

Financing the Net Zero Transition

Our intermediate targets for 2030



Building a greener society

October 2022

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Cover images, rows from top to bottom, left to right: Residents outside their new home at Bunker Housing Co-op, Brighton, built with Ecology funding; Construction works underway at Bunker Housing Co-op, Brighton; A whole family working on their self-built home in the Shetlands, funded by Ecology; Young family in their new home constructed by Mull and Iona Community Trust, backed by Ecology; Affordable homes at Broadhempston CLT, Devon, refinanced by Ecology; The Peninsula Trust's coastguard cottages, newly renovated with Ecology funding.

Letter from our Board

Climate change is already happening, with grave consequences for society. For the planet to remain safe and liveable, widespread economic, societal and policy change is needed in this decade.

Since our inception in 1981, Ecology Building Society continues to pursue our ecological mission to improve the environment and society by supporting sustainable homes and communities.

We exist to be part of the solution to climate change by helping to reduce carbon emissions from buildings while creating positive impacts for people and nature.

Demonstrating our climate leadership, we are active members in international alliances working collectively towards a safe, low-carbon world:

- Global Alliance for Banking on Values' *Climate Change Commitment*
- UNEP Finance Initiative *Principles for Responsible Banking*
- UNEP Finance Initiative *Net Zero Banking Alliance*

We are also proud to be co-leading the UK group of the Partnership for Carbon Accounting Financials, helping to improve how financial institutions measure carbon emissions from their loans and investments.

We are committed to achieving net zero in our lending by 2050 or sooner. The Intergovernmental Panel on Climate Change (IPCC) has identified 2050 as the target year for global emissions to reach net zero. However, action must happen this decade, with global emissions needing to reduce by 45% from 2020 levels by 2030.

We are pleased to publish our intermediate science-based targets for our lending emissions to be achieved by 2030 on our journey to net zero. We will report on our progress annually.

Our intermediate targets are integral to our 2030 Strategy, as we harness finance as a force for good and help UK homes and communities transition to net zero through our:

- impact-led products and services
- collaboration and knowledge sharing
- agitation for change to create a low-carbon society in which all people and nature flourish.

Achieving our targets also depends on a number of aspects outside of our direct control but where we seek to use our influence, particularly the decarbonisation of the national energy supply.

As we continue to work to achieve our targets, we will take a collaborative approach, working with and for the benefit of our existing and future members, colleagues, partners and wider society.

The Board of Ecology Building Society



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Non-Executive
Director

Introduction

Our ecological mission

Ecology Building Society is fully focussed on combatting climate change through our sustainable mortgage lending, agitating for change and being a responsible business. This is a pivotal decade in which to address the planetary emergency. Our 2030 Strategy¹, published in November 2021, shows how Ecology seeks to be part of the solution to the climate and ecological crisis, benefitting people and the environment by supporting sustainable homes and communities. We work to fulfil our ecological mission by providing our existing and future members with impact-led products and services, collaborating and sharing knowledge between our members and expert partners, and agitating for positive change in the broader societal system.

Net Zero Banking Alliance

We work collaboratively with national and international alliances of financial institutions to develop targets, standards and frameworks to embed sustainable development and net zero into the finance system. We became a founding signatory of the UNEP Finance Initiative *Net Zero Banking Alliance* in April 2021, committing to achieve net zero in emissions from our lending by 2050 or sooner. Signatories set long-term and intermediate targets for greenhouse gas (GHG) emissions arising from their lending and investments, to support meeting the temperature goals of the Paris Agreement (so-called ‘science-based’ targets). Intermediate targets to be achieved by 2030 or sooner ensure near term progress is compatible with the pathway to net zero by 2050. This report sets out our science-based intermediate targets for 2030 that we have prepared in accordance with the Guidelines for Climate Target Setting for Banks².

Our lending

Our lending focusses on improving UK homes to be better for people and the environment. We support the construction of new properties and the conversion and retrofit of existing properties, to create healthy homes and community buildings that save energy or other scarce resources, and enable people to have high quality homes in places they need to live.

