KEEPING BRITAIN BUILDING

FORTERRA PLC SUSTAINABILITY REPORT 2022

In this report

Sustainability report

SUSTAINABILITY REPORT
LETTER TO STAKEHOLDERS

DIVYA SESHAMANI

> Sustainability is embedded at the heart of our business. Our goal is to Keep Britain Building and our strategy focuses around doing so in a sustainable manner."

We set ourselves challenging sustainability targets at the beginning of 2021, with 2022 being a year of tangible progress towards meeting these. At the core of our ability to achieve our ambitions is the sustainability framework that we developed alongside these targets. Formed of three pillars: Planet, Product and People, which guide our future decision-making, ensuring we are successful in our overall objective of being a good neighbour and responsible employer, for generations to come.

Two years into the ten year time horizon defined in our targets, we are focusing on delivering investments that will drive a tangible reduction in emissions in the near-term whilst continuing to expand the time and resources we devote to the research and development of new and innovative technologies that will help us reach net zero in the longer-term. A variation in the mix of products that we have manufactured in 2022, means that whilst we delivered reductions in the carbon emissions intensity of both our clay (4.2%) and concrete (0.8%) products there has been a marginal increase in overall emissions intensity at Group level. We do not expect this to impact the achievement of our 2030 target to reduce carbon emission intensity by 32%.

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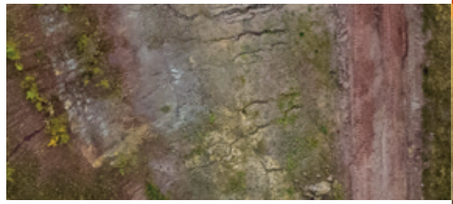

Since 2019 we have already reduced emissions at absolute level by 7.5%, and in this Sustainability Report we are pleased to publish our Carbon Management Plan, laying out our medium-term roadmap as to how we expect to meet our 2030 decarbonisation targets. The plan recognises that our decarbonisation journey will not be linear, and 2022 is a prime example of a great deal of positive achievement not being immediately reflected in immediate absolute reductions; we are however confident that through making the right investments we will successfully deliver on our targets in the years to come.

Core to this plan is making our business more efficient, and therefore more sustainable, with the now operational new Desford brick factory demonstrating this, offering industry-leading levels of efficiency. Beyond Desford, we are also delivering two further investment projects both with strong sustainability credentials. The redevelopment of our Wilnecote brick factory will reduce the carbon footprint of each brick manufactured, and the construction of a brick slip manufacturing facility at our Accrington facility will allow us to bring a new sustainable product to market.

Sustainable energy is also key to our plan and we are delighted to have entered into an agreement with our partner, Lightsource bp, to construct a dedicated solar farm that will provide around 70% of our annual electricity requirement for a 15-year period commencing in 2025. Construction on this solar installation is already underway and we have exercised an option to benefit from its green electricity from 2024. In addition, we are making tangible progress towards our target to generate at least 10% of our electricity requirement through on-site renewables with the installation of a £2.5m solar installation underway at the new Desford brick factory.

The 2021 transition of the Board's Risk Committee becoming the Risk and Sustainability Committee, has continued to be successful in elevating the importance of sustainability throughout the business, with the Committee devoting a significant portion of its time to the Group's sustainability strategy and governance thereof. The Board takes all areas of governance seriously and we are happy to report full compliance with the requirements of the Task Force on Climate-Related Financial Disclosure (TCFD) which are now mandatory.

The importance attached to sustainability both within our own business and to our stakeholders is evidenced by the Group's banking facility now including a sustainability linkage with the Group able to secure a reduction in its borrowing costs through achieving annual targets covering decarbonisation, reduction in the use of plastic packaging and employee development. Following shareholder feedback, the Remuneration Committee is to incorporate the decarbonisation and plastic reduction targets into the 2023 grants under the long-term incentive Performance Share Plan.

Included within this report is an overview of our key sustainability initiatives and credentials highlighting the progress made in the year, along with providing everything necessary to understand our sustainability journey. As always, we welcome feedback regarding our approach to sustainability and the appropriateness and transparency of our disclosures.

Divya Seshamani
Chairman of the Risk and Sustainability Committee

SUSTAINABILITY REPORT

OUR APPROACH TO SUSTAINABILITY

Sustainability governance

Sustainability sits at the heart of everything we do as a business, and as such is at the core of our strategy. Delivery on this strategy, as well as governance and oversight responsibility around climate-related risks and opportunities ultimately sits with the Board. The Board's Risk and Sustainability Committee discharges this responsibility on behalf of the Board.

The Risk and Sustainability Committee receives twice yearly progress updates as to the execution of the Group's sustainability strategy, reviewing ongoing compliance with TCFD requirements and progress against targets. As well as receiving feedback from the Executive Directors, and members of the Executive Committee, the Head of Sustainability regularly attends Committee meetings.

The Group's Head of Sustainability leads the day-to-day sustainability activity and reports to the Strategic Projects Director, who holds accountability for delivery of the key investments that will facilitate the achievement of our sustainability targets, including reduction of greenhouse gas emissions and reducing our use of plastic packaging. During 2021, the Group also formed a Sustainability Steering Group, comprising the Chief Executive Officer and Chief Financial Officer as well as a number of senior managers representing other functions of the business including strategy, finance, marketing and investor relations. The steering group meets monthly and is tasked with ensuring that the Company's sustainability ambitions and targets are on track, and that all climate-related risks are reported to the Risk and Sustainability Committee.

SUSTAINABILITY GOVERNANCE STRUCTURE

Robust and transparent governance is essential to delivering our sustainability ambitions

Board of Directors

Ultimate responsibility for sustainability related matters through the Risk and Sustainability Committee

Executive Committee

Review and approve climate strategy, scrutinise performance, review progress on climate strategy and targets

Sustainability Steering Group

Tasked with ensuring that the Company's Sustainability ambitions and targets are on track, and that all climate-related risks are reported to the Risk and Sustainability Committee

Cross Functional Working Groups

Task-specific working groups focusing on specific climate-related challenges e.g. Plastic Reduction Steering Group

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Our sustainability framework guides all aspects of our approach to sustainability. Our framework identifies the key areas of focus to ensure we operate our business with sustainability at its core; and these are highlighted as material topics.

Details of our materiality assessment can be found later in this Report, however, the material topics are grouped to allow a balanced approach through three sustainability pillars.

SUSTAINABILITY FRAMEWORK

PLANET

The Planet pillar frames our wider environmental responsibilities, with a particular focus upon greenhouse gas emissions. Material topics include:

- Climate change adaption
- Greenhouse gas emissions
- Water management
- Air quality
- Waste management
- Energy management
- Biodiversity

PRODUCT

The Product pillar focuses upon some more specific industry and company-level topics, including new product development, and the wider supply chain. Material topics include:

- Product lifecycle: environmental impacts
- Plastic packaging
- Ethical and sustainable procurement
- Product innovation
- Pricing integrity and transparency

PEOPLE

The People pillar highlights our social responsibility objectives, including our utmost priority of ensuring health, safety and wellbeing across our business. Material topics include:

- Equality, diversity and inclusion
- Employee experience
- Succession and skills development
- Community and charity engagement
- Data protection and privacy
- Health, safety and wellbeing
- Human and labour rights

SUSTAINABILITY REPORT
MATERIALITY ASSESSMENT

Materiality assessment process
In defining our materiality assessment, we worked alongside external consultants with the intention of providing an overview of our priority sustainability topics, in turn enabling our focus and resources to be appropriately deployed in these areas. The viewpoints of key stakeholder groups were critical to the creation of this assessment, and we sought feedback and insight from multiple perspectives, including those of shareholders, local communities, employees and customers.

We are constantly engaging with stakeholders and these material topics evolve as such. The views from our regular conversations with shareholders, and the opinions of our employees having conducted our annual engagement survey, are all taken into account when management have reviewed the output of the below process to ensure it remains representative.

STEP 1

Identifying issues
We created a long list of potentially material topics through the review of sustainability reporting publications, internal policies and management insight. This was supplemented by an evaluation of relevant sustainability frameworks including the Sustainable Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI). It was important at this stage to ensure we had covered social, and governance factors alongside purely environmental impacts.

STEP 2

Broadening and refining the scope
Our external consultants provided a broader perspective of macro sustainability topics, assessing their relevance and application to our business, such as the United Nations Sustainable Development Goals (SDGs). Specific feedback from shareholder meetings was also included, as well as research from relevant industry bodies.

STEP 3

Assessment and scoring
We assessed our material topics and provided a scoring criterion based upon two factors. Firstly, the importance of the topic to stakeholders, and secondly, the impact of the topic upon future business performance. Our external consultants assisted us in this process, providing a consistent framework for the basis of assessment.

STEP 4

Prioritisation and validation
An assessment of the ability of the business to influence each topic provided further perspective to the prioritisation process and was a key further dimension brought into our analysis. The outcome of the materiality assessment was reviewed at Board level to ensure appropriate challenge, validation and alignment to the Group strategy.

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MATERIALITY MATRIX

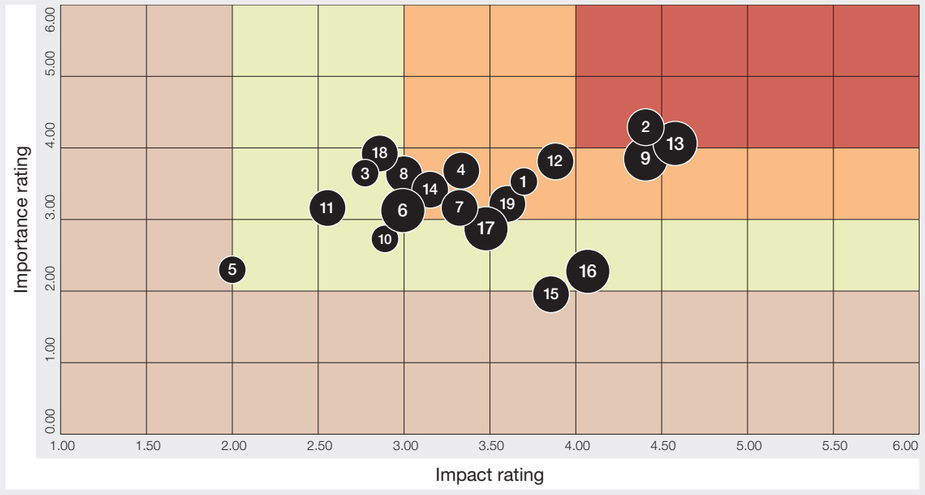
Our materiality matrix below summarises the outcomes of the materiality assessment, providing a visual overview of our key topics. We recognise that the matrix contains an element of subjectivity; impact can be defined in various ways including risk of non-compliance, impact to reputation or financial implications. Equally, importance may vary between different stakeholder groups. The matrix should therefore be viewed in this context, as an indicative overview and insight to management's perspective on the subject. Our materiality assessment was first undertaken in 2021 and was subject to a review in early 2023 where no significant changes were identified.

