The Building Blocks for Net Zero Transformation

A practical guide to embedding net zero aspirations and actions within and across your business

A contribution to the Transform to Net Zero initiative

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Microsoft

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Foreword

Even as COVID-19 takes hold of our attention, the pressing challenge of climate change remains. With a view out beyond the current crisis, arguably the greatest transformation challenge humankind has faced is staring right at us: the world has 10 years to halve global greenhouse gas emissions and avoid global warming of above 1.5°C. Beyond this point of warming, the more devastating impacts of climate change become irreversible. Put simply, this gives us just over two business cycles to transform every sector of the global economy.

The good news is that we have recently seen a wave of bold business commitments – just under 300 global companies have now made net zero before 2050 pledges[1]. But there is still so much more to do. Only around 5% of the world's largest companies represented by the Global Fortune 500 have pledged to become net zero[2]. For those that have, there are varying levels of robustness.

What we do know is that leading net zero commitments have certain attributes. They are science-based. They take responsibility for tackling value chain emissions including suppliers, products, services and investments. They also explicitly recognize that net zero requires a reshaping of corporate strategy and in turn a firm's operating model. And they allocate substantial funding for skills, innovation and R&D to reflect the importance of new capabilities, technologies and business models.

In this PwC and Microsoft report, contributed to the new Transform to Net Zero Initiative, we have come together to create a 'blueprint' to help guide companies as they move from ambition to action. We have a shared belief that delivering on net zero requires wholesale business transformation, and that functions across the organization need to play a vital role - from strategy, product development, sales and marketing, and innovation and R&D, to corporate finance, risk and compliance, procurement and people. That is why, together, and with case studies from the initiative's founding members, we undertook this work to create a good practice guide on net zero transformation for stakeholders across a business.

Transform to Net Zero is about leading companies stepping up to accelerate the transformation of businesses and industries to achieve a socially just net zero future. Companies like ours are well placed, and have a duty, to drive efforts and demonstrate what net zero transformation looks like so that companies of all sizes can do the same.

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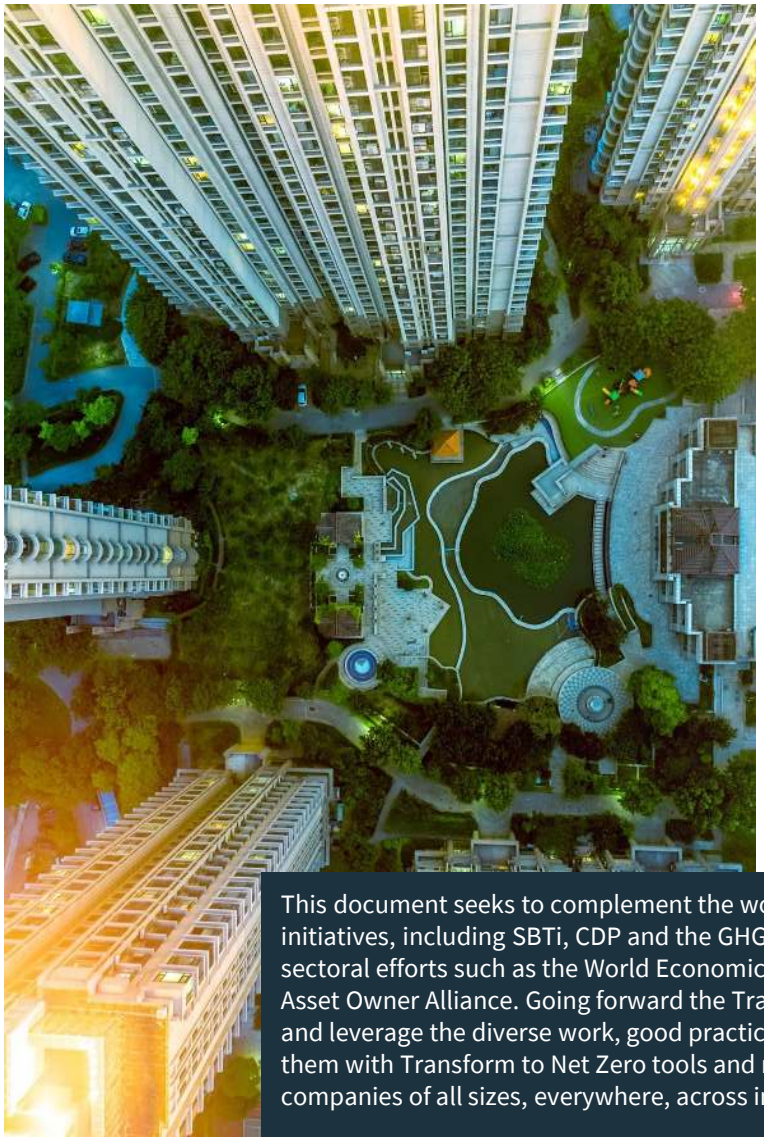
About

This report - produced by PwC and commissioned by Microsoft - is the first of many contributions to the Transform to Net Zero initiative. It sets the scene for what is meant by net zero transformation for businesses, and provides a consistent narrative and framing for the work of the Transform to Net Zero initiative.

It outlines the key building blocks for business transformation needed to deliver net zero, providing a coherent, holistic, and good practice framework that businesses can use to inform and guide how to embed net zero into a company's strategy and operating model.

For each building block of the transformation journey, this report describes a comprehensive checklist of key actions businesses need to undertake over time, explains why they are important and provides practical and actionable guidance that companies can follow to achieve them. Whilst comprehensive, this checklist is not exhaustive and different companies may choose to focus on specific actions most relevant to their operating context. We also expect this checklist to evolve with time, as more lessons are learned on implementing effective net zero transformation.

This document is intended to be used by business executives and function heads as a framework, setting out how to translate a net zero commitment into the business transformation that is required to build a business fit for the future. It is sector and size agnostic, and contains case studies from Transform to Net Zero founding members to bring the building blocks to life.



This document seeks to complement the work of other business-focused climate action initiatives, including SBTi, CDP and the GHG Protocol, and WBCSD's SOS1.5 program, as well as sectoral efforts such as the World Economic Forum's Mission Possible Platform and the Net Zero Asset Owner Alliance. Going forward the Transform to Net Zero initiative will collaborate with, and leverage the diverse work, good practice and research of these initiatives, and integrate them with Transform to Net Zero tools and resources. Transform to Net Zero's aim is to enable companies of all sizes, everywhere, across industries and value chains to fast follow.

About Transform to Net Zero

Transform to Net Zero intends to develop and deliver research, guidance and implementable roadmaps to enable all businesses to achieve net zero emissions. It will focus on enabling the business transformation needed to achieve net zero emissions no later than 2050, in addition to driving broader change, with a focus on policy, innovation, and finance. The initiative intends to complete the outputs of this work by 2025, and these will be available to all.

The Initiative will be led by founding members including A.P. Moller – Maersk, Danone, Mercedes-Benz AG, Microsoft Corp., Natura&Co, NIKE, Inc., Starbucks, Unilever, and Wipro, as well as Environmental Defense Fund (EDF). The Initiative is supported by BSR, which is serving as the Secretariat for the Initiative.

This report, written by PwC, was commissioned by Microsoft as a first contribution to the objectives of Transform to Net Zero. It does not necessarily reflect the views of the Transform to Net Zero members.

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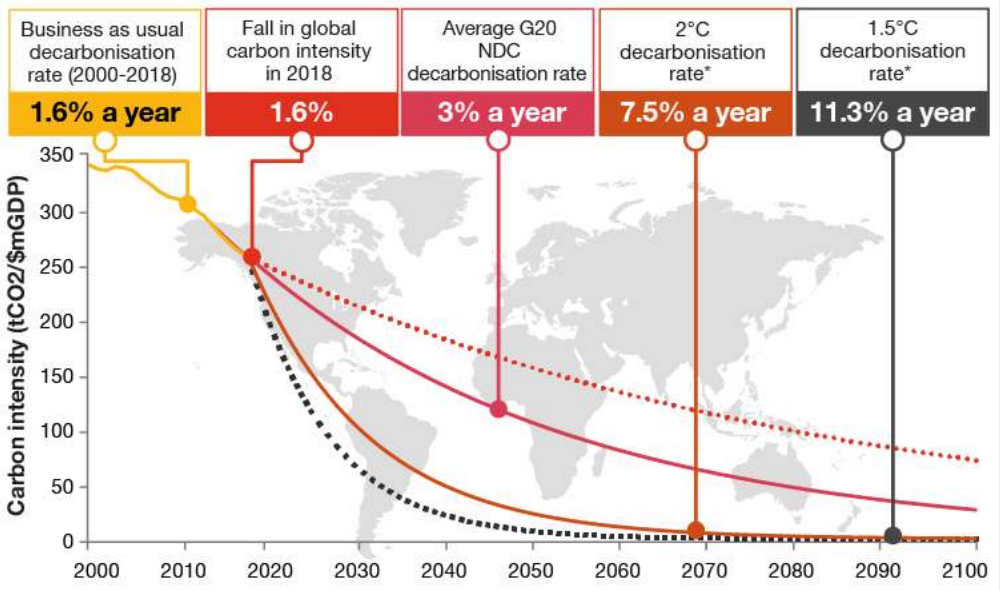
Introduction

What does climate science tell us?