We target our lending to enable homes to transition to net zero in operation by reducing the carbon emissions resulting from heating, lighting and ventilation.

Reducing operational emissions from residential property relies on:

- minimising total and peak heat demand, through retrofitting existing homes and designing and constructing new homes to achieve good standards of energy performance, and appropriate insulation and ventilation
- widespread adoption of low-carbon heat using heat pumps and heat networks
- using a decarbonised energy supply, powered by clean energy sources.



¹ Our 2030 Strategy <https://www.ecology.co.uk/2030-strategy/>

² Guidelines for Climate Target Setting for Banks, April 2021 <https://www.unepfi.org/wordpress/wp-content/uploads/2021/04/UNEP-FI-Guidelines-for-Climate-Change-Target-Setting.pdf>

We specify energy efficiency standards in our lending criteria and reward energy efficiency through our C-Change discounts applied to the mortgage interest rate. We also welcome construction types and materials currently considered non-standard, where we recognise the ecological benefit of using vernacular, traditional or innovative approaches.

Appendix 1 provides further information on our lending and the nature of the challenge to improve the energy efficiency of UK homes.

Our 2030 intermediate targets

We have committed to achieve net zero in our lending by 2050 or sooner, taking a fabric-first approach to improve the energy efficiency of properties and supporting low-carbon heating. We have set two intermediate targets to be achieved by 2030 for the main property types in our lending portfolio:

New build residential property (where our mortgage lending has funded the construction of the building)

Retrofitted residential property (where our mortgage lending has funded the retrofit or conversion of the existing building)

The separate targets recognise the inherent difference in these two property types and therefore the emission intensities that they are able to achieve. The property types are described in more detail in Appendix 1.

Our targets are expressed in terms of operational carbon dioxide emissions³ arising from fossil fuels used to provide regulated energy (for space and water heating, lighting and ventilation) when the home is in use.

Ecology Building Society commits to

- reduce **new build residential mortgage portfolio** operational GHG emissions from regulated energy use (Scope 3, category 15) by 50% per m², by 2030 from a 2020 base year
- reduce **retrofitted residential mortgage portfolio** operational GHG emissions from regulated energy use (Scope 3, category 15) by 50% per m², by 2030 from a 2020 base year

The 50% reduction is consistent with science-based scenarios aligned with keeping global temperature rise within 1.5°C.

The reasonable and credible assumptions which underpin our targets are listed in Table 1.



Colourful doors at Ecology-backed Chapeltown Co-housing's new development

³ Emissions from our lending are defined as Scope 3, category 15 in the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Table 1: Our 2030 Intermediate Targets

The baseline and 2030 targets for the two property categories in our residential mortgage lending: new property and retrofitted property

Residential Mortgage lending portfolio category	2020 Baseline Average carbon emission intensity (regulated emissions) kgCO ₂ /m ² (Notes 1, 2, 3)	2030 Target Average carbon emission intensity (regulated emissions) kgCO ₂ /m ² (Notes 1, 2, 3)	Our targets are based on reasonable and credible assumptions about the road ahead, in line with the UK Government’s Heat and Buildings Strategy ⁴ and Net Zero Strategy ⁵ (2021):
New build property – works are complete and property is in use	13.6	6.8 50% reduction from 2020	<ul style="list-style-type: none"> • By 2050, the national energy supply will be decarbonised • There will be widespread uptake of heat pumps to electrify domestic heat • Heat pumps will be widely available and more affordable to install. Heat pump technology will continue to improve and have good Co-efficient of Performance (>2.5)
Retrofitted property – works are complete and property is in use	47.3	23.7 50% reduction from 2020	<ul style="list-style-type: none"> • Electricity prices will be harmonised, so that the cost of running a heat pump is no more expensive than running a gas boiler • Skilled installers and supply chains will meet demand stimulated by increased public awareness, thanks to national campaigns and advice • Building regulations will stimulate necessary standards of insulation, ventilation and energy use intensity

Note 1 Our targets are in the form of emission intensity, in terms of kgCO₂ per m² where we divide the emissions from the properties in the portfolio by the total floor area of those properties. Using emission intensity rather than absolute emissions enables us to track our progress in reducing emissions from our mortgaged properties regardless of the number of properties we lend on.

