Taylor Wimpey plc

Our pathway to Net Zero

Net Zero Transition Plan 2023

This Transition Plan outlines our key steps to net zero by 2045. It summarises our targets, roadmap and engagement plan

Overview

About our business

Taylor Wimpey is a UK headquartered housebuilder. We operate from 22 regional businesses across England, Scotland and Wales. We completed 14,154 homes in 2022 (including joint ventures) and employed on average 5,100 people with a further 11,100 people working on our construction sites. We have a small operation in Spain accounting for around 2% of our operational emissions.

About this transition plan

This plan has been developed using the draft framework document and guidance for consultation developed by the UK Government's Transition Plan Taskforce (TPT) and with reference to the Guidance on Metrics, Targets, and Transition Plans published by the Taskforce on Climate-Related Financial Disclosures (TCFD). We intend to update this plan every 3 years and will align with the final TPT guidance when published. We report progress on our climate targets annually through our Sustainability Supplement and ESG Addendum.

Contents

Overview 1
Introduction from Jennie Daly 2
Our journey so far… 3
Summary of our roadmap 4
Our total footprint 5

Our Net Zero strategy

Our commitment 6
Our actions across the value chain 8
Net Zero and our business strategy 9
Interdependencies and related agendas 10
Governance and responsibilities 12

Our roadmap to Net Zero

Operations (scope 1 and 2) 14
Value chain emissions (scope 3) 18
Embodied carbon in purchased goods and services 19
Homes in use 23
Other scope 3 27
Neutralising residual emissions 28
Financial planning 29

Engagement plan and measures

Working with partners 30
Measuring progress 32

Our Transition Plan outlines the steps we're taking to get to net zero across our value chain by 2045

Our purpose is to build great homes and create thriving communities. This makes climate change important for us in two key ways:

Firstly, and most importantly, we must play our part in avoiding runaway climate change that could significantly and permanently damage humanity's ability to live together on our planet. Otherwise, no-one will have a safe and welcoming place to call home. We know from scientific evidence that climate change is not incremental. There are important tipping points, and we must avoid these to maintain the quality of life on earth. We must act with urgency – now is the critical decade.

Secondly, we build our homes and developments for the long term, creating places that become communities where people can enjoy a good quality of life not just today but in decades to come. We need to be confident that the places we create are adapted to a changing climate, resilient and fit for the future.

At Taylor Wimpey we are proud of our culture that emphasises doing the right thing – for our customers, our colleagues, our shareholders and the communities we work in. Committing to net zero means doing the right thing for all these stakeholders, enabling our customers to live sustainably, creating a stronger and more resilient business and protecting the planet for future generations.

This transition plan sets out our roadmap and the key actions we will take to achieve net zero emissions in our operations by 2035 and across our value chain by 2045. Demonstrating ambition and integrating our net zero strategy into all aspects of our decision making will make us a stronger and more resilient business.

The challenges ahead are too big for any one company to address alone. We are collaborating with suppliers, peers, trade associations, expert groups and others in our sector to address some of these systemic challenges and this will become an increased area of focus over the course of our plan.

We are conducting research and development into new technologies, products and processes; running pilots and building prototypes. We are guided by the science, work with experts such as the Carbon Trust, and have submitted our net zero target for validation by the Science Based Targets initiative.

There is much to do to achieve our goals but we are excited to be underway and playing our part in addressing this crucial challenge for today's and future generations.

Jennie Daly,
Taylor Wimpey plc
Chief Executive Officer

Committing to net zero means doing the right thing for all these stakeholders, enabling our customers to live sustainably, creating a stronger and more resilient business and protecting the planet for future generations

Our journey so far…

2007
Taylor Wimpey was established through a merger of Taylor Woodrow and George Wimpey, to form one of the UK's leading home builders

2009
First calculated our carbon footprint

2011
Disclosed our performance to CDP for the first time

2013
Set our first carbon reduction target and had our emissions data externally verified

2017
First home builder to achieve the Carbon Trust Standard

2020
Set our first Science-Based Target for carbon reduction (scope 1, 2 and 3) validated by the SBTi

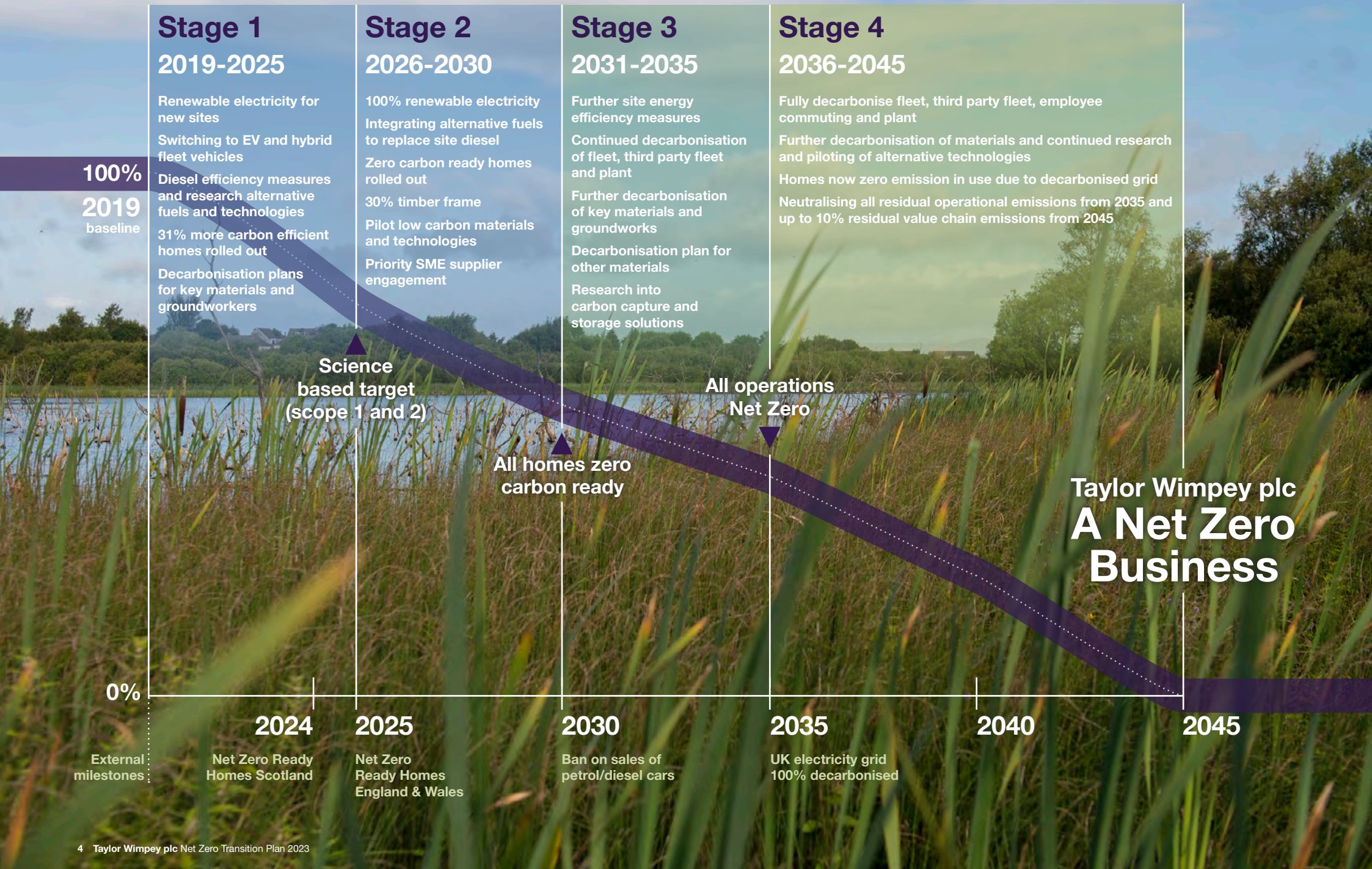
2021
Achieved an A- score in CDP Climate Change

Included on the Financial Times European Climate Leaders list

50% reduction in direct carbon emissions intensity since 2013

2022
Worked with the Carbon Trust to develop our net zero target

Summary of our roadmap



Our total footprint

Our total value chain carbon footprint in 2022 was 2.54 million tonnes of CO_2e. This equates to approximately 182 tonnes per home we build.[1]

Our operational footprint is the smallest element of our impact, but the area over which we have most control.

We use an intensity measure as this enables us to monitor progress most effectively during different stages of the housing cycle (since there can be significant variation in the volume of homes built). We aim to make progress on carbon reduction whether the industry is in growth or contraction. However we also place a high importance on, and report, absolute reductions which are the most significant figures environmentally.

We calculate our footprint using the Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard (revised edition) and emission factors from the UK Government's GHG Conversion Factors. We use the market-based method of the revised version of the GHG Protocol Scope 2 Guidance for calculating our scope 2 emissions.

External assurance and disclosure

Our carbon and energy use data is externally assured by the Carbon Trust to a limited assurance level. Our scope 1 and 2 footprint, and three selected scope 3 categories (Purchased Goods and Services, Fuel and Energy-related Activities and Use of Sold Products) are verified to ISO 14064-3. We are the only UK homebuilder to hold the Carbon Trust Standard for our overall approach to carbon management, including our policy, strategy and verification of our data and processes.

We publish our approach to climate-related risks and opportunities in our Annual Report and Accounts in line with the 11 disclosure recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

More information about our data is available in our Carbon Reporting Methodology Statement at www.taylorwimpey.co.uk/corporate/sustainability/environment

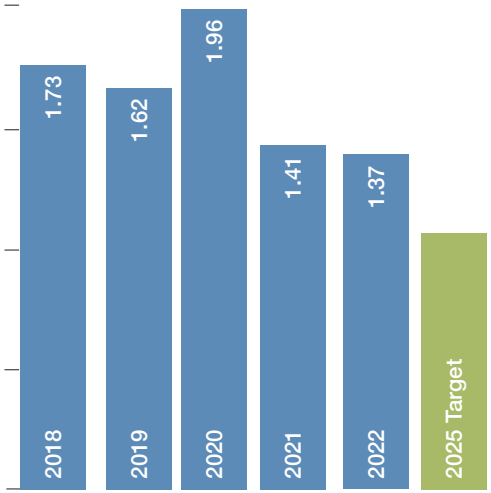
1 We calculate our carbon footprint based on completions in the UK and Spain and include joint ventures where we are the principal contractor.

2 The graphic is based on our 2019 baseline and is intended to indicate the relative scale of our impacts. Less material scope 3 categories have been merged into the three main impact areas.

Performance to date

Greenhouse gas emissions intensity (scope 1 and 2 emissions)

Emissions intensity – Tonnes $CO_2e/100m^2$ completed homes



Our total footprint is around 182 tonnes per home we build

Our climate impact [2]

2% Our business
Emissions from construction sites, offices, transport and waste

39% Customer homes
Future emissions from customers living in our homes

59% Supply chain
Emissions from raw materials, extraction, processing, manufacturing and transport

Our Net Zero strategy

Our commitment

To avert the worst impacts of climate change the world needs to limit temperature rises to 1.5°C above pre-industrial levels – the most ambitious goal of the Paris Climate Agreement. This requires meeting net zero emissions by 2050 at the latest. The UK has set a binding target to reach net zero emissions by 2050.