PLANET
- **1** Climate change adaption
- **2** Greenhouse gas emissions
- **3** Air quality
- **4** Energy management
- **5** Water management
- **6** Waste management
- **7** Biodiversity impacts

PEOPLE
- **13** Health, safety and wellbeing
- **14** Equality, diversity and inclusion
- **15** Succession and skills development
- **16** Employee experience
- **17** Local community engagement
- **18** Human and labour rights
- **19** Data protection and privacy

PRODUCT
- **8** Product innovation
- **9** Pricing integrity and transparency
- **10** Product lifecycle environmental impacts
- **11** Ethical procurement
- **12** Packaging

Key
- Very high
- High
- Medium
- Low
- Our ability to influence is dictated by bubble size

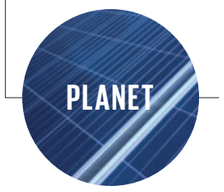


SUSTAINABILITY REPORT

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Collectively, our three pillars guide our future decision-making, ensuring we are successful in our overall objective of being a good neighbour and responsible employer, for generations to come.

We continue to investigate additional opportunities to contribute to sustainable development and have linked our framework to the United Nations SDGs that most closely align to each pillar.



- 7 AFFORDABLE AND CLEAN ENERGY — Ensure access to affordable, reliable, sustainable, and modern energy for all
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION — Ensure sustainable consumption and production patterns
- 13 CLIMATE ACTION — Take urgent action to combat climate change and its impacts

- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE — Build resilient infrastructure, promote inclusive and sustainable industrialisation
- 11 SUSTAINABLE CITIES AND COMMUNITIES — Make cities and human settlements inclusive, safe, resilient and sustainable
- 15 LIFE ON LAND — Protect, restore and promote sustainable use of terrestrial ecosystems

- 1 NO POVERTY — End poverty in all its forms everywhere
- 3 GOOD HEALTH AND WELL-BEING — Ensure healthy lives and promote wellbeing for all at all ages
- 4 QUALITY EDUCATION — Ensure inclusive and equitable quality education and promote life-long learning for all
- 5 GENDER EQUALITY — Achieve gender equality and empower all women and girls
- 8 DECENT WORK AND ECONOMIC GROWTH — Promote sustained, inclusive and sustainable economic growth
- 10 REDUCED INEQUALITIES — Reduce inequality within and among countries

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Our ambitions and targets

The ability to track our progress is essential to realising our sustainability goals and we have considered the most appropriate metrics and targets necessary for users to understand the impacts of our business. In addition to disclosing our absolute greenhouse gas (GHG) emissions, we also provide additional disclosure showing the GHG intensity ratio (level of emissions per tonne of output) for both our clay and concrete products, recognising that absolute emissions vary with the level of our production according to market demand, and as such are not necessarily a meaningful measure of our progress against our targets.

Our metrics and targets were set in 2021 and informed by the outcome of our materiality assessment which identifies the subject areas deemed most relevant to our stakeholders. In identifying further measures and targets for publication we have also considered the requirements of the Sustainable Accounting Standards Board (SASB) standard on construction materials and have sought to comply with the disclosure requirements of this standard in as far as we believe the information provided will be useful and meaningful to our stakeholders.

The below table details our key ambitions and targets, how they map from our framework and to the United Nations SDGs, as well as our status and progress against each to 2022.

SLL target*
PSP target**

Pillar	Material topic	SDGs	Target	Target year	Progress	Status	Narrative
PLANET	Greenhouse gas emissions	Climate action/ Responsible consumption and production	27.5% Group CO_2 emissions reduction vs. 2019 baseline (tonnes)	2030	-7.5%	●	Absolute emissions 7.5% below 2019 benchmark
PLANET	Greenhouse gas emissions	Climate action/ Responsible consumption and production	32% Group emissions intensity reduction vs. 2019 baseline (kg CO_2/tonne)	2030	0.9%	●	Short-term increase in intensity driven by expected change in clay vs. concrete production mix
PLANET	Greenhouse gas emissions	Climate action/ Responsible consumption and production	33% Clay products intensity reduction vs. 2019 baseline (kg CO_2/tonne)	2030	-4.2%	●	Progress is on track with near-term reductions linked to commissioning of new Desford
PLANET	Greenhouse gas emissions	Climate action/ Responsible consumption and production	80% Concrete products intensity reduction vs. 2019 baseline (kg CO_2/tonne)	2030	-0.8%	●	Progress against target is as expected
PLANET	Energy management	Affordable and clean energy	10% Group power usage from onsite renewables (%)	2025	–	●	Solar installation commenced at new Desford (4% of target)
PLANET	Waste management	Responsible consumption and production	Zero process waste to Landfill (kg/tonne)	n/a	0.01	●	Waste to landfill figure of 0.01 in 2022 – effectively zero
PRODUCT	Product innovation	Industry, innovation and infrastructure	10% Group revenue from new and sustainable products (%)	2025	3.7%	●	Currently on track to achieve – 2022 increase driven by cement replacement (CEM II) based concrete products
PRODUCT	Plastic packaging	Sustainable cities and communities	50% reduction in plastic packaging vs. 2019 baseline (tonnes)	2025	-9.3%	●	New packaging solution (belly banding) installed at Accrington factory with further sites to follow in 2023
PEOPLE	Health, safety and wellbeing	Good health and wellbeing	Zero harm ambition No. of accidents per million-man hours worked	n/a	3.79	●	Improvement over 2021 – Golden Rules are being embedded within the business
PEOPLE	Succession and skills development	Quality education	5% of employees in earn & learn positions (%)	2025	3.6%	●	Static vs. 2021. Plans to increase being implemented

* Three of our targets have been incorporated into the Sustainability Linked Loan (SLL) following the refinancing completed in January 2023.

** Two of our targets will be applied to the 2023 Performance Share Plan (PSP) award.

SUSTAINABILITY REPORT
PLANET

OUR 2030 CARBON REDUCTION TARGETS

	Target	Progress
01	27.5% Group CO_2 emissions reduction vs. 2019 baseline (tonnes)	
02	32% Group emissions intensity reduction vs. 2019 baseline (kg CO_2/tonne)	
03	33% Clay products intensity reduction vs. 2019 baseline (kg CO_2/tonne)	
04	80% Concrete products intensity reduction vs. 2019 baseline (kg CO_2/tonne)	

Scope 1
Direct emissions from our operations

Scope 2
Indirect emissions generated by our energy suppliers

Scope 3
All other indirect emissions created by our supply chain

Net zero, a marathon not a sprint

Our priority is to deliver a significant reduction in our emissions over the next decade. By 2030 we have committed to reducing our carbon intensity by 32% relative to 2019. Beyond this we have signed up to the Race to Zero, formalising our ambition to reach net zero by 2050.

A key component of our decarbonisation strategy is our programme of capital investment with over £200m of investment in more efficient and greener manufacturing capacity expected over the next decade. This investment alongside a number of other initiatives, including fuel switching, will deliver a meaningful reduction in emissions.

We are also committed to researching breakthrough technologies including carbon capture and storage and hydrogen fuel which will likely provide the longer-term pathway to net zero.

The Commission on Climate Change (CCC) sets out a recommended strategy for the UK to reach net zero by 2050. In this report they state that “most sectors will need to reduce emissions to close to zero without the use of offsetting.” Reliance on offsetting does not reduce the burning of fossil fuels which is the primary contributor to climate change.

Our strategy focuses on maximising the investment in our own business to deliver a tangible and transparent reduction in carbon emissions. We will continue to evaluate the benefits carbon offsetting can provide and whilst it is possible that in the future there will be a need to use these in some form in order to reach net zero, we feel that at present we can have the greatest impact through investing to reduce our own emissions.

Using the latest technology as we are doing within our new Desford, Wilnecote and Accrington projects, rather than purchasing offsets and allocating them to the emissions from a particular factory, is the most transparent and effective way of meeting our challenging carbon reduction targets and in the longer-term moving towards net zero by 2050.

We often refer to our pipeline of organic investment projects beyond those currently in progress and we are active in progressing designs and technology for what we aspire to be a zero emissions brick factory using alternative fuels and carbon capture.

Greenhouse gas emissions

We manufacture two broad categories of products – those made from clay and those made from concrete. These products are supplied hand-in-hand to our customers and are used together in building high-quality homes and buildings. However, the manufacturing processes are very different and their carbon footprints, whilst similar overall, are built up in different ways.

Clay products

Clay is the primary raw material used to make bricks. The clay is typically sourced locally from our own quarries, limiting the environmental impacts of transportation to factories. The clay is freely ground and then formed into a brick shape using a variety of methods. The grinding and forming process uses electrical energy.

At this stage bricks contain significant amounts of moisture which must be removed before they can be fired. This drying process utilises recycled heat from our kilns.

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The next stage is the firing of the brick which transforms the relatively weak dried clay into strong durable bricks that will last for generations. During the firing process, the bricks are heated to temperatures of over 1,000°C, triggering chemical reactions in the clay. Our kilns are fired by burning natural gas, whilst the clay itself also emits carbon dioxide as a result of a chemical reaction; we refer to this as process emissions. Once cooled, the bricks are packaged ready for despatch to our customers.

As a result of the emissions created by the burning of gas, as well as the embodied carbon released from the clay during the firing process, the majority of emissions from our clay brick manufacture fall into scope 1.

Concrete products

We make a range of concrete products, from aerated concrete blocks to precast concrete floor beams, using a number of different manufacturing techniques. Traditional concrete is made by mixing aggregates, cement, and water. It is then left to undergo a chemical reaction known as curing which can be accelerated by adding additional heat.

Our Thermalite lightweight aerated concrete blocks use pulverised fuel ash (PFA), a waste product from coal fired power stations; with power generation from coal drastically diminishing in recent years we now recycle previously landfilled ash in a process very similar to quarrying. Water, cement and other materials are mixed with the PFA. The cake, as it’s known, undergoes a chemical reaction and begins to cure such that it can be removed from the mould and be wire-cut into blocks. The blocks are then cooked in a high-pressure steam oven known as an autoclave, which, like our brick kilns, is heated by burning natural gas. The blocks are removed from the autoclave, separated, packaged and once they have passed a strength test are ready to be supplied to our customers.

We purchase all of these raw materials, with cement having by far the largest carbon footprint. As such, the majority of the emissions from manufacturing concrete fall into scope 3.

It is important to emphasise that both our clay and concrete products contain similar levels of overall carbon dioxide emissions per tonne of product. However, the way in which these emissions are reported within the Greenhouse Gas Protocol scopes is very different.

The majority of the emissions associated with the manufacture of clay bricks are direct emissions under our control and are therefore disclosed in scope 1. The majority of the emissions associated with the manufacture of our concrete products are indirect emissions under the control of our suppliers and included in scope 3, and therefore not disclosed in our figures. We currently report estimated scope 3 emissions and in 2023 we will undertake an exercise to measure and subsequently disclose scope 3 emissions.

Scope 1

When reporting our emissions and setting targets to reduce these emissions it is necessary to consider our product mix. To ensure full transparency looking forward, and when reviewing our past progress, we provide emissions figures for both our clay and concrete businesses. The scope 3 emissions associated with our concrete manufacture (and to a lesser extent clay) are currently estimated, therefore direct comparison between our total clay and concrete reported emissions is not possible. More detail on our plans to calculate and disclose our scope 3 emissions can be found later in this Report.

