



Board Toolkit



**Chapter
Zero**

The Directors' Climate Forum

Version 3 – 19 July 2022

Created by



Chapter Zero, the Directors' Climate Forum, is building a broad community of NEDs equipped to lead crucial UK boardroom discussions on the impacts of climate change.

Its members are helping ensure their companies are fit for the future and that global net zero ambitions are transformed into robust plans and measurable action.

Established in 2019, Chapter Zero offers its members tailored events, toolkits, relevant information and a peer network to draw on for experience, inspiration and ideas.

chapterzero.org.uk

The **Berkeley** Partnership

The Berkeley Partnership is a management consultancy, based in London and New York, that helps organisations transform under the most complex, challenging, and high-stakes circumstances to achieve their ambitions. Its consultants are experienced transformation specialists and act as trusted partners to clients' leadership teams, from strategy development through to delivering large-scale change programmes.

Berkeley has developed this Toolkit on a pro bono basis as part of its commitments to sustainability and corporate responsibility.

berkeleypartnership.com



The Centre for Climate Engagement plays a unique role in bringing leading academic research to a targeted audience of chairs and non-executive directors to accelerate climate leadership on boards in the private and public sectors.

The Centre is uniquely placed to develop insights drawing on academic expertise from across the University of Cambridge and the wider research community, together with independent expertise from the business sector.

climatehughes.org

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**Chapter
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The Directors' Climate Forum



The difference NEDs can make and the purpose of this Toolkit

Non-executive directors (NEDs) have the potential to make a huge contribution in addressing the challenges brought about by climate change, as well as a duty to ensure their boards are fulfilling their legal obligations in this area.

The purpose of this Toolkit is to provide NEDs with evidence and support to address climate change as a strategic business issue on their boards, and to show how they can help their boards take timely, positive and decisive climate action through five clear steps, outlined in the 'How' section.



Ensuring boards fulfil their obligations

As outlined in the 'Why' section, the scale of the risks and opportunities which climate change poses to businesses make it a strategic business issue that is simply too material to ignore.

As a NED, you not only have a fiduciary duty to highlight these opportunities and risks, but also a unique independent perspective.

This perspective enables you to play a pivotal role in holding executives to account and helping your boards fulfil their obligations to investors and other stakeholders, by ensuring climate and net zero imperatives are adequately considered and addressed.

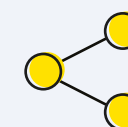


Providing necessary judgement for a just and equitable transition

When it comes to the challenge of the net zero transition, more than ever, the role of the board will be to provide judgement in a rapidly changing, volatile context.

As a NED, you and your boards will need to navigate this complex landscape to provide oversight for the benefit of your businesses and to encourage a just and managed transition.

Difficult decisions will need to be made. Staying informed is increasingly important as the landscape changes.



Using your network to broaden impact

As a NED, you have significant opportunity to drive change in multiple businesses, because you sit on several boards and/or because you can influence change via your own network.

It's critical that you do not underestimate the impact of your voice in driving this issue to the top of the agenda through some carefully targeted questions and through careful oversight of the actions your boards are taking.

Overview

To survive and thrive, businesses must act decisively and urgently to minimise their climate impact, harness the opportunities of the transition to net zero, and prepare for the risks which will arise through both the transition and the physical effects of climate change.

Climate change and the transition to a net zero economy are already having significant and hugely disruptive implications for business competitiveness, viability and shareholder value, which are expected to gather pace exponentially. Action is needed, and companies can benefit significantly by taking quick and decisive action. Delayed action could lead to a more costly and difficult transition.

This section covers how:

Greenhouse gas emissions caused by human activity are driving changes to the climate at an unprecedented rate

Climate change has and will have significant negative impacts on health and wellbeing, the economy, and the environment

The climate crisis poses a range of highly disruptive risks that businesses must manage, but the net zero transition has also created opportunities for businesses to gain a competitive advantage

“[The] IPCC Working Group 1 report is a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable. [...] If we combine forces now, we can avert climate catastrophe. But, as [the report] makes clear, there is no time for delay and no room for excuses.”¹

António Guterres, UN Secretary-General (2021)



The **2021 report** from the **Intergovernmental Panel on Climate Change (IPCC)** shows that a global reduction in CO2 emissions of 45% (from 2010 levels) is needed by 2030 to limit temperature increases to 1.5C above pre-industrial levels. Current plans equate to a rise of 16% over the same period.

Climate change impacts and imperatives

Causes

Greenhouse Gases (GHGs) in the atmosphere act to retain heat.

Increased GHG levels **increase heat retention which causes global warming.**

In 2021, the IPCC stated that current levels of warming are “unequivocally the result of human activity” and “proceeding at a rate that is unprecedented over many centuries to many thousands of years.”²

Carbon Dioxide (CO₂) accounts for ~74% of **GHG emissions**. Methane (CH₄) and nitrous oxide (N₂O) contribute ~17% and 6% respectively.³

Global GHG emissions **originally centred in the west**, and whilst a lower proportion of emissions may now be produced in western countries, they continue to **drive significant GHG emissions elsewhere**, through **global supply chains**.

Environmental impact

Even small changes in global temperatures can have **catastrophic effects** – many of which are already starting to be felt, including droughts, soil infertility, rising sea levels, wild fires, flooding, storms and loss of biodiversity.

Keeping global temperature rises to 1.5C above pre-industrial levels can avert the most catastrophic impacts of climate change.

Above 1.5C, environmental impacts grow sharply in intensity with increasing temperature.⁴

Temperatures have already risen by **1.2C above pre-industrial levels**.⁵



Climate change impacts and imperatives

Human consequences

The environmental impacts of climate change have **profound consequences for humanity** – both directly (for example, through food shortages, water shortages and property damage) and indirectly (for example, through conflict and migration).

The World Health Organization (WHO) deems climate change **the single biggest health threat facing humanity**.⁶

The Just Transition Declaration agreed at COP26 recognised the need to ensure that no one is left behind in the transition to net zero economies.⁷

The **IPCC report published in February 2022** noted that the world's most vulnerable people will feel the worst impacts of climate change.

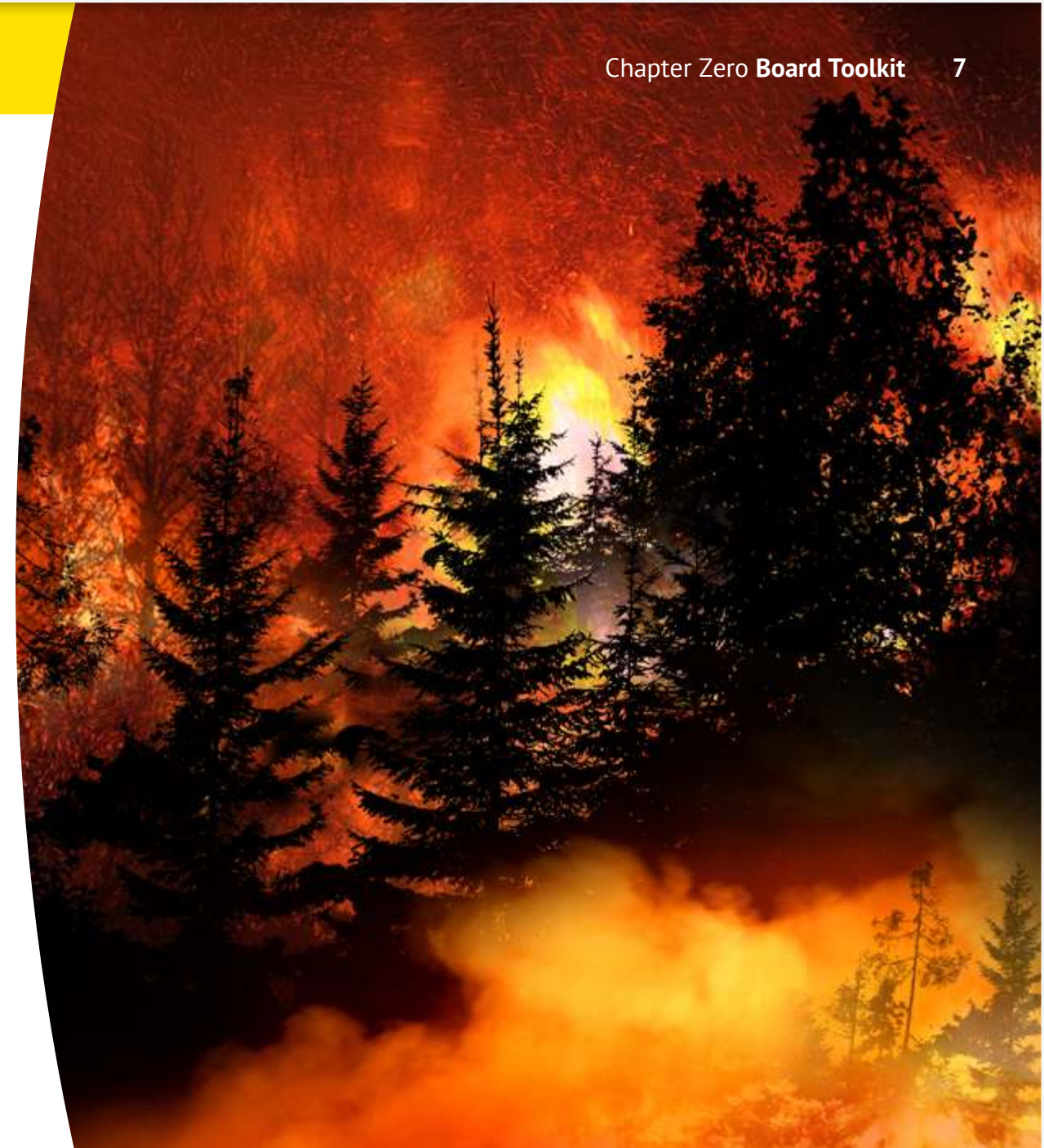
Urgency

Urgent action is required on emissions to avert the most extreme consequences of climate change – and avoid triggering **'tipping point' events** which could cause climate change to spiral sharply and irreversibly beyond our control.

Keeping global temperature rises to 1.5C requires a reduction of CO2 emissions of 43% (from 2019 levels) by 2030.⁸

By contrast, emissions are currently forecast to grow 5% over the same period.⁹

COP26 saw 124 countries **'ratchet up'** climate targets by submitting new Nationally Determined Contributions (NDCs), with some also setting new domestic net zero goals.



The business imperative

Opportunity

With significant increases in fossil fuel price levels and volatility, the opportunities to drive efficiency and resilience by reducing energy consumption and switching to renewable sources are obvious.

However, there are far more **fundamental and strategic opportunities** for those organisations leading the transition to a net zero economy, with a potential value to UK companies of £1tr by 2030.¹⁰

Organisations that harness new technologies and markets and the rapid shift in stakeholder expectations will benefit significantly.

However, as with all periods of major disruption, the pace of change will be exponential – and already is in many sectors.

Those who think big and act fast could reap the rewards. Delayed action could lead to a more costly and difficult transition.

Risk

The risks of climate change and the shift to a low carbon economy are huge and already being felt.

Physical risks (losses resulting from climate change) may be chronic (resulting from sustained, long term effects, such as rising sea levels) or acute (resulting from individual climate-driven events, such as severe storms).

Transition risks result from societal, legislative, technological and economic shifts to a low carbon economy. For example, a company and its products may be rendered obsolete, if it fails to respond quickly enough to new demand or technologies.

Regulation and legislation

Companies are increasingly required by law to be prepared for climate change and have adequate net zero plans. E.g. growing focus on directors’ fiduciary duties (Companies Act); increased disclosure and audit requirements including mandatory Task Force on Climate-related Financial Disclosures (TCFD) reporting; and changes to emissions trading requirements.

In addition, climate litigation is rising, with the global cumulative number of climate-related litigation cases now more than double that in 2015. Landmark cases such as that requiring Shell to reduce emissions by 45% by 2030 could lead to similar cases against other corporates.¹¹

Stakeholders

Stakeholder expectations and demands are also changing exponentially.