We want to play our full part in achieving this goal.

Ambitious net zero target

We have set an ambitious target to be net zero aligned in our operations by 2035 and reach net zero across our value chain by 2045 – ahead of the UK's target.

Our net zero target and roadmap will enable us to reduce emissions in line with the 1.5° ambition of the Paris Agreement. It will support the wider transition to a low carbon economy through the changes we are making to our homes, enabling customers to reduce their emissions, and through our collaboration with suppliers to reduce embodied carbon in the homes and developments we build.

Our main target incorporates our existing science-based reduction target for scope 1 and 2 and is supported by several near, medium and long term emission reduction goals. We have also set targets for how we will adapt our business to the impacts of climate change and support customers and communities to do the same, see page 33.

External validation
Our 2025 scope 1 and 2 target has been approved by the Science Based Targets initiative (SBTi), confirming that it is consistent with reductions required to keep warming to 1.5°C.

Our net zero target was developed with the Carbon Trust in line with the requirements of the SBTi Corporate Net Zero Standard. We have submitted our target for validation by the SBTi and expect to receive this during 2023.

In developing our target we have also taken into account the 'Metrics, Targets, and Transition Plans' guidance issued by the TCFD.

The Earth is already about 1.1°C warmer than it was in the late 1800s, and emissions continue to rise. To keep global warming to no more than 1.5°C – as called for in the Paris Agreement – emissions need to be reduced by 45% by 2030 and reach net zero by 2050.

United Nations Net Zero Coalition
www.un.org/en/climatechange/net-zero-coalition

Our Net Zero targets

Our main target

By 2045 we will reach net-zero greenhouse gas emissions (Scope 1, 2 & 3) across our value chain on a 2019 base year[1] (comprising at least a 90% absolute reduction and neutralising residual emissions).

90%
Absolute reduction in our emissions by 2045

Our supporting targets

By 2025 scope 1 and 2 GHG emissions will be reduced by 36% per 100m² of completed floor area against a 2019 base year.

36%
per 100m² of floor area reduction by 2025

By 2030 all our homes will be zero carbon ready (becoming true net-zero on decarbonisation of the electricity grid).

By 2030 scope 3 GHG emissions will be reduced by 52.8% per 100m² of completed floor area from a 2019 base year (based on a reduction of 46.2% in absolute emissions against the base year).

52.8%
per 100m² of floor area reduction by 2030

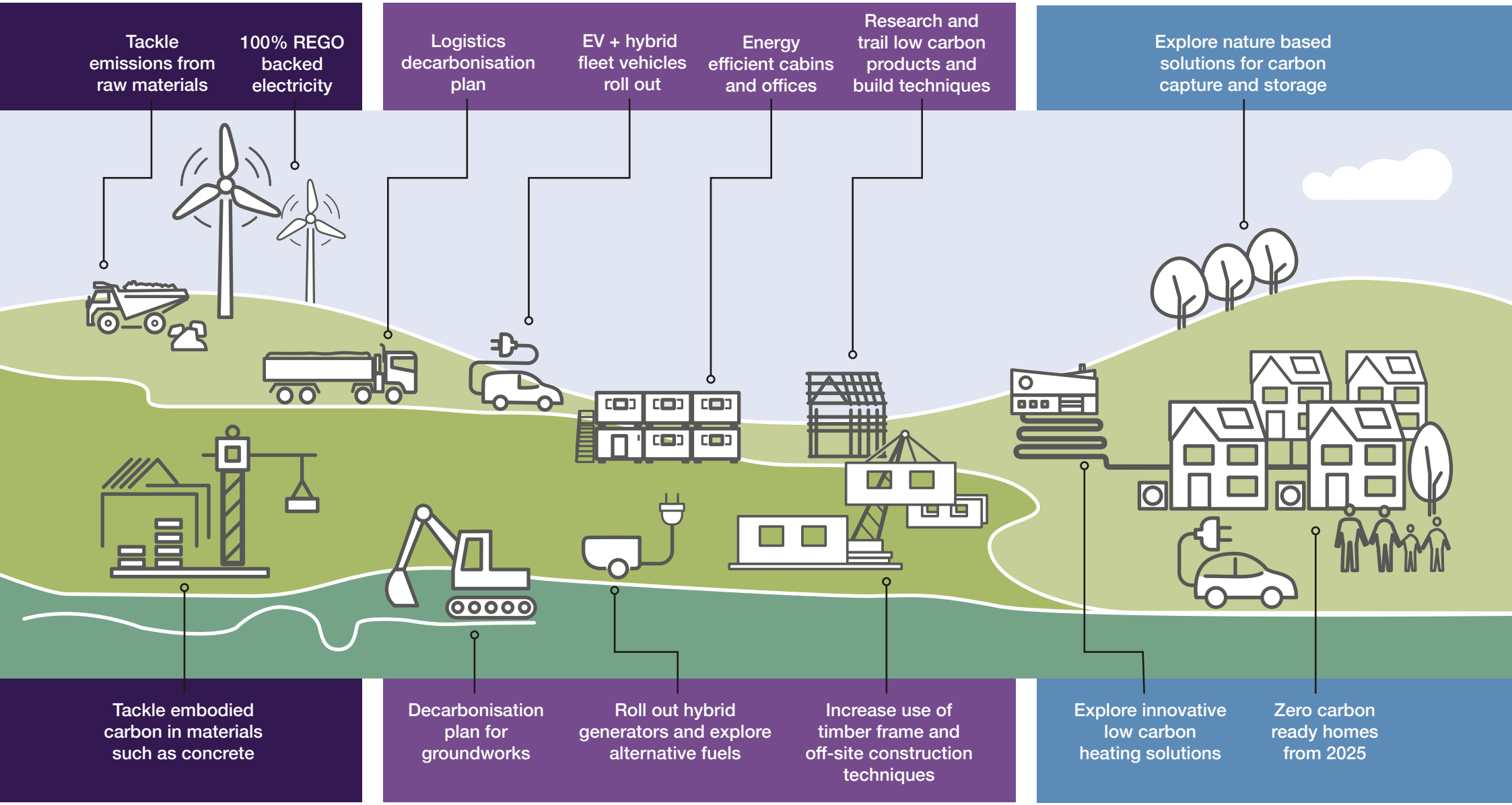
By 2035 scope 1 and 2 GHG emissions will be net-zero.

We will meet our targets by reducing absolute emissions by at least 90% and will neutralise up to 10% of emissions through the removal and storage of carbon from the atmosphere, in line with SBTi requirements.

2025 2030 2035 2040 2045

1 2019 was selected as our baseline when we set our first science based target validated by the SBTi.

Our actions across the value chain



Net Zero and our business strategy

Sustainability is one of four strategic cornerstones for our business, reflecting the importance of climate change and other topics to our strategy and stakeholders. We deliver on our commitment to sustainability through our Environment Strategy, Towards Zero Waste Strategy and, from 2023, our Net Zero commitment and Transition Plan.

Our transition to net zero will impact many aspects of our business strategy including the performance and appearance of the homes we build, our specifications and cost base, the design and trade skills we need and the knowledge of our sales, production and customer service staff.

We have analysed the risks and opportunities associated with these impacts.

Climate scenario analysis

Our 2022 scenario analysis included an assessment of climate-related risks and opportunities across short term (2025) and medium term time horizons (2030). The analysis considered our level of exposure to 15 transition risks in a low carbon economy where temperature rises would be limited to 1.5°C this century as well as modelling the physical impacts of climate change on our assets and supply chain in two temperature scenarios (1.5°C and 4°C degrees warming).

Impacts were estimated and likelihoods assessed and aligned to our risk management process. The process involved subject matter experts from across our key functions as well as members of our GMT.

In relation to transition risks, the analysis showed a moderate to high level of residual risk exposure in the short term (2025), levelling out to moderate exposure in the medium term (2030). This reflects, among other factors, the short term impact from complying with the UK's Future Homes Standard (the move to zero carbon ready homes), as well as from moving to lower emission technology and securing sufficient electrical power supply. It also showed minor to moderate opportunities from the transition to a low carbon economy including market share gains as demand for low carbon homes grows and potential reputational benefits with employees, investors and other stakeholders.

A summary is included in our TCFD disclosure in our Annual Report and Accounts.

We have reviewed the findings with our senior leadership and heads of functions and used them to inform development of this Transition Plan, including the cost of investment needed to achieve our targets. The findings have also been integrated into our risk assessment process.

Our strategic cornerstones

Land
An agile approach to optimising value

Operational excellence
Driving efficiency and execution

Sustainability
Investing to protect long term value for all stakeholders

Capital allocation
A clear disciplined approach

- Net Zero commitment and Transition Plan
- Environment strategy – Build a Better World
- Towards Zero Waste Strategy and Action Plan

Interdependencies and related agendas

Our work on net zero forms part of our wider commitment to sustainability.

We recognise that environmental issues such as climate change, nature loss, pollution and over-consumption of natural resources cannot be tackled in isolation and require an integrated and coordinated approach.

We aim to find solutions that can support progress across the three key pillars of our environment strategy – climate, nature and resources. We believe there are significant opportunities to be gained from doing so. At the same time, we must make sure that the emission reduction solutions we implement as part of our transition do not lead to other unacceptable environmental impacts. Equally important is that we consider the impacts of our transition to net zero on people and communities. We want to contribute to a just transition and we are developing our approach to this topic.

Nature

The world is witnessing unprecedented loss and degradation of nature. Biodiversity loss contributes to climate change and the changing climate is accelerating biodiversity loss. Actions that enable nature to renew and regenerate, will support our transition plan.

Through our Environment Strategy we are increasing natural habitat on our sites and integrating enhancements to support native wildlife. We are also engaging our customer base on nature-friendly gardening to increase the area available to nature on our development sites.

As we develop our net zero approach to neutralising residual emissions, we are exploring nature-based carbon removal solutions that also support nature recovery, see page 28.

We are a member of the TNFD Forum (Task Force on Nature-related Financial Disclosures) which is a global multi-disciplinary consultative group and will be further developing our approach in this area.

The circular economy

Materials use and waste directly contribute to our carbon footprint. By moving towards more circular uses of materials we can reduce the volume of natural resources we use, cut embodied carbon and emissions from waste while reducing costs.

During 2022, we have developed our Towards Zero Waste strategy and action plan. This sets out a three year programme of action and capacity building across all stages of development from land acquisition to construction, occupancy and end of life. It focuses on three key objectives:

- Achieve and build on the resource targets in our Environment Strategy.
- Quantify value chain resources and wastes to improve our data and enable us to adopt more circular approaches. This covers soils, demolition, packaging, materials and construction waste.
- Other actions including setting targets, incentivising resource efficient behaviours, supplier engagement and action plans for key waste streams.