Any change in product mix in our output between clay brick and concrete products could materially distort the comparability of our total reported scope 1 emissions year on year. Accordingly, we disclose the carbon emissions for our clay and concrete businesses separately providing much greater transparency on our carbon reduction progress.

It is important to recognise the amount of carbon we emit is directly related to the volume of product we manufacture.

Our key markets have historically exhibited a trend of cyclicality and as such it would not be meaningful to measure our performance solely on absolute emissions. We believe the most transparent way of reporting our carbon footprint is to separately report our greenhouse gas intensity ratio CO_2e (the carbon emitted per tonne of production output) for our clay and concrete products and that this will provide the most meaningful information from which to measure the reduction in our carbon emissions over time.

We recognise that carbon dioxide emissions are an inherent result of our manufacturing processes. The majority of our emissions are covered by the UK Emissions Trading Scheme (UKETS). The increasing cost of UKETS credits or a reduction in the number of freely allocated credits will increase our operating costs and by reducing our emissions we can deliver a reduction in these compliance costs.

In developing our sustainability framework and setting ambitious targets, we additionally identified what measures would be needed to achieve these; and have since been developing our implementation roadmap to ensure that we do – The Forterra Carbon Management Plan.

32%
committed reduction of our carbon intensity by 2030 relative to 2019

£200m
of investment in more efficient and greener manufacturing capacity over the next decade

	Scope 1 and 2	Scope 3*
Clay	268,953	7,727
Concrete	26,418	216,928

* Estimate not included within our reporting.

SUSTAINABILITY REPORT
PLANET CONTINUED

FORTERRA CARBON MANAGEMENT PLAN

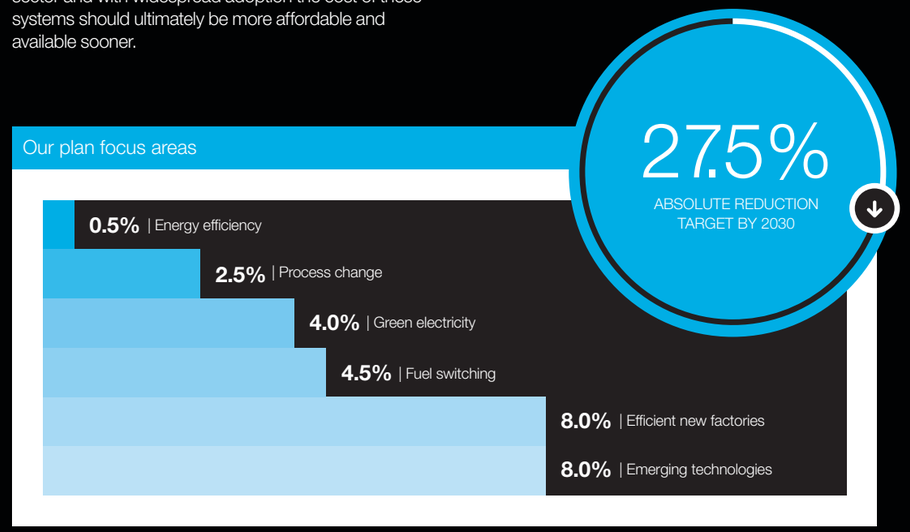
It is encouraging that there is already a global 'must do' attitude to carbon reduction and, as a result, some of the technologies we hoped would be technically feasible by 2030 are being implemented in other sectors even sooner. For example, carbon capture at scale has started to be implemented in the cement sector and with widespread adoption the cost of these systems should ultimately be more affordable and available sooner.

01

Efficient new factories

The capital replacement plan that is key to our decarbonisation efforts starts with our now operational new facility at Desford. Commissioned at the end of 2022, the state-of-the-art facility will produce up to 180 million bricks per annum with market leading efficiency and be 25% more carbon efficient than the factory it replaces.

Additional efficiency projects will follow and we are committed to delivering two further investment projects, both with strong sustainability credentials. The redevelopment of our Wilnecote brick factory is ongoing and will reduce the carbon footprint of each brick manufactured, and the construction of a brick slip manufacturing facility at our Accrington factory will allow us to bring a new, more sustainable product to market. Both projects form part of a 10-year investment pipeline totalling over £200m across both the clay and concrete businesses.



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02

Green power

7 AFFORDABLE AND CLEAN ENERGY

In 2020 we switched to purchasing 100% renewable electricity. Whilst this positive step reduced our scope 2 emissions to zero we always wanted to do more. For the UK to reach its net zero ambitions the electricity grid, which still relies upon significant gas and coal fired generation, needs to be decarbonised. Working with Lightsource bp, a global leader in the management and development of solar energy projects, we have committed to purchasing around 70% of our electricity requirement from a dedicated solar farm, exceeding 150 acres in size to be situated in Nottinghamshire. This commitment approximating to £50m over 15 years from 2025 will facilitate the delivery of 60 GWh of additional solar generation capacity to the UK, enough to power 17,000 average homes. This arrangement will provide us with secure renewable energy with price certainty for a 15-year period commencing in 2025. Construction of the solar farm is underway and we have agreed an option to take power from 2024, a year early.

Alongside this, we are investing in on-site renewable electricity generation at a number of our factories in order to generate 10% of our electricity requirement from 2025. Again, this adds incremental renewable energy generation capacity whilst also providing a low-cost electricity supply avoiding the sizeable transmission charges associated with having power delivered through the grid. Further progress was made in 2022 as we commenced installation of a rooftop solar array at our new Desford factory which will contribute a further 4% towards our target to be generating 10% of our own power by 2025.

03

Energy efficiency projects

We are always striving to make our factories more efficient through our company-wide 'SQCDP' (Safety, Quality, Cost, Delivery and People) programme, with many operational improvements helping us to become more energy efficient.

A project exemplifying this approach was in partnership with QIO, trialling kiln burner optimisation with artificial intelligence at our Measham factory, where, after a successful trial, the process is being implemented at our Kirton factory, with potential 5% gas consumption savings.

During 2022 a dedicated energy manager role was created with a focus given to efficiency of energy consumption in the business, acknowledging that even a 1% efficiency saving can have a material benefit in both the profitability and sustainability of the Group.

5%

potential gas consumption savings in our kilns through AI based on trials at our Measham factory

The Forterra Solar Farm
Construction is underway at the site of the Forterra Solar Farm in Tiln, Nottinghamshire.

SUSTAINABILITY REPORT
PLANET CONTINUED

04

Process change

"As much from less" – the goal of our quality department's project to ensure that we use as little raw material as possible whilst maintaining our high standards of quality. To ensure that each brick is fired properly our bricks either have perforations or a 'frog' to reduce the mass and make it easier for the gases which evolve during the firing process to escape from the 'body' of the brick. The size of the perforations varies from factory to factory and can become smaller as manufacturing equipment wears over time.

Our quality team have identified that at some sites the perforation size can be increased by as much as 6% – an average of 3% across the business would have contributed a c.4,000 tonne saving during 2022.

05

Fuel switching

Switching away from fossil fuels is crucial to our carbon reduction ambitions and we have started to achieve this in two areas:

Fleet fuel – transportation, including our heavy goods vehicles and other company vehicles including cars, are a contributor to our overall carbon emissions totalling 13,338 tonnes in 2022 representing 4.5% of our scope 1 emissions.

Our transport fleet has increased in size as we prepare to increase our despatches from the new Desford brick factory, as well as addressing limitations in the availability of sub-contract haulage driven by a shortage of drivers throughout the industry.

Increasing our fleet size does marginally increase our scope 1 emissions although this increase would be offset by a reduction in our scope 3 emissions.

We are continuing to invest in the latest, cleanest and most efficient vehicles. Of our fleet of distribution vehicles, 161 are the cleanest Euro VI vehicles and we would expect 100% of our fleet to achieve this standard by 2024, with the current supply chain pressures and associated long lead times for new vehicles the primary constraint to achieving this sooner.

We continue to invest in electric and low emission vehicles, with all of our new company cars restricted to CO_2 emissions under 73 CO_2/km, ensuring we are promoting the use of the cleanest low emission vehicles. During the year we have continued our roll-out of electric vehicle charging infrastructure across our facilities. We now have a total of 80 zero and ultra-low emission vehicles (ULEVs) in our car fleet representing 46.8% of the fleet, and of the new cars joining the fleet in 2022 all were either electric or hybrid.

Biomass at Kings Dyke – the manufacturing process at our Kings Dyke factory is unique in the UK due to both the Lower Oxford clay that the brick is produced from, and the Hoffman Kiln used to dry and fire it. Now fired using natural gas the Hoffman Kiln was designed to be fired using solid fuel, primarily coal, and consists of a number of interconnected chambers which are static and the fire then moves around the kiln. With this in mind we, have looked to sustainable biomass as an alternative fuel as it is a net zero carbon fuel and just as importantly it behaves in a similar manner to coal.

Results of the initial trials are promising and continue to develop into 2023 with a view to converting the entire factory to biomass if successful. Based on current production, if biomass replaces the use of natural gas across the site, this could deliver up to a 15,000 tonne saving in carbon emissions which is the equivalent of driving around the world over 100 times.

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06

Emerging technologies
Grid hydrogen

Hydrogen was initially identified as an emerging (future) technology in our carbon management plan and has as such been an important research focus. A project to understand how hydrogen performs when used as a fuel source in a brick kiln is a key first step in our utilisation of any future grid-based hydrogen and we have commenced trials on this basis. Initially we are looking at a 20% blend with the intention to move to 100% hydrogen trials in the future.

Differences in combustion, lower heat density, more moisture and heat transfer from the flame are all areas where firing with hydrogen will differ to natural gas. These differences could have dramatic impacts on both our processes as well as the final product produced; and extensive trials will be required to fully conclude on all of these areas. We believe our trials to be some of the first to take place in production rather than laboratory conditions.

Following a successful conclusion of the trial we will have confidence that we can replicate our current range of products from both an aesthetic and technical point of view and will have identified any upgrades or significant changes that are required to our kilns.

07

Emerging technologies
Carbon capture

Another emerging technology where development is moving at pace is carbon capture and storage, where we are engaging with a number of potential partners who are developing technologies; and like our hydrogen trials, we are willing to commit funding towards exploring technologies that could help us towards our target of reaching net zero by 2050. We should caution that at this stage many of the technologies remain at their formative stage, with mainstream deployment of carbon capture likely at least several years away. We accept that we need to devote time and resources to a number of technologies before finding one that will ultimately be both effective and economical.

The capture and storage of certain pollutants within the exhaust stream of our brick factories is nothing new as we have been capturing and storing hydrogen fluoride for over 20 years in abatement factories, often referred to as scrubbers inserted between our kiln and the exhaust stack. We are currently reviewing the options for installing similar equipment that will capture carbon dioxide so that we can either put it to some beneficial use such as carbon curing of concrete or sending it for long-term storage. Our biggest challenge is the make-up of our exhaust gases as we have a relatively low carbon content in the exhaust stream, which means that utilising current techniques would be costly both in capital and operational terms. We are, however, confident that with the technological leaps made in a short period since setting our ambitions, a viable solution is close.

