

Climate-related financial disclosures 2021

Extract from the Annual Report and Accounts 2021, pages 36 to 55



Climate-related financial disclosures

Climate change presents a risk to the Society and its members. Since 2019, Nationwide has been enhancing and embedding its capabilities to monitor and manage climate risk and meet the requirements of the Prudential Regulation Authority's (PRA's) Supervisory Statement 3/19 (SS3/19) – Enhancing banks' and insurers' approaches to managing the financial risks from climate change.

Nationwide has also been a supporter of the Financial Stability Board's Taskforce on Climate-related Financial Disclosures (TCFD) since 2019 and its objective to improve and increase the reporting of climate-related financial information. The information set out opposite is provided in line with the requirements of SS3/19 to disclose the financial risks from climate change, and is aligned with the TCFD's recommendations.

This information details our understanding of the impact of climate change on the Society and its members. In addition, it explains how the risks from climate change are managed and incorporated into the Society's governance model, and the metrics and targets used to monitor the risk.

Climate-related disclosures overview page 37

Overview of Nationwide's climate ambitions, the progress made to date, and current focus and future plans for addressing climate risk across the four TCFD elements of Strategy, Governance, Risk management, and Metrics and targets.

Our carbon journey page 38

Summary of the key activities undertaken to date to reduce Nationwide's impact on the environment.

Strategy page 39

Description of Nationwide's approach to considering climate change, the opportunities it presents, and how the associated risks are measured and managed.

Governance page 45

Description of the roles, responsibilities, committees, and operating model through which Nationwide governs climate-related risks and makes climate-related decisions.

Risk management page 47

Outline of how Nationwide considers climate change risk, the Society's climate risk appetite, and how climate risk management is embedded within the Society.

Metrics and targets page 50

Information on the metrics and targets used by the Society to monitor and manage its climate risk exposures, including scope 1, 2 and 3 emissions data.

Future developments in climate risk page 55

Planned future enhancements to Nationwide's climate risk measurement and management capabilities.



Climate-related disclosures overview

Nationwide's climate change ambitions are clear...



To lead the greening of UK homes, where at least **50% of homes** in our mortgage portfolio will be **EPC C or better by 2030**



Our **business operations, suppliers and commuting** will be **carbon neutral by 2030**



We are working towards alignment to a **net zero emissions pathway by 2050**

	Achievements	Current focus	Future activity
Strategy	<ul style="list-style-type: none"> Climate change considerations embedded in strategic planning and green proposition development, making use of the £1 billion funding available to lend on products which incentivise greener homes Developed and tested our approach to climate change scenario analysis to quantify physical and transition risk Formed cross-industry partnerships to drive real change Announced climate-related pledges including our Mutual Good Commitments, which include the ambition to lead the greening of UK homes 	<ul style="list-style-type: none"> Further enhancing scenario analysis capability and preparation for the Climate Biennial Exploratory Scenario (CBES) in June 2021 Using transition and physical risk outputs to better manage the potential financial implications and develop supporting propositions 	<ul style="list-style-type: none"> Use outputs from scenario analysis to influence strategic decisions Further enhance understanding of the impacts of transition risk, and fold these into strategic considerations Continue to identify climate change risk and opportunities
Governance	<ul style="list-style-type: none"> Chief Strategy and Sustainability Officer assumed Society-wide accountability to ensure embedding of climate change risk Climate change risk governance established and matured, with senior management and Board level engagement Education sessions on climate change held with the Board 	<ul style="list-style-type: none"> Further embedding and evolving the climate change governance at Board and management level Engagement with the Board on strategy and proposition development, risk management and disclosures 	<ul style="list-style-type: none"> More frequent and detailed discussion on climate change, and the risks and opportunities it presents, at committees and with the Board Climate change will be a key consideration in this year's Board strategy conference
Risk management	<ul style="list-style-type: none"> Climate change embedded as a cause in the existing Enterprise Risk Management Framework The most material climate change risks identified and understood Climate change risk standard created and embedded which describes how climate risk is managed and monitored 	<ul style="list-style-type: none"> Updating the Risk Control Self-Assessment process to include, where appropriate, any changes in risk profile due to climate change 	<ul style="list-style-type: none"> Broaden understanding of transition risk through scenario analysis, for both non-financial and financial risks
Metrics and targets	<ul style="list-style-type: none"> Scope 1 and 2 carbon emissions reduced by 90% since financial year 2010/11, achieving carbon neutrality in April 2020 Physical and transition risk metrics produced to quantify impact Scope 3 carbon emissions for the mortgage book calculated in alignment with the Partnership for Carbon Accounting Financials (PCAF) methodology 	<ul style="list-style-type: none"> Creating new internal modelling capabilities to produce metrics that will measure the financial risks from climate change for both physical and transition risk in readiness for the CBES, whilst supporting the development of climate strategy 	<ul style="list-style-type: none"> Enhance climate change metrics, ambitions and targets, in line with changes to strategy, propositions and the outcomes of scenario analysis Explore setting science-based targets to help track our progress towards net zero emissions by 2050

Using our collective voice, Nationwide is campaigning for...

A clear roadmap for net zero, for residential property, by 2050 with affordability at its heart. This will enable government, members, and the building supply chain to have a clear understanding of how homes of every tenure, and households at different income levels, can achieve net zero

Long-term sustainable incentives to support homeowners in reducing their carbon emissions and to encourage the development of new green supply chains

The Government to ensure all new homes are built to high energy efficiency standards so these properties do not need to be retrofitted at a later stage



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Our carbon journey



2012

- Solar panels installed on our head office building in Swindon



2014

- Achieved Carbon Trust Triple Standard for water, waste and energy, which recognises organisations that follow best practice in measuring, managing and reducing their environmental impact



2015

- Started carbon offsetting
- Zero waste to landfill, with all non-recyclable waste converted to energy
- Old IT equipment recycled or donated to charity
- Set 2020 carbon, water and waste reduction targets



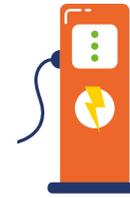
2016

- Signed a long-term solar farm Power Purchase Agreement for over 50% of our electricity use
- Formed the Property Risk Hub in partnership with Airbus and JBA, providing a better understanding of the environmental credentials of the properties on which we lend



2018

- Signed up to green wind and hydro energy, meaning 100% of our electricity comes from renewable sources
- Car-share scheme introduced for colleagues' commute to work
- Renewal of Carbon Trust accreditation and awarded an additional Carbon Trust standard for Supply Chain



2019

- More than 30 electric car charging points installed and electric vehicles available on colleague car scheme
- 90% of food produce sourced within a 50 mile radius
- Food waste from admin sites converted to biogas and cooking oil returned to supplier to be used as fuel for their vans
- Joined the UN Global Compact
- Became an official supporter of TCFD



2020

- 100% carbon neutral from April 2020 for all energy use and emissions for internal operations and Nationwide fleet vehicles by offsetting residual carbon
- 90% carbon reduction since 2010
- Joined the Partnership for Carbon Accounting Financials UK (PCAF UK)
- Launched the Green Additional Borrowing Mortgage
- Introduced our mutual good target; at least 50% of our mortgage portfolio to have an EPC of C or better by 2030



2021+

- Signed up to the United Nations Principles for Responsible Banking
- Launched the Green Reward Mortgage
- Launched the Green Further Advance Mortgage for The Mortgage Works customers
- Mailed 70,000 buy to let mortgage customers with no EPC to tell them about the support available to improve the energy efficiency of their properties
- Launched the first phase of Environment, Social and Governance (ESG) content onto the website
- Developing plans to eliminate our use of single use plastic by 2025, starting with debit and credit cards to be made from recycled plastic in 2021
- Participating in the Carbon Disclosure Project
- Participating in the Bank of England's Climate Biennial Exploratory Scenario



Strategy

Supporting the transition to a net zero economy

The Society’s purpose of building society, nationwide, aligns with the need to transition to a net zero economy – to achieve an overall balance between greenhouse gas emissions produced and taken out of the atmosphere. Nationwide aims to build a greener society and as a building society, we exist to meet the needs of our members. Nationwide does not have any exposure to corporate lending (except small, closed commercial real estate and private finance initiative portfolios, and lending to registered social landlords (RSL)). This business model means that our strategy does not involve lending to or investing in businesses which have a negative impact on society and the environment, such as those in the fossil fuels industry.

We realise the impact climate change could have on our members, their homes and wider society, and understand how crucial it is to act now. To help us better address the impact, we have embedded climate change considerations into our strategic planning and execution. We recognise the importance of climate change to our members and stakeholders and are actively addressing the risks and exploring the opportunities with them in mind.