In November 2018, the Intergovernmental Panel on Climate Change (IPCC) published research[3] warning of the devastating impacts of global warming of 1.5°C above pre-industrial levels on natural and human systems. The impacts include the loss of arctic ice sheets, sea level rise, warming oceans, biodiversity loss, increasingly severe extreme weather events, such as heatwaves, droughts, storms, coastal and inland flooding, leading to greater food insecurity, destruction of livelihoods and assets, and loss of life.

At current emissions rates, human-induced warming is adding around 0.2°C to global average temperatures every decade. If this rate continues unabated, global warming could reach 1.5°C by as early as 2030. The science makes it clear that to have more than a 50% chance of avoiding catastrophic climate breakdown, we must halve global greenhouse gas (GHG) emissions by 2030 (from 2010 levels) and reach net zero global emissions around 2050.

Figure 1: Low Carbon Economy Index 2019: Transition pathways (Source: PwC)



Why is business action critical?

There is an ever increasing gap between actual emissions reductions commitments made by countries (Nationally Determined Contributions - NDCs) and those necessary to limit warming to 1.5°C. Based on current unconditional NDC pledges, the world is heading for a 2.8°C temperature rise[4]. In reality this number may be even higher as NDC implementation is uneven and patchy.

Whilst countries are expected to significantly raise their climate commitments in 2020, we stand far away from the pace and scale of reductions needed to keep the 1.5°C goal within reach. PwC's Low Carbon Economy Index 2019[5] shows that global progress on emissions reduction has worsened in recent years and the gap between the actual decarbonization rate (-1.6%) and that needed to keep warming to 1.5°C (-11.3%) is growing.

Companies have a pivotal role to play in closing this emissions gap. Their actions, resources, ability to innovate, and wide-reach are critical to rapidly decarbonizing industries, infrastructure, value chains, and what we produce and consume. Action over the next decade - which equates to the next two business cycles - will be critical to make it possible to limit warming to 1.5°C . Companies have a responsibility to drive this transformation, and to protect their employees, customers, investors, and most critically, the societies they serve.

What does net zero mean for business?

Net zero is a "state in which the activities within the value chain of a company result in no net impact on the climate from greenhouse gas emissions".

A credible net zero strategy means eliminating sources of emissions in the value chain at a pace and scale consistent with limiting global warming to 1.5°C as far as possible, and after this point removing any residual emissions that remain unfeasible to eliminate through permanent carbon dioxide removals. It is recommended that all interventions adhere to strict social and environmental safeguards, and those with strong social and environmental co-benefits are prioritized. A foundational guide for the science-based assessment of corporate net zero targets has been provided by the Science Based Targets Initiative (SBTi)[6].

Introduction (continued)

The moment in time

Today as the world grapples with COVID-19, we are experiencing a global crisis that knows no borders, has impacted billions of lives, and has left no organization or economy untouched. It's shown how systemic risks can have exponential repercussions — on human health and loss of life, business and supply chain performance and survival, employment, inequality and the global economic outlook. The immense scale and diversity of the challenges sound very familiar to those who have long championed urgent action to heed the science and avert catastrophic climate change.

The difference with climate change is we know what the costs will be if we don't act now. We know the costs are rising, and will continue to rise exponentially with every fraction of increased global warming. Current estimates suggest global losses from climate change could total US$600 trillion[7] by the end of the century.

The good news is the tide on climate action is beginning to turn. Governments and jurisdictions are ratcheting policies and regulation to support decarbonization in line with bolder climate targets**.** Investors increasingly recognize the implications on investment performance and value creation and destruction: over US$45 trillion assets under management (AUM)[8] - close to half of total AUM[9] - is held by investors that have pledged to drive climate action. And close to 300 global companies have now made so-called "net-zero before 2050" pledges since 2019, spurred by pressure from investors, customers, consumers and employees alike. There is an increasing recognition that many levers to cut operational emissions present a good return, and that industries will together need to solve some of the technological innovation challenges for harder to abate emissions.

The recent surge in corporate net zero commitments is a vital and promising development, but there is still much more to do. Out of the close to 300 companies with public net zero pledges today, many commitments remain vague in how value chain emissions will be tackled, and in particular downstream emissions from products, services and investments. These are the largest sources of emissions for most companies (referred to as Scope 3 emissions) and failure to address these emissions will result in failure to achieve a net zero economy. Furthermore, companies are still at the very early stages of embedding net zero into business and supply chain strategy and transformation efforts. As net zero requires full value chain transformation, companies cannot act alone and success will be dependent on a common and accelerated path forward.

Resetting and reconfiguring for the future

Critically, the **end goal is not just net zero, but a thriving, socially just, net zero future**. Marginalised groups and low-income communities often bear the greatest impacts of climate change and there will be transitional implications for workers, sectors, communities and regions that will need to be managed.

Companies must help enable the conditions needed to achieve effective, just and sustainable climate solutions for people of all gender, race and skills. Examples include proactively driving inclusivity and social impact of new net zero products and solutions, upskilling and reskilling to enable an inclusive workforce transition, upskilling and broader support for SME partners and suppliers, integration of social metrics into reporting and disclosure around net zero, and incorporating inclusion and a "just transition" into policy advocacy efforts.

Building Blocks for Corporate Net Zero Transformation

To deliver on their net zero commitments, companies will need to undertake end-to-end business transformation. This includes understanding the implications of net zero for a company's growth strategy and operating model, and embedding net zero across all business functions from governance, to supply chains, to finance and innovation.

To support companies on their net zero journeys, PwC has defined nine key **building blocks for corporate net zero transformation.** This 'blueprint' seeks to help companies move from ambition to implementation. For each building block, this report:

- Defines the checklist of critical actions companies need to undertake to transform to net zero;
- Explains why these actions are important; and
- Provides practical and actionable guidance for companies to follow.

The report also includes case studies from 'Transform to Net Zero' founding members, which are intended to help bring the guidance to life and share successes, lessons learnt and future plans and roadmaps.

The building blocks, and checklists, include actions and suggestions that even today's most leading companies on climate action may only just be embedding, or even considering. It is intended as a forward-looking framework to guide the net zero transformation journey rather than steps that are expected to be in place from Day 1.

Figure 2: Building Blocks for Corporate Net Zero Transformation (Source: PwC)

Align organization around net zero — *Enable business transformation* — *Bring others along*

1 | Ambition
2 | Governance
3 | Strategy
4 | Enterprise
5 | Supply Chains
6 | Innovation
7 | Finance
8 | Transparency
9 | Engagement

Checklist of key actions

1 **Ambition**: Aligned to achieving global net zero by no later than 2050 & to limit warming to 1.5ºC

Alignment of company ambition to achieving global net zero by no later than 2050, underpinned by science-based targets approach to limit warming to 1.5ºC of warming. Define what good practice on ambition looks like.

Checklist of key actions:

- ✓ Set a net zero vision that follows a science-based approach
- ✓ Understand total emissions impact across value chain
- ✓ Prioritize actions to deliver your net zero commitment
- ✓ Develop a credible carbon offset approach (including measures to avoid, reduce and remove emissions)

2 **Governance**: Accountability driven from the top

Oversight and accountability for net zero driven through the entire organization, including at the highest levels of the company and Enterprise Risk Management.