Investors, lenders, customers and employees are increasingly turning towards companies and sectors which are resilient to the risks of climate change and are taking the lead in the net zero transition.

They’re turning away from companies that are failing to act, making it ever more difficult for such companies to compete, secure investment and attract top talent.

The five steps

Here are **five key steps** that boards can take to ensure their businesses have a holistic, robust and deliverable plan for reducing their emissions and responding to the opportunities of the net zero transition.



Steps 1–2

NEDs can play a lead role in initiating and driving the conversation

Steps 3–5

NEDs can play a key role in ensuring the organisation delivers



Step 1 | Ensure the right board oversight

Achieving the **right board oversight** requires the right knowledge, whole value chain transparency and a shift from seeing climate action as compliance to seeing it as a fundamental strategic imperative.

Step 1 is about asking your board questions to establish their level of preparedness. If your board can't give clear and well evidenced answers to one or more of the following, it will be a strong indication that more needs to be done to prepare for climate change and the transition to net zero.

Recognising that your boards and businesses are operating in an uncertain world, here are key questions to ask:

Leadership capability

- Do we have the right competence on our board and access to the right expertise? Do we have the means to ensure this remains the case?
- Do we have clear mechanisms in place to ensure adequate consideration when making key decisions?

Clarity of intent

- Are we clear on our level of ambition? What will success look like in the future, and what level of change will this require versus today? Will we take a lead in our sector? What will this mean in practice?
- Have we set clear, SMART objectives, priorities and plans to achieve our stated ambition? Given the pace of change in this area, are we reviewing these appropriately?

Ability to deliver

- How will we ensure that the exec are clear on and held to account for delivering on our climate-related ambitions? How well are our climate-related objectives and priorities embedded into executive performance management?
- Are we clear how much we will need to invest to achieve our goals?
- Are we comfortable we have the right mechanisms and metrics to track progress in delivering our plans?
- How can we be sure we have dedicated the right resources (people and money) to deliver on our plans?
- Have we fully engaged our supply chain partners and have they committed the resources required to deliver our ambition?

Completeness of understanding (of the drivers of change)

- What might our current GHG emissions and our forecast GHG emissions look like under a number of scenarios?
- How do we think consumer, customer and investor expectations are changing? How might these changes impact our access to funding, ability to compete, and ability to attract/retain top talent?
- What is our understanding of the physical and transition risks posed to our assets and value chain? Will we need to fundamentally rethink our business model?
- What opportunities could the net zero transition present for our business? (Financial incentives, efficiencies, new tech/products/markets)
- In looking at our emissions, risks and opportunities, how could we thoroughly assess our whole value chain, outside our own operations?
- Have we evaluated how we can comply with current and emerging regulation?



Step 2 | Establish the need for change

Once Step 1 has been completed and the board has acknowledged the potential need to do more, the aim of Step 2 is to get a clear, high-level view of where the company is now versus where it aims to be in future. Step 2 is also designed to help you develop a clear understanding of where action is most needed to meet future ambitions. This is usually best achieved through open, board level engagement and discussion – supported and informed by an objective assessment of current climate-related risks, opportunities, plans and processes.

The Board Scorecard

The Board Scorecard is a tool for use by individual NEDs to assess where you feel your boards are in terms of leadership and evaluation of climate change strategies. Answer 20 questions to assess your board across four different areas:

- Leadership
- Ownership
- Strategy
- Measurement.

On completion, you will be emailed a PDF of your Board Scorecard results (example right). You can use this to identify gaps in board performance to help you make informed decisions on priorities for action and ask effective questions in the boardroom.

You could also invite the rest of your board to complete the Board Scorecard and compare the different results to encourage a deeper discussion.

The Chapter Zero Board Scorecard



Approximate completion time: **10 minutes**

Chapter Zero Board Scorecard		Leadership	Ownership	Strategy	Measurement	Total Score
		10	15	19	18	62/100
Leadership		Ownership		Strategy	Measurement	
1. All board members understand the implications of climate change and some have deeper climate competence.	6. Climate-related targets are incorporated into executive incentives in a meaningful and measurable way.	11. The board has looked at its overall business strategy under at least two climate change scenarios.	16. The company assesses the impacts of the net zero transition on all operations and invests accordingly. Scopes 1 and 2.			
2. The topic is on the board agenda at least four times a year, with clear objectives for the discussion and robust data to inform it.	7. Climate is embedded in risk and opportunity assessment and core business strategy.	12. The board has set a net zero GHG emissions ambition which is aligned with the 1.5 degree target.	17. The company understands its Scope 3 emissions and has an agreed approach to addressing it across all products and services.			
3. All board committees factor climate change into their discussions.	8. The responsibility for climate data rests with management and finance, not just a specialist sustainability function.	13. The ambition has been translated into short-term targets and a five-year action plan.	18. The board has agreed a set of short and longer-term measures aligned to its emissions reduction and resilience plans, and reviews performance regularly.			
4. Accountability for decisions on reducing emissions is clear at board level and in the executive team.	9. There is a comprehensive plan to engage the workforce on the vision and change required.	14. The board considers the likely physical impacts of climate change on the company and has an adaptation plan to deal with them.	19. The board fully understands its inventory climate-related requirements and how they will assess progress.			
5. The CEO, Chair and other board members promote the importance of delivering the company's climate ambition in communications with management and employees.	10. The company is ensuring the necessary skills and resources are in place to deliver its climate ambition.	15. The board considers climate in all investment decisions, using a quantification tool, such as carbon pricing.	20. The company discloses its ambition, plan, and progress against science-based metrics.			

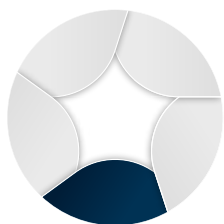


Step 3 | Set direction and plan the change

Use the gaps identified in the Board Scorecard (Step 2) to set a direction and plan your strategy. Click on the **bold** text below for more information.

Ask your board for **evidence** of the following:

1. The right competence on the board and access to the right knowledge and expertise, sufficient to set the right strategic direction
2. A comprehensive analysis across all areas of the business and its end-to-end value chain (**Scopes 1, 2 and 3**), considering the importance of including an assessment of Scope 3 at the start, and:
 - Current and forecast **GHG emissions**
 - A number of scenarios, including short and long term opportunities to reduce emissions
 - A long-term planning horizon (10+ years)
3. In light of that analysis, consideration of:
 - Climate change related **opportunities** the business could benefit from
 - Climate change related **risks** the business needs to mitigate/adapt to
 - Any modifications that may be required to the business model
 - The use of influence and positioning to support the low carbon transition
4. A clear strategic plan and targets including a vision, statement of intent and priorities, with climate action clearly embedded in strategic and competitive positioning for the organisation
5. To align with science-based emission reduction targets, efforts should be focused primarily on removal of GHG emissions, with **offsetting** used only to address residual emissions that are unfeasible to eliminate by permanently removing equivalent amounts of CO2
6. The vision and key priorities have been embodied into SMART strategic objectives for the business. In particular, evidence of a credible set of targets to achieve emission reductions (such as a net zero target supported by reductions in line with science-based targets, as recommended by the **SBTi**)
7. A comprehensive, integrated assessment of the **change required** to deliver on the above action areas and objectives, across all areas of the business and the end-to-end value chain
8. Defined strategic plans and business cases to deliver the change over the short, medium and longer term (10+ years), in all of the areas of change identified and as an integral part of broader business planning
9. That **sufficient resources have been allocated** to deliver the change, both within the organisation and its supply chain partners
10. That the right **metrics and mechanisms** are in place to track delivery
11. That climate change priorities are incorporated in investment and other decision making throughout the organisation (see tools such as **internal carbon pricing**)



Step 4 | Embed and sustain the change

Click on the **bold** text below for more information.

A checklist for NEDs – Ask your board for **evidence** of the following:



- | | | | | |
|---|---|---|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Leadership (from the top down, for example, the Chair or CEO) is actively setting the right tone to inspire the required change in culture and behaviours, not just in what they say, but also in what they do <input type="checkbox"/> That all activities are aligned behind the company's climate action goals (including lobbying of government by the company and the trade bodies of which it is a member). See this HBR article for more information | <ul style="list-style-type: none"> <input type="checkbox"/> Effective corporate governance has been put in place to oversee climate impact, risks, opportunities and action in line with the World Economic Forum principles <input type="checkbox"/> Robust, evidence-led, board reviews of climate-related targets, plans, risks, opportunities and progress, at least quarterly | <ul style="list-style-type: none"> <input type="checkbox"/> The board and all its committees factor climate action into all relevant decision making, in a robust, transparent and measurable way <input type="checkbox"/> That corporate governance has effective processes in place to ensure that the board has and retains the right competence and access to the right expertise and insight with relation to climate change and impact/opportunity assessment (This FT article exposes low levels of board competence and this HBR article suggests key actions to address it) | <ul style="list-style-type: none"> <input type="checkbox"/> Comprehensive inclusion of climate-related risks and opportunities within financial disclosures in line with TCFD recommendations, whether this is legally required or not for the company in question. (These recommendations make business sense. Companies should not wait to be required by law) | <ul style="list-style-type: none"> <input type="checkbox"/> Ownership, accountability and targets for climate action is embedded in all functions and business units (it is not the sole preserve of a specialist sustainability function) <input type="checkbox"/> Corporate climate goals have been cascaded into the accountabilities, performance targets and incentives of teams and individuals to drive and align actions and behaviours (at all levels, starting with the board) <input type="checkbox"/> Effective communication and engagement across all key stakeholder groups underpinned by the training, education and support they need to make the change happen |
|---|---|---|---|---|



Step 5 | Monitor and optimise

A checklist for NEDs – Ask your board for **evidence** of the following:



- | | | | | |
|--|---|--|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> That targets are being actively monitored and met as part of BAU – and that they are not standing still (i.e. targets continue to be raised to create stretch and motivate continuous improvement). This needs to be embedded throughout the whole business <input type="checkbox"/> The business is using credible data on current emissions and trends to inform changes and continuous improvement in targets (e.g. if emissions are forecast to increase in a particular area of the business, total reduction targets are being increased to take account of this) <input type="checkbox"/> The business is actively monitoring changes in climate science, policy, regulation (plus any climate-related technology innovations) – and identifying/implementing any consequent changes required to plans and targets | <ul style="list-style-type: none"> <input type="checkbox"/> Listening. Leadership is providing clear communication channels for stakeholders (employees, customers, suppliers, investors, lenders, etc.) to share their climate action and net zero ideas, and are actively listening to and acting on stakeholder suggestions | <ul style="list-style-type: none"> <input type="checkbox"/> Incentivising. Leadership is actively encouraging stakeholders (e.g. employees, suppliers) and incentivising them to develop improvement ideas. Incentives do not need to be monetary (for example, competitions to come up with the best ideas and/or make the biggest difference are a great way of making the topic front of mind and getting people to positively engage) | <ul style="list-style-type: none"> <input type="checkbox"/> Benchmarking. Levels of ambition and achievement are being proactively compared with those of peer and comparator organisations and adjusted accordingly, to achieve target positioning | <ul style="list-style-type: none"> <input type="checkbox"/> Collaborating. There is proactive networking and collaboration across the end-to-end value chain (and with other businesses and stakeholders within your sector and more broadly) to share and action improvement ideas and innovations |
|--|---|--|--|--|

Where to go for more help and information

Glossary

We hope you find this Toolkit valuable. If you would like to get in contact or would like more information, please get in touch through the websites below:

The Berkeley Partnership

If you would like assistance with using this Toolkit, support in facilitating your board-level discussion or shaping and mobilising your climate change initiatives, please contact The Berkeley Partnership.

berkeleypartnership.com



The Chapter Zero website and knowledge hub are regularly updated with information, events and resources tailored to NEDs to help you ensure that your companies are fit for the future – and that global net zero ambitions are transformed into robust plans and measurable action.