Note 2 Emission intensity is calculated using the carbon emissions (from regulated energy use for space and water heating, lighting and ventilation) and floor area from the Energy Performance Certificate (EPC) for each property, which is the best property-level information currently available. As described in Appendix 1, the limitations of EPCs to provide accurate operational carbon emissions are well-recognised and we expect improvements in data accuracy in the near term. We therefore expect to adjust the baseline and targets as the data improve, ensuring that we continue to align with science-based net zero pathways, and will continue to be transparent in our approach to this.

Note 3 Regulated emissions cover Scope 1 emissions and part of Scope 2 emissions, which includes the majority of emissions from the mortgaged property. They do not include emissions from unregulated energy use, e.g., for cooking or other appliances and for plug-in chargers, which may vary significantly, both between properties and over time, for example, due to home-working and charging electric vehicles. We have chosen to express our emission intensity targets in terms of regulated emissions as they are directly influenced by the mortgaged aspects, i.e., the fabric, heating technology and lighting of the property.

Our 2030 targets refer to our portfolio in 2030, consisting of properties where property works have been carried out, as agreed in the mortgage offer. Targets apply to new build properties once they are built and occupied; before that point, they do not have ‘operational emissions’. Properties undergoing retrofit are in transition towards reducing their carbon emissions, and so are not expected to achieve their goal until the retrofit works have been carried out. Targets apply to retrofitted properties once agreed works are complete.

At present, our emissions and targets are based on operational emissions only – those that arise from energy used when the property is in use. We are currently working on understanding the embodied carbon associated with our lending portfolio and are already supporting efforts to reduce embodied carbon in our lending and through our advocacy.

⁴ UK Government’s Heat and Buildings Strategy, October 2021
<https://www.gov.uk/government/publications/heat-and-buildings-strategy>

⁵ UK Government’s Net Zero Strategy, Build Back Greener, October 2021
<https://www.gov.uk/government/publications/net-zero-strategy>

Our journey to net zero

Addressing climate change is at the heart of Ecology's mission. We seek to achieve net zero as early as possible. We recognise achieving our targets will take significant determination and collaboration. Critically, our journey to net zero will continue to rely on the drive and ambition of our borrowers, supported by our savers wanting to use their personal capital as a force for good.

We build on a history of 40 years of mortgage lending that is targeted at enabling properties to achieve good environmental performance standards. We specify entry-level energy efficiency criteria for our lending and reward energy efficiency through our C-Change discounts.

We keep our approach to lending under constant review on our journey to net zero, for example:

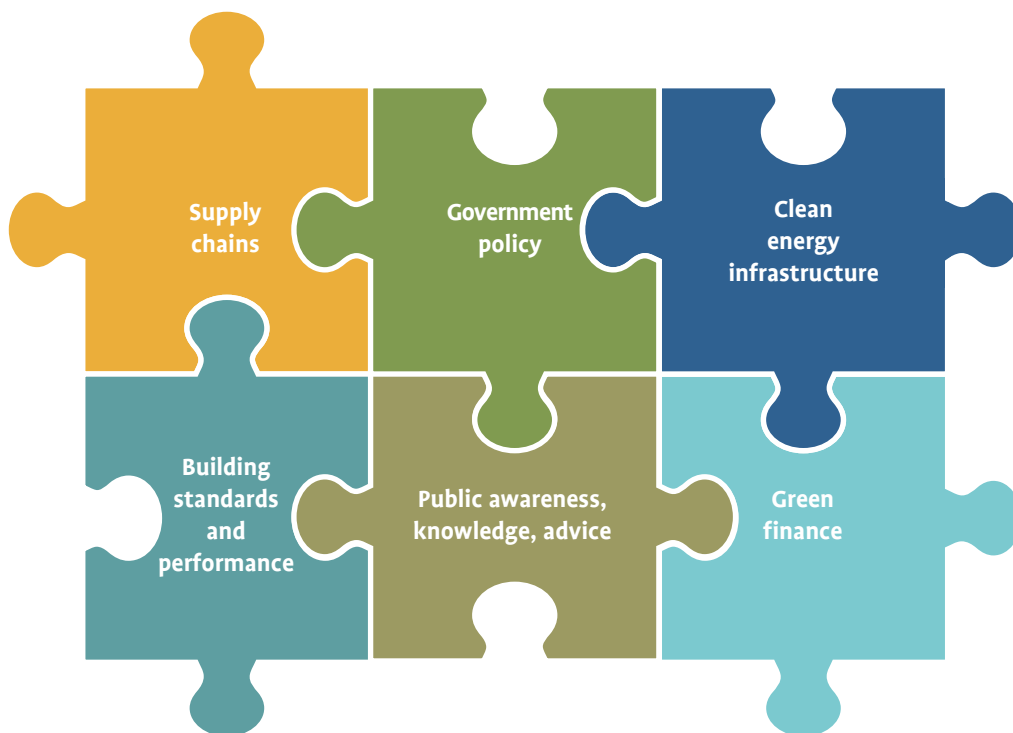
- In 2021, we increased the entry-level energy efficiency standard for new homes from 85 to 88 SAP points⁶ and the average carbon emission intensity (regulated emissions) for our new build property portfolio decreased to 11.4 kgCO₂/m² in 2021.
- In 2022, we enhanced our C-Change discounts applied to the mortgage interest rate based on the energy efficiency of the property by increasing the segmentation of properties with the highest energy performance (above 100 SAP points on the EPC) to incentivise borrowers to maximise the SAP score.

Our lending also supports the responsible use of materials that have a low carbon footprint and can be re-purposed at the end of a building's life, including reclaimed and recycled materials, and bio-based materials such as timber and natural fibres. Our 2030 Strategy is focussed on equipping borrowers with the inspiration and knowledge they need, as well as supporting the use of innovative materials and technologies, to make their homes and communities more sustainable and resilient.

As well as supporting the journey to net zero for the properties we lend on, we are increasing our activity to agitate for change in the broader societal system to create a net zero future. Drawing on our experience as a resilient, sustainable, successful organisation, we are increasing our contribution to public discourse and collective campaigns and initiatives.

Assumptions

Achieving net zero emissions from residential properties is an urgent issue requiring a determined collaborative effort. Our journey to net zero relies on a number of aspects outside of our direct control, but where we seek to use our influence.



The necessary components to achieve net zero homes

There are a number of dependencies for reducing the carbon footprint of UK homes, including availability, performance and cost of materials and technology, access to advice and skilled installers, supportive policy frameworks, and clean energy infrastructure at national and local scale.

⁶ SAP points are calculated using the Standard Assessment Procedure model to assess a property's energy efficiency and are provided in the property's Energy Performance Certificate

In the UK, most homes are currently heated by gas or oil-fired boilers, and the process of moving away from fossil fuels to electric-powered heat pumps (the low-carbon alternative) is only just getting underway. The UK Government's Net Zero Strategy⁷ has the ambition for low-carbon power to be the predominant form of energy in 2050, potentially requiring a four-fold increase in low-carbon electricity generation and significant expansion of the networks that transport it to where it is needed. Ecology's goal of achieving net zero in our lending is therefore dependent on the Government realising this ambition.