15,000
tonne saving in carbon emissions with biomass at Kings Dyke

20%
hydrogen blend trials with intention to move to 100%

15

SUSTAINABILITY REPORT
PLANET CONTINUED

Streamlined energy and carbon reporting (SECR)
We have used the operational control approach to determine our organisational boundary for emissions purposes and calculated these emissions based on the UK Government's Environmental Reporting Guidelines (2019) and emission factors from the DEFRA 2022 Green House Gas (GHG) Conversion Factors for Company Reporting. Scope 2 emissions have been reported using both the location-based method of calculation and, to account for our use of renewable electricity through the purchase of REGOs, the market-based method for calculation. Our underlying energy use figure has been reported in GWh and includes fuel used in mobile plant, on-site generators, and company vehicles. All our facilities are covered by the scope of our ISO 50001 certification which we have held since 2015. This is a third party audited and certified scheme and has continual improvement at its core. We adopt a number of approaches to maximise energy efficiency; from LED lighting and the installation of variable speed drives on motors, through to the recycling of waste process heat from our kilns to power other areas of the plant.

	2022	2021	2020	2019
Scope 1 emissions (tonnes) (market-based)	**295,371**	280,381	198,921	299,679
Scope 2 emissions (tonnes) (market-based)	**–**	–	–	19,617
CO_2e intensity per tonne	**124.5**	117.5	115.3	123.4
Scope 1 emissions (tonnes) (location-based)	**295,371**	280,381	198,921	299,679
Scope 2 emissions (tonnes) (location-based)	**14,144**	15,576	13,263	19,617
CO_2e intensity per tonne	**130.5**	124.1	122.9	123.4
Total energy used GWh	**973.3**	952.8	698.7	956.3

Our approach to scope 3 emissions
Much of our reporting focuses on our scope 1 emissions, the direct emissions from our business or activities that are under our control. The bulk (over 95%) of our scope 3 emissions are generated by inputs to our concrete products businesses with cement being by far the largest contributor to this. It is estimated that the scope 3 emissions embodied within our cement purchases represent around 50% of our total scope 3 emissions.

As well as working with our cement suppliers (major global and UK-listed cement manufacturers including HeidelbergCement AG and Breedon plc) to reduce carbon in this respect, our 'Product' section later in this Report gives further details around our innovations in cement reduction and replacement.

Looking ahead, sustainability will form an even greater element of our supplier selection and accreditation process and in 2023 we have plans in place to fully analyse and subsequently disclose our scope 3 emissions. This will give both visibility and a benchmark on which to base future reduction strategies.

Engagement
We are proud of our progress and are keen to place our sustainability information in the public domain ensuring the highest levels of transparency as we engage with our stakeholders.

We are committed to actively engaging with a number of sustainability disclosure bodies and rating agencies including the Carbon Disclosure Project (CDP), MSCI and Sustainalytics. Sustainability reporting and disclosure is still in its infancy and we are keen to engage with relevant agencies to ensure our sustainability strategy is clearly understood. We are also seeking to improve the awareness of sustainability within our own business at an operational level and we recently ran our first Institute of Environmental Management and Assessment (IEMA) training course aimed at managers to improve their awareness of the many areas of sustainability.

Organisation	Rating
CDP	C
MSCI	AAA
Sustainalytics	18.9 – Low Risk

Contribution to ceramics decarbonisation award
In November 2022, the inaugural British Ceramic Confederation 'Delivering Net Zero' conference was held. The conference included recognition of Forterra's Head of Sustainability, David Manley, with a special recognition award for his contribution to ceramics decarbonisation. This recognition highlights both David's tireless work in this area over many years as well as our long-term commitment to the decarbonisation of the sector.

FORTERRA PLC
SUSTAINABILITY REPORT
2022

Air quality
We strive to minimise emissions of air pollutants created through our manufacturing and distribution operations, complying with legislation as a minimum standard. All our operations are subject to Environmental Permitting Regulations and must operate in accordance with a permit issued by either the Environment Agency or the local authority. Each permit has at least one section focusing on emissions to air, with the regulating authority carrying out inspections to ensure compliance. In addition, the majority of our brick manufacturing facilities are required to carry out annual monitoring on the exhaust from the kiln to demonstrate compliance with any emission limits set out in the permit. Our larger sites submit a return under the UK Pollutant Release and Transfer Register.

Our brick manufacturing facilities utilise modern technologies to capture and 'scrub' emissions before their release into the atmosphere.

Our Kings Dyke brick factory is located in an air quality management area, and as a requirement of our permit we have invested in, and operate, two ambient air quality monitoring stations. Since their installation in 2008 we have operated in accordance with our permits with no breaches of air quality limits.

Water management
Water is key to the manufacture of our products, whether to achieve the correct plasticity of a clay brick, or to hydrate cement to produce our range of concrete products. As water becomes an increasingly scarce resource, we must ensure that we are using it as efficiently as possible, and therefore we closely monitor our usage.

Since 2010 we have reduced our water consumption per tonne of output by 20% through investments at our highest consuming sites, implementing water recycling systems as part of their production processes. A good example of this is in rainwater harvesting schemes such as at our flagship Measham brick facility, resulting in a 91% reduction in mains water usage since 2011. We will continue to report on our mains water usage per tonne of production.

A number of our sites benefit from ground water abstraction licences which further reduces our reliance on mains water. Our water management programme extends to the discharge of both surface and process water from our sites, carried out under consent from either the Environment Agency or water authority as well as the dewatering of our quarries.

Waste management
As a business we recognise the value of our raw material resources. Our waste quantities are low (87,000 tonnes) relative to our production output (3.6%), with large volumes of process waste streams diverted and recycled for use in other products. For example, brick waste created at our Kings Dyke London Brick factory is crushed on-site and becomes a raw material for the neighbouring aggregate block plant, and our entire aircrete block waste is recycled in other products in the business.

As a responsible operator we comply with all waste management legislation and apply the waste hierarchy using segregation of wastes to ensure that the most appropriate disposal routes are utilised. Following recent amendments to our recycling partnership contract, we now divert all non-process waste from landfill, an achievement we look forward to continuing to honour in the future.

Biodiversity
Fragile habitats and associated biodiversity are at risk from climate change and deforestation across the globe. Within the UK, the Government has recognised our diverse range of natural landscapes and habitats, setting out a 25-year environmental plan focused on their protection and enhancement.

We are responsible for almost 2,000 acres of mineral bearing land and are therefore aware of our important role in supporting these national ambitions through the ongoing management, treatment, and final restoration of this land after these minerals have been exhausted. Our quarrying operations are covered by planning consents which include conditions for site restoration in accordance with the local mineral planning authority and taking into consideration local and wider environmental needs.

Depending on future use proposals, the quarry development will often lead to an improvement in the biodiversity value of the land involved, both during operation and when it moves into its restoration phase. The Kings Dyke nature reserve near Peterborough is an excellent example of how exceeding the requirements of the restoration plan has provided a local community asset and enabled a diverse range of habitats to thrive.

We have identified a number of indicators to provide a framework for consideration of land use and environmental change as a result of our quarrying activities, and we support the Council for Sustainable Business Biodiversity commitment.

QUEEN'S GREEN CANOPY TREE PLANTING

As part of the Queen's Green Canopy (QGC) earlier this year, Forterra established 'Jubilee Wood' with 150 trees planted on surplus land close to our Kirton Brickworks. This was followed with additional plantings to mark National Tree Week, with the help of students from Kneesall Primary's ECO group and local councillor Tim Wildgust.

The ecological benefits of the woodland will be significant in a number of ways. Tree planting is a simple but highly effective way to reduce air pollution, at the same time creating havens for wildlife and improving the respiratory health of the people living nearby.

150
trees planted on surplus land

SUSTAINABILITY REPORT
PRODUCT

OUR PRODUCT TARGETS

	Target	Progress
01	10% Group revenue from new and sustainable products (%)	
02	50% reduction in plastic packaging vs. 2019 baseline (tonnes)	

Product innovation

Our product innovation, and research and development programmes are centred on two key themes: meeting the changing needs of our customers in how they build, and supporting the UK's ambition to transition to a lower carbon economy. Product development is a key pillar in our carbon reduction initiatives and crucial to our efforts.

With an increasing attention on improvements in build efficiency and waste reduction, our primary focus has been around continuing research and development of masonry façade solutions alongside supporting the need to provide an increasing number of high-quality new homes.

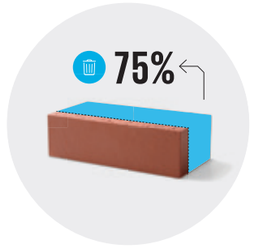
Our key objectives are to open new applications for our core product offer; clay facing bricks, where developments in construction technologies may have led to some changes in the structure of the market. Adapting our offer to take advantage of emerging trends has meant development of façade solutions such as structural brick faced precast systems, designed for high-speed on-site assembly that retain the aesthetic of brick and forms the structural element of a build, to Surebrick, a lightweight mechanically retained brick system, which meets all regulatory requirements for high-rise use.

These solutions have been developed specifically to meet the changing needs of construction and provide a brick aesthetic finish in an alternative manner where construction methodology has moved away from the traditional carbon intensive approach.

Both façade systems are reliant on using a brick slip or thin brick, solution, which provides the aesthetic finish, however, historically the aesthetic portion is cut from a whole brick to provide slips, leading to high levels of waste. Our investment in a slip manufacturing facility at our Accrington factory will allow manufacture of brick slips without the waste element, saving up to 75% of raw material and energy usage, vastly enhancing the sustainability credentials. As we continue to develop systems and solutions for this emerging area, we are looking to continually optimise our products and designs to use less raw material and energy, providing a more effective solution for our customer.

We are undertaking a number of initiatives with the goal of reducing the material content of our products. Developing lower mass traditional products not only makes them easier to handle and use on site, but will also lead to reduced vehicle journeys and the associated emissions through increasing the amount able to be carried on each lorry. Changes in building regulation also brings opportunity. The revision to 'Part-L' of the building regulation in 2022 has resulted in increased requirements for energy efficiency in new homes. Our reduced section T-Beams for our Jetfloor insulated floor system, not only reduces the amount of concrete in the floor but provides an improved insulation performance, helping our customers meet the more stringent requirements of Part-L.

BRICK VERSUS SLIP



Our investment in purpose-made brick slips will reduce raw material usage and energy by up to 75% vs. cutting a traditional brick

Many of our products are manufactured using concrete and more specifically cement as a binder. Globally, the production of cement is a key contributor to climate change, is the largest contributor to our scope 3 carbon emissions and is a key contributor to our overall carbon footprint. Our first step in reducing the carbon impact of our cement use has been to migrate as many of our products as possible to a CEMII cement product, a blend of cement and limestone which has 16% lower embodied CO_2 per tonne. Taking a more active approach and looking for alternative methods to reduce our impact, our material scientists are working as part of a consortium of industry participants, trade bodies and academic researchers to understand the viability of waste bricks as an alternative cementitious binder. Our development work has shown very promising results and there are opportunities to substitute cement for finely ground brick production waste products using this new technology. Additionally, we are undertaking a wide ranging assessment of our clay reserves and technologies to assess the best possible solution to meet wider demand for calcined clay as a cement substitute.