chapterzero.org.uk



The Centre for Climate Engagement is uniquely placed to develop insights drawing on academic expertise from across the University of Cambridge and the wider research community, together with independent expertise from the business sector.

climatehughes.org



The Climate Governance Initiative mobilises boards of directors around the world to address climate change in their businesses. Chapter Zero is the UK Chapter.

climate-governance.org

Where to go for more help and information

Other organisations helping to drive and support climate action:



The IPCC aims to provide governments at all levels with scientific information that they can use to develop climate policies. They draw together scientific research to summarise what is known about the drivers of climate change, impacts and future risks, and how adaptation and mitigation can reduce those risks.

ipcc.ch



Science Based Targets (SBT) promotes best practice in emissions reductions and net zero targets in line with climate science. It champions and supports the development, independent assessment and approval of science-based targets to reduce GHG emissions.

sciencebasedtargets.org



Created by the Financial Stability Board (FSB), the TCFD has developed a framework to help public companies and other organisations more effectively disclose climate-related risks and opportunities through their existing reporting processes.

fsb-tcfd.org



The World Economic Forum provides a global platform to help raise ambition and accelerate climate action with a particular focus on collaboration across organisations and sectors.

weforum.org

Where to go for more help and information

References – click any link (🔗) for further information

1. United Nations Press Release. 2021. *Secretary-General Calls Latest IPCC Climate Report 'Code Red for Humanity', Stressing 'Irrefutable' Evidence of Human Influence.* 🔗
2. IPCC. 2022. Summary for Policymakers in *Climate Change 2021: The Physical Science Basis*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Pages 4 & 8. 🔗
3. Climate Watch Data. 2018. *Historical GHG Emissions.* 🔗
4. IPCC. 2022. Summary for Policymakers in *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. 🔗
5. World Meteorological Organisation. 2021. *State of the Global Climate 2020*. Page 6. 🔗
6. World Health Organisation. 2022. *Climate Change and Health Fact Sheet.* 🔗
7. UN Climate Change Conference UK. 2021. *Supporting the Conditions for a Just Transition Internationally.* 🔗
8. IPCC. 2022. Summary for Policymakers in *Climate Change 2022: Mitigation of Climate Change*. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Page 22. 🔗
9. UNFCCC. 2021. *Nationally Determined Contributions Under the Paris Agreement.* Page 5. 🔗
10. McKinsey Sustainability. 2021. *Opportunities for UK Businesses in the Net-Zero Transition.* 🔗
11. Hague District Court. 2021. *Milieudefensie v. Royal Dutch Shell plc.* 🔗

Appendices



**Chapter
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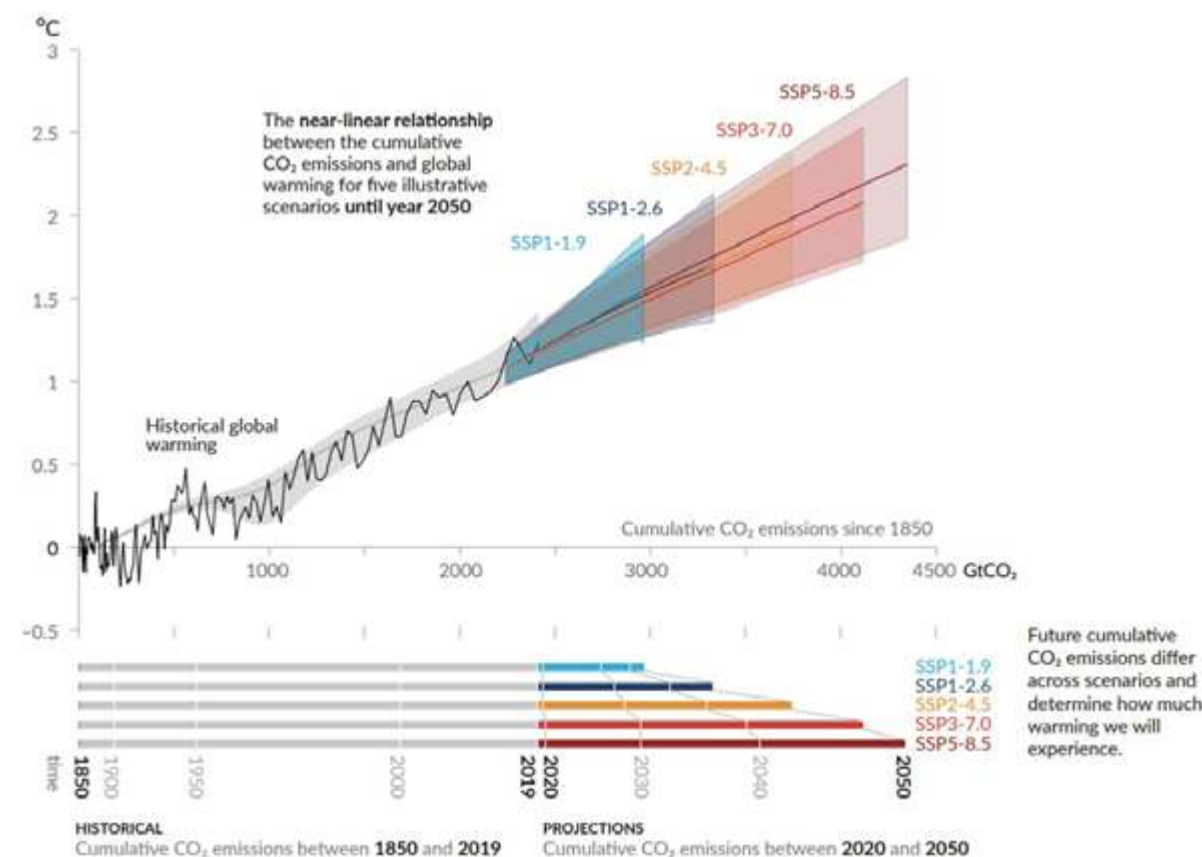
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Why | More GHGs = higher temperature

This chart shows the direct link between cumulative CO₂ emissions (x axis) and global temperature rises (y axis).

The timeline along the bottom shows how these two factors have changed over the years – and how they are predicted to change in future. The different colours represent different future scenarios ([simply explained here](#)) which vary according to how successful the world is at cutting emissions.

The most optimistic scenario (in light blue) is the only scenario within which it is predicted that global temperature rises will remain below 1.5°C and thereby avoid the most catastrophic impacts of climate change. This scenario requires net zero emissions to be achieved globally by 2050.



Source: [IPCC AR6 report, 2021](#)

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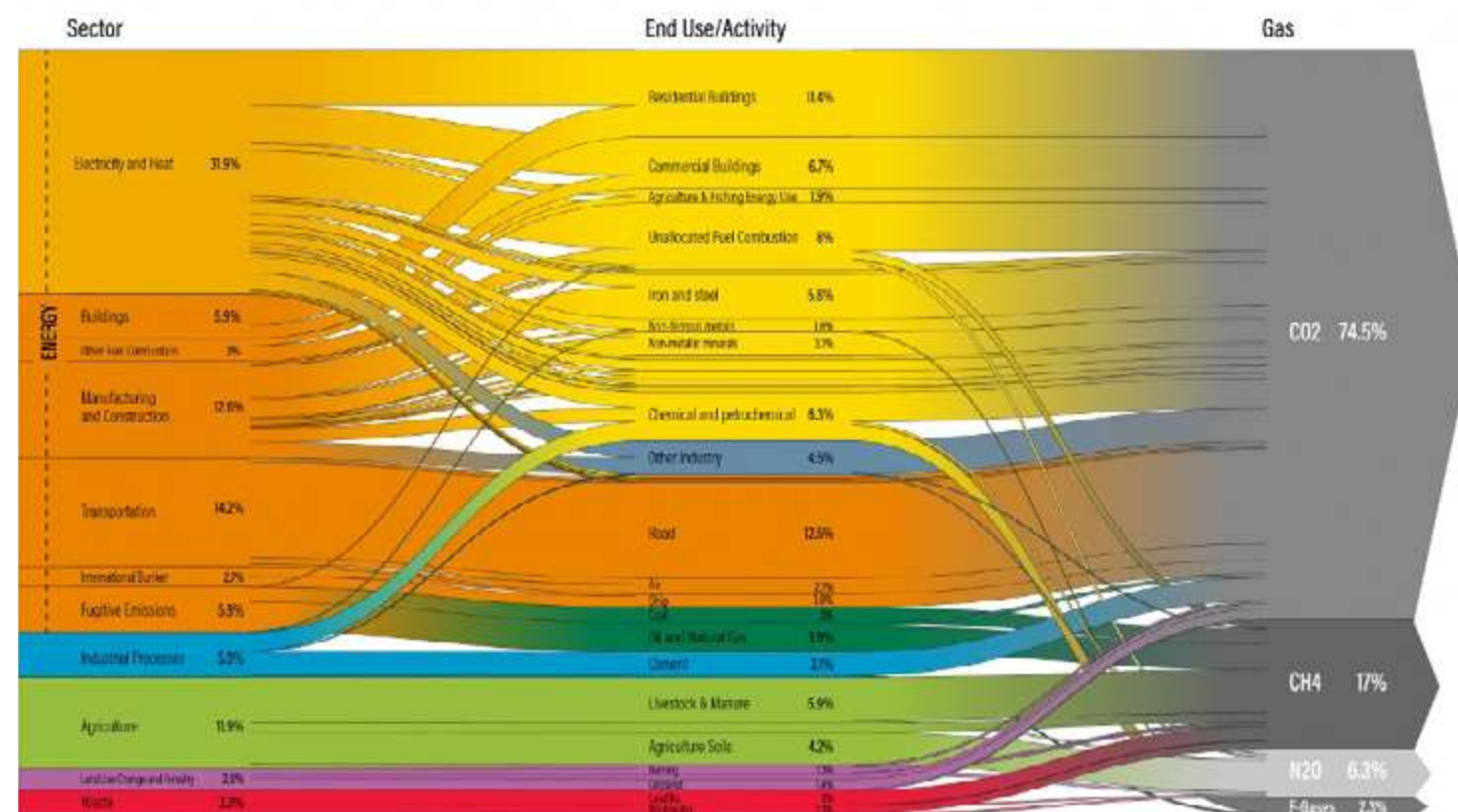
Why | GHG emissions by sector, end use and gas


[View interactive version of this chart](#)

Carbon Dioxide (CO₂) is by far the biggest contributor to GHG emissions – most of which are driven by energy production and use.

The impact of other GHGs such as methane (CH₄) and Nitrous Oxide (N₂O) is smaller, but still extremely important.

These arise primarily through agriculture, fugitive emissions (e.g. gas pipeline leaks) and decomposition of waste (e.g. landfill).