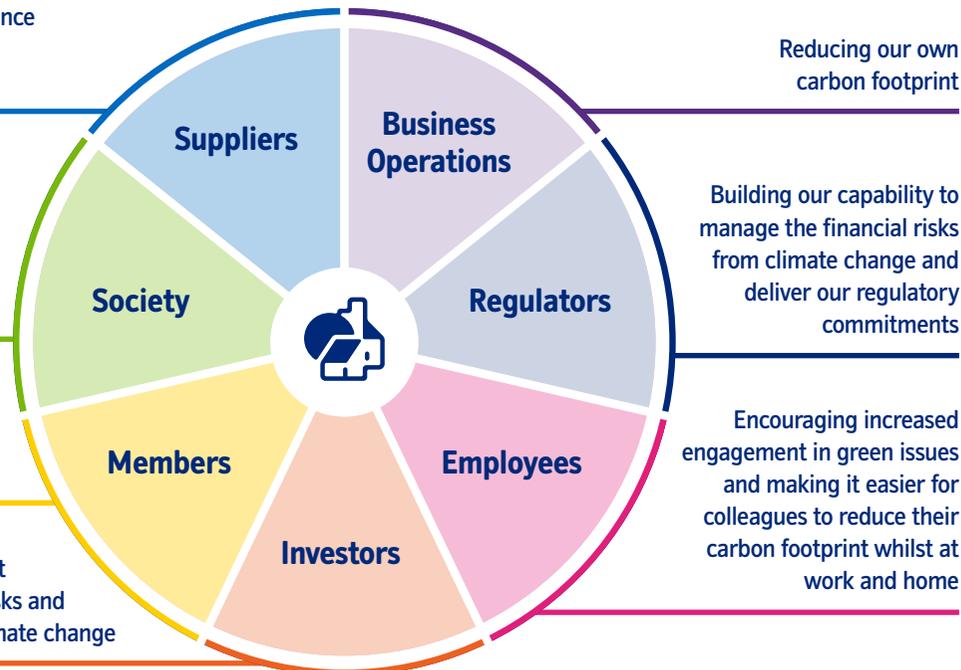
Nationwide’s position on climate change is reflected in everything it does

Leveraging our scale and influence to promote green practices within our supply chain

Working with government and industry to make a positive difference to climate change with a focus on greening homes

Helping members to reduce their carbon emissions through our propositions

Demonstrating to investors that Nationwide is managing the risks and opportunities presented by climate change



Supporting society

In 2020, Nationwide launched its Mutual Good Commitments, which included the ambition to lead the greening of UK homes. To support this, the Society has the ambition that at least 50% of its mortgage portfolio will have an Energy Performance Certificate (EPC) rating of C or above by 2030.

It is recognised that EPCs are not perfect, but they currently represent the best source of publicly available data on the energy efficiency of properties. Nationwide will continue to assess and use the best data possible, aligning with industry best practice, whilst recognising that this may change as new data sources become available and understanding increases.

The Society also recognises that it alone cannot improve the energy efficiency of UK homes, which is why Nationwide is working with government and industry to make the greening of UK homes a reality. In order to facilitate the transition, Nationwide will seek to work with the Government to encourage the following:

- Future Homes Standard to be introduced by the building industry at the earliest possible opportunity. This is currently due in 2025 and will require new-build homes to be fitted with low carbon heating, and high levels of energy efficiency
- Full implementation of the Clean Growth Strategy, including the Department for Business, Energy and Industrial Strategy (BEIS) recommendation to upgrade all buy to let properties in England and Wales to EPC C or above by 2028 (all new tenancies from 1 April 2025, all existing tenancies by 1 April 2028), subject to a retrofit cost cap of £10,000 (currently this requirement is due to be implemented by 2030 and the retrofit cost cap is £3,500). BEIS estimates that on average, landlords will spend £4,700 per property to reach EPC C, and that a majority (approximately 70%) of properties would be improved to EPC C within the £10,000 cap¹
- Long-term government financial incentives for owner-occupiers to retrofit, in particular supporting those on low incomes and those where the financial payback from retrofit is minimal. This would help facilitate the trusted supply of retrofit materials, the workforce to fit them and the willingness of homeowners to undertake works on their property.

¹ The Department for Business, Energy and Industrial Strategy’s consultation on Improving the Energy Performance of Privately Rented Homes in England and Wales September 2020.



Strategy (continued)

Nationwide will also increase awareness of potential improvements to the energy efficiency of a property through engagement with our members, the promotion of retrofit lending products, and the development of innovative propositions.

Based on the above, different scenarios have been considered for increasing the proportion of the Society’s mortgage properties rated EPC C or better, from around 36% today to 50% by 2030. Whilst stretching, the Society believes its Mutual Good Commitment is achievable with continued government support and if key stakeholders work together. Most of the improvement to 2030 is expected to be driven by changes in the energy efficiency of buy to let properties and through the Society’s share of lending to new builds (typically EPC rated B or above).

Nationwide will publish an update on progress towards its Mutual Good Commitment at least annually.

Partnering for mutual success

Collective effort is needed to achieve net zero. Nationwide has therefore partnered with the following key organisations to increase its knowledge and effect real change:

- Member of the Green Finance Institute’s Coalition of Energy Efficiency of Buildings (GFI CEEB) since 2019
- Committed to the UN Global Compact (UNGC) since 2019
- Founding partner of the Partnership for Carbon Accounting Financials UK (PCAF UK) since 2020
- Joined the UK Green Building Council (UKGBC) in 2021
- Joined the UN Principles of Responsible Banking (UN PRB) in 2021
- Part of the London School of Economics Financing a Just Transition Alliance
- Member of the Imperial College Business School Centre for Climate Finance and Investment
- Active participant of UK Finance’s Sustainability Committee
- Part of the Prudential Regulation Authority’s (PRA’s) and Financial Conduct Authority’s (FCA’s) Climate Financial Risk Forum (CFRF) scenario analysis and retail banking working groups

- Contributor to key discussions on the greening of UK homes through engagement with the Government’s Environmental Audit Committee
- Respondent to strategic BEIS consultations on how to improve the energy efficiency of the UK’s homes through lenders and for those privately rented.

Supporting our members

UK homes and the energy they consume account for 15% of the UK’s carbon emissions² and many of the homes being built today are still not energy efficient enough to meet the requirements for a net zero economy. Nationwide continues to develop new and innovative propositions to help combat climate change. In the past year, the Society has:

- Launched a Green Additional Borrowing mortgage product to our members to help make energy efficient home improvements
- Partnered with Switchd to offer our members and colleagues a free six-month trial of their auto-energy tariff switching service, which includes green options
- Contacted approximately 70,000 The Mortgage Works (TMW) customers (around 33% of our buy to let book) who do not appear to have a valid EPC, with the aim to remind them of regulation and educating them about energy efficiency, referencing key government tools and guides
- Launched a green web page for TMW customers
- Pledged to eliminate single-use plastics by 2025, and roll out debit and credit cards made from recycled plastic in 2021
- Progressed its Oakfield development consisting of 239 EPC A rated homes built to high environmental standards, which is hoped will provide a blueprint for future sustainable homes
- Launched the Green Reward Mortgage product to our members, offering cashback for properties with an EPC of A or B
- Launched the Green Further Advance Mortgage to TMW customers to help make energy efficient home improvements.

Nationwide will continue to explore further climate change-related propositions over the coming year whilst monitoring our exposure to potential liability and conduct risk.

Helping our people to go green

The Society’s employees have an important role to play in tackling climate change. Over the past year the employee engagement on green initiatives has increased. Examples include the provision of hints and tips on how employees can reduce their carbon footprint and the sharing of propositional successes, as well as utilising the Society’s Green Champions network. Nationwide is also developing an internal green engagement strategy which describes what we want our employees to ‘think, feel and do’ in relation to climate change.

Greening our business operations

Nationwide is proud of its climate-related operational targets and initiatives, and its repeated Carbon Trust Triple Standard accreditation for its management of water use, waste and energy consumption. Nationwide continues to send zero waste to landfill.

Since 2018, 100% of the Society’s electricity has been supplied from renewable sources, and since April 2020 Nationwide has been carbon neutral (no net release of carbon dioxide into the atmosphere) for its internal operations. This includes energy use and business miles from its own vehicles, with remaining emissions offset through verified carbon offsetting projects that actively remove carbon from the atmosphere.

This year, the Society’s focus has been on building a clearer picture of the emissions produced by its employees, suppliers, and products. Definitions of scope 1, 2 and 3 emissions are as follows:

Scope 1	Scope 2	Scope 3
Direct emissions from owned sources such as emissions from the Society’s car fleet	Indirect emissions from the generation and consumption of purchased electricity and heating such as the electricity bought by the Society to power its branches	All other indirect emissions that occur in our value chain such as emissions from the Society’s mortgage properties

Detailed scope 1 and 2 emission metrics, including comparable year on year performance, can be found in the ‘Metrics and targets’ section on page 50.

²Office for National Statistics – February 2020.



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Sourcing services responsibly

Nationwide has partnered with sustainability consultancy, Carbon Intelligence, to refresh its estimate of the upstream scope 3 emissions – those that result from its supply chain. Previous estimations indicated that the largest component of these emissions was due to purchased goods and services. With this in mind, the Society took further steps to build climate change considerations into its procurement and supply chain management processes. Different methods were explored to collect environmental performance data from Nationwide’s third parties, and key third parties were engaged to share learnings through supplier decarbonisation discussions.

We continue to explore ways to understand and record the carbon emissions that Nationwide is responsible for through its supply chain, and aims to be carbon neutral for purchased goods and services by 2030. In 2021 environmental performance data will be collected from key third parties using shared information from EcoVadis, a universal sustainability ratings provider.

