk/government/publications/2021-global-accounts-of-private-registered-providers

Social Rents in the UK are set using the 'formula rent' for each property, which is calculated based on the relative value of the property, relative local income levels, and the size of the property. An aim of this approach is to ensure that similar rents are charged for similar social rent properties, but the link to property values means that the effect of improved energy efficiency ratings on property values will also be reflected in rental values.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/781746/Policy_Statement.pdf

For private landlords there are potentially additional impacts on rental income. Where properties don't meet the necessary minimum EPC requirements (or are exempt) properties should not be let out (or landlords face prosecution and fines) so rental incomes are reduced to zero. Delays and administration associated with meeting EPC requirements can also impact new lettings.

Costs

The average cost of retrofitting a property is £30k and requires 40 days of labour (need to find better reference, also this doesn't fit in with the £3,500 limit above???) but this is not the full story.

https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2020/12/CLC-National-Retrofit-Strategy-final-for-consultation.pdf

Scheduling works between tenancies can create delays and reduced rental income and there is currently an acute shortage of skilled trades people in the UK to undertake the necessary work which can exacerbate delays.

Investment capital

The ability of social landlords and housing associations to raise capital and expand their property portfolio is intrinsically linked to the asset value of their portfolio. Increasing the environmental performance and minimising the number of properties that cant be rented out because they don't meet the minimum environmental standards will have a recursive effect on

Investment capital and growth.

Adam Smylie MRICS, Head of Valuation at Kirkby Diamond adds, “Property owners will need to consider the impact of ESG when acquiring or letting property and when carrying out works to their buildings to ensure that ESG does not have a material adverse impact on value. It is important to obtain an up-to-date EPC, particularly when considering a valuation for loan security as allowances for capital expenditure will directly impact upon Market Value and, therefore, loan-to-value ratios.

https://www.kirkbydiamond.co.uk/news/rics-red-book-update-february-2022/

Health and Wellbeing for tenants

Improved energy efficiency also offers substantial social and health benefits. There is a clear link between cold homes and ill-health, where existing conditions (such as respiratory illnesses or mental health conditions) are exacerbated. The Building Research Establishment (BRE) has estimated, conservatively, that the cost of cold and damp homes to the NHS is approximately £760 million per year.

Housing tenants are also vulnerable to the effects of global warming on comfort and wellbeing associated with living in smaller and crowded accommodation. There is an increased potential for poor ventilation, overheating, damp and poor air quality in homes which are not retrofitted. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf

Pensions

The impact of Net Zero targets on the UK’s property portfolio will impact the financial industry, not to mention that pension funds are tied up in property. Not sure what the point we are trying to make here is.

Pension funds, especially those held by local authorities and other government agencies are increasingly being invested in social and affordable housing stock. In this way, investors ensure a return on investment through future rent returns and also provide part of the solution to some of the most pressing social problems.

Legal and General announced an investment of £2bn into social housing earlier this year. Such investment can be attractive because social and affordable rents are not driven by market forces as much as by government rent-setting regimes and are typically less sensitive than commercial real estate to changes in the business cycle. The social rented sector in particular shows low and stable vacancy levels and high rent collection rates when compared with retail, office and industrial property assets.

Social and affordable housing caters for housing needs and has the potential to fulfil a key element of the ESG agenda for investors.

https://www.pbctoday.co.uk/news/planning-construction-news/legal-and-general-affordable-homes-pension-funds/108998/

https://group.legalandgeneral.com/en/newsroom/press-releases/legal-general-to-invest-over-2bn-of-pension-funds-into-affordable-homes-over-next-five-years

https://www.impactinvest.org.uk/events/report-launch-is-there-an-investment-case-for-social-and-affordable-housing-in-the-uk/

Global Energy prices

According to the World Bank's index, energy prices jumped by 26pc between January and April in 2022; the World Bank expects prices to rise by 50pc by the end of the year. The UK is positioned among countries that are energy-dependent on Russia, and as the UK currently tries to find alternative suppliers other than Moscow's gas, the UK is competing for a slimming pool of resources, sending Britain's energy bills much higher.

So for fuel hungry, poor energy rated properties, the need to refurb and reduce energy leakage is becoming paramount. While Ofgem won't announce the next price cap rise until the autumn 2022, , it is assumed that energy costs for the average family will rise above £3,000.

Hedonic pricing Certificates impact on perceived value

There is a relationship between the energy performance ratings, as measured in Energy Performance Certificates (EPCs), and the sale prices of residential properties in England. The data indicates that :there is a notable negative relationship between EPC rating and age of dwelling. Over half of dwellings built before 1929 have an EPC rating of E or worse. In contrast, the comparable figure for dwellings constructed since 1996 is less than 3%. There are certain property attributes that are important determinants of price; size, location and type of dwelling being the more obvious ones.