Source: [Climate Watch, World Greenhouse Gas Emissions in 2018 by Sector, End Use and Gases \(static\), 2018](#)

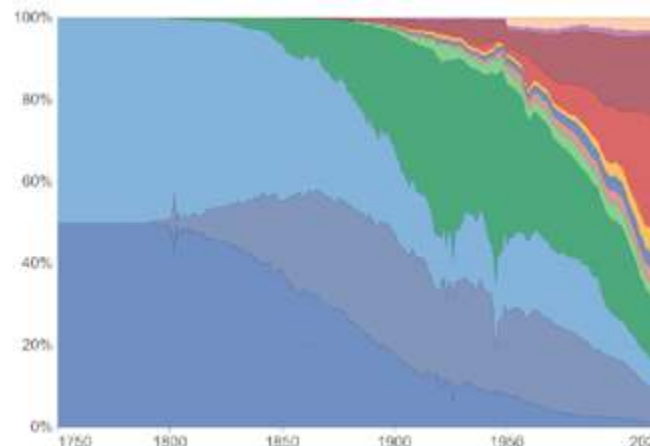
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Why | CO2 emissions over time by region

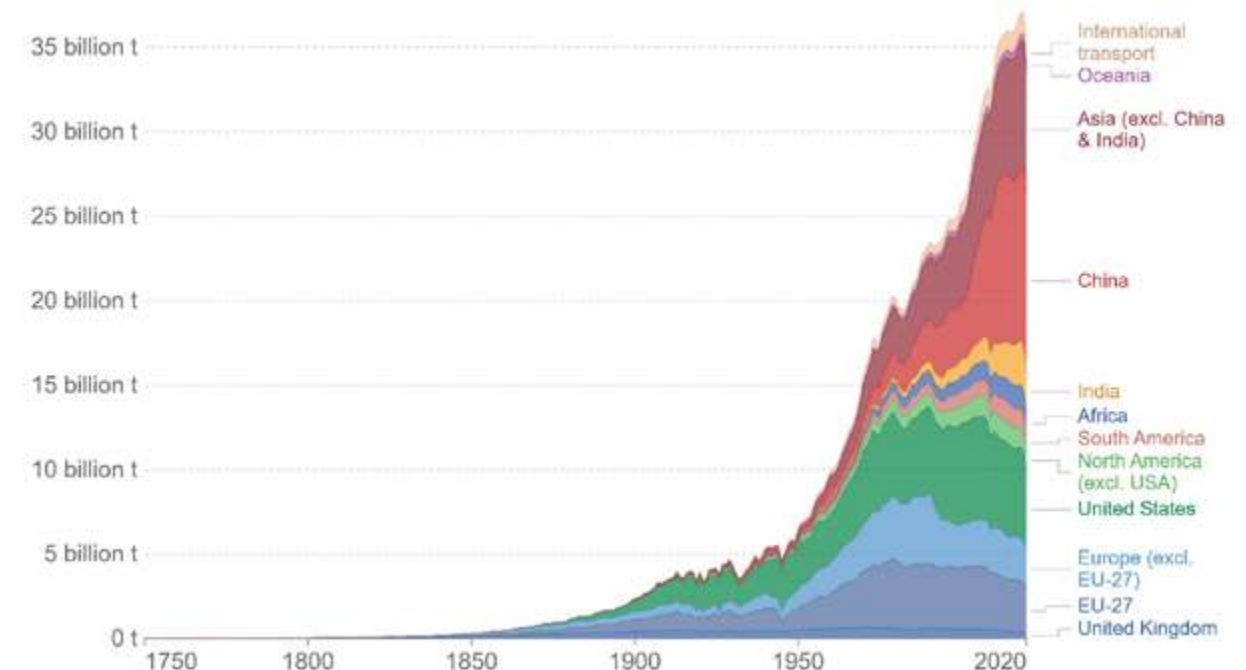

[View interactive version of this chart](#)

CO2 emissions have grown significantly since the 1950s. This growth was initially within western countries, but has since globalised. Although western economies may now produce a lower proportion of emissions, their economic activity is driving emissions elsewhere in the world (for example, through the global supply chains of western-led companies).

Relative (%) emissions by geography



Total emissions by geography



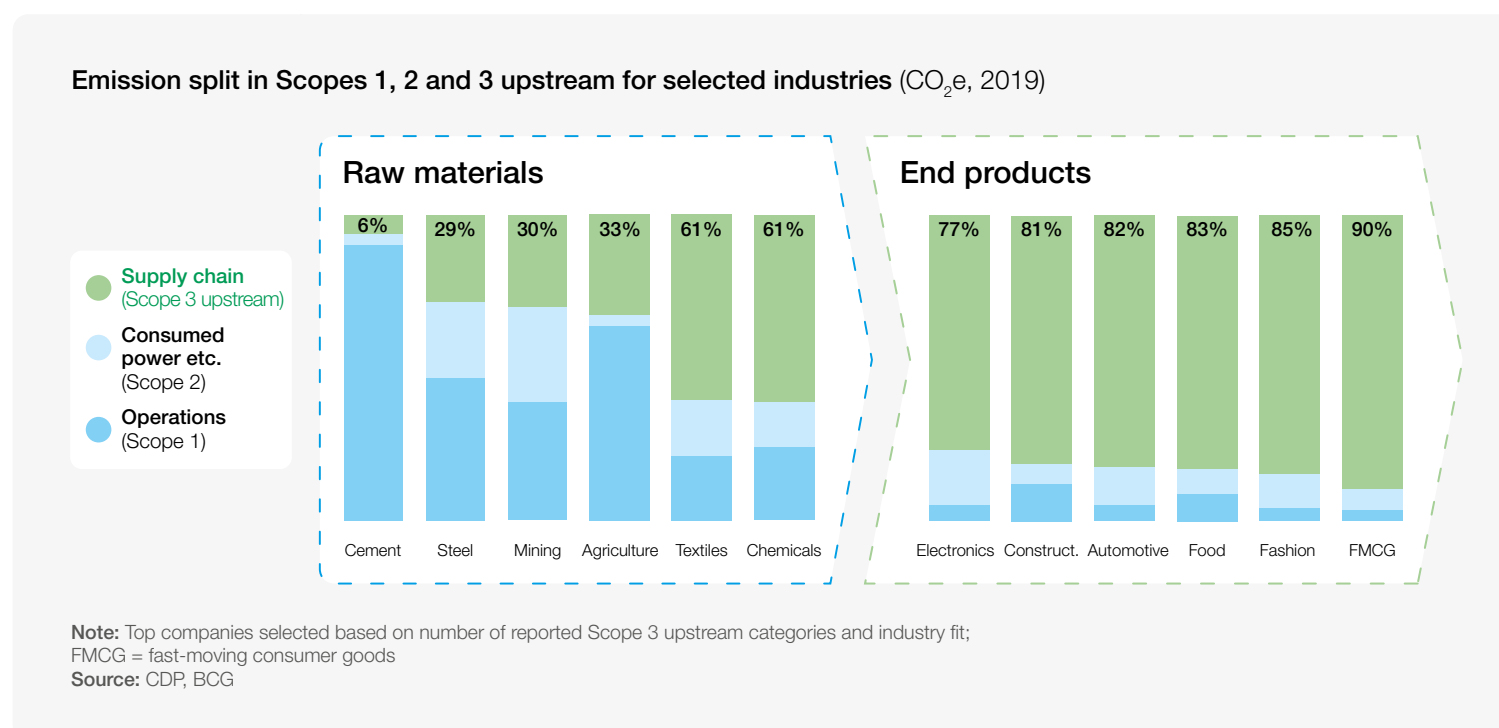
Source: [Our World In Data, CO2 and Greenhouse Gas Emissions, 2020](#)

Note: This measures CO2 emissions from fossil fuels and cement production only – land use change is not included. 'Statistical differences' (included in the GCP dataset) are not included here.

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Why | Whole value chain view is critical

For many sectors, the vast majority of emissions may be upstream in a company's value chain – outside of the company itself – but driven by the company's commercial activities. Taking an end-to-end value chain view is therefore crucial.



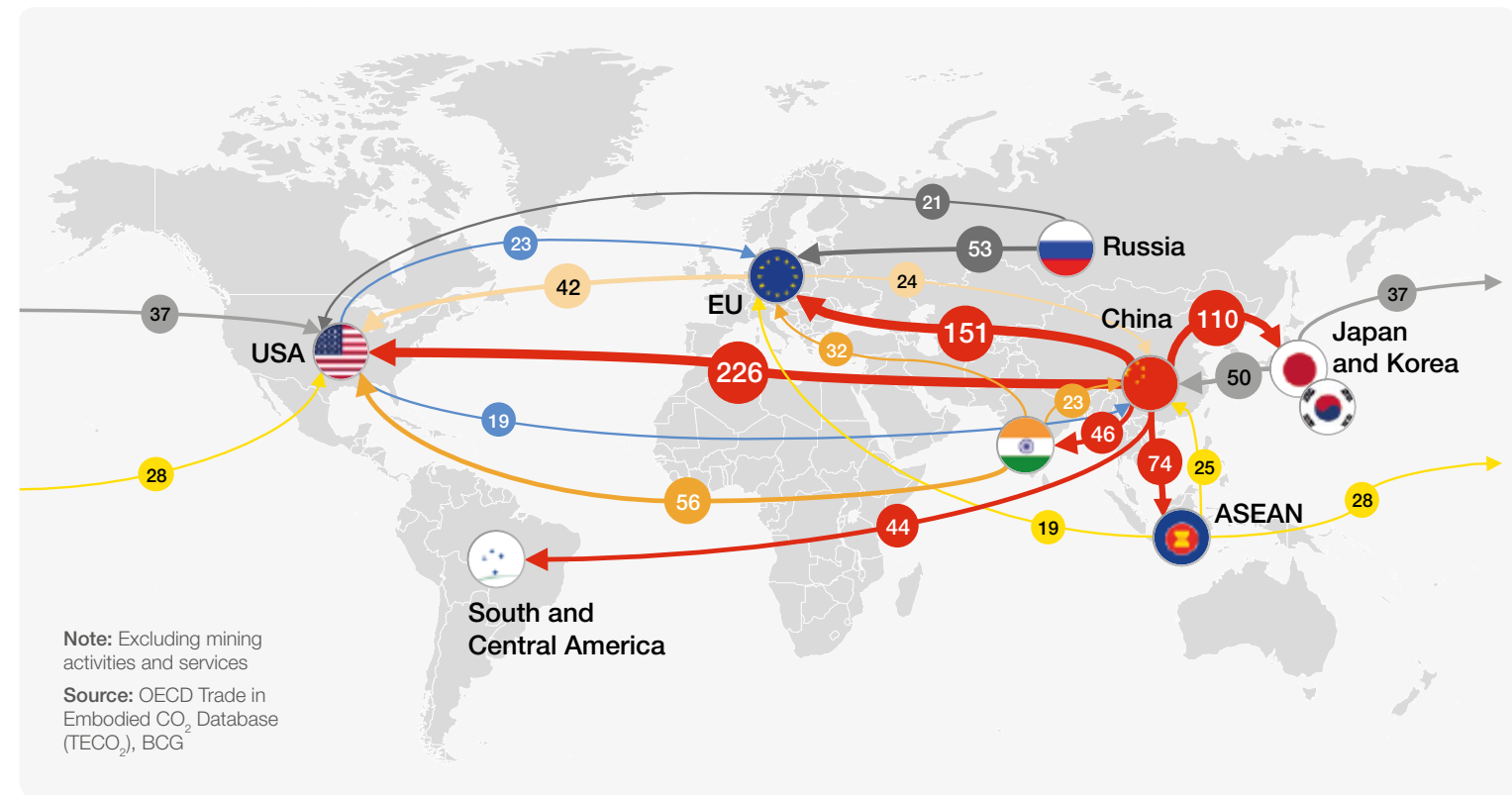
Source: [World Economic Forum, Net-Zero Challenge: The supply chain opportunity \(p9\), 2021](#)

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Why | Top 20 CO₂ export flows (mega-tonnes CO₂, 2015)

We live in a truly global economy, with supply chains for most companies extending around the world.

Emissions are a global, whole value chain problem, which require global, whole value chain thinking and solutions.



Source: [World Economic Forum, Net-Zero Challenge: The supply chain opportunity \(p10\), 2021](#)

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Why | Environmental impacts



Extreme heat and drought

The last seven years have been the warmest on record, and **2021 was one of the warmest years on record** despite La Niña events.

At 2C there would be aridification across **20-30% of the world's land area**.

At 3C, Southern Europe and Africa would be in permanent drought.



Soil infertility

Topsoil is being lost 10 to 40 times faster than it is being replenished.

Since the mid 20th Century 30% of the world's arable land has become infertile due to erosion, and **95% of earth's land areas could be degraded by 2050**.



Ocean acidification

25% of CO2 emissions dissolve in oceans, making them more acidic, damaging marine organisms and ecosystems.

Acidity has increased by 26% since the beginning of the industrial revolution and could hit 170% by 2100. Coral bleaching has **increased 5-fold since the 1980s**.



Fires

As with super-storms and hurricanes, climate change significantly increases the scale and frequency of wildfires.