Checklist of key actions:

- ✓ Those at highest level of organization assume responsibility for delivering net zero transformation
- ✓ Establish net zero and climate change as standing agenda items at executive level
- ✓ Assign management oversight of net zero transformation
- ✓ Evaluate net zero incentives structure

3 **Strategy**: Embedded and aligned net zero into company strategy

Net zero is embedded into company strategy, including growth strategy and functional strategies to maximize value and build resilience in a changing climate

Checklist of key actions:

- ✓ Understand how net zero is changing market dynamics and value
- ✓ Assess capabilities required to succeed under net zero future
- ✓ Identify options to deliver net zero strategy
- ✓ Develop business case to deliver net zero strategy
- ✓ Align operating model blueprint to deliver net zero strategy

4 **Enterprise transformation:** Key operating model changes in support of transformation

Company is structured to achieve net zero with the operating model designed to deliver net zero targets. A holistic change management program is designed and executed where required.

Checklist of key actions:

- ✓ Establish clear structure of responsibilities and accountabilities to deliver net zero
- ✓ Harness culture and people
- ✓ Establish policies, processes and a measurement framework to deliver net zero transformation
- ✓ Engage customers
- ✓ Leverage technology and digitisation program

5 **Supply chains:** Transformed net zero supply chain

Net zero integrated across the whole supply chain to build a well connected, smart, efficient and low carbon supply chain ecosystem. Includes adapting supply chain strategy, aligning with existing transformation efforts, and supporting the supply chain to decarbonize

Checklist of key actions:

- ✓ Leverage existing supply chain transformation efforts to deliver emissions reductions
- ✓ Assess emissions and climate impacts across whole supply chain
- ✓ Incentivize suppliers to reduce emissions
- ✓ Build supplier capacity to deliver net zero
- ✓ Build a connected and smart supply chain ecosystem amongst suppliers

6 **Innovation**: Developed innovation and technologies to deliver net zero

Company invests in R&D and builds innovation into ways of working to harness emerging technologies and develop new solutions to deliver net zero at pace. Net zero is embedded in to innovation/R&D strategy, in to product and service development, and corporate ventures.

Checklist of key actions:

- ✓ Ensure net zero is embedded in corporate R&D and innovation
- ✓ Provide finance to develop innovative net zero solutions
- ✓ Innovate to develop products and services that deliver net zero
- ✓ Leverage Corporate Innovation to unlock internal barriers to net zero transformation
- ✓ Build innovation ecosystem through partnerships

7 **Finance:** Financing the net zero transformation

Substantial commitment and willingness to finance net zero transformation through existing and new finance functions and modalities.

Checklist of key actions:

- ✓ Develop investment strategy
- ✓ Embed into corporate finance decision-making
- ✓ Identify and prioritize sources of financing
- ✓ Deliver investment

8 **Transparency:** Communicating action

Provides transparent and balanced information on progress against net zero ambition, including business transformation.

Checklist of key actions:

- ✓ Communicate your net zero strategy
- ✓ Disclose progress against your net zero strategy
- ✓ Disclose with clarity and transparency

9 **Engagement and influence:** Enhancing the pace and scale of net zero action

Engages and influences stakeholders across ecosystems to enable change at pace and scale.

Checklist of key actions:

- ✓ Develop engagement strategy
- ✓ Inspire and lead by example
- ✓ Influence value chain
- ✓ Promote policies and behaviors that enable and accelerate progress

Building Block: Ambition

A credible and leading net zero ambition should align to the achievement of global net zero emissions by no later than 2050, consider the whole value chain, and be supported by a science-based targets approach.

This section is important for:

Heads of Sustainability, Corporate Social Responsibility (CSR) Team, Business Unit Heads, Supply Chain Lead, CEO & Senior leaders.

Checklist of key actions:

- **Set a net zero vision for company that follows a science-based approach to ensure warming is limited to 1.5°C and covers the full value chain by:** developing a net zero commitment that is inclusive of operations and value chain, and is underpinned by a science based approach aligned with limiting warming to 1.5°C.
- **Understand total emissions impact across the value chain and identify the largest emissions sources by:** conducting a value chain GHG baseline assessment; supplementing company data with environmental modelling techniques; repeat footprinting annually.
- **Prioritize actions to deliver your net zero commitment by:** gathering information to identify GHG emission reduction levers across the value chain; assessing the GHG reductions impact, costs and return on investment, feasibility, risks and opportunities to prioritize GHG reduction levers.
- **Develop a credible carbon offset approach (including measures to avoid, reduce and remove emissions) to reach net zero before 2050 by:** developing a robust carbon offset strategy including an emissions mitigation hierarchy; analyzing the market for offsets; developing a management/ assessment/ certification process.

Ambition: Aligned to 1.5 degree warming

✔ Set a net zero vision for company that follows a science-based approach to ensure warming is limited to 1.5ºC and covers the full value chain

There is currently no consistent definition of "net zero". Without a robust definition grounded in a 1.5°C aligned science-based target, companies face reputation risk and reduced investor confidence.

Sustainability and CSR leads should work closely with the highest levels of leadership in the organization to **approve a net zero commitment.** This should be underpinned by a science based target aligned with limiting warming to 1.5ºC. A robust target should meet Science Based Targets Initiative (SBTi) approval, include interim targets, and evolve with any emerging SBTi Net Zero standard/framework, including *Foundations for Science-based Net-zero Target Setting in the Corporate Sector*[7]. The net zero vision should set out timeframes and accountability, how the company intends to decarbonize emissions from its operations and value chain, its approach to hard to eliminate residual emissions through offsetting, and an enabling investment strategy.

✔ Understand total emissions impact across the value chain and identify the largest emissions sources

A value chain-wide greenhouse gas footprint is essential to baseline impact and translate the net zero implications into business specific parameters.

Companies should **conduct a value chain GHG baseline and footprint assessment** to understand total GHG emissions impact and identify the largest emissions sources across the business, business units, geographies, product lines, supply chain and tiers, downstream in logistics, product use and end of life. The assessment should have an executive sponsor and audience, but can be driven by the Sustainability function who are familiar with these assessments.

Data gaps, particularly in scope 3 for supply chain and product use, can be filled using environmental modelling techniques e.g. Input-Output models and/or life cycle assessments. GHG footprinting assessments should be conducted annually or at least every two years, and changes monitored regularly.

✔ Prioritize actions to deliver your net zero commitment.

Companies will need to understand the nature and cost of their critical GHG reduction levers in the short, medium and long term. This should inform the net zero aligned corporate strategy and business transformation.

Companies should gather information across their operations and value chain, to **identify GHG emission reduction levers.** This should involve engagement with business and functional heads across the organization to identify efforts underway and build consensus on key new levers to pursue.

Assessment and prioritization of key operational and value chain GHG reduction levers would include GHG reduction quantifications, costs and return on investment, feasibility and risks, and wider business contingencies and impacts (e.g. people - upskilling, re-skilling, technology). In addition wider social and environmental impacts should be identified (e.g. biodiversity, water use, waste, human rights, social inclusion).

Once formulated, a company's net zero implementation plan should be **embedded within its broader corporate strategy and operating model**. This should be an inclusive exercise bringing in leads from all business functions, and leverage the expertise of the organization's Sustainability and CSR leads.

✔ Develop a credible carbon offset approach to reach net zero before 2050, including measures to avoid, reduce and remove emissions

Companies are offsetting emissions through actions that help society avoid or reduce emissions outside of their value chains (compensation measures) and actions that remove carbon from the atmosphere within or beyond their value chains including natural climate solutions (neutralisation measures). Both measures can play a critical role in society reaching net-zero, but should not be used as a substitute for reducing value chain emissions in line with 1.5°C.

Companies should **develop a strategy that follows the mitigation hierarchy** of first reducing actual emissions as far as possible, then offsetting those that remain to bring the balance of emissions to net zero at the target date. Nature-based and engineered solutions offer ways to remove carbon from the atmosphere and can be used to offset a company's residual emissions. For all carbon removal options, in addition to verification, the permanence of removal and broader social and environmental impacts should be assessed.

Companies should **analyze the market for offsets** - considering how price of carbon offsets might change and assessing the landscape of offsetting schemes and 'in house' options. The strategy should also include a **management/ assessment/ certification** process to ensure offsets are credible, and robust social and environmental safeguards.

Practical advice for:

Companies just starting their net zero journey:

Start by clearly defining net zero and what it means for your business. It may be helpful to conduct an executive briefing, to ensure leadership are aligned around a common view of what net zero is, why it is important to follow a good practice approach, key business drivers, and the implications (including challenges and opportunities) involved.