We continue to seek out opportunities to deliver innovation to the market and are targeting 10% of our revenues to be delivered from new and sustainable products by 2025. We continue to focus on offsite solutions and raw material developments as our key strategic direction, both being areas where we can clearly demonstrate significant positive impacts upon our carbon footprint.

Investment in product development and innovation is critical to our future success and we have previously communicated our intention to increase spend in this area, a process we have started to implement, as we suitably resource our business to dedicate additional time to our future state without having to compromise our current operational performance and customer service levels.

The clay brick: inherently sustainable

The history of the clay brick can be traced back for centuries, its versatility and longevity proven through countless historic buildings that are centuries old. Development of new technologies and improvements in efficiency have significantly reduced the energy intensity required during manufacture.

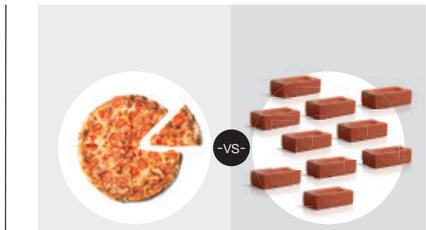
Typical buildings constructed from clay brick have lifetimes exceeding 150 years, the streets of the UK are lined with homes constructed in Victorian times. These robustly built homes are now highly sought after due to their well-proportioned interiors, and typically larger than average outside spaces. The clay brick construction alongside the availability of outside space has allowed extension and structural adaption of these buildings to modify and modernise them as needs have changed. The timeless beauty and longevity of these buildings is a continuous advert for clay brick construction, however times do change and on occasion brick buildings reach the end of their useful life and are demolished. The bricks themselves can be reclaimed and reused if in good condition, or alternatively be crushed and fed back into construction activity as an alternative raw material.

Our latest factories are significantly less carbon intensive than previous generation facilities, however, the carbon intensity of clay brick manufacture remains significant, due to kilns that are fired by natural gas and the carbon released from the clay during the firing process.

When considering the longevity of a clay brick building, the full lifecycle impact of the embodied carbon is incredibly low, alongside this, brick structures require little to no maintenance through their lives, whilst other comparable materials may require additional applications of protective coatings or surface treatments to enhance their lifetime.

SUSTAINABILITY REPORT
PRODUCT CONTINUED

As our climate changes, with more extremes of temperature, clay brick is well placed to construct buildings suitable for such a changing environment. The thermal mass properties of clay bricks naturally absorb heat, creating a heat buffer and helping prevent the inside of buildings overheating during the summer. During the colder months, bricks store heat through sunny days and slowly release this back as the temperature falls, helping to warm the building.



10 BRICKS VERSUS 1 TAKEAWAY PIZZA

	1x Pizza	10x Clay bricks
Carbon footprint	4.53kg	3.75kg
Lifespan	1 day	150 years
Carbon generated per day of product's life	4.53kg	0.005g (Single brick) 55g (All bricks in average house (8,000))

It is apparent that clay brick is inherently sustainable when its longevity is considered against that of alternative solutions. Our challenge is to refine and develop this versatile building product, further reducing the embodied carbon. With this focused effort, we are confident that the clay brick will continue to be the sustainable building material of choice long into the future.

Plastic packaging

The reduction of plastic packaging supplied with our products provides a huge opportunity to support the wider global environmental goal of the reduction of single use plastics, and the associated harmful impact upon natural habitats when these materials are not disposed of appropriately.

Our current packaging provides numerous benefits including ease of product identification, stability during transportation, and ensures our products are clean, dry, and fit for installation upon construction sites.

We already minimise plastic packaging on many of our product ranges, including our aggregate blocks and specific brick ranges, and have also significantly increased the recycled content of essential plastic strapping to ensure stability. However, as a business we have generally experienced overall increases in plastic packaging in the last 20 years, consistent with the wider trends in society across other everyday products.

Our targets in meeting this challenge are ambitious, with a commitment to reduce our total volume of plastic packaging by at least 50% by 2025, whilst also ensuring that the safety and quality credentials provided by our current packaging methods are not compromised. At present, at the majority of our brick factories, it is not possible to simply remove the plastic wrapping as the wrapping provides the pack of bricks with its integrity when transported.

Alternative packaging equipment has been installed at our Accrington facility during the year following successful trials. This 'belly banding' solution reduces plastic per pack by 38% and we will look to utilise a similar approach across the business.

976 tonnes
targeted annual saving of plastic per annum by 2025

=

FORTERRA PLC
SUSTAINABILITY REPORT
2022

Both the new factories at Desford and Wilnecote will be equipped with packaging solutions that will allow bricks to be despatched without conventional plastic wrapping, whilst still giving the option to do so where customers request this for safety reasons.

To ensure consistency in customers' supply chains, we recognise that this is a topic requiring full industry engagement and collaboration, and we are engaging with customers across all our key markets to ensure our solutions meet their needs. This is not without its challenges; generally our customers are supportive of our initiative, although significant behaviour change is needed in the construction industry as changes will be required in the way our products are stored and handled, with safety being of critical importance that cannot be compromised.

Pricing integrity and transparency

We recognise that in many of our product categories our markets are characterised by a small number of large businesses, operating nationally, and enjoying large market share positions. In order to ensure the highest standards of integrity we enforce a zero-tolerance approach to any anti-competitive activity.

All relevant managers and commercial employees are required to undertake annual online compliance training on both competition law and anti-bribery, with controls in place to record correspondence and communications with competitors.

The fines that can be levied on companies which are found to have breached competition law can reach 10% of annual turnover and companies can face damages claims from those wronged by anti-competitive actions. The risk of such fines, even if senior management were unaware of such behaviours, mean that compliance and monitoring obligations are taken extremely seriously.

Ethical and sustainable procurement

The procurement of third-party materials and services are critical to our value chain. In 2022 this expenditure totalled over £200m, including materials such as steel, insulation, cement, aggregates, pulverised fuel ash (PFA) and products used in our flooring solutions. Our environmental footprint is minimised through a focus on local sourcing.

In 2022, over 85% of our materials procurement (excluding capital items) was UK sourced, minimising environmental impacts of cross border transport logistics.

Our procurement management system is audited as part of our ISO 14001 and ISO 9001 accreditations. Compliance plays a key role within the system, covering over 1,400 suppliers' strict adherence with a range of governance topics including anti-slavery, bribery, competition law, data protection, and equal opportunities. We adopt the Ethical Trading Initiative code of practice to ensure that worker rights are protected as part of the supplier onboarding process, and this is continuously reviewed.

Larger suppliers are required to meet relevant ISO standards including ISO 9001, ISO 14001 and IS0 45001, or equivalent, for example, all timber procurement is through FSC accredited suppliers. Our health and safety team assists and develops suppliers' standards to help them improve their own safety procedures where necessary.

Sustainable sourcing

Local sourcing of raw materials isn't always possible and where we do need to transport materials longer distances, we seek to do this in the most sustainable way possible. We utilise the rail network to transport pulverised fuel ash (a key raw material which is a waste product used in manufacturing our Thermalite aircrete blocks) to our factory. Since 2015 we have transported over half a million tonnes of material by rail, removing over 5 million heavy goods vehicle miles from the UK road network whilst also reducing carbon emissions.

5.5k+
hours of face-to-face health and safety training time in 2022

CO2

5 million
heavy goods vehicle miles removed since 2015 with rail transport

SUSTAINABILITY REPORT
PEOPLE

OUR PEOPLE TARGETS

	Target	Progress
01	Zero harm (No.)	
02	5% of employees in earn & learn positions (%)	

Health, Safety and Wellbeing

The continuous improvement of our health and safety performance remains our number one priority, working towards our goal of zero harm. We recognise that our workforce is our greatest asset, and we aim to provide a working environment that is free of accidents and ill health. Our four-year zero harm strategy is designed to take us on a journey to an 'interdependent' safety culture where all colleagues' mantra is 'I don't want anyone to get hurt'.

Culture

In 2022 we continued this work with the core focus on health and safety behaviours and culture. We partnered with external training provider Juice Learning to deliver bespoke training for every colleague, delivered in two phases focused around the meaning of our Golden Rules to the individual and the choices we all make when performing work and their implications to health, safety and wellbeing for both individuals and those working with them.

To ensure that leaders of people were fully aware of their roles in relation to health and safety, we reviewed and issued a specific accountabilities document to the business and ensured that all leaders were provided with a briefing on its importance to them and the business for maintaining health and safety standards. It also set out the link between legislation we must all follow, our Golden Rules and Safety Matrix and the job descriptions we all sign up to.

This work was cemented as part of the second phase of training and will continue to be a focus going forward.

Our 2023 health and safety messaging will continue to focus heavily on our Golden Rules and Zero Harm, with the key topics being supervisory management of health and safety standards and colleagues taking time to stop, not rush and cut corners.

Safety

We maintained our certification to ISO 45001 occupational health and safety management system standard. All our facilities were internally audited to this standard and seven facilities plus central systems were externally audited. We placed a clear focus on action management to improve our demonstrable compliance resulting in reduced overdue compliance actions by 75% in the year.

Our Lost Time Incident Frequency Rate (LTIFR) in 2022 showed a slight improvement, running at 3.79 incidents for every million man-hour worked, compared to 3.98 in 2021. Of the 29 separate business areas monitored, 20 were Lost Time Incident (LTI) free during 2022, seven have been LTI free for over five years and three for over 10 years. Our lost time incident severity rate (number of days lost per lost time incident) also showed a small decrease compared to 2021 (76 versus 93) and has run at a consistently low level for the last two years.

We continued to provide a range of health and safety related training, with key highlights within the year being:

- Two phases of behavioural health and safety training conducted, the equivalent of over 5,500 hours of face-to-face training time;
- Running two in-house National Examining Board for Occupational Safety and Health (NEBOSH) Certificate courses with nine managers gaining the qualification bringing the total number qualified in our business to 75;
- Two Institute of Occupational Safety and Health Managing Safely courses run; and
- Our colleagues continued to be provided with training, specifically the Institute of Occupational Safety and Health (IOSH) working safely course alongside the traditional risk assessment and standard operating procedure training.

FORTERRA PLC
SUSTAINABILITY REPORT
2022

Recognition at the British Ceramic Confederation Pledge health and safety awards.

Health and wellbeing

The business undertook a major review of its occupational health support services in 2022 to ensure that we had a fit for purpose offering for colleagues and managers alike. One of the outputs from this was a partnership with FitBack Physiotherapy Services, who provide proactive support to deal with musculo-skeletal issues before they result in significant pain or absence from the workplace. We have three factories where clinics are held at the premises on a weekly basis for colleagues to refer into, with remaining sites utilising a network of clinics. We hope this will help reduce ill-health and absence across the business.

Following the significant effort of 2021 in training 57 colleagues to be mental health first aiders, we continued our promotion on the importance of looking after our mental health. We updated our policies on health and wellbeing and introduced a mental health and wellbeing risk assessment for the Group that sets out the risks and control measures we have in place to protect the mental health of all colleagues. A number of colleagues also took their learning around mental health to the next level, completing the TQUK Level 2 Certificate in Mental Health Awareness.

One output of our improved focus on mental health and better communication of resources available to support colleagues has been an increase in utilisation of our employee assistance programme. In 2018 utilisation was at 2.5% of the workforce and has been steadily improving, reaching 10.5% in 2022. This means more colleagues have reached for proactive support than ever before.