E.g. In 2018, a major California wildfire destroyed 4,000 acres in one day and coined a new term 'fire tsunami', and 'Campfire', the **deadliest in Californian history**, destroyed several hundred square miles and killed dozens.

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Why | Environmental impacts



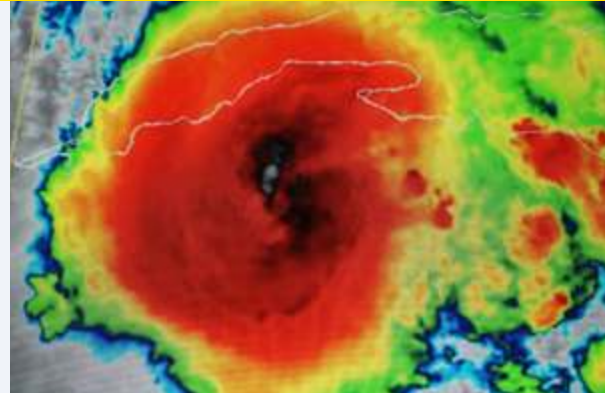
Flooding (rainfall and rising sea levels)

Flooding has quadrupled since 1980 and doubled since 2004. It is now estimated that New York City will suffer '500 year floods' every 25 years.

At 2C, there is irreversible loss of polar ice sheets, with the Arctic becoming practically sea ice-free in September in 2050.

At 3.2C, Miami, Dhaka, Shanghai, Hong Kong and 100 other cities would be flooded.

70% of the largest European cities have areas vulnerable to rising sea levels.



Super-storms and hurricanes

Climate change changes the frequency, duration, timing, coverage and intensity of these events.

One example was the summer of 2018, when six hurricanes and tropical storms emerged on the radar at once, two of these alone killed 150 and wreaked \$18bn of damage.

In 2021, 10 separate extreme weather events caused >\$1.5bn damage each.



Reduced nutritional value of crops

Warmer temperatures increase the amount of sugars in crops such as rice and wheat. This means lower nutrient levels such as protein, iron, calcium and zinc, risking mineral deficiencies for millions, e.g. 175m with zinc deficiency, 122m with protein deficiency, and 1 billion with iron deficiency.



Reduced biodiversity – 6th mass extinction

Vertebrate populations have fallen on average by 60% since the 1970s, exceeding 85% in some countries.

Insects could be extinct and coral reefs destroyed by the end of the century, with profound impacts on ecosystems.

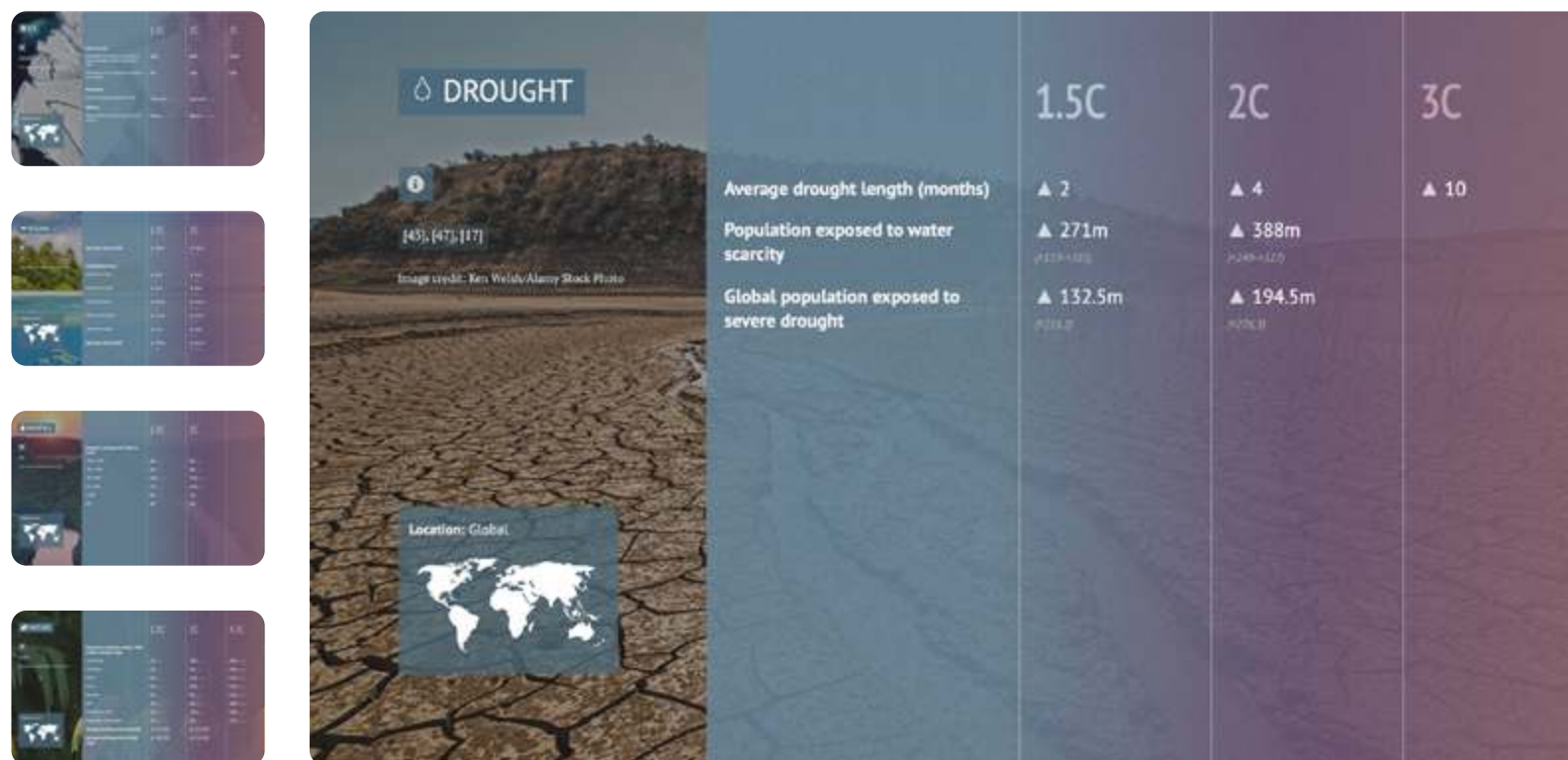
The UK is **one of 'the most nature-depleted countries in the world'**.

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Why | Small temperature rise = big risk increase


[View interactive version of this chart](#)

The environmental impacts are highly sensitive to even small changes in global temperatures. This shows that there are serious impacts at 1.5C, but that the potential risks are significantly higher at 2C. This model covers impacts including oceans, ice, temperature, rainfall, drought, storms and flooding, crops, nature, economy, and health, across the different continents.



Source: [Carbon Brief, The impacts of climate change at 1.5C, 2C and beyond, 2018](#)

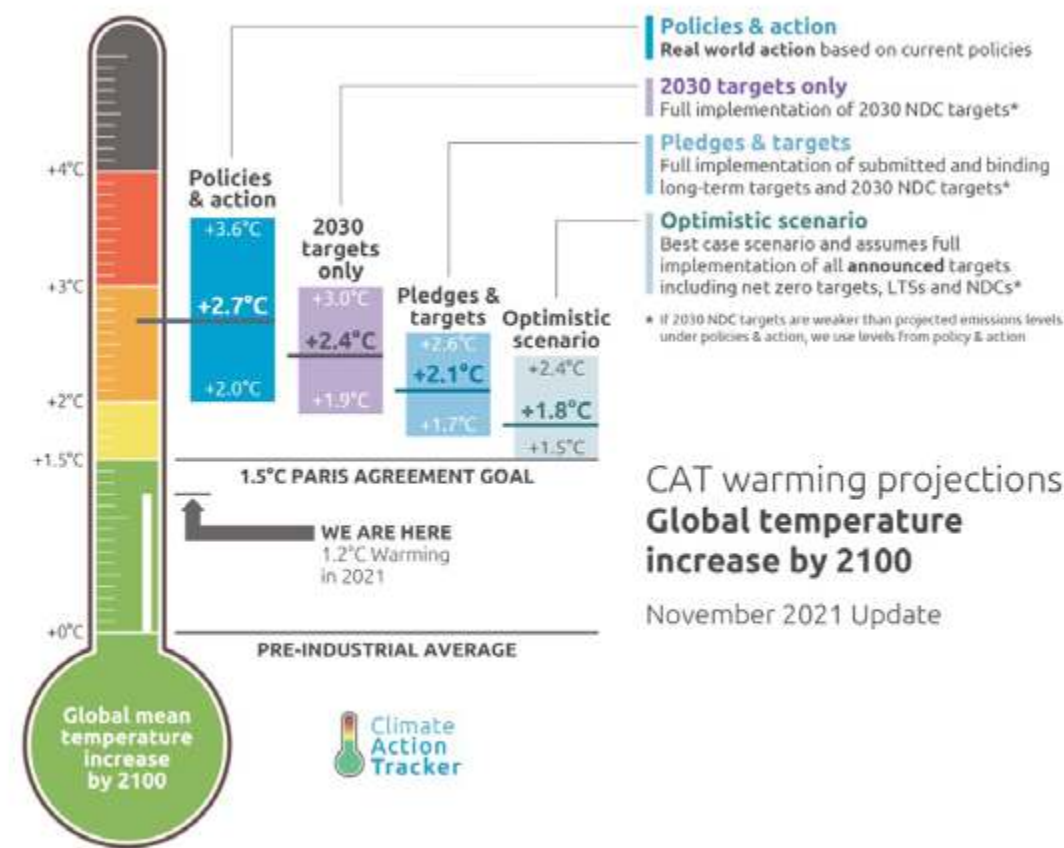
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Why | Temperatures have already risen by 1.2C

Global temperatures have already risen by around 1.2C above pre-industrial levels.

If current policies persist, temperatures are forecast to rise quickly above that level – with some **reports** suggesting rises could be as high as 5.7C above pre-industrial levels by 2100.

COP26 concluded that temperature rises need to be limited to 1.5C above pre-industrial levels, and that, whilst this remains achievable, it will only be delivered with concerted and immediate global efforts.

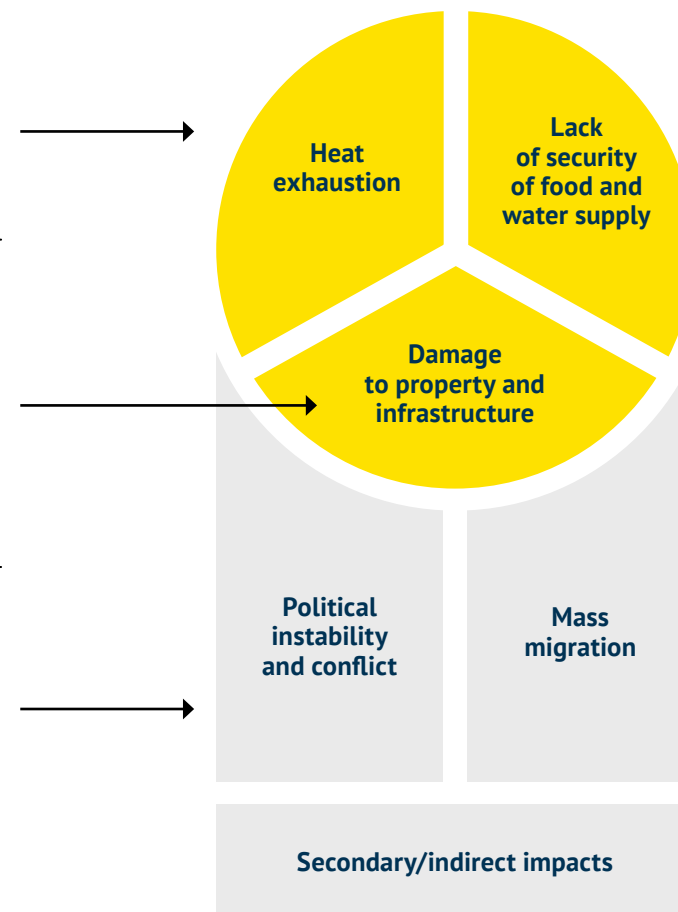


Source: [Climate Action tracker, 2021](#)