Nationwide has also enhanced the environmental requirements within its Third Party Code of Practice, including the need for all third parties to monitor and disclose their scope 1 and 2 emissions and set reduction targets.

Our external stakeholders

Investor, rating agency and regulator expectations of the minimum standards for Environment, Social and Governance (ESG) disclosures continue to increase. As a result, there has been a material increase in the breadth and depth of ESG-related disclosures in recent years.

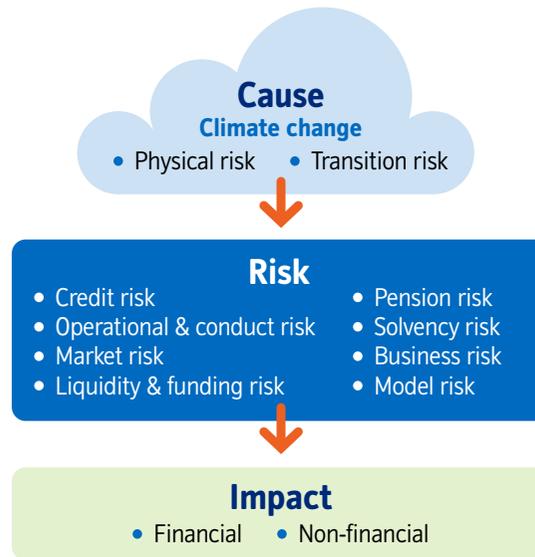
The ESG content on our website is being improved to make it easier for stakeholders to find what they are looking for. This includes information on all key themes and topics of interest to investors and ESG rating agencies. The first phase of these improvements went live in early 2021, with further enhancements due throughout 2021.

Nationwide also offers investors focused discussions with internal subject matter experts on how climate change risk and ESG issues are managed more broadly. Nationwide has held a number of cross-industry roundtables on the greening of UK homes.

Embedding climate change risk

Due to its nature, climate change has implications across the Society’s entire Enterprise Risk Management Framework (ERMF). Climate change has been embedded as a cause to the Society’s most significant risks. Consideration as a cause ensures appropriate identification, monitoring and management across all existing risk categories, along with full traceability.

The following diagram explains how climate change risk has been embedded within our ERMF:



Climate change risk is considered to manifest across two main causes, physical and transition risk:

- **Physical risk** – the risks arising from the increasing severity and frequency of climate and weather-related events such as flooding
- **Transition risk** – the risks which could result from the process of adjustment towards a lower carbon economy such as through developments in policy and regulation, emergence of disruptive technology or business models, shifting societal preferences, or evolving legal interpretations.

To form a view on materiality, and to understand the broad financial impacts across different time horizons, the ERMF was assessed through a climate change lens. More detail is provided

in the Risk management section on page 47.

This exercise identified Nationwide’s top three climate change risks as:

- Credit
- Operational and conduct
- Liquidity and funding.

Credit risk is the most material climate change risk due to the Society’s mortgage portfolio exposures.

Climate change risk has been considered as part of the internal capital adequacy assessment process (ICAAP). This assessed the need to hold capital for climate-related risk over a 12-month period. Based on our current assessment the capital requirement for physical risk is immaterial. Further work is needed to establish any capital requirement for transition risk. Climate change risk is also covered as part of the internal liquidity adequacy assessment process (ILAAP). The impacts of climate change will continue to be assessed within both the ICAAP and ILAAP on an annual basis.

Assessing climate risk in lending decisions

Nationwide’s approach to lending incorporates various environmental risk considerations. When evaluating new residential mortgage applications, climate-related risks, including flooding and subsidence, along with energy performance, are used to inform the potential impact on future property values. Further detail can be found in the ‘Risk management’ section on page 47.

Energy Performance Certificates (EPC)

An EPC is a document which sets out the energy efficiency of a property. Produced by an accredited domestic energy assessor, an EPC provides an indication of how much it will cost to heat (both water and space) and light a property. EPCs also include recommendations for energy-efficiency improvements, the cost of carrying them out, and the potential savings that each one could generate.

Energy efficiency is indicated using a traffic light system rating from A to G, based on Standard Assessment Procedure (SAP) points, with A being the most efficient.

The SAP calculates a property’s expected annual energy cost and potential carbon emissions based on:

- The structure of the property



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- The heating and hot water system
- The internal lighting
- Any renewable technologies used in the home.

The higher the SAP score, the lower the running cost, with a score of 100 (EPC A) representing zero energy cost.

EPCs are currently the best source of publicly available data on the energy efficiency of a property and whilst useful, they have their limitations, such as:

- Energy price dependencies – the current methodology is sensitive to fuel prices and so a property on a grade boundary can improve its EPC rating purely by having its assessment undertaken when energy prices are low
- Lack of carbon neutral incentives – the methodology rates efficient gas boilers above carbon neutral sources like air or ground source heat pumps
- Incomplete data set – an EPC is required every time a property is built, sold or rented and is valid for 10 years; therefore, only around half of Nationwide mortgage properties have a current EPC
- Out of date data – changes to the energy efficiency of a property (for example, due to improved insulation) will not be captured unless the homeowner chooses to have the property reassessed.

EPC modelling

Nationwide uses EPC data to inform its transition risk assessment and scope 3 emissions. Using artificial intelligence and machine learning algorithms, the characteristics of a property that does not have an EPC are used to estimate its EPC

rating and other factors. The characteristics used include details of the home, owners, surrounding area and surrounding properties.

Despite the inherent limitations of EPCs, the modelling informs the calculation of the EPC composition of the Society’s mortgaged properties. The model outputs are also used to assess transition risk through the implied cost of retrofitting and the energy consumption for lighting, and heating the home, and water. This work has informed our Mutual Good Commitment (to ensure 50% of our portfolio is rated EPC C or better by 2030) and supported the PCAF-aligned disclosure of the Society’s scope 3 mortgage portfolio emissions, as set out in the ‘Metrics and targets’ section on page 50.

Testing the approach to EPC modelling and outcomes

The modelling approach was tested on Welsh properties to check the outputs and to prove the modelling achieved a statistically robust result. Due to a lack of available data, properties in Scotland and Northern Ireland were matched to the mathematically ‘most similar’ property in the rest of the UK – this process was repeated for multiple randomised simulations.

Nationwide’s approach to scenario analysis

To ensure strategic decisions are informed by an understanding of the opportunities and risks from climate change, different climate scenarios were modelled.

This capability was proven as part of an internal stress test undertaken in 2020, which focused on:

- Prime and buy to let mortgage properties

- Lending to registered social landlords (RSL).

The physical risk impacts on the Society’s own properties, and those that Nationwide lends against, were assessed. The approach involved:

- Assessing river and coastal flooding, and surface water, using data supplied by Jeremy Benn Associates Risk Management Limited (JBA) via flood risk matrices. JBA projected changes in precipitation, temperature and sea level obtained from the Met Office’s UK Climate Projections (UKCP18) and information on existing flood protection
- Reducing property values based on flood severity and likelihood, informed by analysis of the impact of previous flooding on property prices. No price reductions were applied where the incremental flood depth was negligible.

The assessment of transition risk used the EPC modelling detailed above, together with:

- Assumptions regarding the implementation of government policy, such as, the Future Homes Standard and the Clean Growth Strategy. These informed expected future minimum EPC requirements for new homes and the timing of retrofitting activity on both prime and buy to let properties
- Forecast energy prices and carbon taxation inputs from the Network for Greening the Financial System (NGFS).

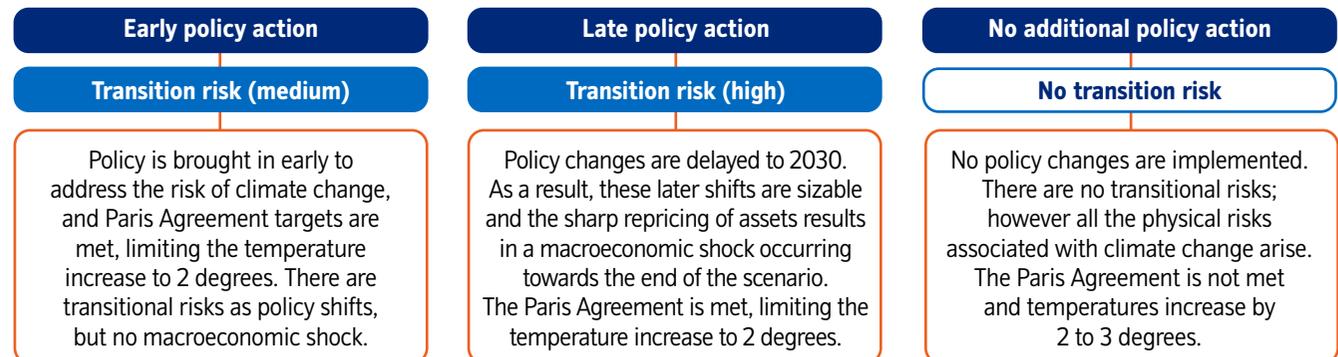
Nationwide has developed further its capabilities ahead of the PRA’s Climate Biennial Exploratory Scenario (CBES) in June 2021.