Timber in a low carbon economy

We are increasing our use of timber frame (see page 21) which supports climate mitigation, as carbon is sequestered into the trees during their growth and stored in the building over its lifetime. However, use of timber for building is only sustainable if the forests it comes from are managed to high social and environmental standards. We require our suppliers to provide sustainable timber from recognised certification schemes such as FSC (Forestry Stewardship Council) or PEFC (Programme for the Endorsement of Forest Certification). We request certification data from our timber suppliers annually. We are committed to transparency in this area and we complete the CDP Forests questionnaire to disclose our performance.

Social impacts – ensuring a just transition

The wider transition to net zero will have major social and economic impacts. We want to contribute to a just transition which is as fair and inclusive as possible. We support the aim of the Paris Agreement on Climate

Change to take into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs.

We are developing our understanding of the social impacts of our transition to net zero and the risks and opportunities for stakeholders including our colleagues, customers and local communities, trade sub-contractors, suppliers and workers and communities in our supply chain.

In particular we are exploring how we can:

- Support development of the skills needed for the transition, see page 30.
- Look for opportunities to use our transition to have a positive impact on people and communities.
- Avoid or mitigate any potential negative impacts on human rights and communities.
- Engage employees and other stakeholders on the transition and use their feedback to develop our approach.

Our analysis to date has identified the following potential impacts which we will be exploring further:

Low carbon living for customers and communities: our transition will have a positive impact on local communities and customers by making zero-carbon ready homes accessible to more people. The improved building fabric performance combined with the introduction of innovative low carbon technologies will reduce the heating demand on the homes meaning they are cheaper to run than comparable second hand homes.

Air quality: The reduction of diesel use on our construction sites and diesel and petrol in our fleet will also benefit the local environment through improved air quality.

Skills and jobs: While the skills profile our business needs will change, we expect that much of this need will be met through upskilling and reskilling across our existing sub-contractor base. We do not anticipate a significant impact on our direct workforce. We are engaging with sub-contractors and others on this issue, see page 30.

Low carbon supply chain: As we change the materials and technologies we use to build our homes we need to understand the potential for impacts on the natural environment and people in our supply chain. We are exploring these as part of our approach to supplier due diligence, see page 31.

Meeting our people's expectations: Increasingly, people want satisfaction at work by being employed by organisations that share their social and environmental values and concerns.

Human rights in the solar PV supply chain

Solar PV panels will play an important role in reducing carbon emissions from the homes we build. However, there are concerns about potential human rights abuses in parts of the solar supply chain.

It is important that the transition to net zero does not have a negative impact on human rights. We are involved in a project with the Supply Chain Sustainability School to better understand the issues involved with the sourcing of solar panels. This project will form part of our due diligence on solar panel procurement and will lead to the development of a publicly available guidance document that provides best practice procurement and supply chain information for solar panels.

Governance and responsibilities

We have established board-level oversight and governance and senior leadership accountability for implementing our Transition Plan and achieving our climate targets.

Board oversight

Our Board of Directors is responsible for oversight of our environmental, social, governance (ESG) initiatives and this includes climate-related risks and opportunities.

They receive an ESG update twice a year, which includes progress made towards climate change targets during the period.

The Chair of the Legacy, Engagement and Action for the Future (LEAF) Committee, Group Technical Director and our Director of Sustainability also attend the Board on at least one other occasion during the year. The Board has conducted a mapping exercise to ensure that all ESG matters are considered by the Board or one of its Committees.

During 2022, the Board reviewed and approved our net zero target and transition plan. Updates on our plan and progress against our net zero target will be integrated into Board ESG updates and reviews from 2023 onwards.

Roles and responsibilities

Executive level: Our CEO has ultimate responsibility for achieving our climate targets and Transition Plan.

Sustainability (including climate change) is a standing agenda item for our executive board – Group Management Team (GMT) – meetings and members receive a monthly update from the Director of Sustainability. The GMT members have received briefings on climate change risks and opportunities to deepen their understanding of this topic. During 2022, members of the GMT participated in and reviewed our climate scenario analysis. The GMT reviewed and approved our Transition Plan.

LEAF Committee: Ingrid Osborne, Divisional Chair for London and South East and a member of our GMT, oversees implementation of our climate change programme and Transition Plan. Ingrid chairs our LEAF Committee, which is responsible for reviewing climate strategy, risks and opportunities. It meets four times a year. LEAF members include the heads or senior leaders of our sustainability, technical, production, procurement, commercial, customer and design functions and representatives from our strategic land and regional businesses.

Group functions: The Director of Sustainability is responsible for monitoring climate-related issues and updating our Climate Change and Sustainability Risk and Opportunity Register. He oversees our reporting and disclosures on climate change, and the assurance of our climate data. He reports to our Group Technical Director. The Group Technical Director has responsibility for low and zero carbon homes, leads our Road to Net Zero Carbon Working Group, and reports directly to our CEO.

Operational level: The Managing Director in each regional business has responsibility for achieving our climate change targets at the local level. They have nominated a Sustainability Sponsor within their management team and a Sustainability Champion to assist with implementation and data collection.

Environment policy

During 2023 we will be publishing an updated Environment Policy which sets out the fundamental principles that guide our approach to net zero, biodiversity, resource use, responsible timber sourcing and other environmental issues.

Risk management

The Board has overall responsibility for risk management and holds formal risk reviews at least half yearly and routinely considers risk at each Board meeting as appropriate. Our approach to risk combines a top-down and bottom-up review. The assessment, mitigation and monitoring of sustainability and climate- related risks is included as part of our overall risk management process – the individual sustainability and climate-related risks are considered through functional and business unit risk registers, our climate change and sustainability risk and opportunity register and on a regular basis by senior management, assessing the impact they may have on the Group's strategy, looking at short, medium and in particular longer term emerging risks which may arise as the area continues to evolve. The top-down review of key and principal risks by our GMT considers their relative significance to the business, including climate-related risks.

Business integration: Road to net zero working group

Our Road to Net Zero Carbon Working Group is a cross-functional working group supporting progress on our Transition Plan.

The Group includes the relevant heads of group functions and is focused on research and strategy development to enable us to achieve our climate targets. The key workstreams focus on:

- **Low carbon operations** – developing our carbon strategy and advancing our work on operational energy and carbon efficiency.
- **Zero carbon homes in use** – researching and piloting products and technologies for sustainable living and zero carbon homes.
- **Planning and site design** – integrating environmental factors into site design including in relation to water resilience, biodiversity and environmental thresholds.
- **Whole life carbon** – improving our data and strengthening supplier engagement on embodied carbon, waste and packaging.
- **Construction skills** – ensuring we have the skills we need to support our Transition Plan.
- **Customers** – engaging our customers on zero-carbon ready homes.

The Group's Principal Risk 'Natural resources and climate change', recognises the increasing significance of the transition to a low carbon economy for both our operations and the world in which we live and conduct business. The Principal Risk is monitored by the Audit Committee and senior management, assessing its impact on the Group's strategic objectives and ensuring appropriate mitigations are in place.

Our Climate Change Register guides the climate change adaptation of our business practices and the homes we build. For each climate-related risk and opportunity the register identifies: risk driver, description of risk, potential impact, time frame, whether the risk or opportunity is direct or indirect, likelihood and magnitude of impact. This is a standing item on every LEAF Committee agenda. The Committee makes recommendations to the GMT on how to mitigate, transfer, accept, or control climate-related risks.

Culture, engagement and skills

Every one of our colleagues has a part to play and a responsibility to help deliver our plan. We want to embed our commitment to net zero in our culture, providing the visible leadership and support needed to empower all colleagues to act.

We have developed an internal communications and training plan to engage colleagues on our Transition Plan and ensure key parts of the business completes the necessary actions to achieve our goals. This includes direct communication from our CEO, a functional training and communication plan and regional communications via the Managing Director for each business unit. Our communications plan will help our colleagues to understand the link to our values, particularly our commitment to 'Do the right thing'.

We will build knowledge and expertise through training workshops, masterclasses and briefings for key functions including colleagues in technical, production, commercial and customer-facing roles. Read more about skills on page 30.

Each regional business had an annual energy use reduction target in 2022, and in 2023 we will set annual targets for each business up to 2025. Business unit management teams receive a quarterly report on energy and resource use which enables them to compare performance against target and other business units.

Our approach to engaging our stakeholders on our transition is explained on page 30.

Incentives

We incentivise progress on our climate targets.

A carbon measure was included in the Executive Directors' annual bonus plan (the Executive Incentive Scheme) in 2022 and an environmental measure will be included in the long-term incentive plans for senior management and regional management in 2023.

15% of the potential bonus for Site Managers is linked to performance on waste reduction.

We include an environmental performance measure in our incentive plan for leadership

Our roadmap to Net Zero

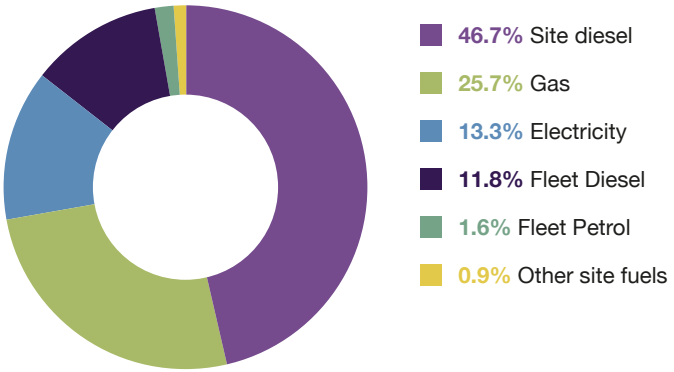
Operations (scope 1 and 2)

Our first step is to reduce emissions from our operations, becoming net zero aligned by 2035. We have already made significant progress on operational emissions, achieving an 15% intensity reduction since 2019 and 51% since 2013.

Our approach to net zero for operational emissions includes a focus on energy efficiency and behaviour change, use of renewable electricity backed by Renewable Energy Guarantees of Origin (REGO) certificates and integrating alternative technologies. We are incentivising efficiency measures at the local level through our regional business resource plans which set annual energy use reduction targets for each business unit.

Our operational footprint (2019 baseline)

The use of diesel on our sites to power generators and plant is the biggest source of operational emissions, followed by gas used to heat the homes we build before customers move in. Data is for our 2019 baseline calculated using the market-based methodology.



Our milestones are:[1]

- **2025** – 36% intensity reduction
- **2030** – 52% intensity reduction
- **2035** – net zero emissions

36% intensity reduction

2025

52% intensity reduction

2030

Net Zero Emissions

2035

1 We track our SBTi absolute emission targets as intensity metrics to better measure progress during the up and down cycles of the housing market.

Our decarbonisation pathway

Site diesel and other fuels

Diesel is used in generators on our sites for heating and running site offices and facilities, as well as to power plant and machinery. We also use small amounts of other fuels including butane, propane and LPG.

Reducing diesel use is challenging as there are currently supply challenges for alternative fuels and there are not yet commercially available electric or hydrogen alternatives for vehicles and plant used in the home building process. However, we anticipate that over the next 10 years wider developments in hydrogen technology, battery technology and electric vehicle technology will assist our business in reducing diesel use. We will continue to update our strategy over time to reflect these opportunities.