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Why | The human impacts of climate change

- In 2017, 157 million more people experienced heatwaves than in 2000, creating a serious health burden and **costing 153 billion work hours**
 - In the UK, heat-related deaths could reach **7,500 p.a. by 2050**
 - At 4C, the deadly European heatwave of 2003 that killed up to 2,000 per day would be a **'normal' summer**
-
- Flood damage in the UK alone now **averages £1.1bn p.a.**
 - Extreme weather events in the US were responsible for **\$326bn in 2017**, nearly triple those of 2016
 - Global cost of rising sea levels could be \$14trn per year in 2100
 - If no action is taken to curb emissions, global damages from climate change are estimated to be between **\$14trn - \$100trn per year** – a wide range but even the lower estimate is 20% of all current GDP, with the higher end larger than all current GDP
-
- For every half degree of warming, societies will see a **10-20% increase** in the likelihood of armed conflict
 - In Africa, climate change has already elevated the risk of conflict by >10%. By 2030, **nearly 400,000 more deaths** will be caused from climate-related conflict
 - The US military is **'obsessed'** with climate change and its impacts on stability
 - Drought and crop failure was **linked to radicalisation** by Boko Haram, ISIS and the Taliban



- Drought is reducing crop yields, leading to ill health and malnutrition, and **reversing years of improvements** in food production
 - **Flooding also affects food production** – e.g. in 2017, two 'once in a generation' hurricanes in a week, Hurricanes Maria and Irma, hit Puerto Rico, flooding agricultural land making much of it unusable for a year
 - In 2017, climate-related disasters caused acute food insecurity for **c. 39 million across 23 countries**
 - Under current trends, it is predicted that food production **must increase by 60% by 2050**, requiring a 77% increase in greenhouse gas emissions and further straining supply
-
- UN estimates that **200m could be forced into migration by 2050**, dwarfing the 1m Syrian refugee crisis
 - A fifth of the world's population could face **mass migration by 2100** if climate change is not sufficiently curbed

The Climate Change Committee published its third independent climate risk assessment for the UK in 2021. Here is a **summary of the key points**, with a focus on the headlines for business.

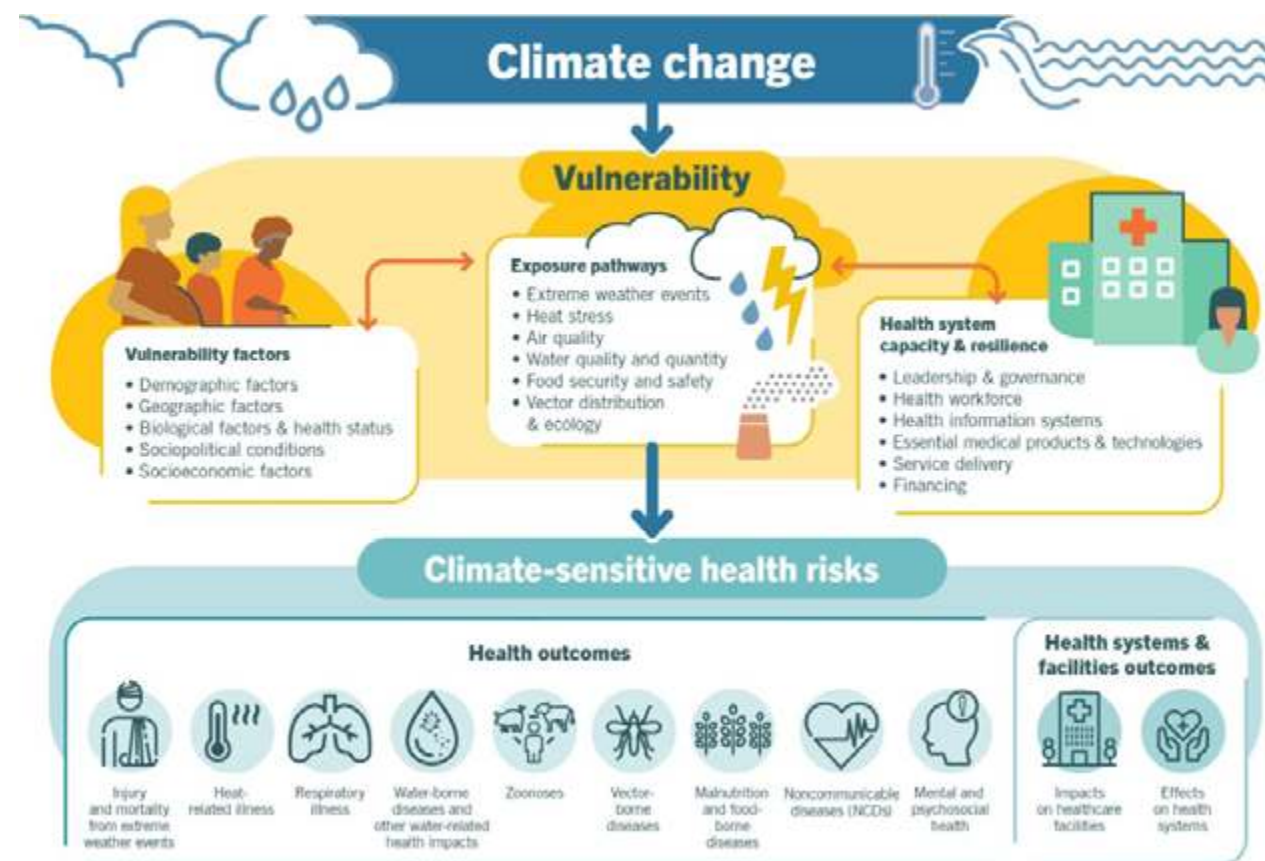
Source: [Climate Action tracker, 2021](#)

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Why | Climate change = biggest health threat

According to the World Health Organization (WHO), climate change is the single biggest health threat facing humanity, and health professionals worldwide are already responding to the health harms caused by this unfolding crisis.

The Intergovernmental Panel on Climate Change (IPCC) has concluded that to avert catastrophic health impacts and prevent millions of climate change-related deaths, the world must limit temperature rise to 1.5C.



Source: [World Health Organisation, Climate change and health, 2021](#)

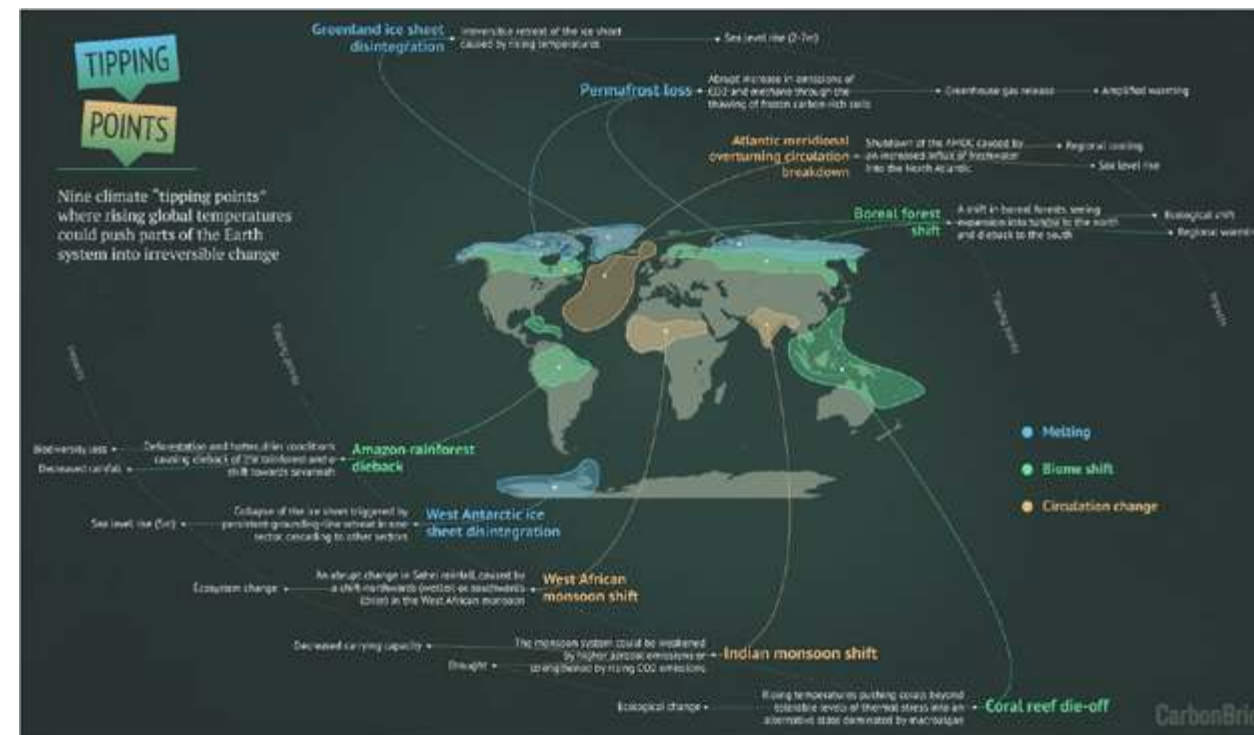
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Why | Losing control – climate ‘tipping points’

So far, temperature rises have been driven by factors (emissions) which we can control. However, as our actions cause temperatures to rise still further, ‘tipping point’ events could be triggered which cause temperatures to spiral sharply and irreversibly beyond our control.

For example:

- The release of large amounts of carbon dioxide and methane trapped in arctic permafrost as the ice melts. (This could release up to 1.8trn tons of carbon dioxide – more than that already suspended in the atmosphere – in addition to high volumes of methane (which is ~25 times more potent than CO₂ as a GHG))
- Temperature induced rainforest die-back reducing the capacity of the planet to absorb CO₂ (photosynthesis in plants is a critical process in removing CO₂ from the atmosphere and returning oxygen)
- Melting of polar ice reducing the amount of solar energy reflected into space (i.e. higher rate of heat absorption by the earth)



For a more in-depth assessment read: [How Close Are We to Climate Tipping Points?](#)

Source: [Carbon Brief, Explainer: Nine tipping points that could be triggered by climate, 2020](#)

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Why | A brief and rapidly closing window of opportunity

The Intergovernmental Panel on Climate Change (IPCC) has been working on its Sixth Assessment Cycle, during which its three Working Groups produced reports summarising the evidence base underpinning climate change.

The IPCC AR6 Report of 2021 indicates that the remaining carbon budget to limit global warming to 1.5C, is 400 billion tonnes of CO2 from start of 2020. If no reductions in emissions are made, this carbon budget will be used up by the end of 2030.

Chapter Zero has released summaries for NEDs on the following IPCC reports:

Climate Change 2021: The Physical Science Basis, released in August 2021, explained the physical impact of human activity on the climate and showed that human activity is unequivocally driving changes to the climate at an unprecedented scale.

Climate Change 2022: Impacts, Adaptation and Vulnerability, released in February 2022, concludes that the impacts of climate change are severe, but that humanity can still avoid many of them if it seizes “a brief and rapidly closing window of opportunity”.

Climate Change 2022: Mitigation of Climate Change, released in April 2022, looks at ways to limit and prevent human-caused emissions that contribute to global warming.

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Why | Some key areas of opportunity

Resource efficiency
(energy, water, waste etc.)

New energy sources
(renewables)

Access to government incentives

Better competitive positioning

New markets

New products and services

£1 trillion opportunity for UK business by 2030

Supplying the goods and services to enable the global net zero transition could be worth **£1 trillion** to UK businesses by 2030 according to McKinsey.