Minimising energy demand is an essential component of reaching net zero. It contributes to energy security and more affordable heating bills, and requires less energy to be generated in the first place, therefore reducing the investment in infrastructure for energy generation and distribution. However, the current pace of retrofit to minimise energy demand is slow, largely hampered by the lack of a suitably skilled workforce resulting from inconsistent government policies. Improving energy efficiency is urgently required to address the cost of living crisis, social inequalities and climate breakdown.

The recent assessment by the Committee on Climate Change indicated significant delivery risks to achieving net zero in buildings:

"The Government's Heat and Buildings Strategy set out a range of policy mechanisms to decarbonise the sector, including a rapid scale-up of low-carbon heat supply chains through a market-based approach. However, plans are not yet fully comprehensive or complete and significant delivery risks remain for many policy areas covered by the Strategy."

Committee on Climate Change, Progress in reducing emissions, 2022, Report to Parliament⁸

We are urging policymakers to set out clear policy frameworks, including appropriate regulations and incentives to improve building standards for new and existing properties, so that all stakeholders can confidently invest to deliver net zero homes. We advocate for embodied carbon to be measured in the property's Energy Performance Certificate and included in building regulations. One critical dependency will be the appetite of borrowers to build or renovate their homes to a high standard of energy efficiency and to adopt low-carbon heating. We will collaborate to facilitate, inspire and inform our current and future borrowers as much as possible.

Governance and accountability

The Board has overall responsibility for guiding Ecology's ecological mission and 2030 Strategy, ensuring appropriate strategic objectives, business strategy and resources. Ecology's governance structure provides the Board with oversight of Ecology's activity to fulfil its net zero commitments and targets. The CEO has management accountability for achieving the 2030 intermediate targets. The Management Committee ensures progress to achieve the 2030 targets, including liaising with relevant external groups to ensure best practice, such as the Net Zero Banking Alliance, the Global Alliance for Banking on Values and the Partnership for Carbon Accounting Financials. Our annual report describes our activities to create positive environmental and social impact, including reducing emissions from our lending. We will annually report progress against our intermediate targets.

⁷ UK Government's Net Zero Strategy: Build Back Greener, October 2021
<https://www.gov.uk/government/publications/net-zero-strategy>

⁸ Progress in reducing emissions, 2022 Report to Parliament, Climate Change Committee, June 2022
<https://www.theccc.org.uk/publication/2022-progress-report-to-parliament/>

Appendices

APPENDIX 1 Our lending in context

Background

The buildings sector contributes 20% of total UK annual emissions⁹, of which the majority comes from homes burning gas and oil to provide heating and hot water. Homes that are draughty and have poor levels of insulation ‘leak’ heat and so require more fuel to heat them, resulting in higher fuel bills and higher emissions (called ‘operational emissions’). Total emissions from the UK’s existing 28 million homes have been largely unchanged in recent years due to a lack of sustained policy to drive energy efficiency improvements.

While improvements in building regulations have gradually improved the energy performance of *new* properties, most new homes built in the UK still have insufficient insulation and are heated by fossil fuels. The Future Homes Standard is expected to set building regulations that deliver new build homes that are “future-proofed with low-carbon heating and world-leading levels of energy efficiency”.¹⁰

Retrofit

Retrofit of existing properties is an important part of our lending. Retrofit refers to upgrading existing properties to improve their energy efficiency (e.g., through improving insulation) and reducing carbon emissions (e.g., through upgrading heating systems). Around 80% of the houses that will exist in 2050 are houses that people are currently living in and they will need to be retrofitted to meet the UK’s target for net zero by 2050.

We take care to make our lending products suitable for ‘hard to treat’ properties, recognising the value in retaining existing buildings rather than demolishing them. We favour lending on properties that start off with poor standards of energy efficiency (recognising their high demand for heating emits more carbon dioxide and the occupant is particularly exposed when fuel prices rise) on the basis that our mortgage lending is used to fund improvements to the property that will improve its energy efficiency and reduce fuel use. We recognise that the least energy efficient properties have the ‘furthest to go’, but that retrofit can make the biggest difference in terms of reducing emissions and household fuel bills.