Testing climate scenarios

The upcoming CBES is focused on stress testing the financial impact of climate change on firms across three scenarios, namely Early policy action, Late policy action and No additional policy action.

Transition risk was assessed for the Early policy action and Late policy action scenarios, noting that transition risk will not occur in a No additional policy action scenario.

Details of the three scenarios tested are opposite:



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To develop our understanding of physical risk, we have used different climate scenarios based on Representative Concentration Pathways (RCPs), developed by the Intergovernmental Panel on Climate Change (IPCC).

RCPs are a recognised series of greenhouse concentration trajectories and have been used in global climate science since 2013. The RCPs include:

- RCP 2.6 – which requires declining CO₂ emissions by 2020 to get to zero by 2100 and keep global temperature rises below two degrees
- RCP 4.5 – which predicts that emissions peak around 2040, then decline to half the levels of CO₂ by 2100, resulting in a global temperature rise between two and three degrees
- RCP 6.0 – which predicts that emissions peak around 2080, then decline
- RCP 8.5 – which is seen as the worst-case climate change scenario, where emissions continue to rise throughout the 21st century.

Scenario analysis outcomes

The outcomes of the climate change scenario analysis are provided separately for physical and transition risk given the different methodologies used. Further detail on both physical and transition risk metrics can be found in the 'Metrics and targets' section on page 50.

Physical risk outcomes

Our scenario analysis results suggest physical risks arising from climate change should have a low³ impact on our mortgage portfolio over the next 30 years.

For the past five years, flood risk has been considered as part of our mortgage underwriting process. Decisions over this period not to lend against high flood risk properties have lowered the risk. In addition, the low loan to value (LTV) profile of those properties more at risk has led to a reduction in physical risk exposure.

The flood risk data from JBA was converted into property value reductions informed by the frequency and severity of flooding.

These reductions were input into existing models to increase the losses given default and expected credit losses (ECLs) in order to quantify the impact on impairments at five year intervals over a 30-year period.

The impact on ECLs across the 30-year analysis period was low, due to the low level of affected properties. Only approximately 95,000 of properties securing prime and buy to let mortgages, out of a total portfolio of approximately 1.5 million, experienced non-negligible flooding. Of these, approximately 1,800 incurred the most severe valuation reductions, due to the frequency of flooding. This combined with the low LTVs resulted in the low impact on impairments.

The sensitivity of the ECLs to different inputs was analysed:

- The property value reductions of flood risk properties were increased. For those properties deemed uninsurable (due to frequency of flooding), the already high value reductions were doubled, and for other properties the value reductions were increased by a multiple of 10 – the impact remained low
- The impact across different RCPs over the 30-year period (to 2050) was assessed to understand how the ECLs might vary with each climate scenario. The results indicated that losses remain low for all RCPs.

The physical risk associated with the Society's RSL lending was also assessed. Around 87% of approximately 180,000 RSL properties were matched to the data provided by JBA, with the incremental impact of river, coastal and surface flooding assessed to 2050.

The impact of the flooding on cashflows was evaluated at counterparty level where more than 5% of the borrower's properties showed an increase in flood severity. This equated to approximately 1,000 properties across 22 borrowers. When properties with a negligible flood depth were removed, the number of properties requiring analysis fell to approximately 600. The impact on borrower cashflows was deemed to be low.

Transition risk outcomes

Using the estimated EPC composition of the entire mortgage portfolio, transition risks for both the Early and Late policy action scenarios were assessed. These assessments were made using known, and potential future, government policy and included

assumptions on:

- Improved new build standards on housing stock
- Increased energy costs
- The cost of retrofit.

For retrofitting costs, data was taken or inferred from underlying EPCs, and for Early policy action a degree of government subsidy was assumed.

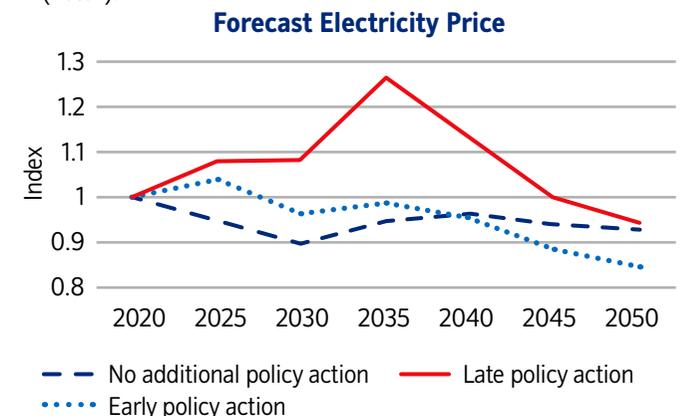
Energy costs

To assess transition risk, energy usage from EPCs was combined with electrical goods energy usage data from the Energy Savings Trust and combined with forecast energy prices (electricity, oil and natural gas prices) from the NGFS for the EU region.

The impact of carbon taxation was also included, with carbon price used as a proxy for the net impact of government direct and indirect taxation. Again, NGFS data for the EU region provided forecast carbon pricing for the period 2020 to 2050.

This data enabled the quantification of potential future energy bills for homes (excluding inflation) in the Early and Late policy action scenarios for the period 2020 to 2050.

An example of how electricity prices may change over the next 30 years in each scenario is shown in the following graph (note i).



Note:

- i. The data is taken from the NGFS REMIND-MAGPIE 1.7-3.0 model outputs for the EU region.

³Low indicated an estimated increase in ECLs of less than £5 million.



Strategy (continued)

Cost of retrofitting

Estimated retrofitting costs were calculated based on the average retrofitting plan as detailed in a property's EPC to raise the rating of the property to its maximum achievable EPC rating. Regardless of scenario, around 99%⁴ of Nationwide's prime and buy to let properties may require some form of retrofitting.

Nationwide's assessment assumed all homes were brought up to their maximum achievable EPC rating, to estimate the potential magnitude of retrofitting costs, assuming alignment with net zero. It is recognised that some homes simply will not be able to reach the required standard and for many the cost of retrofitting does not make financial sense.

Early policy action transition risk outcomes

In the Early policy action scenario energy costs increased for all properties over the 30-year period, with the most efficient homes still seeing around a 50% increase. EPC E properties, rather than F and G, were most affected. This was because EPC F and G properties rely disproportionately on electricity for heating, which was forecast to decrease in cost in absolute terms and relative to gas and other carbon fuels, over the period.

Due to Early policy action, retrofitting costs were assumed to be subsidised by two-thirds, aligned to the Government's recently closed Green Homes Grant scheme. Costs therefore remained lower across all property types, compared with the Late policy action scenario. EPC G rated homes had the highest retrofitting costs.

In an Early policy action scenario, it was assumed the efficiency of Nationwide's mortgage portfolio housing stock improved. This was through a combination of higher new build standards (for example, homes built to the more efficient Future Homes Standard from 2025) and early (assumed) subsidised retrofitting activity.

For the purposes of this initial analysis, all properties of a similar EPC were assumed to undertake retrofitting at the same point in time. For example, all buy to let EPC G-D properties became EPC C by 2025, all prime EPC G-D properties became EPC C in 2030, and all homes reached their maximum potential efficiency in 2045.

From a starting position where approximately 70% of the Society's mortgage book was rated EPC D or below in 2020, it transitioned to only 2% forecast to be rated D or below by 2050. In this scenario, energy efficiency improvements meant that Nationwide met its Mutual Good Commitment by 2030 – at least 50% of the mortgage portfolio will be EPC C or better.

The analysis showed that the majority of EPC A rated homes still use natural gas as a fuel source rather than relying on air or ground source heat pumps for heating. This indicates the need for retrofitting in the future if net zero emissions are to be achieved.

Late policy action transition risk outcomes

In a Late policy action scenario energy costs (including carbon pricing) escalated rapidly from 2030, with some normalisation of electricity prices from 2035. For similar reasons to the Early policy action analysis, EPC E rated homes had the greatest increase. In monetary terms, it was estimated that, for EPC G rated homes, annual fuel and climate tax charges increased by up to four times the current cost by 2050.

In this scenario, retrofitting costs were more substantial, reflecting the assumption that costs were borne in full by the owner due to an absence of subsidies.

It was assumed that the UK housing stock increased gradually over the duration of the scenario. These homes were initially built to current standards and only became more efficient later in the scenario.

Retrofitting activity was also later, as was the implementation of the Future Homes Standard (assumed from 2030), and so was implemented over a condensed period. Again, all properties of a similar EPC were assumed to undertake retrofitting at the same point in time. All buy to let EPC G-D properties became EPC C by 2035 and all prime EPC G-D properties became EPC C in 2040. All homes reached their maximum potential efficiency in 2045.

In the Late policy action scenario, Nationwide failed to meet its Mutual Good Commitment with an estimated 39% of properties rated C or better by 2030.

Incorporating climate change scenario impacts into our strategy

The Board has reviewed the outcomes and learnings from the climate change scenario analysis. As a result, the Board is supportive of using the outcomes as the basis for building the further capability for the CBES and future stress testing. Planned enhancements to the transition risk assessment include building energy cost considerations and retrofitting costs into ECL assessments.