Mature companies seeking to be net zero leaders:

It is the robustness, breadth and pace of change of a net zero ambition, and explicit integration into corporate strategy, that will set leaders apart. Leading net zero commitments:

- Set a 1.5°C aligned science-based ambition for the business
- Take responsibility for the greatest sources of emissions, including supply chain, products and service use, and investments
- Outline how net zero translates into corporate strategy and business transformation
- Dedicate innovation/R&D funding to net zero technologies and products
- Align corporate advocacy with net zero
- Apply robust carbon offsets to bring forward net zero target date
- Actively manage wider social and environmental impacts

Who is responsible for delivering Net Zero Ambition:
Heads of Sustainability, Corporate Social Responsibility (CSR) Team, Business Unit Heads, Supply Chain Lead, CEO & Senior leaders.

Ambition case studies

A.P. Møller - Maersk

Maersk has set a target to have net-zero CO_2 emissions from its own operations by 2050, which includes having commercially viable, net-zero vessels on the water by 2030. In addition to this, the company aims to deliver a 60% relative reduction in CO_2 emissions by 2030 compared to 2008 levels and has committed to setting a formal science-based target (SBT).

Danone

Danone has set an ambition for zero net carbon emissions across its full value chain by 2050, including an absolute reduction of Scope 1 and 2 emissions by 30%, and a 50% reduction in emission intensity full scope by 2030 (compared to 2015). The company's 2030 reduction targets where approved by the Sciences-Based Targets initiative in line with 2C warming. Danone is currently working on new reduction targets in-line with 1.5°C.

Wipro

Wipro has set and registered a science-based target for its own operations that is consistent with reductions required to keep warming to well-below 2C. The target includes absolute reductions in Scope 1 and 2 GHG emissions of 48% by 2030 and in Scope 3 GHG emissions (business travel, employee commuting, upstream fuel and energy-related emissions) of 30% by 2030.

Mercedes-Benz AG

With Ambition 2039, Mercedes-Benz plans to bring its new car fleet to net zero CO_2 within less than 20 years, going beyond operations and along the entire value chain. In 2019, the Sciences-Based Targets initiative approved the company's targets. Starting in 2022, passenger cars and vans will be produced CO_2-neutrally in the more than 30 plants of Mercedes-Benz AG worldwide.

Unilever

Unilever has attained the most advanced status within the SBTi, having set and registered a 1.5 degree-aligned science-based target of net zero emissions across all products by 2039, from sourcing to point of sale. Unilever annually calculates its value chain-wide GHG footprint for 14 key countries across 12 product categories.

Microsoft

Microsoft plans to be carbon negative by 2030 and to remove its historic scope 1 and 2 carbon emissions by 2050. It will achieve the latter part of this target through a strategy that goes beyond achieving carbon neutrality through avoided emissions, to focus on carbon removals.

Starbucks

Starbucks has committed to set a science-based GHG reduction target and is also a signatory of the UN Global Compact's Business Ambition for 1.5°C commitment. Starbucks tracks and quantifies the company's GHG emissions across Scopes 1, 2 and 3 and has set a public aspiration to be "resource positive", including through GHG emissions reductions.

Nike

Through its Move to Zero journey towards zero carbon and zero waste, Nike has made a pledge to be net zero by 2050. Nike has attained the most advanced status within the science-based targets initiative, having set and registered a 1.5°C aligned science-based target. The company has also committed to the United Nations' Fashion Industry Charter for Climate Action.

Natura & Co

Natura & Co has set an ambition to achieve net zero carbon emissions by 2030, across both operations and value chain, for its four brands - Avon, Natura, The Body Shop and Aesop. Its net zero commitment covers scope 1 : own emissions, scope 2 : purchased energy, scope 3: upstream (all company activities and suppliers) and downstream (consumers, waste disposal, etc.). Natura & Co is a founding member of the UN Global Compact "Business Ambition for 1.5°C: Our Only Future.

Building Block: Governance

Strong governance is critical to ensure accountability for net zero is driven throughout the organization, starting from the top. Frameworks should be in place to enable decision-making on the basis of meeting long-term net zero ambition.

This section is important for:

Senior Management.

Checklist of key actions:

- **Those at the highest levels of the company assume responsibility for delivering net zero transformation by**: incorporating net zero into understanding of directors' duties, and appointing oversight of net zero transformation at the highest levels of the company
- **Establish net zero and climate change as standing agenda items at the executive level by:** structuring senior committees to ensure holistic oversight of net zero; assessing senior leaders' command of climate change and net zero in relation to the company's strategy and operating model.
- **Assign Senior Management responsibility for, and oversight of the delivery of net zero strategy and transformation by:** putting policies and reporting structures in place throughout the organization to deliver relevant Management Information.
- **Evaluate net zero incentives structure, including at the highest levels of the company by:** re-evaluating any existing incentives that may hinder progress on net zero transformation, and considering creating incentives to support management to deliver on net zero milestones and targets.

Governance: Accountability driven from the top

✔ Those at the highest levels of the company assume responsibility for delivering net zero transformation

Climate change, and the net zero transition, is a foreseeable financial risk and opportunity within mainstream investment and planning horizons. Those at the highest level of a company, should therefore be accountable for the net zero transition in the same way they are for other company decisions about long-term strategy. This will help ensure the long-term resilience, viability and success of the business.

Net zero should be incorporated into the **understanding of directors' duties** by ensuring that net zero considerations systemically inform near-term and long-term strategic planning and decision-making processes, and are embedded into the management of risks and opportunities across the company. There should be oversight of net zero transformation at the highest levels of a company.

✔ Establish net zero and climate change as standing agenda items at the executive level

To enable the net zero transformation to take place in a joined-up way, it should be a standing agenda item at Executive Committee level.

Senior committees should be structured in a way that enables holistic oversight of, and engagement with, net zero. This is facilitated when **assessment of plans and progress related to net zero feature on the agendas of one or more relevant senior committees**, including those that cover strategy, planning, risk management, metrics and performance. These committees should also share regular progress updates with each other.

It is essential that those at the highest levels of the organization bring a mix of informed perspectives that enable effective long-term decision making. This can be achieved by tasking a director, committee or external advisor with **assessing senior leader's understanding of climate change and net zero** to ensure that, at the highest level, the company is sufficiently diverse in knowledge, skills, experience and background to effectively debate, and take decisions to support, the net zero transition.

✔ Assign Senior Management responsibility for, and oversight of the delivery of net zero strategy and transformation

Management oversight and incentivization will drive successful delivery of the net zero strategy and transformation across the organization by setting the tone at the top.

Companies should **assign oversight and delivery** of the net zero transition and climate-related issues to **accountable member(s) of management.**

Structures and processes should be established (through new or existing channels) to **compile timely, relevant and high quality management Information**, which management can use to regularly report net zero progress at the highest levels of the organization. This will empower management to effectively deliver the net zero strategy and take intervening or mitigating actions if required.

✔ Evaluate net zero incentives structure, including at the highest levels of the company

That which gets incentivized gets done. Yet, corporate management is typically incentivized on a vast number of topics, many of which are short-term in nature. At times, these short-term incentives can conflict with the longer term goals associated with the net zero transition, hindering effective delivery of net zero strategy.

In light of the above, as a company matures in its net zero journey senior leaders should **re-evaluate any existing incentives that may hinder progress on net zero transformation** and consider creating incentives to support management to deliver on net zero milestones and targets.

Practical advice for:

Companies just starting their net zero journey:

Companies can begin by consulting publicly available sources of information for effective climate governance. The FSB *Task Force on Climate Related Financial Disclosures*[10] *(TCFD)*, and WEF *Climate Governance Principles and Guiding Questions*[11] provide detailed guidance, and may help those starting their net zero journeys to build an understanding of the key issues.

An executive 'net zero' working session can be an effective first step. Working sessions should be interactive, and challenge executives to consider the business implications of climate change and how net zero fits into the broader company strategy. A helpful output of a 'net zero' working session is a roadmap of actions (e.g. addition of net zero to relevant committee agendas, further training, assignment of delivery oversight to Management, investor engagement), that can be taken to the highest level of the organization for approval.

The Sustainability function will likely have the technical knowledge required to shape and facilitate these sessions.

Mature companies seeking to be net zero leaders:

For companies to be leaders, it is essential that the highest levels of leadership are fully engaged with the net zero business transformation. Both groups need a clear understanding of the relationship between the company's action on net zero and broader company strategy and operating model. Senior leadership should also champion net zero publicly.

Furthermore, oversight of the net zero transformation should be clearly embedded in senior committee structures and regularly featured on relevant committees. This includes in the remuneration committee, which should consider good practices as they evolve, including trends on compensation and KPIs.