We are approaching this challenge through a combination of efficiency measures, use of alternative fuels and working with suppliers to find alternatives to diesel.

Stage 1
We are focusing on efficiency measures to reduce diesel use on site and research into alternative fuels and technologies. Our research is already underway and included our first pilot using a hybrid generator on one of our sites in 2022 which generated significant carbon savings. We are planning additional pilots (see box on the right) and anticipate that we will roll out significant numbers of hybrid generators in Stage 1. We also have ongoing work with portacabin manufacturer Danzer and the Carbon Trust to design and trial new energy efficient portacabins and drying rooms. We have been trialling using solar PV panels on our existing cabins, but need to better understand the costs and benefits of this approach. We have switched to electric forklifts at our logistics centre (replacing diesel powered versions). We are exploring opportunities to move other machinery used on our sites to electric options.

Stage 2
We expect to replace up to 30% of our site diesel with hydrotreated vegetable oil (HVO), a lower carbon alternative, by 2030 as well as continuing to roll out hybrid generators and further efficiency improvements.

Stage 3 and 4
Focus on working with suppliers and plant providers to integrate the use of electric and, where commercially available, hydrogen or other low carbon powered plant.

Natural Gas

Most of our natural gas use is to heat the homes we build before completion of sale to customers. This includes heating homes to assist the drying out process and to provide a comfortable environment for trades and colleagues fitting them out. Gas is also used to heat show homes and offices.

We will reduce and eliminate the use of natural gas in three stages:

Stage 1
Focus on behaviour change to reduce gas use at site level. This includes working with our Sustainability Champions to ensure home thermostats are set to go off at night and natural ventilation is used to dry out homes where possible.

Stage 2
The roll out of fully electric homes will eliminate the major source of gas use. Our roadmap assumes that in line with Government proposals, fossil-fuel powered boilers will be phased out from new homes from 2024 in Scotland and 2025 in England and Wales and that all-electric homes will start to be rolled out across our sites in line with this timing.

Stage 3
We expect there to be minimal gas usage by 2035.

We use a small amount of gas in some of our office buildings, see below.

Purchased electricity

Stage 1
We purchase 100% renewable electricity for new sites during construction (including temporary building supplies), offices, show homes, sales areas and plots before sale. Our green electricity is REGO backed, confirming it comes from genuine renewable energy. This accounted for 70% of our total electricity consumption in 2022 and this will increase as older sites complete and new sites open.

Testing hybrid generators on our sites

We successfully trialled a hybrid generator with integrated battery storage on one of our sites in our Southern Counties region during 2022 and achieved a significant carbon and financial saving.

The trial indicated that use of hybrid generators could reduce carbon emissions by over 45 tonnes per generator per year and in 2023 we are extending our trial to additional sites to further assess this opportunity. We are also exploring potential future opportunities including LPG generators and hybrid diesel generators that integrate battery storage and PV panels.

Our carbon impact from remaining non-renewable electricity will also decrease as the national grid continues to decarbonise.

We use gas and electricity to run our offices which include both owned and leased premises. We are developing a decarbonisation plan for our offices which will include energy efficiency improvements and working with landlords to integrate energy and carbon efficiency requirements into leased office moves and refurbishments. We will look for opportunities to move to all electric and low carbon buildings, as these become available.

Stage 2 onwards
Our electricity consumption will increase as we roll out all electric homes and switch to electric vehicles but the carbon impact will be mitigated by our use of REGO backed electricity and the decarbonisation of the grid.

Fleet diesel and petrol

To tackle emissions from our company car fleet we are phasing out the use of petrol and diesel vehicles.

Stage 1
Our car benefit scheme 'MyDrive' enables employees to have access to a new low emission car, fully maintained, and provided in a tax-efficient way. It incentivises employees to choose electric and ultra-low emission vehicles. We now only offer cars with a CO_2 rating of less than 120g/km and will gradually reduce this threshold. By the end of 2022 we had reached 56% EV or hybrid vehicles (2021: 43%).

Stage 2
We will continue the transition to EVs across our company car fleet.

Stage 3
We anticipate that we will have removed all petrol and diesel cars from our fleet by 2035 or be very close to doing so.

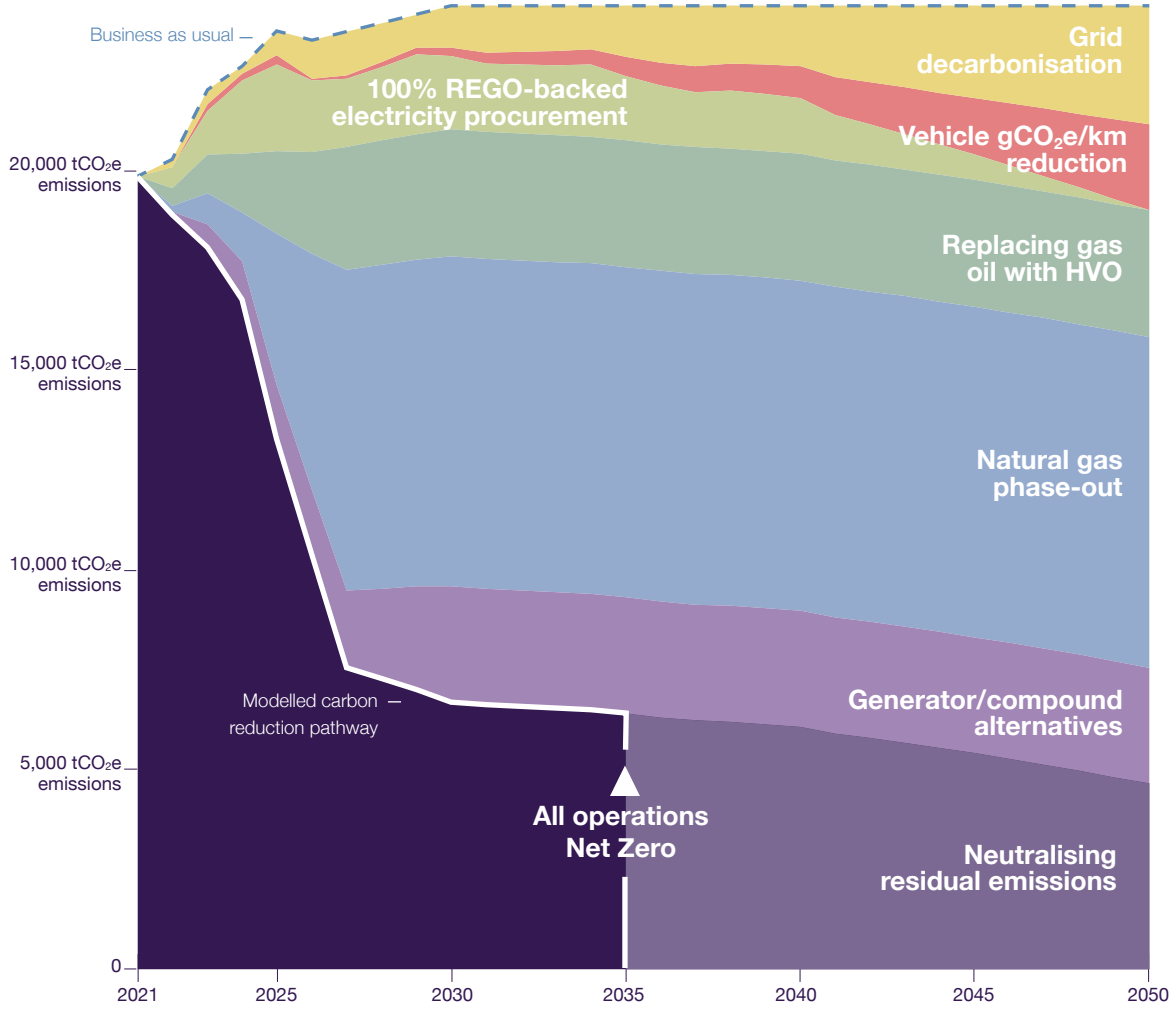
The logistics fleet used by Taylor Wimpey Logistics is third party owned and operated and covered under scope 3.

Neutralising residual emissions

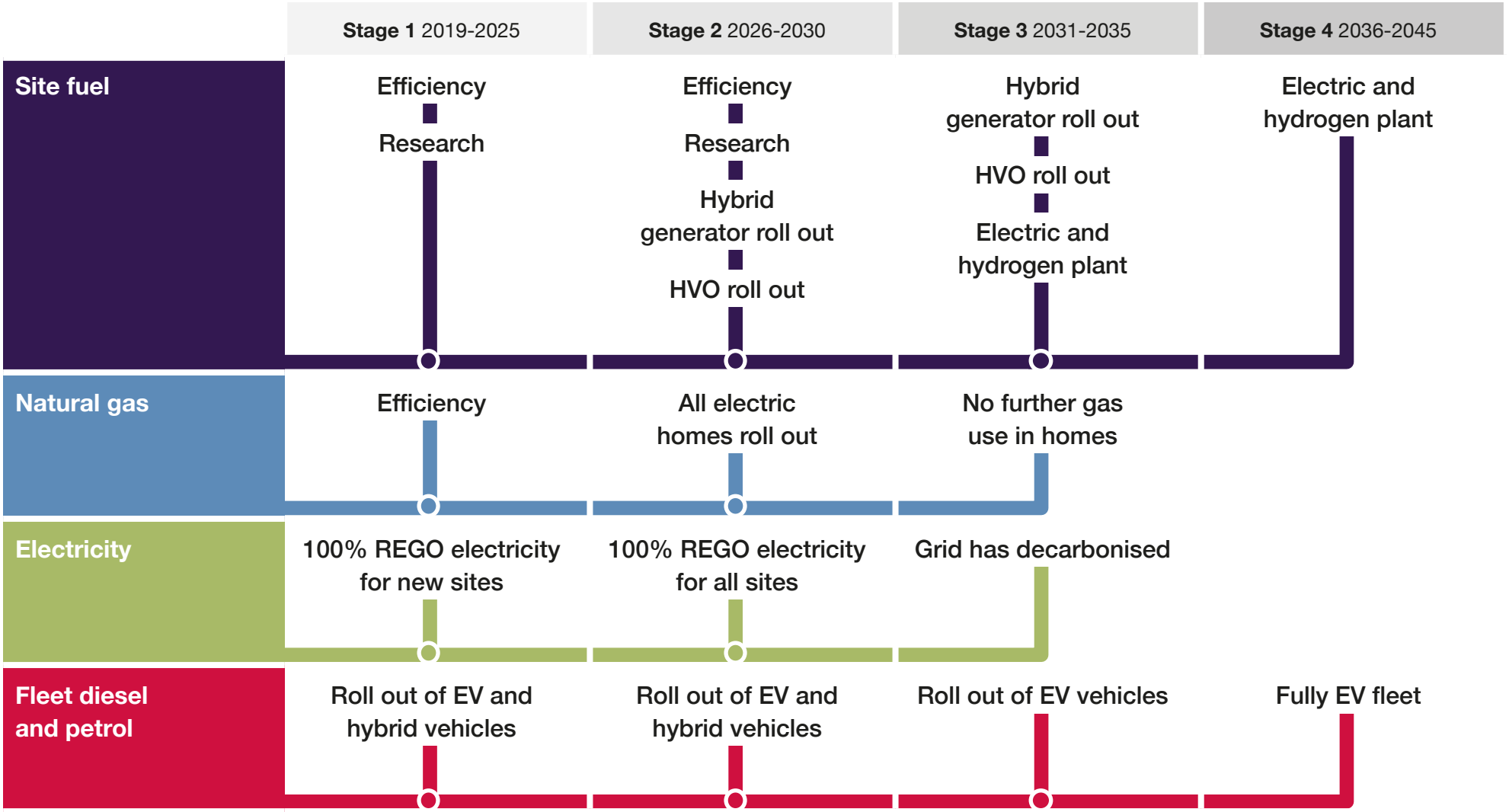
From 2035 we will neutralise any residual operational emissions. We are developing our approach in this area, see page 28.