Energy efficiency, although growing in importance, is undoubtedly a weaker determinant in comparison. A EPC ratings are correlated with several other attributes, notably age. To ensure that any energy efficiency price premium detected by the model is not simply due to differences in the underlying structure of dwellings (for example, modern properties might sell at a higher price regardless of their level of energy efficiency) we incorporate a large number of relevant dwelling attributes. Given that there is a negative relationship between age and EPC performance, we ensure that the complex interaction of age, size and type (detached, terraced etc.) on dwelling prices are carefully addressed by not only including these as explanatory variables but by measuring price on a square metre basis rather than the total price of a property .

An investigation of the effect of EPC ratings on house prices Hedonic regression modelling (the standard methodology for examining price or value determinants) is used to isolate the effect of EPC rating on price level and price appreciation. A well-known limitation of hedonic modelling of prices is the choice of an appropriate functional form along and problems to obtain data on all price determinants. <u>The results suggest that there is a positive relationship between energy rating and dwelling price per square metre. C</u>ompared to dwellings rated EPC band G, dwellings with higher EPC ratings have sold at a statistically significant price premium and the pattern of the results is consistent and plausible. As expected, the price difference increases as EPC performance improves.

When we look at different dwelling types, there are notable differences in price. The price effects of superior energy performance tend to be higher for terraced dwellings and flats compared to detached and semi-detached dwellings.

When investigating the relationship between dwelling price appreciation and EPC rating, the evidence is less clear-cut but remains generally supportive of a positive association. Compared to dwellings rated EPC G, the prices of detached and semi-detached dwellings EPC rated C and D appreciated at a significantly higher rate.

However, semi-detached and terraced dwellings rated EPC F appreciated at a significantly lower rate than dwellings rated EPC G. For dwellings sold with an EPC at the second transaction only, the results are stronger. There are significant positive effects on dwelling price appreciation per square metre for dwellings rated B, C and D compared to dwellings rated G.

There are no statistically significant effects of an F rating for this sub-sample. Separate estimation of the house price effect of EPC ratings for each region reveals that the percentage premium commanded by properties with above average EPC ratings is higher in regions where house price levels are low and vice versa. It is likely that this is due to the fact that broadly similar energy savings across regions had quite different relative effects on house prices.

Difference between Social and Private Properties

At present, any property that is sold or let must have an Energy Performance Certificate.

There is currently no minimum EPC requirement when a property is sold but privately rented properties must achieve Band E. There is currently no minimum requirement for social landlords, however the government has encouraged improvements in this sector (which has the highest EPC levels for domestic properties) through the Decent Homes Standard, the Green Homes Grant, the Energy Company Obligation, and the Social Housing decarbonisation Fund, amongst others, all of which encourage and/or fund improvements in this sector.

https://www.gov.uk/government/publications/sustainable-warmth-protecting-vulnerable-households-in-england

In the future further tightening requirements will be made through the Minimum Energy Performance of Buildings (No. 2) Bill which is currently on its second reading through parliament.

https://publications.parliament.uk/pa/bills/cbill/58-02/0150/210150.pdf

This requires that all domestic properties achieve at least EPC Band C by 2035, where practical, cost-effective and affordable through the following measures.:

- All new (and existing) private tenancies must have an energy efficiency performance of at least EPC Band C by 2025 (and 2028); and
- All mortgage lenders must by 2030 ensure that the average energy performance level of their domestic portfolios is at least EPC Band C.
- All social landlords must ensure that a significant amount of their residential properties are at least EPC Band C by 2035.

The terms “practical”, “cost-effective” and “affordable” are yet to be defined by are likely to include exceptions and limits on the spending required to meet the standards, such as for example historic buildings that would be very expensive to upgrade.

Nuanced differences in legislation *and markets*

Conclusion

We are looking at the data modelling and tools to help us assess risk, identity impacts and plan mitigations for getting the housing stock to meet Net Zero Standards by 2050.

To achieve net zero, significant investment in property is required. For existing properties, carbon emissions can be reduced through a fabric first approach including energy efficiency improvements to insulation and draft proofing through to improvements in heating and ventilation systems and the use of smart technology. All of these have a cost, and an impact on the balance sheet and profit and loss of a property portfolio owner.

Nquiringminds is working on a data modelling solution, called InteNZ, which models the impact of net zero strategies on the property portfolio profit and loss, and balance sheet, helping to prioritise and target action in the property sector.

Further information: info@nquiringminds.com