Who is responsible for delivering Net Zero Governance:
Senior Management.

Governance case study: examples from Danone, Unilever & Wipro

Danone

At Danone, accountability for the company's action on climate change has been clearly assigned at the Board and Senior Management levels. Danone's CEO is responsible for the company's vision and climate strategy. Furthermore, because the global Cycles and Procurement team has been tasked with driving climate action, Board-level responsibility for climate change sits with a Board Director who is also Executive Vice President and Chief Financial Officer of Cycles and Procurement.

Danone also implements monetary rewards for Senior Management in order to incentivize delivery of climate-related objectives. A portion of long-term incentive compensation is based on the company's climate performance score in its annual CDP disclosure. These measures have helped to clarify accountability for climate within the company, raise the profile of climate change on the Board's agenda, and drive action on emissions reductions.

Unilever

At Unilever, it is the responsibility of the Board and CEO to review, monitor and guide the company's climate strategy. The Board's Corporate Responsibility Committee tracks progress and monitors risks linked with the Unilever Sustainable Living Plan which includes sixteen climate-related targets. The Corporate Responsibility Committee provides regular updates on progress and risks to the Board. Unilever's CEO also publicly leads by example. In 2018, he served as Chairman of the International Chamber of Commerce, Chair of the B Team, and Vice-Chair of the UN Global Compact, where he has championed the role of business in addressing the Sustainable Development Goals, including climate action (SDG13).

One element of Unilever's remuneration policy is a share matching scheme based on company performance called the Management Co-Investment Plan (MCIP). Twenty-five percent of the total MCIP award is assessed on sustainability considerations through Unilever's Sustainability Progress Index, a joint assessment made by the Corporate Responsibility & Compensation Committees. These two committees determine a rating each year, which takes into account Unilever's wider progress on sustainability together with the company's publicly reported targets (including Unilever's commitment to reduce the GHG impact of products across the lifecycle). From 2018, Executive Directors (CEO & CFO) have been required to invest at least 33% of their annual bonus in MCIP.

Wipro

At Wipro, oversight for climate sits with the Chairman of the Board and the CEO. Within the Board, strategic oversight and quarterly review of Wipro's sustainability program (which includes climate related programs) is the responsibility of the Governance, Nomination and Compensation Committee, which is chaired by an independent director. Within Senior Management, the Chief Sustainability Officer (CSO), holds responsibility for climate change and reports directly to the Founder-Chairman of the Board. A portion of the CEO's variable compensation is based on the performance of business units that carry oversight and responsibility for delivery of climate solutions for customers, including those related to energy management and smart grids. The CSO's annual salary increment is dependent on the achievement of Wipro's sustainability goals for the year, which include targets for GHG emissions reductions.

Building Block: Strategy

Net zero is a strategic issue that is critical to companies determining how to grow profitably and maximize value and resilience. It requires an understanding of the associated transition risks and opportunities in the next 1-2 business cycles and beyond, how to minimize value destruction and unlock value creation, what this means for the size and shape of the business portfolio and organic versus inorganic growth, and how to translate this into strategic business planning.

This section is important for:

CEO, Corporate Strategy / Chief Strategy Officer, Senior leaders, Head of Sustainability.

Checklist of key actions:

- **Understand how net zero is changing market dynamics and impact on value creation by:** assessing market disruption under net zero, analyzing changes in customer preferences, quantifying risks and opportunities, and assessing the competitive landscape.
- **Assess and develop capabilities required for the company to succeed under a net zero future by:** conducting a net zero capabilities assessment and gap analysis, inform capability-based strategy, inform People strategy and M&A strategy.
- **Identify options to deliver capabilities driven net zero corporate strategy by:** assessing changes to portfolio, customer offering, growth levers and pricing and asset valuation.
- **Assess options and develop a business case for net zero corporate strategy by:** quantifying key drivers for action, cost and benefit assessment including value creation, return on investment and holistic criteria including wider business, environmental and social impact.
- **Reshape and/or align operating model blueprint to deliver net zero strategy and capabilities by:** blueprinting operating model and developing an implementation roadmap.

Strategy: Embedded and aligned net zero into company strategy

✔ Understand how net zero is changing market dynamics and impact on value creation

The transition to net zero is complex. It is important to assess market dynamics to ensure both upside opportunities and downside risks are captured to understand net zero implications on business growth and where re-shaping or re-invention is needed.

To achieve this, companies should **conduct scenario analysis** to evaluate how changes related to the net zero transition (including policies and regulation, technology, customer preferences, investor demands and talent) could impact business performance. The FSB Task Force on Climate-Related Financial Disclosures provides a framework that can be harnessed.

Strategic insight from scenarios should be used to **identify the value creation and destruction drivers** across business in the short, medium and long term, including estimates of financial materiality.

When determining a winning strategy, **a comprehensive market assessment is critical**, including customers and competitors. The assessment should consider how the market (and market adjacencies) may fundamentally shift, including disruptive new technologies and business models, and emerging customer needs and preferences.

Findings should be shared with the CEO and Senior Management team to inform future strategy development and implications for the operating model.

✔ Assess and develop capabilities required for the company to succeed under a net zero future

There is a huge opportunity for businesses that have differentiated capabilities and a coherent portfolio of products and services geared to a net zero future to gain competitive advantage.

Corporate strategy, supported by Sustainability/ Climate experts can **develop a shortlist of key capabilities** - including systems and tools, people and skills, and knowledge and behaviors - required to succeed in a net zero future. These could include, for example; engineering and technical excellence to develop, test and scale business-critical low carbon solutions, or sustainable supply chain expertise.

Companies can then assess how well positioned they are for success vs critical gaps, by **comparing current distinctive capabilities against those required for net zero**. It is important to highlight strengths and areas of alignment as well as potential areas of improvement. These should consider where are gaps including workforce upskilling , reskilling and recruitment and how best to embed diversity, inclusion, and belonging considerations.

As business strategy is reshaped to align with a net zero future, the executive team should **pursue a corporate growth strategy** that leverages existing and targeted **differentiated capabilities** critical to competitive advantage and growth. These winning capabilities around net zero need to be **coherently integrated into functional strategies,** and the corporate innovation strategy and M&A strategy.

✔ Identify options to deliver capabilities-driven net zero corporate strategy

Companies need to turn net zero ambition and strategy into tangible actions and initiatives to ensure transition at pace and scale.

There will be multiple options for achieving the strategy, so **breaking down into tangible actions** allows each to be assessed and to define a clear path forward. Corporate Strategy should lead an exercise to identify delivery options, and coordinate input from executive team, Market and Functional Heads and Sustainability.

Options include:

- **Portfolio management:** when and how do products and services need to change, which areas will benefit from investment, and which require accelerating, reshaping or divesting?
- **Customer offering:** how will net zero impact channels and routes to market? How will expectations of customers change? How can net zero impact customer perception of brands and value pricing? Do any brands need re-defining?
- **Growth:** consider organic and inorganic growth levers including when and how mergers, acquisitions and disposals can be leveraged, and alliances to deliver differentiated net zero solutions. Think about the expansion opportunities net zero capabilities can present in adjacent businesses - and when and how to react.
- **Pricing, profitability and asset valuation:** when and how can pricing and revenue models change?

Who is responsible for delivering Net Zero Strategy:
CEO, Corporate Strategy / Chief Strategy Officer, Senior leaders, Head of Sustainability

Strategy: Embedded and aligned net zero into company strategy

✔ Assess options and develop a business case for net zero corporate strategy

It is important that the actions and transformation undertaken to achieve net zero deliver maximum benefit to the business, and society at large. A clear and compelling business case for net zero transformation will help to bring along leadership, management and people, and amplify investor engagement.

Companies should develop a **business case** that includes key business drivers for a net zero transformation, and where possible a financial materiality assessment of a "do nothing versus business as usual" approach, and a quantification of the costs and benefits of action. This can include quantifying value creation opportunities (including customer growth, pricing, cost efficiencies), return on investment, and assessment of wider social and environmental impacts, including impact on employees and communities. This will ensure conflicts of interest are identified early, and that the net zero transformation delivers maximum benefit to the business, to society and to the environment.

The business case narrative should be created early, and used in stakeholder engagement.

✔ Reshape / align operating model blueprint to deliver net zero strategy and capabilities

Companies must put net zero capabilities at the core of the operating model to ensure the day-to-day actions of individual employees, and of business units and functions, work towards the delivery of net zero ambition and company strategy.