Scope 1 and 2 carbon reduction pathway

The diagram illustrates the relative contribution made by the measures we're taking to reduce our operational footprint. The 'business as usual line' shows our predicted scope 1 and 2 operational emissions (market based) if there were no changes to current business activities over time. The pastel coloured sections show the contributions that different actions are predicted to make to reducing our emissions. The dark purple section at the bottom of the figure shows our predicted modelled emissions with our carbon reduction actions. By 2035 we will neutralise all remaining residual emissions such that our scope 1 and 2 operational emissions are net zero.



Summary of roadmap – operations (scope 1 and 2)



Value chain emissions (scope 3)

Scope 3 emissions are by far the most significant element of our footprint. Reducing these emissions requires action in our business as well as collaboration with our suppliers and others in our industry to tackle systemic challenges.

We are engaging with suppliers on carbon emissions through our procurement processes (page 31), research and development (pages 19 and 24) and through our membership of the Supply Chain Sustainability School (SCSS), (page 31).

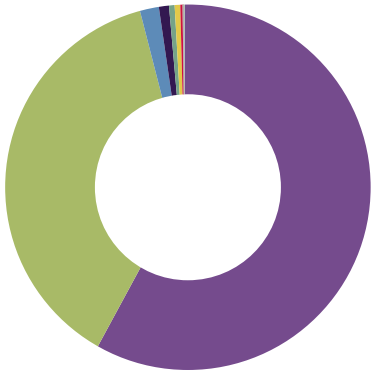
Our milestones are:

- **2030** – 52.8% reduction per 100m² of completed floor area from a 2019 base year
- **2040** – 78.4% reduction per 100m² of completed floor area from a 2019 base year
- **2045** – net zero emissions

Our scope 3 footprint (2019 baseline)

Our scope 3 emissions account for around 99% of our footprint. The majority of our scope 3 emissions relate to two categories: purchased goods and services and use of sold products. We report on nine of the 15 scope 3 categories identified in the GHG Protocol. The remaining six categories are not material to our business. The pie chart shows our footprint at our 2019 baseline.

Scope 3 Emissions by Category 2019



- **57.9%** Purchased goods and services
- **38.1%** Use of sold products
- **1.7%** Upstream transportation and distribution
- **0.9%** End-of-Life treatment of sold products
- **0.5%** Employee commuting
- **0.5%** Waste generated in operations
- **0.2%** Business travel
- **0.1%** Fuel and energy related activities
- **0.1%** Downstream leased assets

52.8% reduction
per 100m² of completed floor area from a 2019 base year

2030

78.4% reduction
per 100m² of completed floor area from a 2019 base year

2040

Net Zero Emissions

2045

Embodied carbon in purchased goods and services

The embodied carbon in the goods and services we buy to build our homes is the largest element of our footprint and one of the most challenging to reduce.

The materials we use to build our homes are the most significant source of emissions in this category and will be a key focus area for our plan. Widely available and commercially viable low carbon alternatives do not yet exist for some of the materials used in building our homes. It will be important to work closely with suppliers to encourage innovation, conduct research and product trials and monitor wider decarbonisation efforts to ensure we identify and adopt new products and technologies in the timescales needed to reach our targets.

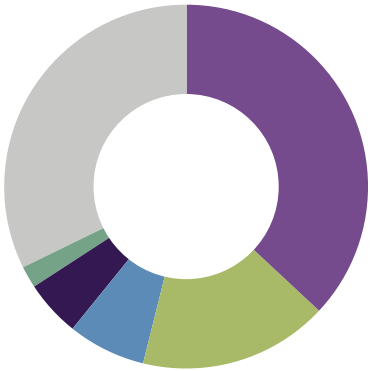
Collaboration with our supply chain is key to achieving reductions. In particular, more than half of emissions in this category are produced by groundwork contractors on our sites and we need to work closely with these contractors and their suppliers to tackle emissions.

Five key materials

Our analysis shows that five materials make up 68% of emissions in this category and these will be prioritised in our carbon reduction efforts. A significant percentage of the concrete, diesel and asphalt is purchased by our groundworks contractors for use on our sites so we will be working closely with them to achieve reductions.

- **37% Concrete** – multiple uses including for foundations, in breeze blocks, floor slabs and retaining walls
- **17% Diesel** – used by contractors for powering a wide variety of plant and equipment including for soil excavation, demolition and piling[1]
- **7% Asphalt** – used for roads and footways in our developments
- **5% Bricks** – used for external walls for our homes and other buildings
- **2% Steel** – used for reinforced concrete and some apartments may have steel frames
- **32%** Other Goods and Services

Purchased Goods and Services 2019



Around 68% of our footprint comes from five key materials and we will prioritise these for action

Our decarbonisation pathway

Our approach to net zero for embodied carbon emissions requires a collaborative effort with suppliers and includes a strong focus on engagement, research and innovation. Key aspects include:

Stage 1

- Improving our data on embodied carbon and establishing decarbonisation roadmaps for our key materials and groundworks.
- Engaging with suppliers to set reduction targets and identify decarbonisation opportunities.
- Product trials and establishing our timber frame facility.

Stage 2 – 3

- Increased use of timber frame, MMC, and low carbon materials.
- Further research and innovation through product trials.
- Wider supplier engagement including further carbon targets and decarbonisation roadmaps established for materials beyond our top five.
- Engagement with priority SME supplier base.

Stage 4

We anticipate that over the next two decades wider sector decarbonisation efforts will support our transition plan and have highlighted examples below where these are known today. Given the level of uncertainty in predicting technological innovation we have not outlined key steps for stage 4 in detail.

Safety first

To protect our customers, colleagues and site operatives the use of new technologies and building techniques must always incorporate rigorous safety and quality standards, supported by research and build trials. We have an established approach to ensuring product and build quality and safety which is outlined in our Sustainability Supplement and ESG Addendum.

1 The carbon emissions from the diesel we directly procure to run our generators, fork lifts and telehandlers is included in Scope 1 whereas contractor's diesel is included in Scope 3.

Working with materials suppliers

We are engaging directly with key suppliers on carbon reduction and collaborating through our membership of the Supply Chain Sustainability School (SCSS) and the work of the Future Homes Hub (see page 30). We are also integrating environmental disclosure requirements into our procurement processes with a view to setting carbon and sustainability targets for key suppliers over the next few years.

There is a need for much better data coverage for embodied carbon. Working with the Future Homes Hub and our own suppliers we will promote wider uptake of EPDs (Environmental Product Declarations) for building materials. These are based on life cycle assessments (LCA's) and include quantification of embodied carbon.

Our immediate priority is to focus on key material suppliers and large groundwork contractors which account for the majority of our footprint and with whom we have group level relationships. However we will also engage with other material suppliers as well as local SME suppliers during the course of our plan.

Engaging our groundworkers

Groundworks – the work done to prepare the sub-surfaces of a site for the start of construction work – is typically the first stage of a construction project. It may include ground investigation, site clearance, sub-structure and ground stabilisation, contaminated land remediation and the creation of development platforms – all of which can be energy intensive. Many of the carbon-intensive materials used on our sites, such as concrete, asphalt, and diesel, are purchased and used by groundwork contractors. We estimate that more than 50% of emissions from our purchased goods and services footprint is due to groundwork activity.

We are reviewing how we manage earthworks on our sites, with the aim to identify opportunities to improve efficiency and reduce the amount of soil that needs to be excavated, moved or disposed of by looking at factors such as build sequence and design efficiency.

We are also engaging with groundworks contractors to understand their approach to sustainability and carbon reduction with a view to working with them to trial lower carbon products and fuels.

We have trained our technical and engineering teams on best practice in groundworks engineering design and are reviewing on-site supervision and planning for the groundworking process.

Key materials

We have modelled the decarbonisation pathways for key materials based on current technologies, expected new technologies and with reference to sector decarbonisation strategies where these exist. We expect to regularly update this element of our transition plan as new technologies and approaches are developed across the supply chain.

Concrete

We will be engaging with our concrete suppliers and groundworkers to identify suitable lower carbon concrete and alternative products with a view to testing these on our sites. Opportunities we are or will be exploring will include:

- Using concrete more efficiently and integrating use of supplementary cementing materials.
- Using lower carbon concrete and cement products – for example Alkali-activated cementitious material (AACM) as a replacement for Portland cement in concrete and carbon cured by carbonization.
- Block types with a higher air content. These reduce materials use and embodied carbon and can offer better thermal insulation.
- Exploring innovative solutions that can sequester CO_2 within concrete.

Our approach to reducing the impact of concrete will also include switching to lower carbon alternative materials including timber frame to replace brick and block building techniques.

Our approach to concrete decarbonisation is informed by the work of the Green Construction Board's Low Carbon Concrete Group (LCCG) which has outlined three decarbonisation scenarios for the concrete industry. They are expected to develop an embodied carbon rating for concrete which we will make use of once published.

Timber frame and modern methods of construction

The use of timber frame to replace brick and block building techniques and other off-site construction can reduce embodied carbon in materials, as well as emissions from waste and transport. For example, research suggests that use of timber frame could potentially reduce embodied carbon from the materials in a typical home by around 15%.[1] Some types of MMC can also improve energy performance for customers.

Already around 18% of our homes are built with timber frame and we use many MMC components. Our target is to reach 30% timber frame by 2030 and we are investing to achieve this, see box on the right.

We have a responsible timber sourcing policy, see page 10.

Investing in timber frame

Timber frame can have a significantly lower carbon footprint than traditional 'brick and block' building techniques used today due to the materials and use of off-site construction techniques. It can also help to reduce waste volumes and improve efficiency in the build process.

In 2023 we are opening a new timber frame production facility near Peterborough to help us expand our use of timber frame. Alongside the carbon benefits, this will help us to improve logistics efficiencies and provide security of supply. We aim to increase from around 18% of completed homes built using timber frame today to 30% by 2030.

The immediate priority for the factory is an automated line for open panel timber frame kits exclusively for use in Taylor Wimpey homes.