Learnings from transition risk will be used to inform lending policy and proposition development as Nationwide seeks to help members balance the need to transition to net zero with the costs of doing so.

Equally, the Society will adapt its strategy to respond to external developments, particularly those in governmental policy and their adoption. We recognise the potential implications of a Late policy action scenario on our ability to reach our EPC Mutual Good Commitment by 2030 and will work with government and industry to address this.

⁴Based on less than 1% of properties with an EPC of A or B and an electric fuel source.



Governance

A well-established climate change governance model

The Board has ultimate accountability for all climate change risk related matters. The Board Risk Committee and Executive Risk Committee are responsible for oversight of climate-related risks. Climate change risk is discussed at the Executive Risk Committee quarterly, and the Board Risk Committee every six months.

The Executive Risk Committee is chaired by the Chief Risk Officer (CRO), with membership formed from the leadership team. The Executive Risk Committee has delegated authority from the Board Risk Committee to monitor and review the risk exposures of the Society in accordance with the ERMF, Board risk appetite, and the Society's strategy and Plan.

This year, the Board Risk Committee has:

- Reviewed the requirements of the upcoming CBES and the scenarios that will be tested
- Reviewed the scenario analysis work and the capabilities tested across physical and transition risk
- Discussed key outputs from scenario analysis and understood the actions needed for CBES readiness
- Approved the approach to disclosures and the TCFD requirements
- Received updates on the progress made in maturing climate change risk management capabilities and management information
- Considered analysis of the impact of climate change on the mortgage portfolios in light of the winter storms and loss event data
- Discussed the importance of climate change to Nationwide's investors, and the noticeable increase in ESG-focused conversations.

This year, the Executive Risk Committee has:

- Discussed the progress of the climate change risk management plan, including the monitoring of the climate change management information dashboard
- Discussed the CBES requirements in detail
- Approved the approach to scenario analysis, testing both physical and transition risk capabilities
- Built awareness of key partnerships and collaborations to progress climate change thinking
- Discussed the outputs of the scenario analysis stress test and approved the actions needed in readiness for the CBES.

To support the maturing of the Society's approach to climate change risk management and oversee progress against the plan to meet the requirements of SS3/19, and other regulatory requirements, a Climate Change Risk Committee has been established.

Chaired by the Chief Strategy and Sustainability Officer (CSSO), and meeting monthly, the Climate Change Risk Committee comprises members from the Society's Risk, Financial planning and stress testing, Operational shared services, Strategy and Treasury teams. This broad membership ensures appropriate consideration, monitoring and management of climate-related risks by senior management.

The Climate Change Risk Committee is also responsible for overseeing the Climate Change Risk Working Group which has the day-to-day responsibility for implementing the plan for embedding climate change risk in line with SS3/19.

The Climate Change Risk Committee provides input to the Responsible Business Committee which meets every other month and is chaired by the CSSO. This Committee is charged with establishing Nationwide's responsible business agenda, including the strategic approach to address climate change and environmental ambitions.

This year, the Responsible Business Committee has:

- Discussed the progress of the climate change and responsible business strategy
- Engaged in the development of green propositions, including a detailed execution roadmap
- Discussed the broader ESG implications, including inclusion and diversity, modern slavery and social investment, as well as climate change risk and updates on the scenario analysis approach
- Helped define Nationwide's Mutual Good Commitments
- Built awareness of the work being undertaken to understand Nationwide's supply chain emissions as well as ongoing oversight of the Society's own operational emissions.

This year, the Climate Change Risk Committee has:

- Provided oversight of delivery against the plan
- Continued to monitor the climate change risk management information
- Engaged in the scenario analysis activity, approving the approach, and reviewing the results
- Approved Nationwide's partnership with PCAF UK
- Reviewed the gap analysis of progress against the requirements of the SS3/19 and associated Dear CEO letter, the PRA's Discussion Paper on the CBES, and disclosures against TCFD requirements.



Governance (continued)

Our climate change governance model



Our climate change governance model shows the committees and groups where climate change is discussed and the frequency of climate change risk on their respective agendas.

A strategically led approach

Ownership for responding to climate change sits within the Strategy team, led by the CSSO, whilst Senior Managers Regime (SMR) accountabilities sit with the Chief Executive Officer (CEO).

A climate change risk team owns and drives forward the plan for embedding climate change risk across the Society. This plan was shared with the PRA in October 2019 and will enable us to meet the requirements of SS3/19.

A strategically led climate change risk team enables consistent focus on climate change across the Society, co-ordinating other specialist teams across the Risk, Financial planning and stress testing, Operational shared services and Treasury functions. Nationwide’s climate change operating model is shown opposite.

Our climate change operating model



Additional Board engagement on climate change risk

This year the Board attended two bespoke climate change training sessions. These sessions covered:

- The implications, risks and opportunities to financial services of climate change and the transition to a net zero economy
- Nationwide’s ambition and activities to become the leading voice in championing sustainable, energy efficient housing in the UK
- A deep dive into climate change risk and the changing expectations of Nationwide’s investors and regulators, and the role of the Board.

Climate-related remuneration and our Board’s credentials

As part of the remuneration of Nationwide’s most senior leaders, an individual’s contribution is considered, including their impact on climate-related activities where relevant.

The Board has focused on increasing its understanding of climate change. Further information on the Board’s credentials is provided in the biographies on page 71.



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Risk management

How climate change risk is embedded at Nationwide

Nationwide has developed a climate change risk standard to aid the embedding, management and monitoring of climate change risk as a cause to the Society's most significant risks. This standard articulates how climate change risk may occur across the ERMF and links to the Society's principal risk policies.

Risk roles and responsibilities

The climate change risk standard articulates clear roles and responsibilities for managing and monitoring climate change risk across the Society, with a summary provided below:

Team	Roles and responsibilities
Climate change risk	<ul style="list-style-type: none"> Coordinating progress against the SS3/19 plan Coordinating climate change scenario analysis Ownership of the climate change risk standard Ownership of the centralised climate change risk governance and reporting Ownership of climate change financial disclosures
First line risk, such as Credit risk	<ul style="list-style-type: none"> The identification, assessment, management, and monitoring of climate change risks across all impacted risk categories Reporting of climate change risk against existing risk management information and enhancing decision-making to embed climate change Developing and enhancing climate change scenario analysis capabilities
Financial planning & stress testing	<ul style="list-style-type: none"> Helping to shape the climate change risk stress testing scenarios Creation and reporting of scenario metrics
Second line Risk oversight	<ul style="list-style-type: none"> Providing ongoing oversight, with advisory input and challenge, to ensure Nationwide meets external and internal climate change risk management requirements
Internal audit	<ul style="list-style-type: none"> Providing independent assurance on activity to embed climate change risk management
Third parties	<ul style="list-style-type: none"> Scenario expansion support for scenario analysis Quantitative modelling for physical risk peril data Support to understand qualitative assumptions

Our climate change risk appetite statement

In line with SS3/19 and to support the embedding of climate change risk we have developed a climate change risk appetite statement:

“We are committed to working towards alignment to a net zero emissions pathway by 2050. We will seek to minimise the impact of physical and transition climate risk on Nationwide and our members.”

In support of this appetite, complementary quantitative risk appetite metrics are being developed which will be included in future disclosures.

How the risks are managed

The ERMF was assessed through a climate change lens to identify how climate change could manifest in each of Nationwide's principal risks. Processes are in place to manage the top three risks impacted by climate change, and to help track against the Society's risk appetite statement:

- **Credit risk** – An assessment of physical risk is undertaken at the point of a secured lending decision. We do not lend where the risk could render a property uninsurable. Restrictions are in place on lending to buy to let properties rated below EPC E. These criteria will be further enhanced through the outcomes of the scenario analysis and calculation of expected credit losses
- **Operational and conduct risk** – Climate change is included as part of existing Risk Control Self-Assessment processes and within the initiative development framework. All loss events are recorded in Nationwide's operational risk system, enabling the identification of climate-related risk events. In addition, potential liability and conduct risks are considered through the development of green propositions
- **Liquidity and funding risk** – The potential impacts of climate change risk are assessed as part of the ILAAP.

Internal assurance

Nationwide's Internal audit team provides focused independent assurance on the approach taken to managing and embedding climate change risk. The most recent audit focused on the Society's progress in embedding the requirements of SS3/19 by the end of 2021. The team concluded that the current approach, including actions already identified for enhancing scenario analysis, will ensure that Nationwide embeds climate change risk management by the end of 2021.