An Ecology-backed Passivhaus EnerPHit renovation

Retrofitting existing buildings is more challenging than new build, with a range of constraints to address relating to existing fabric, technology, lay-out, architectural features, local infrastructure, and potential planning restrictions. We also recognise that retrofit works can be carried out in stages over a period of time. While our renovation mortgages are aimed at enabling at least a two-step improvement in the EPC rating, we evaluate each project at application stage to understand the borrower’s current and future plans for the property, and any property constraints.

While whole house retrofit is often the best option when starting with a house in poor condition, for many properties, improvements may happen in a staged manner. The borrower’s decision on when to carry out improvements, and by how much, depends on a range of factors, such as affordability, incentives, pay-back time,

willingness to experience internal/external works at the property and, very importantly, clarity on what retrofit steps are needed. It is important that retrofit steps are carried out in the correct order, with each step being ‘no regrets’ in that it will deliver expected energy savings and not hinder carrying out future steps when the borrower is able to do so. ‘Whole house plans’ are very helpful, showing the step-by-step approach to retrofit, while recognising what is realistic for the property to achieve. For lenders, whole house plans can help to demonstrate improvement in the property and we see them as an essential component in helping the existing housing stock transition to net zero.

We recognise the challenge for existing buildings with listed status or in conservation areas where current planning constraints hinder energy efficiency improvements. A solution needs to be found for these buildings. They have intrinsic value and should continue to be valued, respected and sympathetically improved for the future.

⁹ Progress in reducing emissions, 2022 Report to Parliament, Committee on Climate Change, June 2022
<https://www.theccc.org.uk/publication/2022-progress-report-to-parliament/>

¹⁰ UK Government, Clean Growth Strategy, 2019
<https://www.gov.uk/government/publications/clean-growth-strategy>

Construction of new properties

New buildings can be designed from the outset to achieve low emission intensity through incorporating high standards of insulation, ventilation and low-carbon heating technology.

We support the construction of new homes and community buildings that meet our ecological criteria. We specify an entry-level energy efficiency standard for new homes, currently based on the SAP points from the EPC as the best available data. We increased the entry-level from 85 to 88 SAP points in 2021. We keep the entry-level criteria under constant review and recognise them as an important lever towards achieving net zero in our lending. Through our bespoke approach to lending, we proactively support new building techniques, provided they meet our sustainability criteria, including the offsite manufacture of components, kits and modules that are then transported and erected on site (so-called 'Modern Methods of Construction'). We recently increased the level of C-Change discount for the highest SAP scores (above 100), giving additional incentive for borrowers to achieve the highest standards of energy performance.



An air source heat pump fitted outside an Ecology-backed energy efficient self-build in Scotland

Low-carbon heat

Increasing the uptake of low-carbon heating, mainly through heat pumps and heat networks, is central to our pathway to net zero.

Most UK homes are currently heated by fossil fuels. The future of heating for the vast majority of homes is expected to be powered by electricity. A unit of gas will always give a fixed amount of CO₂ emissions, but the amount of carbon dioxide emitted to create a unit of electricity is gradually getting smaller. This is because the national electricity grid is gradually becoming less carbon intensive as more low-carbon energy sources are added to the national energy supply. Decarbonisation of the grid is central to the UK Government's Net Zero Strategy.

Heat pumps are an important technology for low-carbon domestic heating. The popularity of heat pumps in the UK is growing, while several other countries already adopt heat pumps at scale. Heat pumps run on electricity and capture heat from the outside (from air, water or ground) to use for property heating. A large advantage of heat pumps is that the heating energy they deliver is larger than the energy used to power the system. The ratio of 'energy in' to 'energy out' is the Coefficient of Performance (CoP). The CoP will depend on a number of factors, such as the heat pump itself, the local external temperature profile, the property's heat delivery system (e.g., size and number of radiators or underfloor heating) and the heat demand of the property, which is a consequence of the property's insulation and airtightness. Thanks to the decarbonisation of the electricity grid, using a heat pump is the preferred low-carbon heating option in the majority of situations.