1 The 15% upfront carbon reduction figure is from Spear et al. (2019) Wood in Construction in the UK. An Analysis of Carbon Abatement Potential. Report: BC-1383-2018-ES. This is corroborated by an upfront carbon reduction figure of 16% from The Future Homes Hub Report Embodied and Whole Life Carbon: 2023-2025 Implementation plan for the homebuilding industry (2023).

Diesel

We will be engaging with contractors to increase the use of alternative fuels and electric vehicles in line with the approach outlined on page 16.

We will also be exploring opportunities to reduce diesel use through process improvements on our sites, for example more efficient planning of groundworks.

Asphalt

We will be working with suppliers to increase use of existing asphalt technologies with lower embodied carbon and to adopt new alternatives as these are developed. Current technologies we are expecting to use more widely include warm mix asphalt which is applied at lower temperatures, reducing the amount of energy needed to produce and lay it.

We anticipate that National Highways 2040 net zero target will help to incentivise innovation in this sector.

Bricks

We have begun working with suppliers to identify new brick and block products that can reduce embodied carbon and to scale-up use of lower impact products already used in our business. Products we are focusing on include:

- Bricks that require less material to produce or use. For example, half bricks are thinner than standard bricks reducing materials use and allowing more insulation to be installed in the home. Half bricks also allow for more bricks transported on each load.
- Alternative materials and production processes, such as concrete bricks which use less energy in production than clay bricks since they do not need to be kiln baked.

We are also engaging with our brick suppliers on emissions reductions. One of our key brick suppliers has already set a net zero commitment and we will be working with the others to encourage them to do likewise.

Steel

We expect to be able to reduce embodied carbon from steel by identifying suppliers with lower carbon steel production processes. The International Energy Agency (IEA) assumes 70% electrification of steel production by 2050 in their Net Zero by 2050 road map, replacing the use of coal. Our next step is to engage with our suppliers to better understand the current footprint of the steel we use and identify opportunities for selecting lower carbon steel.

Other materials

Other key materials include wood and timber, mortar, aggregates, plastics and plasterboard. Our current approach to these materials includes:

- Responsible sourcing programme for wood and timber, see page 10.
- Use of products produced from recycled materials including window frames produced using recycled uPVC, and recycled chipboard and wood in our kitchen units. Our glass mineral wool insulation is made from recycled glass.
- An ongoing collaboration with the Supply Chain Sustainability School to quantify packaging waste streams and work with suppliers to achieve reductions.
- Our plasterboard includes recycled gypsum and gypsum from our waste plasterboard is sent for recycling into new plasterboard.

Reducing materials use through design

We have identified that changes to the design of our homes could potentially reduce materials use resulting in an embodied carbon saving.

We are reviewing these findings with a view to implementing opportunities in the next update of our standard house types.

The importance of a whole life carbon approach

Efforts to reduce our carbon footprint in one area can result in increased emissions in another. We need to take a ‘whole life carbon’ approach, looking at the carbon impacts across the life cycle, to make sure we understand these trade-offs and ensure that our actions reduce emissions overall.

One example is the use of solar PV panels, battery storage and air source heat pumps in our homes. This may increase embodied emissions from purchased goods and services but will still reduce carbon emissions overall because they enable us to build zero carbon homes in use.

Homes in use

Emissions from homes in use account for around 40% of our total footprint (scope 1, 2 and 3). We will reduce these through a focus on fabric energy efficiency, use of renewable technologies and by moving to all-electric homes.

Around 16% of the UK's emissions are from households with the majority resulting from use of natural gas for heating and cooking.[1] The changes we will make to our homes over the next decade will have a positive impact on reducing emissions across the economy while enabling our customers to live a lower carbon lifestyle. We will have a strong focus on customer communication and engagement as we roll out new technologies to our homes.

The impact of the Future Homes Standard

There is a clear regulatory pathway to decarbonising new build homes with the expected introduction of the Future Homes Standard (FHS) requirements from 2025. Although the details are not yet finalised, it is expected that the FHS will eliminate the use of gas boilers and reduce carbon emissions in use by 75-80% compared to 2013 Building Regulations.

The FHS is set to be the biggest regulatory shift for the home building industry in many years likely to require the electrification of heat and hot water. This creates challenges including in relation to the capacity of the electricity grid, technology procurement, integration into the build, and maintenance and repair. These new homes will also offer a different customer experience. We are also working closely with our suppliers and other housebuilders on some of these challenges including through the Future Homes Hub.

Our approach is aligned with the regulation and we aim to implement the changes in a way that provides the best customer experience.

Zero carbon ready in Spain

Our business in Spain has already made significant progress towards net zero. The homes we build in Spain (around 2% of our total) are already zero carbon ready and integrate heat pumps. Of the homes currently under construction 34% have solar PV panels and this will increase to 100% for all future developments. Our Spanish business is also installing solar PV panels on larger apartment blocks and integrating innovative technology such as lifts with energy regeneration. This works like a hybrid car, capturing energy during braking and when the lift goes down and converting that into electricity that is used to help power the building. We are using our experience with these technologies in Spain to inform how we develop our UK homes.

1 UK Greenhouse Gas Emissions https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1051408/2020-final-greenhouse-gas-emissions-statistical-release.pdf

Our decarbonisation pathway

We are focusing on improvements in fabric energy efficiency, use of renewable and efficiency technologies and the phase-out of gas boilers.

We are investing in research and product trials to help us improve the sustainability and quality of the homes we build. Our Head of Research and Technical Innovation coordinates our research efforts and chairs our Functional Interface Group that tests and trials new, innovative and alternative products. When we specify a new product for use in our homes it must first go through a rigorous review process involving our safety, technical, sales, supply chain and production teams. We assess whether it meets our technical performance requirements (such as performance, durability and longevity, warranty, efficiency and ease of installation), whether it is safe to install, maintain and use, whether it can be procured in sufficient quantities and the benefits for our customers.

Stage 1 – New specification and research

In 2023, we are starting to roll out changes to our homes that will result in an average 31% improvement in carbon efficiency compared to our current specification (2013 Regulations). The homes will integrate enhanced fabric standards, further energy efficiency measures and low carbon technology including wastewater heat recovery systems, thermally enhanced lintels and PV panels. More homes will also include triple glazing and EV chargers. The specification complies with the updates to Building Regulations Parts F,L,O,S. Our increased use of PV panels will enable more customers to generate their own electricity.

In stage 1, we are also focusing on preparing for the roll out of all-electric homes from 2025 exploring the optimum specification for our homes to enable significant further energy efficiency enhancements and all-electric low-carbon heating. This includes conducting product research and build trials to identify the products most suitable for use in our homes from a design, functionality and customer perspective. We started building our first trial of five all electric plots at our site in Sudbury, see box on page 29.

We are awaiting an update on the Government's Future Homes Consultation and the associated SAP software before we can confirm our final specification for 2025 onwards.

Stage 2 – All electric heating systems

We will roll out zero carbon ready homes that are 75% – 80% more carbon efficient from 2025. We will reach 100% zero carbon ready homes on or before 2030.

All-electric homes are considered 'zero-carbon ready' in relation to use phase emissions. Based on Government plans to decarbonise the UK's national grid, we expect homes to become zero carbon in use by 2035.

We are also reviewing the potential to use heating networks on more developments and are trialling a network based on large-scale air-source heat in Sudbury, see box on page 29.

Stage 3 and 4 – Zero carbon homes in use and further R&D

We expect our homes to be zero carbon in use by 2035, which is the target set by the UK Government for decarbonisation of the national grid.

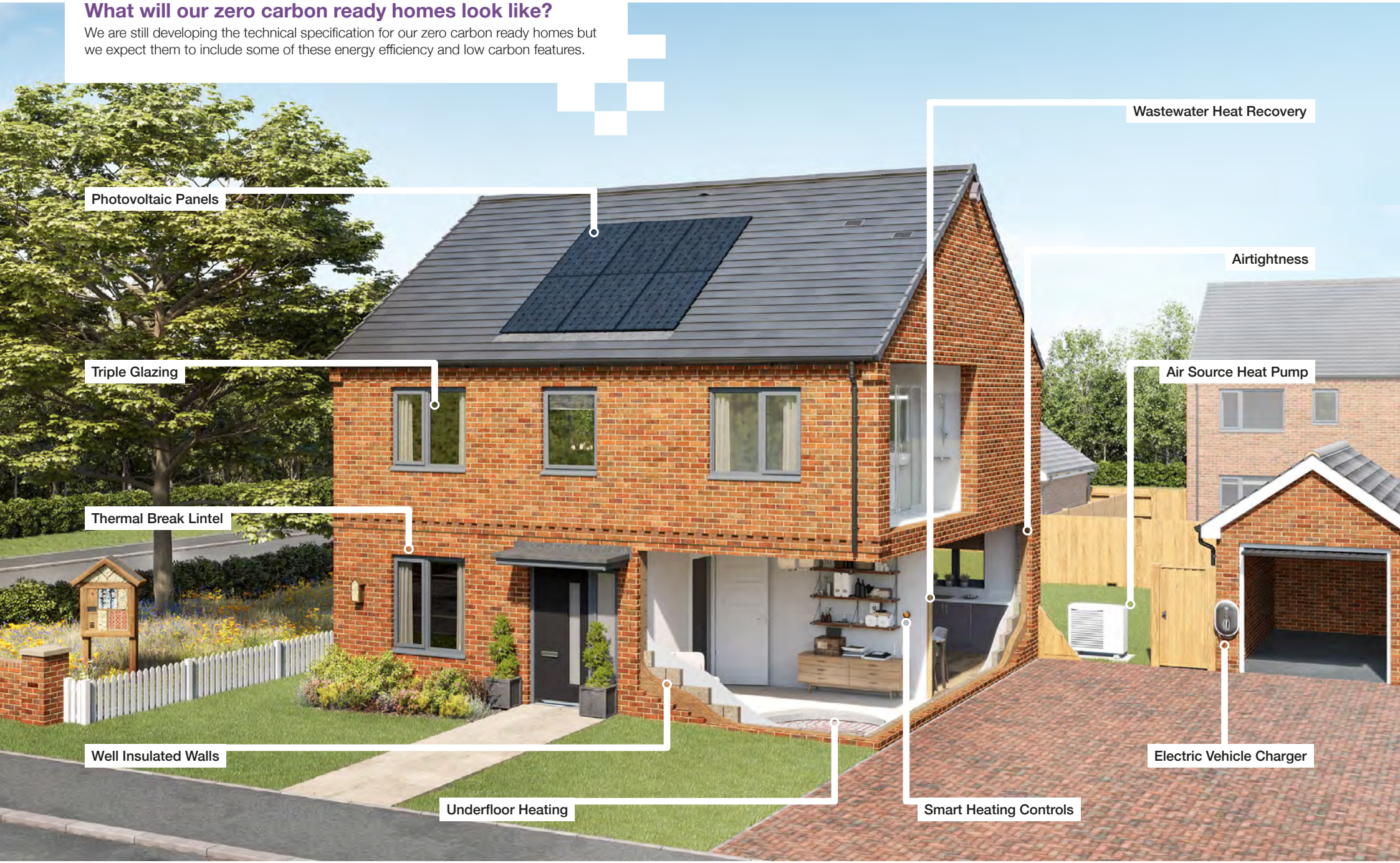
We will continue our R&D programme, and integrate beneficial new technologies into our homes to further improve energy and carbon efficiency.