Risk management (continued)

Impact of climate change on Nationwide's principal risks

TOP 3 RISK CATEGORIES BY IMPACT OF CLIMATE CHANGE RISK

Risk category	Climate change impact examples	Horizon (note i)	Potential risk indicator (note ii)
Credit	Transition <ul style="list-style-type: none"> Reduced member creditworthiness due to the transition to a greener economy (for example, due to loss of jobs or increased energy costs) leading to default Declining house values due to aggressive housing policy (for example, introducing minimum EPC ratings) Registered social landlord challenges in meeting policy requirements 	Medium	High
	Physical <ul style="list-style-type: none"> Houses damaged by physical impacts, such as floods, causing a decline in property value Higher insurance prices leading to uninsured properties Exposure to other financial services firms who are exposed to physical climate risk 	Long	Medium
Operational & conduct	Transition <ul style="list-style-type: none"> Increased supply chain costs Reconsideration of third-party relationships due to their carbon footprint Reputational impact of carbon footprint of products and services leading to lower member and employee attraction and retention Potential liability and conduct risk from green propositions and assumed advice 	Medium	Medium
	Physical <ul style="list-style-type: none"> Branches or offices damaged, or loss of systems or key data due to physical impacts, such as floods, affecting key processes Increased incidence of environmental perils affecting the delivery of third party goods and services Increased member activity (for example, increased call volumes) resulting from physical risk impacting Nationwide's service capacity Internal capability affected by physical events preventing employees from accessing the office or working from home 	Medium – Long	Medium
Liquidity & funding	Transition & physical <ul style="list-style-type: none"> Falling deposit balances due to economic distress of members Lower deposit balances due to members' loss of confidence in Nationwide relating to negative perceptions of climate credentials Reduced wholesale funding access following lower investor appetite due to negative perception of Nationwide in relation to climate change 	Medium – Long	Medium
Business	Transition <ul style="list-style-type: none"> Changes in member expectations relating to prioritisation of green strategic objectives Increased costs associated with policy changes 	Medium	Medium
	Physical <ul style="list-style-type: none"> Income impacted as a result of physical impacts, such as loss of operations 	Medium – Long	Medium
Pension	Transition & physical <ul style="list-style-type: none"> Impact of physical or transition risk on pension asset valuations leading to increased deficit or reduced surplus 	Medium – Long	Medium
Solvency	Physical <ul style="list-style-type: none"> Deterioration of balance sheet assets, such as offices or branches, due to physical impacts 	Medium – Long	Medium
Market	Transition & physical <ul style="list-style-type: none"> Changes in member behaviour in relation to their mortgages or deposits as a result of interest rate changes, arising from physical or transition events Macroeconomic market impacts arising from physical or transition events, impacting value (or net income from) assets and liabilities, as a result of interest rate movements 	Long	Medium
	Transition <ul style="list-style-type: none"> Tightening of climate related policy leading to market repricing 	Long	Medium
	Physical <ul style="list-style-type: none"> Impact on exchange rates due to physical events, affecting currencies in which investment securities are held 	Long	Medium

Notes:

i. Horizons: Short 0-1 year, Medium 1-5 years, Long 5-40 years.

ii. Potential risk indicator provides an indicative view on climate change impact across each risk category, with high being a large-scale impact.



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Risk management (continued)

Advancing the use of property risk data

In 2013, we identified a gap in how and when data is collected on a mortgaged property, which impacted the ability to assess certain risks. This often meant that consideration of environmental risks to the property was limited, and only took place after the mortgage offer had been issued through the conveyancing process.

Recognising the need to change, we developed the Property Risk Hub, in conjunction with key partners such as Airbus Defence and Space, JBA and Ordnance Survey. The Property Risk Hub collects data to support future decision making and manage climate risk. This capability went live in 2016. It enables us to decide better what constitutes suitable security for mortgage lending and how changing climate and environmental factors might impact this over a typical mortgage term of 25 to 40 years. This was also the first step in a fundamental change to valuation methodology, moving away from a pure present-day comparable basis, to incorporate new longer-term environmental data sources and models of climate change impacts.

Property-level data is collected on every property from various specialist providers using a Unique Property Reference Number (UPRN) to ensure consistency. Relevant data collected includes:

- Energy Performance Certificate (EPC) rating
- Flood data (run-off, river and coastal)
- Coastal erosion data
- Ground stability data (subsidence, soil, sand, and silt)
- Natural ground hazards (such as mining and sink holes)
- Insurability (consideration given to the Government and Insurer backed Flood Re scheme, that supports the insurability of high flood risk properties).

Using this data, property-related risks are assessed when originating new residential mortgages. This allows different methods of valuation (Automated Valuation Model, desktop, full physical) to be mandated, and informs the current valuation of each property.

Visualisation tools can be used to help understand and assess specific risk events. Illustrative examples are contained in Images 1 and 2. Image 1 shows an example of the baseline

undefended river flood map for an area of the UK. Displayed are flood extents, with colour grading indicating depths, for a 200-year river flood event. Image 2 shows an example of the modelled percentage change in undefended river flood depths under the RCP 4.5 climate scenario and time horizon 2036 to 2040.

Image 1:

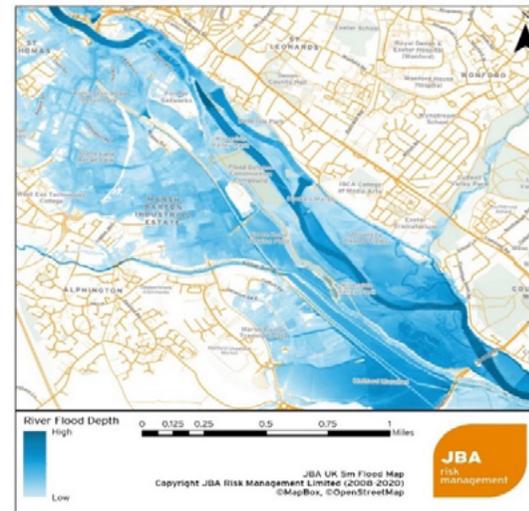
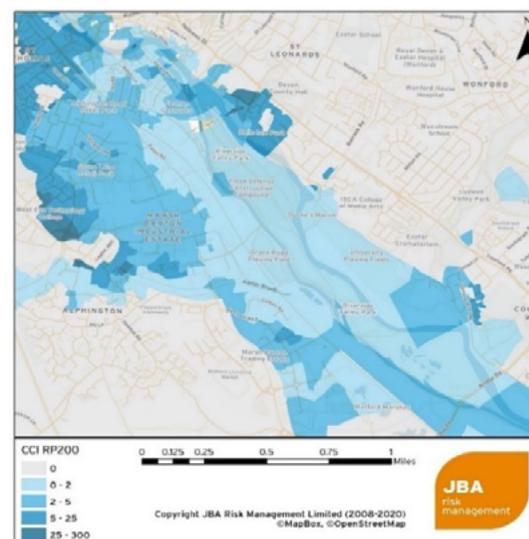


Image 2:



Data like this helps to assess the current flood risk of properties used as security for lending as well as being used in scenario analysis modelling.

Over the last year this wealth of data has been used to model the financial impact of physical risk on the whole mortgage portfolio posed by these long-term climate scenarios. A greater awareness of the potential impacts in different scenarios enables a better understanding of the risks that may occur over the lifetime of the mortgage. This allows us to make more informed lending decisions in the best interests of its members.

Using EPC ratings to inform lending decisions

EPC ratings currently inform buy to let lending decisions, with lending only granted against properties that have a rating of E or better. This data is likely to become increasingly important in assessing transition risk as future regulation and government policy aim to decarbonise the UK housing stock.

Monitoring the risk

Using a combination of visualisation and modelling capabilities, scenario analysis and stress testing, and an analysis of EPC ratings, we can track the exposure of its mortgage portfolios to flood risk and energy efficiency. Details of the metrics tracked can be found in the 'Metrics and targets' section on page 50.



Metrics and targets

Nationwide's climate change metrics are anchored to its ambition to lead the greening of UK homes and its Mutual Good Commitments, that by 2030:

- At least 50% of homes in our mortgage portfolio (prime and buy to let) will be rated EPC C or better
- Our business operations, suppliers and commuting will be carbon neutral.

The achievement of these ambitions is partly dependent on government policy. Progress will be supported by the enhanced suite of metrics developed to monitor and manage the impacts of climate change. These metrics aid discussions and inform strategic decisions made by management and the Board. The metrics are shared in various committees, through the climate change governance model, to support committee responsibilities.

Recognising that there is more to do to fully understand the impact of climate change across our business, we are working on developing further metrics as our and the industry's understanding continues to mature.

Nationwide's scope 1 and 2 carbon emissions

We are pleased to have remained carbon neutral for scope 1 and 2 emissions throughout the year. These emissions are tracked against a set of strategic ambitions that aim to improve the Society's sustainability. This year the focus has been on enhancing disclosures by providing more detail on scope 1 and 2 operational emissions aligned to the Government's streamlined energy and carbon reporting requirements.

Nationwide has seen a further reduction in scope 1 and 2 emissions this year as detailed in the scope 1, 2 and 3 carbon emissions data table opposite. With the unprecedented impact of Covid-19 causing a shift in ways of working, the majority of the Society's employees (around 13,000) now work from home. This has caused a reduction in energy consumption across Nationwide's buildings and through reduced travel, resulting in lower carbon emissions. We have not included the emissions as a result of employees working from their homes – these would be captured as scope 3. We are aware that emissions may not stay at this level as further changes in work patterns take place in the coming year.