British Ceramic Confederation (BCC) Pledge health and safety awards

As in previous years, Forterra submitted best practice entries into the BCC Pledge awards. In 2022 we received two individual recognition awards, one emerging talent award, five open category awards and two awards in conjunction with contractors. The combined entries were reviewed and we received the BCC Pledge award of excellence for 2022, in recognition of our impressive efforts on health and safety across the Group, which is the highest award from the event.

Equality, diversity and inclusion

Our commitment to developing a more diverse, equal and inclusive culture remained a key focus during the year, as we continue to recognise the benefits a diverse workforce brings to our business. Further information about diversity at Board level can be found in our Annual Report (Chairman's Statement – page 7).

Whilst our industry continues to be male dominated, attracting female candidates into the sector remained a challenge but we were successful in appointing a number of females to key roles; these included our Marketing Director, a Factory Manager, Production Shift Manager, and various other operational roles. As part of our 2022 graduate programme, 67% of the graduates recruited were female, helping us to increase the talent pipeline.

To ensure talent management remains high on the people agenda, in 2022 we launched our Forterra Talent Board. Coupled with this we did a deeper dive into our succession planning process and launched a new automated performance appraisal system aimed at all employees ('PDP for all') to identify training needs, generate career conversations and to drive high performing teams across the business.

In 2022 we also kick-started a welfare improvement project to upgrade welfare and rest facilities across the business, making them more gender inclusive. The ongoing improvements will continue throughout 2023 into 2024.

The charts overleaf show our headline gender diversity statistics. Currently, 11% of our total workforce were female, with 18% of management positions (defined as direct reports to Executive Committee members) filled by females. Gender Pay reporting is detailed within our Annual Report (Annual Report on Remuneration – page 144).

SUSTAINABILITY REPORT
PEOPLE CONTINUED

Human and labour rights

We understand our responsibility to help eliminate slavery and human trafficking, both in our business and wider supply chain. We undertake our responsibilities under the Modern Slavery and Human Rights acts, including clear Company policies and relevant declarations. Our anti-slavery policy specifically covers the role of suppliers in meeting the same standards which we set ourselves.

The Board values and appreciates the contribution made by all employees at every level and is committed to protecting and respecting human rights. Each employee is treated fairly and equally and the Company has measures in place to ensure that the Group is free from discrimination. Throughout the Group there is a zero-tolerance approach to any form of harassment or bullying, forced or involuntary labour, and child labour in any form. The Board is invested in the development of employees and has put in place measures to protect both their physical and mental wellbeing. The Group embeds its commitments to the protection of human rights through its Anti-Slavery and Human Trafficking Policy.

We are proud to be an accredited member of the Living Wage Foundation, with a firm belief that a hard day's work deserves a fair day's pay.

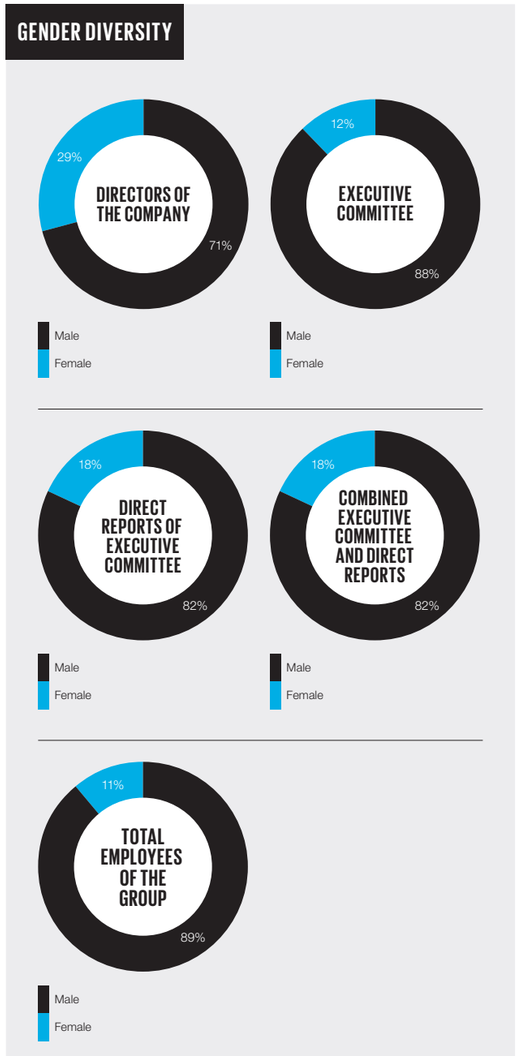
Our commitment to pay the real living wage to all employees is unwavering and being a recognised Living Wage employer, will help us attract and retain employees.

Data protection and privacy

The public is more aware than ever of the role businesses play in their lives through targeted use of our personal data, and all businesses are expected to act in accordance with a higher standard of transparency.

The protection and privacy of our employees', customers' and suppliers' data is of paramount importance and we fully recognise the increased risk to businesses across the world from cyber attacks using ever sophisticated means. As part of our ongoing commitment to information security, we have successfully obtained ISO 27001 accreditation via independent external audit. A key component of maintaining this international standard is the demonstration of continuous improvement and we have continued to invest in this area throughout 2022. This respect for others' data extends to using this information only for reasons of which they explicitly agree, as laid out within the General Data Protection Regulations (GDPR).

GENDER DIVERSITY



FORTERRA 'WORKS TO WHEELS' SCHEME

Following the shortage of qualified, skilled HGV drivers in the external labour market during 2021, we successfully launched our internal 'Works to Wheels' campaign. Aimed at our existing employees we have trained seven additional drivers. In addition we have a 'waiting pool' of up to 14 drivers which will allow us to meet the changing needs of our customers, as well as reacting quickly to changes in the labour market in the future.

7

additional HGV drivers trained to meet changing needs of our customers

People development

During the year we launched three Forterra Leadership Development Programmes. Over 3,200 training hours have been dedicated to these so far.

Level 1	Leadership Development Programme
Level 2	Essential Leadership Development Programme
Level 3	Advanced Leadership Development Programme

The programmes focus on experiential learning giving leaders practical tools to be more engaging, and inclusive leaders as well as driving change and creating high performing teams.

Employee experience

In 2022 we streamlined our onboarding process to provide a smooth transition for new recruits into the Forterra family. As well as providing a structured induction programme over several weeks, we launched our welcome pack which all new recruits receive within a couple weeks of joining.

The Employee Forum continued to run during the year. Attending the Employee Forum meetings were CEO; Stephen Harrison, HR Director; Shahbaz Idriss, and Non-Executive Director; Martin Sutherland who provided feedback to the Board.

Our employee engagement survey was run in September 2022 with improved participation rates versus 2021. Similar themes arose compared to the previous year, relating to employee recognition and employee development and we continue to strive for improvement in these areas. A key example is our 2022 focus on leadership development, designed to equip our leaders with the skills to have better and more meaningful conversations within their teams and further facilitate employee recognition and development as a result.

Responses to questions centred around health and safety remained positive for a second consecutive year, reaffirming that employees understand our Golden Rules, feel safe at work and that Forterra lives by the core value of 'Safety First'.

To further support our corporate charity Mind, a £1 donation was made on behalf of Forterra for each employee who participated in the survey.

Local community and charity engagement

While our products help to shape the built environment, we are also aware that we shape the communities close to our factories – the towns and villages where many of our employees live.

SUSTAINABILITY REPORT
PEOPLE CONTINUED

The Forterra Family Fun Day held at our Kirton site.

It's important to us that these communities are able to thrive, and it is with this objective in mind that we established the Forterra Community Fund at the beginning of 2022. The fund provides a clear structure and application process that enables us to support local charities, clubs and organisations from within these communities, and beyond. Each month, the Community Fund panel meets to assess applications and apportion donations.

Also in 2022, we selected the mental health charity Mind as our corporate charity following a poll of employees. In addition to the Company and employees organising and participating in a range of fundraising activities for Mind, this partnership helps to raise awareness and promote understanding of mental health in the workplace, thereby providing a mutual benefit to both parties.

Fundraising events

We have a calendar of events that we share with employees to encourage participation in fundraising activities, ranging from a raffle to win a day's holiday to sweepstakes for the football world cup.

In July, we held a Family Fun Day at our Kirton site. Almost 500 employees and their families attended the event to participate in a variety of activities, from a circus workshop and face-painting for children to an 'It's a Knockout' competition for the adults, plus stalls, bouncy castles, raffles and more. In total, the event raised over £3,000 for Mind.

Forterra community fund donations

Since launching the Community Fund, we have supported numerous local clubs, organisations and charities with donations. Here are just a few examples:

Herlington Pre-School Fruit and Vegetable Garden

Located close to our Kings Dyke factory in Whittlesey, Herlington Primary has benefited from a donation of £1,000 towards creating fruit and vegetable planters where children can plant and tend a range of fruit and vegetables before harvesting them for snacks and for donation to members of the local community in need.

Families First Free Play Facility

The Forterra Community Fund has donated £1,000 to Families First, a Peterborough Community Interest Company that facilitates free play services for local children and families. The donation funded the running costs of 10 sessions, providing activities and a hot meal for children aged five to 12.

Nene Valley Rotary Club

A donation of £1,000 was made to Nene Valley Rotary Club for its Lone Parents Holiday Scheme, which enables children and lone parents to enjoy a fun day out.

Our donation helped to fund a trip to Hamerton Zoological Garden, near Huntingdon, for 37 children and eight support staff from Blackthorne Growing Together Community Nursery in Northampton.

Measham Community First Aid Responders

The Forterra Community Fund provided a donation to the Measham Community First Aid Responders (MCFR) so they could buy a new kit bag to carry life-saving equipment. Founded in 2009 by a group that includes two long-serving Red Bank employees, the MFCR is a team of trained volunteers who provide a vital emergency service to their local community.

Our community work extends to supporting the next generation of workers. By getting behind the Government's careers strategy, we are working to plug the skills gaps by forging links between education and industry and helping young people to make their first step onto the construction industry ladder.

In 2022, we appointed seven further education colleges as Forterra Construction Hubs. The colleges will benefit from a wide range of support over the two years of their Construction Hub status, including donations of bricks, tutor resources, and enrichment workshops, focusing on mental health and wellbeing.

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SUSTAINABILITY REPORT
OUR REPORTING DETAIL

Group sustainability reporting

The following table covers our wider sustainability metrics, which are aligned where possible to the SASB disclosure for construction materials. We will continue to review this data suite on an ongoing basis for future reporting periods.