How do our homes perform today?

In 2022, on average, our standard house types were designed to achieve a minimum Energy Performance Certificate rating of B. Features included insulation, energy-efficient walls and windows, 100% low energy light fittings, and energy efficient appliances. Around 17% of our homes integrated photovoltaic (PV) panels. We are now rolling out an updated specification that will result in an average 31% improvement in carbon efficiency.

What will our zero carbon ready homes look like?

We are still developing the technical specification for our zero carbon ready homes but we expect them to include some of these energy efficiency and low carbon features.



*This specification will vary by individual homes

Getting zero carbon ready at Chilton Woods, Sudbury

Reaching the UK's target to be net zero carbon by 2050 requires big changes across the economy, including to our homes and developments. Our own net zero target is even more ambitious so we're already investing in research to prepare for zero carbon ready homes.

We started building our first trial of five plots at our Chilton Woods site in Sudbury, Suffolk, in 2022. The five homes we've built will be 100% electric with triple glazing and enhanced fabric to reduce heat loss. Inside we are testing a range of energy efficient and low carbon technologies including air source heat pumps, heat pump cylinders, electric panel heating, smart cylinders, underfloor heating, thermaskirt heated skirting boards, infrared radiant heating and battery storage. Each of the five plots is being built to a different specification to enable us to compare the benefits. We believe this is the first trial of multiple specifications at a live construction site in our sector.

We're gathering feedback from our teams and sub-contractors on which technologies are most straightforward to install. Once the build is complete, we will conduct performance tests looking at energy usage, user comfort, heat loss and potential for overheating. We will also monitor running costs post-occupancy.

Chilton Woods also includes an innovative sustainable heating network that will eliminate the need for gas boilers in the next development phases. The network uses large-scale air-source heat pumps to supply homes with heat and hot water, that are expected to reduce carbon emissions by up to 80% compared to gas boiler systems.

We are testing a roof-mounted air-source heat pump (ASHP) at our site in Sudbury. This can help to mitigate issues with constrained external space. The ASHP is supplied within a sealed Hydrotop unit, to limit noise and air leakage. The unit includes an access hatch allowing commissioning and maintenance to be completed from inside the plot, avoiding working at height.

Addressing key challenges in the shift to zero carbon homes

Power infrastructure

As the economy moves away from fossil fuels with electricity used more widely to power transport, machinery, infrastructure and homes there will be increased pressure on the national grid. We will be engaging with local planning authorities to integrate low carbon power supply and infrastructure into site planning and we have started exploring innovative solutions such as the sustainable heating network at Sudbury, see box on the left. We are also engaging with national government and industry groups on this issue together with District Network Operators (DNOs) / Independent District Network Operators (IDNOs) to understand the government intent and the DNO/IDNO progress towards smart networks.

Addressing skills needs

Changes to our homes will impact the skills we need in our business and trade sub-contractor base. For example, we will need significantly more people qualified to install air source heat pumps but fewer gas engineers from 2025. See page 30.

Customer expectations

All-electric homes and other new technologies will impact how customers use and heat their homes. We will be focusing on ensuring that customers know what to expect when moving into an all electric home and receive the right information and support to use and maintain any new technologies. See page 31.

Our customer research suggests strong demand for low carbon living. Our most recent survey, found that 48% of existing and potential new home customers consider the environmental performance of the home to be an important factor in choosing a house builder. Almost 60% reported being worried about climate change and three-quarters expected house builders to be prioritising energy efficiency.

We're testing a range of technologies to help us deliver zero carbon ready homes

Other scope 3

Although the vast majority of our emissions are associated with homes in use and purchased goods and services, we are also developing our plans to tackle the rest of our scope 3 footprint.

Transport emissions

Emissions from transport include upstream transportation (transport of goods from supplier facilities to our logistics centre or sites and transportation of goods between our logistics centre and our sites), employee commuting and business travel.

We are developing a sustainability strategy for Taylor Wimpey Logistics which will incorporate decarbonisation plans. We will be engaging with our logistics suppliers to tackle these emissions with a focus on:

- Efficiency measures such as fuel efficient vehicles, loading and driving techniques, and route planning.
- The feasibility of increasing the use of alternative fuels.
- Potential for developments in hydrogen technology, battery technology and electric vehicle technology to assist in reducing diesel use from logistics.

We will address some emissions from employee commuting by shifting our company car fleet to hybrid and electric vehicles, see page 16. We expect remaining commuting emissions to reduce as more colleagues and trade sub-contractors switch to electric vehicles over the next decade.

Over 93% of business travel journeys are made by car and air travel makes up less than 0.5% of journeys. This means our focus on car fleet emissions (page 16) and grid decarbonisation will also have a positive impact on emissions from business travel.

Emissions from waste

Emissions associated with the waste we generate account for a small percentage of our total footprint. Our data is based primarily on construction waste and we aim to improve our data on excavation and demolition waste and include this in our waste emissions footprint.

We developed our Towards Zero Waste Strategy and Action Plan in 2022, which sets out a three-year programme of action and capacity building in relation to resource use and waste across all stages of development. We will be focusing on improving data on waste, strengthening our processes for managing waste and working with our suppliers to reduce waste, increase recycling and use more sustainable and recycled materials.

We already recycle around 98% of construction waste and reuse significant volumes of demolition and excavation waste.

98%

of construction waste recycled

Neutralising residual emissions

Once we have reduced our emissions by at least 90% we will neutralise the remaining emissions through the removal and storage of carbon from the atmosphere, in line with SBTi requirements. There is a high likelihood that we will need to use carbon removal offsets from 2035 for operational emissions and 2045 for value chain emissions.

Currently voluntary offset markets are relatively immature, and providers and standards are not always credible. We anticipate significant change over the next few years that might include new suppliers and intermediaries, greater market regulation, and significantly increased costs.

We will be exploring a range of approaches for neutralising emissions including nature-based solutions (such as planting forests), engineered solutions (such as net positive CO_2 cured concrete) and hybrid solutions (such as biochar). We will be assessing these based on their environmental merits and factors such as supply and demand, pricing and technological readiness.

We see potential for creating our own carbon credits using nature-based solutions, for example using parts of our larger development sites as well as surplus land to capture carbon. We also see potential in insetting, for example building with biomass.

We have set out three principles to guide our approach to neutralising emissions.

Principle 1: Emissions reduction first

We will implement emissions reductions first, and offset only where we have not identified a practical and reasonable alternative for the last 10% of emissions.

Principle 2: Credible, high-quality carbon removal offsets

We will only use offsets that are:

- Credible (use a robust baseline and measurement methodology) and use a recognised best practice standard.
- High quality (taking into account factors such as additionality, permanence, leakage, double counting and co-benefits).

Principle 3: Improving our understanding

We will deepen our knowledge of best practice in carbon removal offsetting, including:

- Conducting regular reviews of the offsetting market.
- Carrying out research and development, including pilot projects, to identify solutions that work best for our business (see right).

Using our land to capture and store carbon

We see great potential to use surplus land, large sites and areas adjacent to our development sites to support our net zero transition.

In 2022, we completed a detailed analysis for a pilot project to plant native broadleaf woodland on a 27 hectare site located in the floodplain of the river Avon, which is not suitable for housing development. If approved, this will capture and store carbon through the planting of around 20,000 trees and create new woodland and grassland habitats that benefit biodiversity. When established, the woodland would provide valuable amenity for local residents on our neighbouring Somerdale development.

By 2045

90% + **10%** = **100%**

Reduction in our emissions of at least 90%

Reduction by neutralising residual emissions of up to 10%

Reduction

Financial planning

We have analysed the financial implications of our Transition Plan for our business.

We employed the Carbon Trust to model costs relating to reaching net zero for scope 1 and 2 emissions. This found that cost efficiencies from energy use reduction will largely offset required expenditure. There will be a small cost to the business from neutralising residual emissions from our operations from 2035 onwards, which would reduce over time as we continue to make further reductions in energy use and emissions.

We have also reviewed the cost implications of changes to our products and services including those relating to alignment with the Future Homes Standard and those relating to tackling embodied carbon in purchased goods and services. The nature of our business means that our main investment is in land. We engage with land owners to ensure that the costs of regulation/compliance with latest standards and supply chain price inflation are reflected in the assessment of land values. This will include our transition to zero-carbon ready homes since this is aligned with regulation (the Future Homes Standard) and material price inflation as suppliers invest in research, production processes and facilities to reduce embodied carbon.

We do not separately disclose the quantum of this investment, but it is included within our build costs and land values reported in our financial statements and included within our annual budget and forecasting process.

There will be a cost component relating to neutralising residual scope 3 emissions however the likely range is currently uncertain. We expect this cost to be shared with the supply chain.

Impact on financial statements

We have integrated climate-related impacts into our financial reporting.

Reported balance sheet, income statement and cash flow

We include known costs associated with regulation designed to affect the impact of climate change (e.g. building regulations Part L (conservation of fuel and power) and Part F (ventilation)) within the assessment of the value of inventory charged to cost of sales. Where a forecast site margin is affected by a change in estimated costs to complete, the impact is recognised across all plots completed on that site in the current and future years.

The carrying value of work in progress and land is assessed via a net realisable value exercise and any adjustments required are made within the financial statements. Specifically, relating to land and the possible impact from climate change, the Group uses the latest environmental reports to assess the impact from flooding on the viability of the land.

The Group does not have goodwill, or other intangible assets, that would be subject to an annual impairment assessment and thus the impact of climate change on the future cash flows required to perform this assessment are not required.

Going concern and viability

'Natural resources and climate change' is one of the Group's Principal Risks, but given the timeframe over which both going concern and viability are considered (12 months and five years respectively) the future impact of climate change on the operating costs of the business and its supply chain, beyond those known costs already included within the Group's forecasts, are not considered material.

More information is included in our Annual Report and Accounts.

We employed the Carbon Trust to model costs relating to reaching net zero for scope 1 and 2 emissions

Engagement plan and measures

Working with partners

Many aspects of the wider net zero transition require system-level changes and coordinated action by multiple parties, from suppliers to governments, and at all points along the value chain. We are already engaging with regulators, industry organisations, other housebuilders and the supply chain to tackle these issues and this will become an increased area of focus.

We are developing our engagement plan to ensure we communicate and collaborate with key stakeholders in line with our roadmap. Our approach to engaging our colleagues is outlined on page 13.

We are members of the Business Ambition for 1.5°C campaign (a global coalition set up by UN Global Compact, the Science Based Targets initiative, and We Mean Business) and the UN Race to Zero campaign.

Industry collaborations

Future Homes Delivery Plan and Hub

The Future Homes Delivery Plan is the homebuilding sector's climate and environment plan. The plan was developed under the Future Homes Task Force bringing together homebuilders with supply chain, infrastructure, finance and government organisations.

The plan is divided into four areas: the operation of the home, production and construction, planning and placemaking and the business as a whole, supported by a roadmap for each area.