Companies should **develop an operating model blueprint** that puts differentiating capabilities to deliver net zero at its heart. An operating model determines behavior, workflow and process design, technology decisions, and investment decisions. Companies should consider what their differentiating capabilities mean for: people and organization, processes and controls, tools, data and technology, culture, measures and motivators.

Companies should **develop a business transformation roadmap**, including corporate, business unit and geographical/market actions and milestones for delivery of net zero aligned strategy and operating model transformation. They should ensure critical changes are made first, quick wins are actioned, and key dependencies are identified and embedded.

Practical advice for:

Companies just starting their net zero journey:

A comprehensive understanding of what net zero is and how it will create and destroy value is a critical first step to reshaping corporate strategy to align with a net zero future. Companies new to net zero can begin by quantifying the financial materiality of 'transition' risks and opportunities and to inform a business case for transformation. The recommendations of the FSB TCFD provide a framework for assessing climate-related risks and opportunities that companies may find helpful to follow.

Companies could also set up a collaborative steering group including functional heads from across the organization, with Sustainability leading the technical analysis, and presentation to the CFO and wider senior leadership.

Mature companies seeking to be net zero leaders:

Leaders will have net zero fully embedded into corporate strategy and will have followed the detailed steps outlined in this section. At a minimum, companies looking to lead on net zero should have:

- Developed and engaged around a business case for net zero transformation across corporate leadership
- Identified differentiating capabilities to deliver net zero
- Reshaped the company growth strategy to align with a net zero future, and these differentiated capabilities
- Identified adjustments to operating model required to deliver net zero aligned growth strategy

Who is responsible for delivering Net Zero Strategy:
CEO, Corporate Strategy / Chief Strategy Officer, Senior leaders, Head of Sustainability

Strategy case study: Wipro

How Climate Risks will inform our enterprise risk assessment and corporate strategy

Wipro partnered with KPMG and IIT-Delhi, a leading academic institute with expertise in climate modeling, to commission a Climate Change Risk Assessment Report. This was an 18- month study completed in July 2020.

The goal of the study was to analyze climate change risks to Wipro's operations, specifically infrastructure, employee health and wellbeing, and the business portfolio.

Projections of climate risks were completed through to the year 2100, applying two climate scenarios: Optimistic (aka Representative Concentration Pathway (RCP) 4.5) and Business-As-Usual (aka RCP 8.5).

Here is a summary of findings related to likely risks to our operations, employee health, and business:

The physical risks assessment covered 12 cities in India and 6 countries outside of India in terms of extreme hot days, heatwaves, Urban Heat Island (UHI) effect, air quality, warm nights, extreme rainfall days, urban flooding, water stress, and risk coverage.

In the RCP 4.5 scenario, the report suggests that water stress in India will be aggravated in 8 out of the 12 cities studied while heat waves are expected to worsen in 6 out of the 12 cities.

In terms of countries outside of India:

- Germany and United Kingdom are phasing out dependence on coal and nuclear-powered plans, which could lead to increased electricity prices and impact operations.
- In Romania, increased flood levels are expected
- In the Philippines, we are likely to see more serious floods and cyclones.
- In the United States, the present government is moving away from clean power plan, considered a regressive step, leading to uncertainty in terms of climate policy.

With regard to health impacts, the study focused on India. In 4 of 12 cities, we project a likely increase in cases of fatigue and headaches due to more hot days and heatwaves. In two cities, increased cases of upper respiratory disorders are projected. Across locations, increased cases of seasonal flu and allergies are projected.

With regard to business impacts to Wipro, we anticipate significant financial impacts to our business, especially related to customers in specific relevant business units, including energy, utilities, manufacturing and health. In addition, there are new opportunities that can emerge from these climate change scenarios.

We are in the process of formally included this as part of our enterprise risk management and operational decision making framework.

Building Block: Enterprise transformation

A transformation program is needed to execute the strategy and embed net zero into corporate structure, business functions, and business capabilities. This change effort will include realizing quick wins and, in parallel, work on longer-term operating model changes to deliver on the strategy.

This section is important for:

Head of Transformation/ Transformation Director, Operations and Functional Leads, CEO sponsorship.

Checklist of key actions:

- **Establish a clear structure of responsibilities and accountabilities to deliver net zero aligned corporate strategy by:** assessing organizational and corporate structures; establishing responsibility and accountability across organization, including impact on decision making, roles and responsibilities, information flow, spans of control, communication channels and relationship management.
- **Harness culture and people to deliver net zero transformation by:** conducting a culture assessment; assessing and redefining core competencies; developing a workforce plan including upskilling and reskilling, and building net zero into rewards and recognition.
- **Establish policies, processes and a measurement and reporting framework to deliver on net zero transformation by:** reviewing and updating policies, processes and decision making principles, developing new processes, defining internal net zero KPIs, and establishing a net zero measurement and reporting framework.
- **Engage customers and harness customer channels to accelerate net zero value creation by:** executing on sales strategies and goals for net zero-relevant products and service lines; integrating net zero into marketing campaigns; building net zero considerations into regular customer engagement and support.
- **Leverage Technology and Digitization programs to deliver broader value creation including decarbonization by**: digitally enabling processes; embedding net zero-related benefits into digital transformation efforts and into technology and architecture; and entering flexible partnerships with IT providers.

Enterprise: Key operating model changes in support of transformation

✔ Establish a clear structure of responsibilities and accountabilities to deliver net zero aligned corporate strategy

The right organizational structure will ensure functional leads and employees are aligned around a common understanding of their role in the delivery of the net zero corporate transformation and that there is sufficient management attention and accountability to keep the company on track.

Companies should **assess their current organizational and corporate structures** and identify what needs to change and how, in order to deliver net zero transformation efforts. For example, what functions, divisions, geographies will be critical for transformation efforts and are there key gaps in delivery.

Companies should **ensure they have a clear structure of responsibilities and accountabilities** for net zero throughout the organization. This should extend beyond Sustainability teams and across functions and business units including, e.g. Operations, Customer Services, Investor Relations. Companies should clearly articulate what needs to change and the impact on decision making, roles and responsibilities, information flow, spans of control, communication channels and relationship management.

Companies should then step a level deeper into **assessing their operating models against net zero**, covering all aspects of the organization such as people, culture, processes, incentives, information, tools and technology.

The rest of this section deep dives in the key operating model changes likely required to deliver net zero.

✔ Harness culture and people to deliver net zero transformation

Creating coherence across an organization's culture, strategy and operating model and updating its talent strategy will drive behaviors required to deliver the net zero transformation, and can make companies more attractive to its current employees, potential employees and customers.

Companies should consider how their **culture and employees' values link to their net zero strategy**. Companies should assess their culture to identify existing limiting values within the organization which make it difficult to achieve net zero transformation, such as frequent business travel; as well as specific strengths of the culture that will help to accelerate the transition, such as collaborative and innovative thinking.

An actionable **roadmap and engagement** plan should then be built and delivered to address these limiting values and capitalize on these strengths. This should include identification of leaders and influencers across the organization to support culture change and net zero alignment.

It is also critical that an organization's people have the required skills and competencies to deliver the net zero aligned corporate strategy. Companies should first **assess and (if necessary) redefine their core people skills and competencies**. They should analyze gaps with existing competencies and **develop a workforce plan** including talent attraction, retention, and development to meet net zero core competencies, focusing on an inclusive transition for workers and communities through upskilling and reskilling and embedding diversity, inclusion, and belonging considerations.

Companies should also **motivate and challenge employees to embed net zero considerations** into their day to day and ensure the net zero transformation is a part of employees core priorities. Companies could consider building **net zero incentives into rewards and recognition** at all levels of organization.

✔ Establish policies, processes and a measurement and reporting framework to deliver on net zero transformation

Policies, processes and KPIs are important as they create the mechanisms to deliver net zero transformation, provide users with information they need (at the right granularity) to embed net zero into decision making, and articulate expectations of employees.

Companies should **review and update** (where necessary) **policies** to ensure net zero is embedded e.g. prioritizing GHG savings and renewable energy use.

Process owners should work with sustainability / climate / operational specialists to conduct a **review of existing processes** - including activities and tasks - to identify net zero improvements such as low carbon substitutions, alternative delivery models and emissions reductions; and **develop new and integrated processes** for net zero services and products, where required, with a focus on keeping processes lean. They should **develop internal net zero KPIs** and specific and 'SMART' targets for each core business process; developing data requirements; and **establishing a KPI tree** to show where existing process level KPIs indicate positive or negative performance towards net zero.