"Tens of thousands of heat pumps have already been installed across the UK, and over 1.5 million heat pumps were installed across Europe in 2020 alone. The UK Government expects that millions of heat pumps will need to be installed in homes over the next 10-15 years to meet our net zero targets."

Energy Savings Trust

Heat networks are a way of taking heat from a central source and distributing it via a network of insulated pipes. As they draw heat from a central source, this can allow for economies of scale and the model enables cheaper, lower carbon heat sources to be added over time without the need to relay pipes or install new technologies in each property. Heat networks are likely to be an important option in urban locations and those closer to industrial or data centres where 'waste heat' can be put to good use in heating homes and other buildings. There are already a number of heat networks (also called district heating) in operation. Scope to increase heat networks is becoming a topic of focus for national governments and regional policymakers.

Hydrogen fuel is receiving considerable attention as a possible viable alternative to fossil fuels to help meet net zero targets. Burning hydrogen for fuel does not produce carbon emissions, but still produces other emissions that contribute to poor air quality such as nitrogen oxides. The general consensus around built environment professionals (e.g., LETI¹¹) is that hydrogen boilers are not expected to be cost effective heating technology for most domestic buildings in the near to medium term. Most hydrogen currently comes from fossil-fuel derived methane ('blue hydrogen') and so is not zero-carbon. Making zero-carbon 'green hydrogen' through renewable powered electrolysis is far less efficient than using electric heat pumps, and so it is unlikely hydrogen will be competitive for home heating in the near future. However, there are combinations of circumstances where hydrogen based heating may be the least environmentally damaging alternative. We will keep this subject under review.

Energy Performance Certificates (EPCs)

Score	Energy rating	Current	Potential
92+	A		105 A
81-91	B	88 B	
69-80	C		
55-68	D		
39-54	E		
21-38	F		
1-20	G		

Summary of limitations with current EPCs:

1. They do not necessarily reflect the current situation – EPCs are valid for 10 years with no requirement to update.
2. Only half of properties have a valid EPC.
3. Carbon emissions are calculated under normative conditions. EPCs were not designed to reflect actual energy use, but rather to allow purchasers to compare running costs amongst properties of similar size and format. Therefore, there may be a considerable gap between real and actual energy use.
4. Research shows the 'building performance gap' between actual and design performance can be significant – therefore, EPCs may underestimate real energy demand.
5. Carbon emission factors to convert energy use into carbon emissions are static for the vintage of the model used in the calculation, and not updated to reflect the reducing carbon intensity of national grid electricity.

Measuring property emissions

The best information that is currently widely available for property-level operational emissions is the Energy Performance Certificate (EPC). The EPC provides emissions from regulated energy use (for space and water heating, lighting and ventilation) calculated using the Standard Assessment Procedure (SAP) model, based on a property's size, fabric, heating system, lighting and renewable technologies. We use the carbon emissions for annual regulated energy use and the floor area from the EPC, to calculate the property's operational carbon emission intensity.

EPCs were originally introduced to summarise the energy efficiency of a dwelling and to recommend measures to increase efficiency and reduce running costs. In their current form, there are limitations in using them for an accurate up-to-date measure of a property's carbon emissions. However, thanks to considerable input from the built environment research and innovation community, there is growing confidence that EPCs will be improved in coming years, giving us better data to more accurately reflect the property's emissions.

We are currently working on methods to measure the *improvements in terms of avoided carbon emissions* arising from our lending, as this is a helpful way to demonstrate the contribution our lending is making to support the transition of the housing stock towards net zero. This is especially relevant for retrofitted properties, where we favour lending on properties that start off with poor standards of energy efficiency (recognising their high demand for heating emits more carbon dioxide and the occupant is particularly exposed when fuel prices rise) on the basis that our mortgage lending is used to fund improvements to the property that will improve its energy efficiency and reduce fuel use.