Scope 1, 2 and 3 carbon emissions data

Scope 1 and 2 emissions:	Year to 4 April 2021	Year to 4 April 2020	Year to 4 April 2019	Baseline year to 4 April 2011
Carbon dioxide (CO₂e/y) in tonnes (notes i and ii)				
Scope 1 emissions				
Energy	3,411	3,966	3,721	4,890
Travel	63	823	2,190	2,448
Scope 2 emissions				
Electricity	18,069	20,907	23,446	50,802
Total scope 1 and 2 emissions (note iii)	21,543	25,696	29,357	58,140
PPA carbon reduction for scope 2 (note iv)	(11,227)	(21,367)	(22,187)	
Green tariff electricity for scope 2 (note v)	(6,842)			
Absolute carbon outturn	3,474	4,837	7,170	58,140
Total carbon offsets used for scope 1 in tonnes (note vi)	(3,474)			
Net carbon outturn	0			
Total scope 1 and 2 emissions per full time employee (FTE)	0.21	0.30	0.39	3.46
Data score (note vii)	1.50			

Scope 3 mortgage emissions:	As at 31 Dec 2020
Number of properties (prime and buy to let and legacy) in millions	
Total book	1.59
With a valid EPC	0.85
Total property floor area in million metres square (note viii)	150.94
Absolute scope 3 carbon dioxide emissions (CO₂e) in million tonnes (Mt) per year (y) for mortgages	
On properties with a valid EPC (note ix)	3.32
On whole book using interpolated EPC data (note x)	6.25
Absolute carbon dioxide emissions in kilograms per square metre of floor area per year (kgCO ₂ e/m ² /y) using interpolated EPC data	41.40
LTV weighted scope 3 carbon dioxide emissions (CO₂e) in million tonnes (Mt) per year (y) for mortgages	
On whole book using interpolated LTV weighted data (note xi)	2.75
LTV weighted carbon dioxide emissions in kilograms per square metre of floor area per year (kgCO ₂ e/m ² /y) using interpolated data	18.20
Data score (note vii)	3.47

i. CO₂e/y is an abbreviation of 'carbon dioxide equivalent per year' and is the internationally recognised measure of greenhouse gas emissions.

ii. When calculating its carbon emissions, Nationwide has used the DEFRA 2020 conversion factors. (Notes continue overleaf).



Metrics and targets (continued)

Notes (continued):

- iii. Scope 1 covers direct combustion of fuels and company-owned vehicles and scope 2 covers emissions from electricity. Amounts presented for the year to 4 April 2021 reflect latest estimates as at March 2021.
- iv. Purchase Power Agreement (PPA) represents the contribution of a solar power purchase agreement, producing emissions-free energy backed by renewable obligations certificates.
- v. Nationwide's 'Green Tariff electricity' comes from 100% zero carbon wind sources that have a renewable energy guarantee of origin (REGO), with assurance for this product provided by Deloitte in accordance with ISAE 3000. Green Tariff data has been added into the calculation for this year – for previous years this data was unavailable.
- vi. The purchased offsets are generated by Community Reforestation (carbon sequestration). The project is verified and has approval under both the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity Standard (CCB). This is the first year Nationwide has purchased offsets to cover its residual emissions.
- vii. Data scores are based on the quality of data inputs used to calculate carbon dioxide emissions. Data scoring aligns with PCAFs Global GHG Accounting and Reporting Standard, with 1 representing high data quality and 5 representing low data quality.
- viii. Total property floor area is calculated using machine learning techniques based on around 400 property features.
- ix. Calculations are based on number of mortgage properties (prime and buy to let) with a valid EPC. This equates to approximately 50% of the mortgage portfolio.
- x. Calculations are based on estimating EPC data across the whole mortgage portfolio (prime and buy to let) using interpolation based on housing data. The carbon dioxide emissions account for EPC covered emissions only (space and water heating, and lighting). Indirect emissions from other energy uses by the household have been excluded such as those resulting from the use of domestic appliances. Nationwide believes this approach best aligns with those emissions associated with its lending.
- xi. LTV adjustments have been applied to the total CO₂ emissions predicted for the whole mortgage book, using the outstanding balance and modelled property valuation, as at 31 December 2020. Nationwide believes this best reflects the emissions it finances.

A data score has been calculated for Nationwide's carbon emissions in the financial year using PCAFs Global Greenhouse Gas (GHG) Accounting and Reporting Standard (which received the "Built on GHG Protocol Mark" from the GHG Protocol) to provide insight into the quality of the data. The scope 1 and 2 emissions achieve a weighted data score of 1.50, on a scale of 1 to 5, where 1 represents the highest data quality and 5 represents the lowest data quality.

This is based on a weighted average of:

- Primary data used for the consumption of energy and water, and waste for our buildings, to the end of December 2020, achieving a data score of 1, weighted at 75%
- Estimated building energy consumption data based on known entities for our buildings, from the end of December 2020 until the end of March 2021, achieving a data score of 3, weighted at 25%.

Nationwide's scope 3 carbon emissions

Aligned to the PCAF standard, we have developed an approach for estimating the scope 3 carbon emissions from our mortgage book. The approach leverages the EPC model built for assessing transition risk to estimate the carbon emissions. This model has been through a high level internal oversight process and will go through further assurance prior to the CBES. More details can be found in the scope 1, 2 and 3 carbon emissions data table above.

The scope 3 emissions have been weighted by the loan to value (LTV) on the mortgage, in line with PCAF methodology, in order to calculate the proportion of emissions financed by Nationwide. Modelled property valuations as at 31 December 2020 have been used. We believe this provides the most appropriate valuation data. The use of original valuation was considered but deemed inappropriate. This was particularly true where additional borrowing had taken place since the original valuation, as this could result in calculated LTVs, and hence emissions, in excess of 100%.

A weighted data score of 3.47 has been calculated for the scope 3 emissions. This is based on:

- Using emissions data in publicly accessible EPCs available for approximately 51% of Nationwide's prime, and 62% of Nationwide's buy to let mortgage properties, giving a data score of 3, weighted at 53%
- Interpolated EPC data across the remainder of the portfolio, estimated using most similar property features and location specific attributes, giving a data score of 4, weighted at 47%.

It is expected that data quality scores will improve overtime as internal models and EPC datasets mature.

Nationwide's carbon emissions disclosures will be developed further over the coming year. Work is underway to assess the Society's balance sheet for additional scope 3 exposures.

Whilst Nationwide has not yet set science-based targets for scope 1, 2 and 3 emissions, there are plans to explore this to enable the Society to track its progress towards a carbon emissions target aligned to net zero.



Metrics and targets (continued)

Physical risk metrics

Nationwide no longer lends on properties at high risk of flooding (in red flood risk zones), but updates to UKCP18 and flood defence datasets are included within model outputs. The increase in the number of properties in red flood risk zones from last financial year can be attributed to a shift in climate forecasting data.

The 30-year scenario analysis of prime and buy to let mortgages, and lending to registered social landlords, showed a low financial impact of physical risk. Further details are provided in the table below.

Nationwide's low future exposure to climate change is due to the low current exposure to flood risk red and amber zones. Over the course of the next year, through work as part of the CBES, and working closely with flood risk partners JBA, the Society's physical risk modelling approach will evolve further.

Physical risk data

Prime mortgages	As at 31 Dec 20			As at 31 Dec 19		
	Number	Exposure £bn	% of Book	Number	Exposure £bn	% of Book
Properties in red flood risk zone (note i)	457	0.05	0	433	0.05	0
Properties in amber flood risk zone (note i)	27,610	3.36	2	25,991	3.22	2
Buy to let and legacy mortgages	As at 31 Dec 20			As at 31 Dec 19		
	Number	Exposure £bn	% of Book	Number	Exposure £bn	% of Book
Properties in red flood risk zone (note i)	203	0.02	0	204	0.02	0
Properties in amber flood risk zone (note i)	9,160	1.08	3	8,506	0.98	3
RCP 4.5 30-year scenario – prime and buy to let and legacy (Dec 20)						
Total number of properties affected by incremental future flooding (to the nearest thousand)						95,000
Total number of properties deemed uninsurable (to the nearest hundred) / (percentage of book) (note ii)						1,800 / (0.10%)
Overall financial impact						Low ⁵
RCP 4.5 30-year scenario – registered social landlords (Dec 20)						
Total number of RSL properties (to the nearest thousand)						180,000
Percentage matched to JBA data						87%
Total number of matched properties affected by future flooding (to the nearest hundred)						600
Overall financial impact						Low ⁵

Notes:

- i. Flood risk scores are weighted by risk level and type (such as coastal flooding) and any flood defences in place.
- ii. Uninsurable properties are incremental to those properties already in a red flood risk zone.

⁵ Low indicated an estimated increase in ECLs of less than £5 million.



Metrics and targets (continued)

Transition risk metrics

The use of EPC data has been critical to Nationwide's understanding of the impact of transition risk. EPC ratings of the mortgage portfolio are monitored to provide a view on the energy efficiency of the Society's housing stock. This, coupled with internal modelling to interpolate core EPC data across both the prime and buy to let mortgage portfolios, produces the management information used to track progress against the EPC Mutual Good Commitment. Further details are contained in the table below.