Targets						
Pillar	Topic	Metric	2022	2021	2020	2019
Planet	Group CO_2e emissions	Tonnes	**295,371**	280,381	198,921	319,296
Planet	Group CO_2e emissions	Kg CO_2e/tonne	**124.5**	117.5	115.3	123.4
Planet	Clay products CO_2e emissions	Kg CO_2e/tonne	**244.9**	237.3	237.0	256.0
Planet	Concrete products CO_2e emissions	Kg CO_2e/tonne	**20.7**	19.9	21.4	20.9
Planet	Electricity sourced from on-site renewables	%	**–**	–	–	–
Planet	Electricity from renewable sources	%	**100**	100	100	–
Planet	Waste to landfill	Kg/tonne	**0.01**	0.02	0.03	0.16
Product	New product index (revenue from new products)	% of revenue	**3.7**	1.1	1.2	0.6
Product	Plastic packaging consumed	Tonnes	**1,588**	1,606	1,216	1,751
Product	Plastic packaging per tonne of product	Kg/tonne	**0.74**	0.74	0.82	0.79
People	Health and safety – Lost time incident frequency rate (LTIFR)	No. of accidents per million-man hours worked	**3.79**	3.98	2.52	7.35
People	Percentage of employees in 'earn & learn' positions	%	**3.6**	3.74	3.50	3.20

Additional disclosure						
Pillar	Topic	Metric	2022	2021	2020	2019
Planet	Carbon emissions (scope 1 and 2)	Tonnes	**295,371**	280,381	198,921	319,296
Planet	Carbon emissions (scope 1)	Tonnes	**295,371**	280,381	198,921	299,679
Planet	Ultra-low emission vehicles (cars)	% of fleet	**47**	31	17	n/a
Planet	Delivery fleet efficiency	Mpg	**8.04**	7.98	7.62	7.51
Planet	Mains water (absolute)	m^3	**264,200**	309,216	265,508	287,101
Planet	Mains water (litres/tonne)	Litres/tonne	**111**	130	154	111
Planet	Air quality – SO_2 emissions	Tonnes	**5,877**	3,720	3,273	5,783
Planet	Waste generated	Tonnes	**86,755**	100,611	77,897	107,609
Planet	Waste recycled	%	**99.97**	99.96	99.20	99.10
Planet	Energy consumption (absolute)	MWh	**973,315**	952,788	698,655	956,266
Planet	Energy consumption (kWh/tonne)	kWh/tonne	**410**	399	405	369
Planet	Percentage from grid electricity	%	**100**	100	100	100
Planet	Hazardous waste generated	Tonnes	**265**	630	65	88
Product	Output clay products	Tonnes	**1,092,508**	1,071,303	751,188	1,129,173
Product	Output concrete products	Tonnes	**1,273,729**	1,314,083	974,713	1,459,242
People	Apprentices	No.	**27**	48	26	31
People	Graduates	No.	**7**	8	6	7
People	Charitable contributions	£	**140,985**	25,592	48,040	41,370

SUSTAINABILITY REPORT
CLIMATE-RELATED RISKS AND GOVERNANCE

Task Force on Climate-Related Financial Disclosures

Climate-Related Financial Disclosures

The Task Force on Climate-Related Financial Disclosures (TCFD) has developed a suite of consistent climate-related financial disclosures that are useful to investors, lenders and other stakeholders in understanding material climate-related risks facing businesses. TCFD compliance is mandatory for UK premium listed companies, including Forterra, and we are pleased to be disclosing in line with this, including scenario analysis highlighting how different increases in global temperatures could impact on our business.

The Task Force recommends that these climate-related financial disclosures are provided in public annual filings and as such we have provided a comprehensive Sustainability Report covering the topics specified by TCFD along with others across the wider environment, social and governance (ESG) field.

The Task Force structured its recommendations around four thematic areas that represent core elements of how organisations like ours operate:

- Governance;
- Strategy;
- Risk management; and
- Metrics and targets.

The Group can state that in accordance with the Listing Rule 9.8.6 R, our Annual Report and Accounts include climate-related financial disclosures consistent with the TCFD recommendations.

Governance

Governance and oversight responsibility around climate-related risks and opportunities ultimately sits with the Board. The Board's Risk and Sustainability Committee is responsible for oversight of the Group's sustainability approach and includes the following within its terms of reference:

a. Defining the level of the Group's ambitions with regard to reducing its environmental impact and addressing climate risk;
b. Overseeing the development of the Group's sustainability policies, covering both environmental and wider social (people) matters;
c. Setting challenging environmental targets in order to meet the Group's goals and monitoring progress against these;
d. Monitor the Group's reporting under TCFD, Sustainable Accounting Standards Board (SASB) and other protocols as appropriate; and
e. Ensuring that sustainability policy still satisfies its desired outcomes and evaluating management's performance in implementing policy and achievement against the targets set.

Strategy

We have a clear strategy to grow our business and create shareholder value whilst at the same time reducing our impact on the environment. Our strategy recognises that sustainability is critical in ensuring our longevity as a business. Our long-held strategic priorities sit hand-in-hand with our goal of reducing our impact on the environment. Increased use of modern methods of manufacturing improve efficiency, reducing both energy use and waste, reducing not only our costs but the impact we have on the environment. We have embedded challenging sustainability targets within our strategy (for more information please see our targets on page 9).

We have described in detail on pages 31 to 35 the key climate-related risks that may impact upon our business in the future. We also highlight the climate-related opportunities that may present themselves and where, if we are able to adapt quickly enough, we may be able to gain competitive advantage.

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SUSTAINABILITY REPORT
SCENARIO ANALYSIS

Methodology

We have undertaken a scenario analysis exercise to better understand the possible range of risks and opportunities our business could face under different future climate forecasts. The approach consisted of two stages, the first being a qualitative analysis to identify and assess the likely risks, and the second including quantitative modelling. In line with TCFD recommendations, we examined three scenarios (+1.5ºC, +2.0ºC, +4.0ºC above pre-industrialised levels by 2100) in order to capture the widest range of plausible impacts on our business. Both qualitative and quantitative analyses included a thorough assessment of transition and physical risks, and were modelled around the widely recognised Representative Concentration Pathways (RCPs) and Shared Socio-economic Pathways (SSPs).

During the qualitative phase, granular assumptions about the policy (Government), built environment, technological, and physical changes associated with each warming pathway were examined by a working group comprised of the respective heads of relevant business functions (Strategy, Operations, Finance, Sustainability, Marketing). The risks and opportunities identified in the qualitative phase were then transferred to the quantitative modelling in order to assess the scale of their potential impact.

The quantitative modelling was undertaken with support from a specialist corporate climate modelling consultancy, and interrogated the warming pathways, modelling impacts across four categories: Operations, Supply Chain, Demand, and Physical Effects. The outputs of this quantitative process allow us to better understand the relative impacts and opportunities arising from climate change, and a shift to a lower carbon macroeconomic model.

A note on warming pathways

We have used the Representative Concentration Pathways (RCPs) as our framework for modelling different emissions pathways and their associated impact on the climate. To explore the associated market and customer trends underpinning our commercial resilience, we have also included a view of different socioeconomic futures (known as the Shared Socioeconomic Pathways, SSPs).

Middle of the road ~ 2°C warming

The 2°C warming scenario is considered the most likely scenario, and assumes the UK remains on its current path to decarbonisation, broadly meeting its stated policy goals, with a range of adherence to targets by other nations. In specific terms, this means the UK achieves net zero by 2050 and meets its other environmental industrial strategy aims. The scenario assumes some demand-led growth in low carbon masonry products, driven by carbon prices inflating the cost of emissions-heavy products.

Policy: The UK integrates product carbon labelling across sectors in the near-term, although these labels do not become mandatory until the medium-term. The UK phases out coal usage completely by the mid 2020s and it establishes its first net zero industrial cluster by 2040. Building regulations stipulate that public buildings and infrastructure must meet both embodied and whole life carbon targets.

Built environment: Building designs become more energy efficient, helping to drive down emissions and heating costs. Demand for high thermal mass products such as bricks and blocks continues to grow accordingly. Renovation and retrofitting increase in importance as growth drivers in the medium-term, especially as a response to green building regulations and rising electricity prices. As buildings become more thermally efficient, the component of embodied emissions from materials in the whole-life carbon footprint of buildings increases. This helps to drive steady demand for low carbon products and sustainable alternatives, with potential pricing premiums for the lowest emissions products.

Technology: The carbon intensity of the electricity grid is assumed to hit current targets, and is modelled on a linear basis to 2050. Within the building products sector, landfilled pulverised fuel ash (PFA) is being utilised as coal plants begin to shut down and in the long-term, the UK's Government support package directs funds towards carbon capture, utilisation and storage (CCUS) technology, CCUS-enabled 'blue' hydrogen, and electrolytic 'green' hydrogen. Carbon-cured concrete and lighter bricks become increasingly common.

Physical: Physical impacts of climate change appear gradually over the period, though effects on the UK are relatively minor to 2050. These effects include having eight days per month above 25°C in summer months. Damage to UK non-residential property is expected to increase by 26% and flooding damage to facilities in UK coastal regions is expected to increase by 48%.

SUSTAINABILITY REPORT
SCENARIO ANALYSIS CONTINUED

Factors	SSP1 – Steady path to sustainability	SSP2 – Middle of the road	SSP5 – Fossil-fuelled global growth
RCP	2.6	3.4	8.5
SSP	1	2	5
Temperature rise	1.5ºC	2-2.4ºC	4ºC
Likelihood	Low	High	Medium
Societal response	Proactive, Orderly	Proactive, Disorderly	Reactive
Carbon price	2030: £150/tCO_2e 2050: £400/tCO_2e	2030: £100/tCO_2e 2050: £300/tCO_2e	2030: £70/tCO_2e 2050: £80/tCO_2e
Share of free UK ETS allowances	2030: 15%, 2050: 0%	2030: 20%, 2050: 0%	2030: 35%, 2050: 10%
Grid intensity/ Energy mix	Directed away from fossil fuels, towards efficiency and renewables	Some investment in renewables but continued reliance on fossil fuels	Directed towards fossil fuels; alternative sources not actively pursued

Steady path to sustainability ~ 1.5°C warming

The 1.5ºC pathway assumes significant proactive public and policy support for climate action, and a broadly unified global response. It assumes a wide range of factors including stronger regulatory interventions; enabling and disrupting technologies emerging sooner; and demand-led effects being more material. Rather than a predictive exercise in modelling, the scenario allows us to examine the various impacts of a faster shift towards addressing climate change.

Fossil-fuelled global growth ~ 4°C warming

The 4ºC warming scenario assumes that the global growth continues to be driven by fossil fuels, with limited changes to current economic models. Regulatory interventions are delayed or absent, with a broad range of achievement of national decarbonisation targets. Towards 2050, the effects of climate change become readily apparent to electorates, and rapid reactive change is effected late in the period. The pathway has limited impact on Forterra's near and medium-term operations, with significant impact in the long-term.

Implications for products (under 2°C – exaggerated under 1.5°C and delayed under 4°C)

- Bricks and blocks that are manufactured at a lower carbon intensity are likely to gain popularity
- Environmental product declarations (EPDs) and lifecycle assessments are likely to become the norm as product labels become mandatory
- Products that are geared toward refurbishment are likely to gain popularity
- Products with strong thermal characteristics are likely to gain popularity as rising energy costs increase the drive for better insulation
- Production facilities that are close to CCUS cluster zones, or that have hydrogen as part of their decarbonisation plans will likely benefit from lower costs as carbon prices increase

Resilience of our strategy

The scenario analysis we have undertaken has assisted in better understanding the risks and opportunities across a broad range of climate scenarios.