Fossil fuel price levels and volatility increase focus on renewables and energy efficiency
With significant increases in fossil fuel price levels and volatility, now is the time to start **“future-proofing our economies”**

Emerging technology a key opportunity in supporting the drive to net zero
40% of the necessary emissions abatement could come from technologies that are either still in R&D or demonstrated but not yet mature

Tax benefits for energy efficient firms
The Environment Agency helps industry reduce carbon emissions to fight climate emergency, by using its Climate Change Agreements (CCA) scheme, to offer tax benefits to firms which agree to energy efficiency targets

Huge growth in demand for climate-positive products
A global report from The Economist Intelligence Unit, commissioned by WWF, shows a staggering 71% rise in online searches for sustainable goods globally over the past five years. Also see the World Economic Forum’s article on **“The global eco-wakening”**

Carbon price growth increases viability of renewables and low-carbon tech

Long term growth in carbon prices are expected to continue due to growing regulation in line with net zero ambitions – and growth in fossil fuel prices. Europe’s carbon price grew by almost 17 times between start of 2017 and end 2021. Rising **carbon prices** increase viability of low-carbon technologies


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Step 1 | Leadership: Major improvement needed

Climate change is now widely established on board agendas...



...but there remains a lack of specific, measurable action – especially across the whole value chain...



...and there is a lack of climate knowledge on boards, plus a lack of consideration of climate in key decisions and performance metrics:



Source: [Heidrick & Struggles and the INSEAD Corporate Governance Centre, Changing the Climate in the Boardroom, 2021](#)

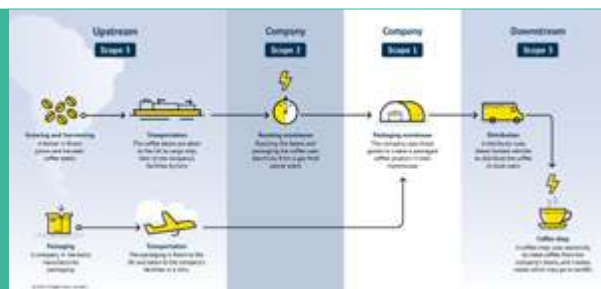

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Step 3 | Whole value chain: Scopes 1, 2 and 3

To fully understand and manage climate risks and opportunities, a full value chain perspective is essential.

From a climate-action perspective, the value chain is typically categorised into the three 'Scopes', outlined opposite:

To illustrate these different Scopes, [click here](#) to view an example with a fictional coffee manufacturer



Scope 1



Covers direct emissions from sources owned or controlled by the company. This includes emissions from company-owned or operated facilities and vehicles.

Scope 2



Covers emissions from the generation of electricity purchased by the company.

Scope 3



Refers to all other indirect emissions within a company's value chain.

Despite being less directly related to a company's main activity, these emissions can make up a significant portion of a company's impact on the climate. Scope 3 can be broadly grouped into two categories:

Upstream emissions from activities involved in the creation of a company's services or goods. This includes emissions from employee travel and commuting to work, and emissions in the supply chain from the production of purchased goods and services the company uses or sells.

Downstream emissions occur from the distribution or use of a company's goods including the disposal of products. If a product indirectly consumes energy during use, for example because it needs to be heated by another appliance, including these emissions in Scope 3 is optional.


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Step 3 | Reducing GHGs: Key areas of focus

Raw materials

- Agriculture and land use. Work with suppliers and farmers from whom foods and ingredients are sourced to reduce GHGs resulting from agriculture and land use (for example, use of livestock feed additives to reduce methane, changes to land and fertiliser use to reduce nitrous oxide emissions, crop rotation, nitrification inhibitors, better drainage)
- Recycled material. Work with suppliers to identify opportunities to use lower carbon recycled material, and thereby reduce high carbon mining and mineral extraction
- Fuel transportation. Where it cannot yet be eliminated, ensure suppliers of oil and gas have effective leak detection, repair and recovery to minimise fugitive methane emissions

Product development

- Product and packaging design. Design (or replace) products/services and their packaging to minimise GHG footprint in their: content (for example, meat versus vegetable-based food), production, distribution, use and disposal. This would ideally be done in collaboration with partners and stakeholders throughout the value chain (for example, raw material suppliers, manufacturers, distributors, consumers, and producers of complementary products and services)
- In silico research and development. Use AI to simulate product and manufacturing to reduce the impact that comes with real world development/testing

Energy

- Energy efficiency. Evaluate options to improve efficiency of capital goods, equipment and lighting. For example, use sensors and timers to control when lighting/equipment is on, or use Building Energy Management Systems to monitor and optimise energy usage
- Renewables. Switch to renewable energy sources, install renewable energy generation in facilities (for example, building-integrated photovoltaics)

Sourcing

- Supplier operations. Partner with suppliers to apply methods similar to the above to their operations to reduce their GHG footprint

Finance and operations

- Waste. Evaluate options to reduce waste and increase recycling (for example, paperless offices, avoiding disposables, reducing packaging)
- Travel. Encourage use of communications technology such as Zoom, MS Teams, or similar, to replace the need for business travel. Incentivise employees to reduce GHG footprint in commuting and explore options such as walking, cycling, public transport, or car shares
- Finance and investment. Review investments, lending and pension schemes to ensure they are focused on low GHG businesses/ventures. Ensure finance is acquired from lenders or investors whose businesses have acted to reduce climate impact

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Step 3 | Reducing GHGs: Key areas of focus

Supply chain and logistics

- Macro level. Review where raw materials, components and supplies are sourced from and how they are shipped. Evaluate options to change sourcing locations (for example to move them closer to consumption locations) and shipment approaches (for example from air to ship) to reduce GHGs
- Micro level. Review how materials, supplies and finished products are produced and moved between facilities (between factories, warehouses, distribution centres, and stores – both within own operations and to/from suppliers) to minimise GHG impact

Use and disposal

- Post sale. Work with consumers and waste management/recycling companies to evaluate and incentivise the use and disposal of your products and packaging in a way which minimises GHG impact (for example, amount used, recycling schemes, methane recovery from landfill)

Sales and distribution

- Downstream distribution. Engage with customers, distributors, franchisees and others who handle, distribute and sell your products downstream of your operations to ensure they are minimising GHG impact
- Sales and marketing. Consider the GHG impact on sales and marketing activities (for example, limiting physical marketing materials and travel, and shifting more to digital)

Carbon capture

- Utilisation or storage. Work internally and with supply chain partners and energy providers to evaluate options for carbon capture (for example, storage in depleted gas reservoirs, soil carbon sequestration, afforestation, or synthetic fuel using CO₂ and green hydrogen)




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Step 3 | Climate-related opportunities

This table summarises **TCFD guidance** on key opportunities which may emerge from mitigating and adapting to climate change. Opportunities should be assessed across the entire value chain, and against a range of temperature scenarios, to maximise synergies/efficiencies.

Type	Resource efficiency	Energy source (lower-emissions alternatives)	Products and services	Markets	Resilience (ability to respond to climate change)
Opportunity	<ul style="list-style-type: none"> • Use of more efficient modes of transport • Use of more efficient production and distribution processes • Use of recycling • Move to more efficient buildings • Reduced water usage/consumption 	<ul style="list-style-type: none"> • Use of lower-emission sources of energy • Use of supportive policy incentives • Use of new technologies • Participation in carbon market • Shift toward decentralised energy generation 	<ul style="list-style-type: none"> • Development/expansion of low emission goods and services • Development of climate adaptation & insurance risk solutions • Development of new low emissions products or services through R&D and innovation • Ability to diversify business activities • Shift in consumer preferences 	<ul style="list-style-type: none"> • Access to new markets • Use of public-sector incentives • Access to new assets and locations needing insurance coverage 	<ul style="list-style-type: none"> • Improve horizon scanning of potential risks and opportunities (insight and analytics) • Improve business continuity and disaster recovery plans • Substitutes, diversification and additional capacity/redundancy into operations and supply chain • Diversification of products and markets
Potential financial impact	<ul style="list-style-type: none"> • Reduced operating costs (e.g. through efficiency gains and cost reductions) • Increased production capacity, resulting in increased revenues • Increased value of fixed assets (e.g. highly rated energy efficient buildings) • Benefits to workforce management and planning (e.g. improved health and safety, employee satisfaction) resulting in lower costs 	<ul style="list-style-type: none"> • Reduced operational costs (e.g. through use of lowest cost GHG reduction) • Reduced exposure to future fossil fuel price increases • Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon • Returns on investment in low-emission technology • Increased capital availability (e.g. as more investors favour lower-emissions producers) • Reputational benefits resulting in increased demand for goods/services 	<ul style="list-style-type: none"> • Increased revenue through demand for lower-emissions products and services • Increased revenue through new solutions to adaptation needs (e.g. insurance risk transfer products and services) • Better competitive position to reflect shifting consumer preferences, resulting in increased revenues 	<ul style="list-style-type: none"> • Improve horizon scanning of potential risks and opportunities (insight and analytics) • Improve business continuity and disaster recovery plans • Substitutes, diversification and additional capacity/redundancy into operations and supply chain • Diversification of products and markets 	<ul style="list-style-type: none"> • Increased market valuation through resilience planning (e.g. infrastructure, land, buildings) • Increased reliability of supply chain and ability to operate under various conditions • Increased revenue through new products and services related to ensuring resiliency


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Step 3 | Business risks

This table summarises **TCFD guidance** on key physical and transition risks which may emerge from mitigating and adapting to climate change.

Risks should be assessed across the entire value chain, and against a range of temperature scenarios, to ensure complete/integrated adaptation and mitigation.

Type	Transition (associated with transitioning to a lower-carbon economy)				Physical	
	Policy and legal	Technology	Market	Reputation	Acute (event driven)	Chronic (due to longer term shifts)
Risk	<ul style="list-style-type: none"> Increased pricing of GHG emissions Enhanced emissions-reporting obligations Mandates on/regulation of existing products Exposure to litigation Future international policy (trade deals, global regs, etc.) 	<ul style="list-style-type: none"> Substitution of existing products and services with lower-emissions options Unsuccessful investment in new technologies Costs to transition to lower-emissions tech 	<ul style="list-style-type: none"> Changing customer behaviour Uncertainty in market signals Increased cost of raw materials 	<ul style="list-style-type: none"> Shifts in consumer preferences Stigmatisation of sector Increased stakeholder concern or negative stakeholder feedback 	<ul style="list-style-type: none"> Increased severity of extreme weather events such as cyclones and floods 	<ul style="list-style-type: none"> Changes in precipitation patterns and extreme variability in weather patterns Rising mean temperatures Rising sea levels
Potential financial impact	<ul style="list-style-type: none"> Increased operating costs (e.g. higher compliance costs, increased insurance premiums) Write-offs, asset impairment, and early retirement of existing assets due to policy changes Increased costs and/or reduced demand for products and services resulting from fines and judgments International policy (trade deals, potential future global regulation of products or practices, etc.). <p>See p118 of the CCLI Primer for more on directors' duties and Shell as an example of litigation risk</p>	<ul style="list-style-type: none"> Write-offs and early retirement of existing assets Reduced demand for products and services R&D expenditures in new and alternative technologies Capital investments in technology development Costs to adopt/deploy new practices and processes 	<ul style="list-style-type: none"> Reduced demand for goods and services due to shift in consumer preferences Increased production costs due to changing input prices (e.g. energy, water) and output reqs (e.g. waste treatment) Abrupt and unexpected shifts in energy costs Change in revenue mix and sources, resulting in decreased revenues Re-pricing of assets (e.g. fossil fuel reserves, land valuations, securities valuations) 	<ul style="list-style-type: none"> Reduced revenue from decreased demand for goods/services Reduced revenue from decreased production capacity (e.g. delayed planning approvals, supply chain interruptions) Reduced revenue from negative impacts on workforce management/planning (e.g. employee attraction/retention) Reduction in capital availability 	<ul style="list-style-type: none"> Reduced revenue from decreased production capacity (e.g. transport difficulties, supply chain interruptions) Reduced revenue and higher costs from negative impacts on workforce (e.g. health, safety, absenteeism) Write-offs and early retirement of existing assets (e.g. damage to property and assets in "high-risk" locations) Increased operating costs (e.g. inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants) Increased capital costs (e.g. damage to facilities) Reduced revenues from lower sales/output Increased insurance premiums and potential for reduced availability of insurance on assets in "high-risk" locations 	

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Step 3 | Strategic objectives, targets, and metrics

There is an evolving and interconnected landscape of climate targets, reporting frameworks, standards and metrics available, with a range of tools, standards, data and frameworks in existence.