Process KPIs should feed into a **net zero measurement framework** that considers all levels of the organization and is optimized for accuracy, relevance, timeliness and flexibility. There should be a single point of ownership for net zero reporting, responsible for establishing, communicating and integrating the framework across the organization, and ensuring **data analytics** is effectively leveraged. The framework should **build on an established measurement standard** such as the GHG protocol, and define how companies measure and monitor operational and value chain emissions. It should provide information for decision making at the Strategic (i.e. Executive), Tactical (i.e. Programme/ Project) and Operational (i.e. Process) level. Companies should **also enable and develop long term sustained value creation**, and the reporting needed to facilitate this, so that net zero aligned activities are sufficiently considered and prioritized alongside short term objectives.

Who is responsible for delivering Enterprise for Net Zero: Head of Transformation/ Transformation Director, Operations and Functional Leads - CEO sponsorship

Enterprise: Key operating model changes in support of transformation

✔ Engage customers and harness customer channels to accelerate net zero value creation

The front office is the direct customer interface and delivers the types of products and services that are sold, so it is critical that incentives and structures are aligned to accelerate net zero-related value creation. Net zero should become a part of regular and everyday customer connection, go-to-market, and marketing and communications.

The **Sales function has a vital role to play in creating demand for emerging sustainable and net-zero aligned products and services**. Upskilling will be key, in addition to creative sales strategies, including promotions and pricing strategies, new pathways to purchase, and client experience in order to promote sales growth. Sales goals for net zero within the incentive structure for the sales function can help to accelerate growth and productivity.

Companies should consider **integrating net zero considerations into existing and new marketing campaigns** to, for example, promote low carbon products and services, encourage sustainable buying practices, and promote net zero brand values. Includes focused outreach to amplify key net zero value messages, connecting with customers and influencers, and maximizing engagement and demand.

Build net zero into the customer experience and journey, where applicable, to meet emerging customer demands and expectations. Leverage insights from customer engagement channels to inform product development functions around new net zero aligned products and services that meet customer wants and needs. Also use engagement channels to help customers understand the value of products and services that are net zero aligned (see Engagement building block).

✔ Leverage Technology and Digitization programs, to deliver broader value creation including decarbonization

Many companies are undergoing a technological and digital transformation, with automation, advanced analytics, connected solutions, and new technologies more broadly creating new opportunities to cut GHG emissions whilst creating commercial value. Embedding net zero considerations into technological transformation efforts can therefore create a win-win.

New technologies can be a critical enabler of net zero transformation efforts across business operations through system efficiency gains linked to automation and smart insight generation, but also through enabling new industrial systems (e.g. decentralized energy grids, smart homes, mobility on demand). The technology and data architecture itself can also have a significant contribution to the operational GHG footprint. It is therefore important to **embed net zero as a key consideration of technology and digital transformation efforts.**

Examples include planning for a digital workforce (e.g. virtual working technology, mobile applications and digitally empowered staff), mapping and actively monitoring energy use of systems and infrastructure (including data centers), developing a technology GHG reduction plan, and establishing new technology capabilities to support delivery of net zero ambition.

Companies should consider net zero action during technology procurement processes. IT providers are key parts of the company value chain, and impact can be maximized through partnerships with companies that have a shared ambition to find and realize emissions reductions.

Practical advice for:

Companies just starting their net zero journey:

Think of your current and upcoming large scale transformation programs, consider how you can incorporate net zero and decarbonization benefits into them e.g. does your technology upgrade have capability to optimize GHG emissions and improve data? Can you include net zero performance as a key design principle in your org redesign, alongside resilience and cost savings?

Your business transformation roadmap should identify quick wins versus longer term changes. Tackle the low hanging fruit early, to make an immediate impact and to build leadership, employee and external stakeholder confidence in your net zero transformation.

Mature companies seeking to be net zero leaders:

Leaders should be embedding net zero transformation at the core of all current and future transformation programs. Expect an operating model blueprint explicitly developed/redesigned around net zero transformation and a series of large scale programs to deliver the change - prioritized for actions that would have biggest decarbonization impact and return on investment.

Who is responsible for delivering Enterprise for Net Zero: Head of Transformation/ Transformation Director, Operations and Functional Leads - CEO sponsorship

Enterprise Case study: Mercedes-Benz AG

> At Mercedes-Benz, individual mobility is the purpose of our work and the legacy of our founding fathers. Our mission for the future is to preserve this asset – and we will change in order to achieve this. A lane change is necessary. We know that and we are working on it with all our efforts. This lane change is mainly connected with two issues: decarbonization and digitization. Success with digitization will determine the future of many companies; success with decarbonization will determine the future of our planet.

Ola Källenius
Chairman of the Board of Management of Daimler AG and Mercedes-Benz AG

Ambition 2039: Our path to CO_2-neutrality

An emission-free fleet of vehicles: With this vision, we are committed to climate protection and air pollution control. That is a core element of our sustainable business strategy. Our ambition is to make our fleet of new cars CO2-neutral by 2039 and to have no relevant impact on inner-city air quality. We take a holistic approach to climate protection: Our goals cover all stages of the automotive value chain – from technical development to the extraction of raw materials, to production, service life and recycling.

In the coming two decades, we at Mercedes-Benz Cars & Vans will fundamentally change our product portfolio. Our path toward zero emissions includes electric vehicles, further efficiency improvements through hybridization, and the further development of our vehicles with state-of-the-art internal combustion engines.

Mercedes-Benz Cars is planning electrification in all segments, from the smart to our SUVs. To this end, we are investing about ten billion euros in the expansion of our electric fleet, more than one billion euros in the development of battery production, and we are systematically driving forward the transformation to the electric future of our company by purchasing battery cells for more than 20 billion euros.

In the car segment, we will focus in the coming years especially on plug-in-hybrid technology and purely battery-powered models. Five all-electric models and more than 20 model variants of plug-in hybrids will already be firmly established in our car product range by the end of this year. Purely electric variants in the compact segment and the all-electric EQS for sustainable luxury in the premium segment are already in the starting blocks.

Our milestones until 2039:

- **2022:** Several electrified variants in all segments of Mercedes-Benz Cars.
- **2025:** Up to 25 percent of unit sales to be accounted for by all-electric vehicles (depending on the framework conditions).
- **2030:** Achieving more than 50 percent of car unit sales with plug-in hybrids or all-electric vehicles.
- **2039:** A CO_2-neutral fleet of new cars.

CO_2-neutral production as of 2022

As early as 2022, our own Mercedes-Benz car and van plants worldwide will be producing CO2-neutral vehicles. This applies to more than 30 car and van plants. An important element is battery production, which will also be CO2-neutral worldwide as of 2022. The second battery plant in Kamenz, which was opened in 2018 and is the center of competence of the Mercedes-Benz global battery production network, was designed from the outset to be a CO2-neutral plant and already meets this requirement today. The Kamenz site is responsible for the production of battery systems for Mercedes-Benz Cars hybrid, plug-in-hybrid and battery-electric vehicles.

At the Mercedes-Benz plant in Sindelfingen, we have put into operation one of the most modern automobile production facilities in the world: Factory56. It has been supplied with CO2-neutral energy since it went into operation. The photovoltaic system on the roof supplies the building with green electricity.

Our suppliers are also part of our holistic approach to climate protection. We want to implement effective climate protection measures together with our partners in the supply chain. The starting point is the creation of transparency. To this end, we are working with organizations such as CDP in the car sector to assess the environmental impact of our supply chain. We are in close contact with our most CO2-intensive suppliers to identify effective measures for reductions. We will make CO2 targets a key criterion for decisions on suppliers. The first models of the next EQ generation, starting with the EQS, will already be equipped with CO2-neutral battery cells.

- Farasis: In September 2019, we entered into a sustainability partnership with battery-cell supplier Farasis Energy (Ganzhou) Co., Ltd. – a Chinese developer and supplier of lithium-ion battery technologies. In addition to the observance of human rights in the supply chain and the issue of recycling, the partnership also covers battery-cell procurement from CO2-neutral production.
- CATL: Within the framework of the strategic partnership, CATL is also fully committed to the sustainability goals of Mercedes-Benz AG. This includes the sustainable production of battery products with renewable energies, minimizing the CO2 footprint in terms of logistics within the entire supply chain, and consideration of all aspects of social responsibility.