We would likely be subject to transition risks in a 1.5°C and 2°C warming scenario, which, if left unmitigated, would likely lead to potentially higher operational costs and lower revenues. This is especially true if demand for low carbon products rises, a government penalty is implemented on high-carbon products, competitors are better able to access low carbon sources of energy and carbon costs rise. These financial impacts would be higher in a 1.5°C compared to a 2°C scenario as public and policy support for climate mitigation is assumed to be stronger. In order to avoid these risks, our strategy includes reducing the carbon intensity of our products and factories, as demonstrated by our targets (on page 9), and actively pursuing the opportunities outlined within this TCFD statement.

We would assume more physical risks in a 4°C warming scenario, resulting in increased cost from operational disruption. However, the majority of our factories are at low risks of extreme weather events such as flooding and so the overall financial impact of these risks is considered manageable.

Our strategy will continue to respond to evolving climate risk projections, with established procedures in place to identify and escalate climate-related risk as described on pages 4 and 28.

FORTERRA PLC
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SUSTAINABILITY REPORT
RISK MANAGEMENT

Risk Management

Our wider risk management protocols are explained in detail within the risk section of our Annual Report (Risk Management section – page 76).

Climate-related risks are captured within our existing risk management process. As part of the work originally undertaken in 2021, we have amended our risk scanning horizon to allow the capture of longer-term climate-related risks which may not have an immediately measurable financial impact. In identifying climate-related risks, in accordance with the recommendations of TCFD, we have identified both the transitional risks associated with adapting our business to a lower carbon economy, along with both the longer-term acute risks associated with increasing severe weather events and the physical risks of long-term climate change such as sea level rise. Our scenario based analysis considers both risks and opportunities as well as the different time horizons over which they may impact.

Key

Short: 2021 – 2024
Mid: 2025 – 2034
Long: 2035 – 2050

R Risk
O Opportunity

				Scenarios		
Risk	Potential impact	Possible mitigation/action		1.5°C	2°C	4°C
Transitional Risk						
Policy and legal						
R	Enhanced or changing reporting obligations	Increased costs due to changes in scope and detail required as third parties verify our emissions and compliance	Continue to operate above the levels demanded by regulators and ensure third party verification	Short	Mid	Long
R	New or changing legislation that may impact our existing products; potential for mandatory embodied carbon limits	Loss of market share if we fail to keep pace with changes, movements in architectural trends and difficulty in selling higher carbon products to customers with regulatory constraints; early closure of existing plants due to changes in legislation	Continue to pre-empt potential changes and make reductions in our emissions. Invest in improving carbon efficiency of production, enter partnerships for carbon capture and storage, and use of renewable energy. Communicate actions clearly to stakeholders. Undertake lifecycle assessments to provide evidence of longevity and reusability reducing embodied carbon over time	Short	Mid	Long
R	Exposure to litigation in relation to our past activities	Financial and reputation damage to the business	Continue to operate above the levels demanded by regulators	Long	Long	Long
R	Increased prices of carbon credits or reductions in the amount of 'free' allowances	Rising operational costs; reduced competitiveness against lower carbon products	Invest in improving carbon efficiency of production, partnerships for carbon capture and storage, and use of renewable energy	Short	Mid	Long
R	Limitations on availability of suitable fuels	Inability to source sufficient lower emission fuels to continue our manufacturing processes	Seeking to reduce our reliance on fossil fuels by procuring green electricity through long-term supply contracts and also reducing our gas usage by improving efficiency and utilising hydrogen	n/a	Short	Mid
R	Limitations on availability of suitable raw materials	Increasing costs of materials such as PFA; increasing cost of alternative raw materials where demand increases	Establish alternative PFA supply chains; source PFA alternatives and innovate product recipes	Short	Short	Short

SUSTAINABILITY REPORT
RISK MANAGEMENT CONTINUED

	Risk	Potential impact	Possible mitigation/action	Scenarios 1.5°C	2°C	4°C
Transitional Risk (continued)						
	Market					
	As society continues to recognise the importance of sustainability and the risks that climate change presents, there is an expectation of a trend towards greener processes and products. The risk of failing to make changes at the expected rate can be mitigated by effectively making a case for the sustainability credentials of our existing products, whilst at the same time investing to reduce the environmental footprint of our products and supply chains, and adding further greener products to our range through innovation.					
R	Customers substitute our products with greener alternatives, should they exist	Reduced demand for our existing product range and a consequential closure of existing facilities	Focus on effective emissions reduction taking advantage of new market opportunities driven by demand for lower carbon products	Mid	Mid	Long
R	We are ineffective when investing in new technology; either in terms of achieving the desired outputs or overspending in the process	Excessive capital expenditure may be required where our investment is not right first time	Ensuring that our efforts to mitigate climate-related risks are well resourced; especially in respect of providing the highest level of management support	Short	Mid	Long
R O	Broader technology innovation such as carbon capture, utilisation and storage (CCUS) and Hydrogen usage do not progress swiftly enough	Forterra unable to reach long-term emission reduction targets; loss of carbon-competitiveness to other building products	Maintain and extend approach to piloting transformational technologies in the manufacture of building products	n/a	Mid	Mid
R	Industrial cluster zones (net zero industrial hubs whereby all industries in a region collectively reduce their carbon)	Forterra sites excluded from cluster zones; rising costs; reduced competitiveness	Source clay resources near clusters or other low carbon heat sources; invest in decarbonising current products or alternative products	Short	Long	Long
O	Thermal mass (the ability of a material to absorb, store and release heat) recognition	Architectural trends; increased demand for products; increased popularity with customers needing to reduce operational carbon emissions of buildings	Ensure thermal properties of masonry products are well communicated; clearly demonstrate energy cost savings for standard homes	Short	Mid	Mid
O	CCUS research	Potential for increased carbon-competitiveness; increased access to capital; increased ability to react to demand for low carbon product	Establish partnerships and pilot schemes	Mid	Mid	Long

FORTERRA PLC
SUSTAINABILITY REPORT
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	Risk	Potential impact	Possible mitigation/action	Scenarios 1.5°C	2°C	4°C
Transitional Risk (continued)						
	Technology					
	As greener technologies emerge or existing technologies evolve we want to ensure we are in a position where we can use the latest technologies to reduce climate-related risks and make these changes effectively, something we can mitigate by continuing to engage with technology innovators and how they can help our business in its sustainability goals.					
R	Changing customer behaviour and additional scrutiny of higher carbon products	Reduced demand for some or all of our products if new products cause the desirability of masonry homes to decrease	Continue selling products until demand decreases; invest in sustainable technologies, energy or alternative product ranges	Short	Mid	Long
R	Changes in our supply chain	Operational costs increase as a result of scarce raw materials, increased energy costs or increased taxation; increasing the attractiveness of alternatives	Effectively engage with all stakeholders, specifically within the supply chain, continuing to invest where new and innovative raw material solutions can be utilised	Mid	Mid	Mid
R	Uncertainty in our markets and fears of economic uncertainty damaging the housing market	Changes in our revenue mix could impact profitability; our reserves of raw materials, our plant and machinery or facilities could become less valuable	Effectively making a case for the sustainability credentials of our existing products whilst ensuring we innovate in line with changing market trends and expectations	Mid	Mid	Long
R O	Prioritisation of energy efficiency over additional space in home improvement market	Core product offering becomes more difficult to sell; new products focusing on thermal properties are required to meet demand	Focus on thermal property of products should energy efficiency gain more popularity/regulatory emphasis	Mid	Long	Long
R O	Increased ESG weighting from investors	Potentially reduced access to capital	Ensure Forterra's ESG disclosures and decarbonisation plan are well communicated to investors	Short	Mid	Long
R O	Emergence of eco-brick market	Increased demand for eco products; pricing premiums for low carbon products; new revenue streams from new markets	Invest in improving carbon efficiency of production, partnerships for carbon capture and carbon curing, and use of renewable energy	Mid	n/a	n/a

SUSTAINABILITY REPORT
RISK MANAGEMENT CONTINUED

	Risk	Potential impact	Possible mitigation/action	Scenarios 1.5°C	2°C	4°C
Transitional Risk (continued)						
Reputation						
	We have developed the Forterra brand in recent years and possess a collection of product specific brands that are long established and well regarded. There is an opportunity to further strengthen these brands with a sustainability focus however if we fail to do so the reputational cost could be significant. This can be achieved through effective action on climate-related matters and the increased education of the sustainability attributes of our products.					
R	Shifts in consumer preferences	Reduced demand for our products due to change in customer perception. Architectural trend changes; greater difficulty in selling our products compared to alternatives	Focus on reducing carbon intensity of clay bricks, whilst also building out a more sustainable alternative product range	Mid	Mid	Long
R	Negative perceptions of our business/sector; restrictions in access to debt and capital	Have greater difficulty in obtaining planning permissions for new capacity and struggle to attract employees. Increasing cost of equity and debt as investors and lenders switch to perceived greener investments	Fully engaging with our stakeholders and increasing the education around the sustainability credentials of our products with a >100-year life if homes built from brick, our products are inherently sustainable	Mid	Mid	Long
R O	Competitors engage in 'greenwash' communication (communication that misleads people as to the green credentials of certain products)	Difficulty in selling products to environmentally conscious customers; reduced access to capital with ESG-driven investors	Communicate widely on industry challenges; establish industry standards for 'eco-bricks'; provide detailed decarbonisation plans to ensure credibility	n/a	Mid	Long
R O	Alternative building materials	Potential for new revenue streams; Increased access to capital; Increased ability to react to demand for low carbon products	Invest in low carbon material alternatives and increase communications spend to promote use of innovative sustainable materials	Mid	n/a	n/a
O	Population increase through migration	Increased demand for products	Opportunity to build more homes, ensuring materials are able to meet increasingly stringent sustainability focused building regulations	n/a	Long	Long

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	Risk	Potential impact	Possible mitigation/action	Scenarios 1.5°C	2°C	4°C
Physical Risk						
Acute						
	We have seen a number of weather-related events (such as flooding) in recent years and recognise that these risks have the potential to increase in likelihood and have a greater impact in the coming years. We recognise that we cannot stop these events from occurring alone. However, we can ensure that we are better prepared for them or can mitigate their impact through suitable planning.					
R	Site flood risk	Increased insurance premiums; both short-term and prolonged inability to operate facilities potentially causing damage that could be expensive to repair and leading to lost sales	Suitable planning, capital expenditure and preventative maintenance	n/a	n/a	Long
R	Increased operating temperatures	Increased operational costs for heating and cooling and/or lack of mains water	Suitable planning, capital expenditure and preventative maintenance	n/a	n/a	Long
Chronic						
	We also recognise that the impact of rising sea levels over time triggered by increasing temperatures, may lead to some low-lying areas of the country becoming unsuitable for housing.					
R O	Variability in weather patterns	Loss of working days; Loss of productive days; stock shortages	Increase production during winter; new supplier partnerships in lower risk zones	n/a	n/a	Long
R O	Rising sea levels	Low-lying areas of the country becoming unsuitable for housing and driving demand for use of our product elsewhere	Ensure ability to supply at level the market demands whilst also continuing to manufacture the products we do that sacrificially address flooding issues	n/a	n/a	Long

FORTERRA

Forterra plc

5 Grange Park Court
Roman Way
Northampton
NN4 5EA

01604 707600
forterra.co.uk