This landscape includes **TCFD recommendations**. The TCFD was established by the Financial Stability Board in order to define a consistent approach to climate-related financial disclosures.

With growing action (e.g. by the **CMA**) – and scepticism about greenwashing – and with increasing scrutiny of ESG claims in investment and valuation decisions, it is more important than ever to ensure that climate action is credibly evidenced.

A balanced-scorecard of SMART climate objectives and metrics ensures companies are driving tangible reductions in GHG emissions, and improving their financial performance and risk profiles.

Such metrics will also demonstrate to key stakeholders (e.g. employees, investors, lenders and customers) that you are taking meaningful action, which may be key to future competitiveness and viability.

You can use the following to help navigate this varied landscape:



Navigating the climate disclosure landscape



Sustainability reporting global update March 2022




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Step 3 | Defining a comprehensive change portfolio

Key 'lenses' to apply in checking that the portfolio of change is comprehensive and well integrated:

Lens	Evidence to check for
Action scope	Change is being undertaken to address all action areas – GHG reduction, climate-risk mitigation and climate opportunity realisation
Business scope	Change is being undertaken by all business areas/functions (in service of delivering defined, stretching targets which are aligned across the value chain)
Collaboration	Positive collaboration is taking place across the value chain – and indeed between value chains of related/complementary products and services. Such collaboration is vital, not only to realise synergies – but also to avoid action in one area unintentionally creating or adding to problems in another
Type of change	All types of change are being applied – Product (e.g. changing products and services to reduce GHG creation in their production, shipment, use and recycling); Process (e.g. reengineering supply chains), Technology (e.g. use of BEMS to reduce energy consumption); People/Behaviours (e.g. increased recycling, reduced travel, etc.)

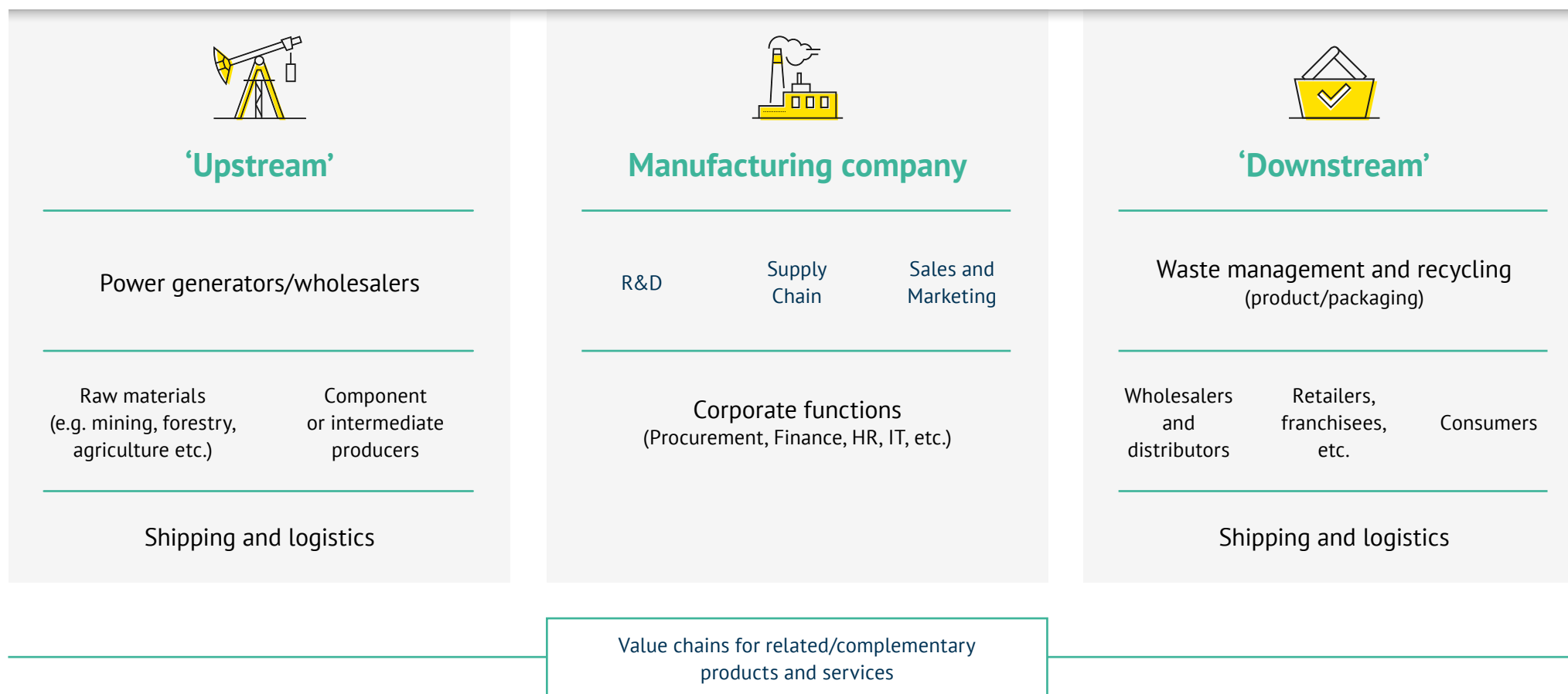
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Step 3 | Defining a comprehensive change portfolio

For example:

In a typical manufacturing company, action would be expected across the entire value chain:



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Step 3 | Delivery resources and tracking

There is no hard and fast rule which says how much resource (finance, people, knowledge) needs to be assigned to deliver on an organisation's climate and net zero strategies and plans.

It will depend on the specific context and changes which the business in question needs to implement. However, as with any major investment, NEDs can ensure appropriate rigour by challenging how the exec has arrived at its estimates and how delivery will be tracked.

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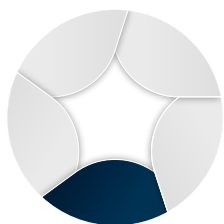
Step 3 | Delivery resources and tracking

Things for you to check up-front, before implementation starts:

- Are plans linked directly to the delivery of clearly defined, SMART objectives which are independently and scientifically verifiable (e.g. via the likes of SBTi)? If they're not, there will be limited means of checking whether commitments are being met. (If you were being asked to invest in a business case whose goal was to reduce operational cost, you'd expect to see (in specific, measurable terms) how cost savings will be tracked and reported. Climate/net zero goals should be no different.)
- The primary focus of the company is on eliminating emissions not offsetting. Ensure that offsetting is only used to compensate for residual/'tail end' emissions, which it can be clearly evidenced are not feasible to eliminate from the company's operations or value chain (Scopes 1, 2 and 3). When offsetting is used, ensure that the emissions benefits it delivers are also independently and scientifically verifiable. (Some claim that offsetting is often used by companies as a means of appearing to be climate-positive, but without taking enough tangible action to address their own emissions impact.)
- Can the exec evidence how they have estimated the resources required to deliver the plans? Have the estimates been subject to an independent verification by someone with the right experience?
- Can the exec demonstrate, in measurable terms, how they will regularly track and independently verify whether intended outcomes are being delivered on schedule?

Things for you to check during implementation of change:

- Is the board being provided with regular, measurable and independently verified updates on progress against plans and outcomes?
- If delivery of intended outcomes is delayed, can the exec evidence, in clear measurable terms, why? (Bear in mind cause and effect. Have they encountered unexpected issues? Were there management failings? Was it lack of resource? What are the mitigating actions?)
- If outcomes and objectives change during implementation, can the reason and impact on strategic goals be independently verified? (The aim here is to limit unplanned 'mission drift' and reduce the risks of 'greenwashing' claims mentioned previously.)


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Step 4 | Governance of climate-related change

Governance should be in place to provide effective board level oversight of all aspects of the analysis, planning, implementation and operationalisation of climate-related change. The World Economic Forum has created a number of principles to guide boards in putting the appropriate governance in place. Many of them are touched on in other sections of this Toolkit.



For more detail on these principles and the questions to ask to assess alignment with them, refer to the [Principles for Effective Climate Governance](#).

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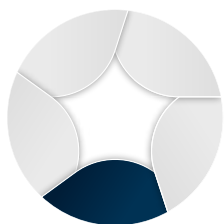
Step 4 | Stakeholder engagement

Stakeholder communication, transparency and engagement

Broad based communication, transparency and engagement across the full gamut of stakeholders is vital. Transparency is increasingly both a regulatory issue and a question of authenticity as an aspect of reputation and delivering on **Purpose**. In some cases, the most advanced engagement takes the form of a partnership. Collaboration across multi-stakeholder groups is a critical aspect of climate change transition planning. **Global Goal 17** – Partnerships for the Goals – provides useful guidance here.

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Step 4 | Stakeholder engagement

Areas of action could include:

Employees

- Build awareness of the importance/urgency of action to address climate change to mobilise for action
- Help them understand (through signposting, training and support) the actions they can take to make a difference (for example, recycling, travel)
- Introduce incentives/gamification (for example, competitions for coming up with the best ideas or making the biggest difference) to keep the topic front of mind and encourage people to positively engage
- Work with pension funds that are properly accounting for climate change and be transparent about this to your employees ([see this panel discussion summary for more insights](#))

B2B customers

- Build awareness of the action your business is taking to reduce GHG impact and climate risk, why it's important and how it makes a difference to their business (for example, sourcing from a low-carbon supplier improves their low GHG credentials) and sourcing from a 'climate-change prepared' supplier reduces their risk profile
- Based on the above, encourage them to buy from businesses that are taking decisive action. This will not only help increase pressure to act across your sector but, if you are an early mover, could give you a competitive advantage
- Provide information and guidance on how to handle/use/dispose of your products in a way which minimises GHG impact, and engage with them on how your products and packaging could be further improved to make it easier for them to reduce their own GHG footprint

Communities

- Consider how climate change will impact the many communities in which your businesses operate. In particular, for Scope 3 consider the human and environmental impacts on local communities throughout the supply chain

Consumers and citizens

- As for 'B2B customers', build awareness, encourage them to buy from businesses taking decisive action on climate change, and give guidance on how to use/handle/dispose of products in a 'low-carbon' way. As with employee competitions/gamification, this could encourage positive engagement

Investors, lenders and ratings agencies

Investors, lenders and ratings agencies are increasingly focused on the climate action and net zero strategies of companies. Access to investment and capital as well as company valuations can be affected, if these stakeholders do not see well evidenced positive action. Therefore it will be crucial to:

- Understand how these stakeholders assess climate action in their investment, ratings and lending decisions. In addition to protecting ratings and access to investment, this may help companies improve their own internal assessment processes, enabling them to better identify and manage risks, and yielding new opportunities
- Provide these stakeholders with clear and compelling evidence of the decisive action your company is taking on climate change and the transition to net zero

- Support the education of these stakeholder groups with the aim of encouraging investment and lending to (and positive valuations of) low GHG and climate change prepared businesses to make it even easier and cheaper for climate-positive businesses to access funding and capital

Influencers

- Engage with news agencies and organisations promoting GHG reduction or climate-readiness to share positive stories about the steps you have taken and the results you've achieved in GHG reduction and climate change readiness.
- Where relevant, become accredited (e.g. commitment to GHG reduction targets with SBT). Not only does such action increase pressure for others to act, it may also positively reinforce your standing/credentials with customers, consumers and investors

Trade bodies

- Engage to ensure that trade bodies in your sector (and especially those your company is associated with) understand and are aligned in their policy and lobbying activities with your climate action agenda

Policy makers

- Engage to encourage tightening of policy and extension of incentives to favour businesses taking decisive action to reduce GHGs, manage climate change risk, and transition to a lower-carbon economy