Embodied carbon

Carbon emissions also arise from the fossil fuel energy used in a building's construction and maintenance, both of which are components of a building's embodied carbon. Embodied carbon emissions are not currently covered in the *Net Zero Banking Alliance* commitment. However, we recognise the importance of embodied carbon and are working to understand and address this.

Current building regulations do not take account of embodied carbon, something we are campaigning to change. By supporting renovation and conversion projects, we recognise and value the embodied carbon already invested in existing buildings. Our lending supports responsible use of materials that have a low embodied carbon footprint and can be re-purposed at the end of a building's life.

APPENDIX 2 The basis for our science-based targets

Averting climate breakdown

Human-driven climate change and destruction of nature are happening at an alarming rate, with grave consequences for society. Climate change is already causing increasingly frequent and severe heatwaves, droughts and flooding, melting glaciers and ice caps, and causing loss of biodiversity on land and in the ocean. The climate emergency is not only an environmental issue, but also a serious humanitarian and economic issue. A liveable planet and healthy ecosystems are the foundation of our societies, economies, food production and health.

Global greenhouse gas emissions continue to rise, despite the Paris Climate Agreement signed by world leaders in 2015, to limit global heating to below 2°C, aiming for below 1.5°C. While more leaders are stating their climate ambition, this has not yet translated into the rapid action necessary to avoid climate breakdown. The invasion of Ukraine and the rise in energy demand as the global economy recovers from the pandemic have shifted global energy dynamics and caused fuel prices to rise. The case has never been stronger to accelerate energy efficiency (to reduce energy demand) and roll out renewables to provide an energy supply based on local, clean, green electricity.

Scientists are warning that keeping global heating to within 1.5°C may already be out of reach, with the planetary system now dangerously close to ‘tipping points’ that will lead to irreversible extreme temperatures. This decade must see rapid action to halve global carbon emissions and achieve net zero by 2050, together with the restoration of the natural ecosystems that are critical to maintaining a habitable planet.

Future emission scenarios – net zero by 2050

Global level scenario, across all sectors

The Intergovernmental Panel on Climate Change has used state of the art climate models to calculate the remaining carbon budget, the amount of carbon that can be emitted while giving the world an even chance of limiting the global average temperature rise to 1.5°C. The IPCC concludes¹² that to stay within the remaining carbon budget, with no or limited overshoot, global net anthropogenic carbon emissions need to decline by about 45% from 2010 levels by 2030 (based on IPCC scenarios P1 and P2).

Carbon emissions come from a range of sources, including industry, transport, agriculture and buildings, with each sector having different viable options for emission reductions. The emission reduction pathways at the sector level continue to be the focus of considerable ongoing research.

Building sector scenarios

The International Energy Agency (IEA) has provided a sector-based assessment in its ‘Net Zero by 2050: A Roadmap for the Global Energy Sector’¹³. The IEA calculates that there will be significantly more buildings by 2030, and measures will need to be taken to reduce emissions overall by 51% by 2030, to be on track for net zero by 2050.

We have used the global and sector-based scenarios as the scientific basis for setting our intermediate targets for 2030 where we will reduce the emission intensity by 50% between 2020 and 2030 for our new and retrofitted property portfolios.



Newly completed modular construction homes on the Isle of Mull, financed by Ecology

¹² IPCC, 2018: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways. <https://www.ipcc.ch/sr15/>

¹³ Net Zero by 2050: A Roadmap for the Global Energy Sector. International Energy Agency, May 2021 <https://www.iea.org/reports/net-zero-by-2050>

Ecology Building Society, Ellis House, 7 Belton Road, Silsden, Keighley, West Yorkshire BD20 0EE.

T 01535 650 770 F 01535 650 780 E info@ecology.co.uk

W ecology.co.uk  facebook.com/EcologyBS  [@EcologyBS](https://twitter.com/EcologyBS)

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