We were involved in development of the plan and are now active participants in the work of the Future Homes Hub which has been established to facilitate the collaboration needed within and beyond the new homes sector to achieve its goals. We are particularly involved in workstreams looking at: whole life carbon, biodiversity net gain, place and nature, sector sustainability metrics, fabric efficiency, ventilation, and water.

Sub-contractor and skills engagement

There will be a need for training and upskilling across the sub-contractor workforce to deliver zero carbon ready homes.

Our Future Skills Group has been exploring the skills profile our business will need over the medium to long term, as well as developing a demographic profile for our key trades to identify any gaps in the skills available to meet our objectives. We are actively working with the HBF, CITB, NHBC and other major housebuilders to look at the most effective ways to address the skills shortage.

We currently anticipate that most future skills needs will be met by our existing trade sub-contractor base and there will be a need to support the recruitment and development of new apprentices and to upskill the existing trade workforce. We are actively engaged with the supply chain and exploring what an effective support model could look like. Training is likely to include apprenticeships, masterclasses, bootcamps and other vocational qualifications.

We will be engaging with priority sub-contractors particularly groundworks companies to make them aware of our commitment to net zero and collaborating with them to integrate lower carbon technologies, products and processes into our sites.
See page 20.

New technologies will continue to be trialled from both a labour and materials perspective, with a detailed feedback process ensuring we capture any areas of development before being included in standard scope of work.

We have engaged with the Sustainability and Climate Change Unit at the Department for Education on addressing the need for green skills. We are also involved in a number of groups working with the Institute for Apprenticeships and Technical Education (IfATE) to review existing apprenticeship standards and ensure they deliver the skills we need for the future.

Supply chain collaboration in practice

Collaboration with our suppliers enables us to find innovative approaches to reducing resource use and emissions. For example, we worked with a supplier to develop a reusable alternative to temporary decking and sacrificial joists (used for access by covering in the stairwell voids during construction). This has now been rolled out to 118 sites and when fully implemented is expected to save over 3,000 tonnes of timber and avoid up to 1,000 tonnes of CO_2 over five years.

Supply chain engagement

We are engaging with our supply chain on the net zero transition. We are developing, with support from external partners, a Supply Chain ESG Strategy that will help us work towards our net zero targets and other environmental and social commitments.

We are embedding environmental disclosure into our procurement processes. We have quarterly review meetings with national partner suppliers who provide strategically important products. These reviews cover all relevant aspects of our Supply Chain ESG Strategy including waste and packaging reduction, climate and water efficiency (depending on supplier category). We are also increasingly requesting suppliers to provide Environmental Product Declarations that are helping to improve understanding of product environmental impacts and embodied carbon.

We use the Supply Chain Sustainability School (SCSS), an industry collaboration, to help engage our suppliers on sustainability. Suppliers can use the SCSS to complete a sustainability self-assessment, create an action plan and access free training. Around 87% of our priority suppliers are registered.

We're also working through the SCSS on collaborative projects focusing on improving carbon data in the supply chain, waste management, addressing plastic packaging and human rights risks in the solar PV supply chain.

Local planning authorities

At the local level over 60% of the UK's local authorities aim to be net zero carbon by 2030[1] and some local development plans may include net zero requirements ahead of our timeline.

We work closely with planning authorities to understand and integrate their requirements and with landowners to ensure that constraints are reflected in land values. We are already exploring innovative local solutions to power supply storage such as the sustainable energy and heat hub at our development in Sudbury and this will become an increasing area of focus.

Government engagement

We support government action to enable the transition to net zero. We engage with regional and central government on climate related issues to understand their priorities and share our views. In recent years this has included responding to Government consultations on the Future Homes Standard and engaging on issues relating to power infrastructure, see page 26.

We engage directly and through our membership of the Home Builders Federation (HBF) trade association and the Future Homes Hub. Some of our regional businesses are also members of trade associations, for example our Scottish businesses are members of Homes for Scotland.

We ensure our engagement is aligned with our climate commitments. We report on our public policy activity in our Sustainability Supplement.

Customer engagement

We believe our transition will have a positive impact on customers and will be communicating our approach to current and prospective customers and local communities.

We also need to be mindful that the move to all-electric heating and use of new technologies will change how customers use and heat their homes. We will be focusing on ensuring that customers know what to expect when moving into an all-electric home and receive the right information and support to use and maintain any new technologies correctly. Ease-of-use for customers is one of the key considerations in all our product research and testing.

We already provide customers with information on the environmental features of their home via our website, Home Maintenance Guide and Touchpoint Portal and sales and customer service representatives.

We will be increasing this communication over the next few years and training our customer-facing teams on how to engage customers on using and maintaining their low carbon home.

1 Based on data from https://data.climateemergency.uk on 27 January 2023.

Measuring progress

We have established metrics and targets to enable us to manage and mitigate our identified climate risks and ensure we capitalise on opportunities relating to the transition to a low carbon economy. This includes our net zero commitment.

Our Scope 1 and 2 science-based carbon reduction target has been approved by the Science Based Targets initiative (SBTi) who have confirmed that it is consistent with reductions required to keep warming to 1.5°C, the most ambitious goal of the Paris Agreement. Our main target reflects emissions intensity, which enables us to monitor progress more effectively during different stages of the housing cycle than an absolute target. However we also track absolute reductions.

Our previous Scope 3 goal met the SBTi's criteria for ambitious value chain reductions. However, we have now updated our Scope 3 target as part of the process of establishing our net zero commitment and resubmitted this to the SBTi for verification.

Our carbon and energy use data is externally assured by the Carbon Trust to a limited assurance level. Our scope 1 and 2 footprint, and three selected scope 3 categories (Purchased Goods and Services, Fuel and Energy-related Activities and Use of Sold Products) are verified to ISO 14064-3.

Our 2019 carbon footprint (used as our baseline) was calculated in accordance with the measurement requirements of the Carbon Trust Standard and in accordance with the principles of the Greenhouse Gas Protocol (GHG Protocol) of the World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI).

Reporting and disclosure

We are committed to transparent disclosure of our climate performance and approach to climate risks and opportunities, aligning with numerous external benchmarks and standards.

In our Annual Report and Accounts we report against the four recommendations and 11 recommended disclosures set out in TCFD report "Recommendations of the Task Force on Climate-related Financial Disclosures". We also take into account the TCFD Guidance for All Sectors and the Supplemental Guidance for Non-Financial Groups in relation to the Materials and Buildings Group.

We participate in CDP Climate Change and publish our submission on our website. We received a score of A- for 2022 (2021: A-). We received a B rating from CDP Water Security (2021: B) and B- from CDP Forests (2021 B-).

We have been recognised by the CDP as a Supplier Engagement Leader and received a Supplier Engagement score of A for our approach to engaging suppliers on climate change.

We were included on the Financial Times European Climate Leaders list 2022 and came seventh on climate change in the Responsibility100 Index, an ESG ranking of FTSE 100 companies.

Our metrics

The key climate metrics we use to monitor our progress are:

- Tonnes CO_2e (scope 1, 2 and 3) – absolute emissions
- Tonnes CO_2e /100m^2 completed homes built (scope 1, 2 and 3) – emissions intensity
- MWh – operational energy use
- MWh /100sqm completed homes built – operational energy use intensity
- MWh of renewable electricity REGO-backed (Renewable Energy Guarantees of Origin) – renewable electricity purchased

All our environmental metrics are published in our Sustainability Supplement and ESG Addendum.

Additional metrics

We will look to disclose further targets and metrics as we implement our transition plan and in line with the Transition Plan Framework and TCFD.

TCFD cross-sector metrics

Up to 100% of our business activities and revenues are aligned with climate-related opportunities in connection with the delivery of low carbon, energy-efficient homes. We aim to report the percentage of homes built to our more carbon efficient specification as this is rolled out.

Up to 100% of business activities may be impacted by transition risks in relation to changing regulatory requirements, low carbon homes and increasing pressure on power generation and distribution during the net zero transition.

The proportion of business activities vulnerable to physical risks varies by impact. For example, any site could be impacted by windstorms and we estimate that around 42% of our plots are built in areas of high water stress, based on the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct. Sites that may be subject to the most significant heat stress are those in Spain (around 2% of completions). Under the high temperature scenario and towards the end of the century some milder heat stress was also identified in the UK.

We do not currently set an internal carbon price.

Financial metrics

We do not currently disclose financial metrics in relation to our Transition Plan. We are reviewing the need for metrics in areas such as revenues from low and zero carbon ready homes and spend with suppliers providing low carbon goods and services.

See page 29 for more detail.

Rated A- by CDP Climate Change in 2022 and rated A by CDP for our approach to engaging suppliers on climate change

Targets
Net Zero
By 2045 we will reach net zero greenhouse gas emissions (Scopes 1, 2 and 3) across our value chain on a 2019 base year (comprising at least a 90% reduction and neutralising residual emissions).
Operations (scope 1 and 2)
36% reduction in operational carbon emissions intensity by 2025 from a 2019 baseline (science-based target) and reach net zero emissions by 2035 (based on a 25% reduction in absolute emissions against the base year).
Reduce operational energy intensity by 32% for UK building sites by 2025.
Purchase 100% REGO-backed (Renewable Energy Guarantees of Origin) green electricity for all new sites.
Reduce car and grey fleet emissions by 50% by 2025.
Homes in use and supply chain emissions (Scope 3)
By 2030 all our homes will be zero carbon ready (becoming truly net zero on decarbonisation of the electricity grid).
Reduce scope 3 emissions by 52.8% per 100m^2 of completed floor area from a 2019 base year (based on a reduction of 46.2% in absolute emissions against the base year).
Reduce emissions from customer homes in use by 75% by 2030.
Reduce embodied carbon per home by 21% by 2030.
Measure the environmental footprint of the key materials in our homes and set a reduction target.

Targets
Adaptation and beyond our value chain
Make it easier for 40,000 customers to work from home and enable more sustainable transport choices through 36,000 EV charging points and 3,000 additional bike stands by the mid 2020s.
Update our policies and processes to reflect the risks and opportunities from a changing climate by 2022.
Cut our waste intensity by 15% by 2025 and use more recycled materials. By 2022, publish a ‘towards zero waste’ strategy for our sites.
Reduce operational mains water intensity by 10% from a 2019 baseline by 2025.
Make it easier for 20,000 customer households in water stressed regions to install a water butt by 2025.
Material interdependencies (nature)
Increase natural habitats by 10% on new sites from 2023 and include our priority wildlife enhancements from 2021.
Include our wildlife enhancements on all suitable new sites: Hedgehog highways from 2021; Bug hotels (at least 20% of homes)from 2021; Bat boxes (at least 5% of homes)from 2022; Bird boxes (at least 80% of homes) from 2023; Wildlife ponds from 2024; Reptile and amphibian hibernation sites from 2025.
All new sites have planting that provides food for local species throughout the seasons.

Get in touch

We welcome your feedback on our approach to sustainability.
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More information is available on our website
www.taylorwimpey.co.uk/corporate/sustainability

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DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

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