Actual EPC data is compared with interpolated model data to aid the understanding of differences in the EPC composition across the mortgage book. The most common EPC rating in Nationwide's mortgage book is D, in line with UK average⁶, with approximately 36% of the book (total for prime and buy to let) currently rated EPC C or better on an interpolated basis.

Nationwide's transition risk data

Prime mortgages						
Current EPC data (note i)	As at 31 Dec 20			As at 31 Dec 19		
	Number	Exposure £bn	% of Book	Number	Exposure £bn	% of Book
EPC Rated A/B/C	255,752	37.79	20	Not reported		
EPC Rated D/E	363,774	52.10	29	371,766	51.93	33
EPC Rated F/G	20,581	3.06	2	23,163	3.34	2
No EPC / unmatched	619,048	57.18	49	Not reported		
Interpolated EPC data (note ii)	As at 31 Dec 20					
	Number	Exposure £bn	% of Book			
EPC Rated A/B/C	465,915	59.27	37			
EPC Rated D/E/F/G	793,240	90.86	63			

Notes:

i. EPC data used as at 30 September 2020.

ii. Interpolated EPC data calculated using machine learning techniques matching most similar properties where data gaps exist. EPC data as at 30 September 2020 and mortgage portfolio data as at 31 December 2020.

⁶ Ministry of Housing, Communities and Local Government EPC Database, to June 2020.

⁷ Comparative amounts have been restated.

Using physical and transition risk metrics in our governance

Climate change risk data is monitored quarterly by the Climate Change Risk Committee. Physical and transition risk data is reported alongside other metrics and data such as:

- The number of UK extreme weather events
- The annual Climate Change Committee's assessment of the UK's progress against carbon budgets
- The frequency with which climate change is raised in investor meetings
- The number of physical risk related incidents that have impacted our operations
- The green profile of our operations (tracking waste and emissions figures).

Buy to let and legacy mortgages						
Current EPC data	As at 31 Dec 20			As at 31 Dec 19		
	Number	Exposure £bn	% of Book	Number	Exposure £bn	% of Book
EPC Rated A/B/C	67,599	9.04	20	Not reported		
EPC Rated D/E	134,055	16.11	41	113,583	13.30	46 ⁷
EPC Rated F/G	4,032	0.40	1	5,705	0.58 ⁷	2
No EPC / unmatched	124,106	20.46	38	Not reported		
Interpolated EPC data (note ii)	As at 31 Dec 20					
	Number	Exposure £bn	% of Book			
EPC Rated A/B/C	106,910	16.43	32			
EPC Rated D/E/F/G	222,882	29.58	68			



Metrics and targets (continued)

Climate change complaint and loss data

In addition to the above metrics, both complaint and loss event⁸ data related to climate risk are tracked. This data informs the Society's understanding of any material impacts on its operations and members. Whilst the numbers are minimal, we will continue to monitor this activity, particularly given the more regular extreme weather events that have happened in recent years.

Climate-related complaints (note i)	Year to 4 April 2021	Year to 4 April 2020
Number of complaints (note ii)	0	1

Notes:

- Complaints based on verbatim search of climate-related words.
- Rationale of complaint to 4 April 2020 – branch inaccessible due to flooding.

Climate-related loss events (note i)	Year to 4 April 2021	Year to 4 April 2020
Number of loss events (note ii)	5	8

Notes:

- Based on operational and conduct risk loss events and near misses recorded with a climate change route cause.
- Rationale: Most events were found to be flood related or due to more recent major storms.

Managing our waste and water consumption

In addition to tracking the scope 1 and 2 carbon emissions for buildings, water and waste consumption are measured across Nationwide's sites. More details can be found in the table opposite. Nationwide continues to divert 100% of its waste from landfill. Nationwide has seen a larger reduction in waste and water consumption this year in comparison to previous years, which can be attributed to the increase in home working due to Covid-19. The evolution of this trend will be dependant on future working patterns.

Waste and water usage	Year to 4 April 2021	Year to 4 April 2020	Year to 4 April 2019	Baseline year to 4 April 2011
Water use (cubic metres)	170,606	199,547	195,854	259,718
Water use (cubic metres) per FTE	10.13	10.79	10.56	15.44
Percentage of water consumption reduction / target	15% / 2%			
Waste generated (tonnes)	1,501	2,468	2,581	4,554
Waste reduction (tonnes) / target	967 / 25			
Percentage of waste recycled / target	62% / 60%	58%	63%	43%

Tracking our green propositions

In 2020, Nationwide launched its Green Additional Borrowing Mortgage with the support of its £1 billion green fund. Initially launched with a fixed rate of between 1.00 and 2.55% dependent on LTV, the mortgage rate was lowered to a fixed rate of 0.75%, for either two or five years. The take-up for the Green Additional Borrowing mortgage is summarised below.

Green Additional Borrowing Mortgage	Year to 4 April 2021
Number of applications	419
Number of completed applications	345
Total value of applications (£m)	6.6
Total value of completed applications (£m)	5.3

The number of applications and completions for the Green Additional Borrowing mortgage have been low. This illustrates that it is not the absence of affordable funding that is constraining retrofitting – other barriers exist including a lack of: economic

rationale, ability to borrow, convenience, trusted suppliers to undertake the work, and awareness or knowledge of the need for, and how to go about retrofitting.

For many, the cost of retrofitting is not sufficiently offset by the financial benefits. Whilst retrofitting can deliver other benefits, such as more comfortable living conditions, more needs to be done to enable cost-effective retrofitting. The Government's Green Homes Grant was a positive step in this direction but has recently been withdrawn. We will continue to work with government, policy makers and industry, to innovate its propositions, to support further activity to address the industry-wide retrofitting challenges.

Nationwide's partnership with Switchd has seen a number of sign-ups to the service since the staff pilot was launched in January 2020 (followed by a member launch in July 2020), with a significant proportion of them opting to switch to green energy providers, resulting in a carbon emissions saving. A summary of sign-ups is opposite.

Switchd	As at 4 April 2021
Total member and colleague sign ups to Switchd	2,967
Percentage of Switchd sign ups that have chosen to switch to green tariffs only	13.6%
Total percentage of Switchd sign ups actually switched to green tariffs	63.0%
Carbon saving to date (tonnes)	1,229
Estimated carbon saving annually (tonnes) (note i)	3,411

Note:

- Based on projected carbon saved annually through the Switchd service.

We will continue to monitor the progress of existing and new green propositions over the next year.

⁸ An event which creates a minor or above impact to the Society arising from: inadequate or failed internal processes, conduct and compliance management, people and systems, or from external events.



Future developments in climate risk

The environment will undoubtedly remain the dominant discourse of this century. Governments and businesses across the globe must do all they can to reduce waste, pollution and use of natural resources, restore biodiversity and ecosystems, and return the planet to, at least, net zero carbon.

As one of the UK's largest mortgage providers, Nationwide has a role to play in supporting society's transition to a net zero economy, with a particular focus on the home. Through the Mutual Good Commitment to lead the greening of UK homes, and the embedding of SS3/19, Nationwide is ensuring that climate change discussions are intrinsic to how its business operates. Responsible business is the way we conduct ourselves – it aligns strongly with the Society's purpose and climate change is an important part of this.

Going beyond the requirements of SS3/19

Nationwide's climate change risk focus continues to be on embedding the requirements of SS3/19 and tracking progress against the climate change plan. We have also developed the capabilities needed for the upcoming CBES. However, the Society's goals extend beyond this, and Nationwide will continue to mature its understanding of, and capabilities for managing, climate change in years to come.

Furthermore, the lessons learned from the climate change scenario analysis, and CBES itself, will shape the Society's approach to ongoing climate change stress testing. Energy prices impacting affordability, and government policy and outstanding retrofitting requirements affecting property values, could all lead to potential credit losses. We are considering how to integrate transition risk implications into our credit risk modelling to understand the impact on future impairments.

Further improvements to the Society's transition risk modelling are underway to incorporate other considerations such as operational, member, and employee impacts.

Enhancements to the Society's climate change risk management approach will enable it to further enrich its metrics and targets. Driven by the Society's risk appetite statement, complementary risk appetite metrics will be developed.

Evolving our climate change governance approach and learnings

Since its formation, the Society's governance approach has become well-established, but we recognise that there is more it can and should do to further enhance its effectiveness. Over the coming year we will:

- Further embed climate change into the governance model, which will continue to evolve, informed by the outcomes of committee annual effectiveness reviews
- Encourage broader climate change conversations and enhance understanding – using learnings from partnerships and engagements across the industry
- Track progress of our ambitions and outline future plans for further metric development.

Staying close to climate change developments

Through engagement with existing partners, and links into industry bodies leading the way on climate change, Nationwide will continue to develop its knowledge of climate change and the impact on the Society and its members.

We will continue to remain close to government policy consultations and participate in engagements relating to climate change and those that impact on the home. We will continue to campaign for:

- New build homes to be built to high energy efficiency standards to avoid the need for future retrofit
- Long-term government financial incentives for owner-occupiers to retrofit, in particular supporting those on low-incomes and those where the financial payback from retrofit is minimal
- A trusted supply chain of retrofit materials, along with the appropriately skilled workforce to fit them
- Behavioural changes to help our members and wider society reduce their carbon emissions.





Building Society