Building Block: Supply chains

Supply chain emissions are often a major, if not the major, source of a company's GHG emissions. Enabling and supporting emissions reductions at all levels of supply chain is critical to achieving net zero transformation. Existing supply chain transformation efforts, including digital transformation and programs driven by resilience or efficiency, can deliver dual benefits of optimizing for decarbonization. A critical element will be the evolution of traditional supply chains toward a connected, smart, and highly efficient supply chain ecosystem.

This section is important for:

Head of Supply Chain, Head of procurement, Sourcing Managers & Directors, Procurement function, Sustainability function.

Checklist of key actions:

- **Leverage existing supply chain transformation efforts to deliver emissions reductions:** reviewing supply chain strategy and design, embedding net zero into existing and future digitization, and developing and delivering a strategic roadmap.
- **Assess emissions and climate impacts across whole supply chain by:** conducting a value chain GHG footprint assessment, supplementing company data with environmental modelling techniques, and repeating foot printing annually.
- **Incentivize suppliers to reduce emissions by**: embedding into procurement cycle and contracting principles, providing funding and financial incentives, as well as adopting innovative collaboration models.
- **Build supplier capabilities to deliver net zero by:** engaging in partnerships, training and programs. Collaborate with peers who share supplier base to scale impact.
- **Build a connected and smart supply chain ecosystem amongst suppliers by**: mapping key suppliers against net zero commitments, adopting collaborative practices, applying agile methodologies to test and scale supplier solutions and conducting scenario analysis on supply chain.

Supply chains: Transformed net zero supply chain

✔ Leverage supply chain programs to deliver broader value creation including decarbonization

Putting net zero at the heart of supply chain strategy, program and any digitization and transformation efforts will ensure net zero is not sidelined and is considered alongside other critical metrics such as cost and customer service.

Leveraging information from the value chain GHG baseline and footprint assessment, companies should **review their supply chain strategy and design** against the supply chain framework (e.g. Plan, Source, Make, Deliver, Return) to assess the priority of net zero and GHG reductions at each stage of the chain against other metrics including cost and customer service. Net zero considerations should be embedded into procurement and sourcing approaches for products, services, materials and infrastructure. They should also consider alternative supply chain models (e.g. shorter supply chains, localized supply, resilient and flexible supply chains) to identify dual benefits of decarbonization.

As digital transformation provides a unique opportunity to also deliver carbon reduction solutions or help solve challenges in reducing supply chain emissions, companies should also **embed net zero into existing and future digitization** efforts.

Companies should be **developing and delivering a strategic roadmap** across the supply chain - including a technology roadmap - to decarbonize at pace and scale.

✔ Assess emissions and climate impact across full supply chain

Most companies have limited data or visibility of the supply chain beyond tier 1 or 2. This is a key barrier to net zero action that must be solved.

Companies should **assess GHG emissions across the supply chain beyond tier 1 and 2** to identify where the biggest emissions are and to assess data availability, data quality, data gaps and key issues and existing supplier commitments around decarbonization.

The procurement team should work with sustainability and sourcing experts to **define net zero KPIs and targets** to assess performance across supply chain (e.g. by function, commodity, raw material, geography and supplier). This may require new tools for engagement and the sharing of best practice. Base KPIs in supply chain should also be redefined to incorporate impact of new net zero targets (e.g. customer service, productivity, budgets).

Companies should establish a **reporting framework** to manage supply chain emissions, embedding this into existing processes where possible. They should develop and deliver a plan to improve depth of visibility across the supply chain, improve data quality and address key data issues and regularly survey and monitor suppliers to understand challenges and requests for support.

✔ Incentivize suppliers to reduce emissions

Companies need to create the business case for suppliers to decarbonize their own operations and supply, and support the net zero transformation. Contractual terms, procurement requirements and financial incentives are key levers to hold suppliers accountable for net zero action.

The procurement team should **embed net zero consideration into all applicable supplier policies**, with regular reviews to update with new guidance and/or regulation as required, including supplier onboarding, code of conduct and contracting principles. Net zero activities and emissions reduction performance should be **embedded into every stage of the procurement cycle** including in requirement definition, tender, evaluation criteria and assessment scorecards and contract requirements. Net zero and GHG reductions performance should be included in scoring criteria of RFP responses.

Companies should consider providing **funding and financial incentives** to drive suppliers to prioritize net zero programs in the organization, including KPIs that are financially linked to emissions performance; co-investing in net zero solutions and entering gainsharing arrangements. This will require companies to create sources of finance by **building net zero targets into the budgets** by function, supplier, and manage costs to targets. Companies can also explore and engage in supply chain finance programs and new funding mechanisms.

It may be helpful to segment suppliers and tailor incentives to maximize impact, considering your influence, spend and scale of supplier emissions. For example, which suppliers should you partner with to innovate and co-create? Which suppliers need education and support? Which suppliers or supplier groups are most at risk or well-placed to deliver opportunities presented by the transition?

Who is responsible for delivering Net Zero Supply Chains:
Head of Supply Chain, Head of Procurement, Sourcing Managers & Directors, Procurement function, Sustainability function

Supply chains: Transformed net zero supply chain

✔ Build supplier capabilities to deliver net zero

The net zero transformation may lead to fundamental changes to business strategies and models, requiring radically different capabilities and competencies from suppliers. This risks leaving many disadvantaged. Training, capacity building and engagement across all tiers of supply, will be critical to ensure suppliers are able to deliver the transformation and reduce their own operational emissions, as well as ensuring the transition benefits all and has a positive social impact.

Companies should look to **expand relationships and deliver capacity building programs** across the supply chain, beyond tier 1 and focused on those areas with the greatest emissions. These could take the form of semi-regular working sessions. Partnerships should cover all operational activities, including strategic change programs as well as trainings and capacity building programs.

It is important to ensure a just net zero transformation. Therefore the focus of actions and interventions should be to create the enabling conditions (retraining, reskilling, redeploying, creation of new decent jobs) for workers and communities across the supply chain to contribute to the transition.

✔ Build a connected and smart supply chain ecosystem amongst suppliers

Supply chains in a net zero world will need to be holistically efficient, minimizing not just cost and time-to-market, but also GHG emissions and climate risk. A critical element will be the evolution of traditional supply chains toward a connected, smart, and highly efficient supply chain ecosystem.

Companies should **adopt collaborative practices and innovative models amongst suppliers**. For example, establishing regular supplier forums to share learning on net zero, or digital collaboration platforms to enable suppliers to develop solutions to net zero challenges or provide net zero aligned products and raw materials e.g. zero carbon steel and building materials.

Companies should also **adopt agile methods to rapidly prototype, test and scale supplier solutions**. These should be designed to allow effective engagement with the start-up ecosystem, who will be a key supplier of net zero solutions to corporates.

It is important to also **conduct scenario analysis on supply chains**, to understand the physical and transition risks posed to companies. This can inform decisions on smarter sourcing - for example, where best to work with multiple suppliers to minimize the threat of disruption from net zero policy shifts or extreme weather events.

Practical advice for:

Companies just starting their net zero journey:

Start with a top down review of your supply chain bringing together Procurement and Sustainability - what do you know about GHG emissions hot spots? Where are your challenge areas or knowledge gaps?

If you don't understand where the biggest GHG impact is across your supply chain or what drives that - you should start there. Also identify if there are key tier 1 suppliers that you can engage with immediately to make some significant changes.

Then think about how you can adopt new strategic engagement approaches including collaboration with industry peers who share your supplier base to enable scale. Evaluate where new supply chain models can deliver dual benefits of decarbonization and performance. E.g. what is the right decision over packaging materials? Where can you adopt circular models? How can new technologies optimize traceability of emissions or incentivize payment for performance models?

Mature companies seeking to be net zero leaders:

Net zero transformation, as well as incentivizing and supporting suppliers to decarbonize, should be a top strategic priority for the procurement and supply chain function. Leaders will be expected to quickly demonstrate tangible and innovative changes to supply chain models and procedures to deliver net zero. For example; sustainable procurement policy aligned to net zero, fully circular products, emissions traceability and life cycle assessments embedded as due process, fully EV target for third party logistics fleets.

Who is responsible for delivering Net Zero Supply Chains:
Head of Supply Chain, Head of Procurement, Sourcing Managers & Directors, Procurement function, Sustainability function

Supply Chain Case study: Danone

> This Innovating with farming partners across our supply chain is critical to Danone's strategy to achieve net zero emissions and build more resilient regenerative agriculture systems. Together, we look forward to scaling-up our progress through creative solutions such as digitalization of complex farming systems and new models of finance, both efforts which we intend to enhance with our participation in Transform to Net Zero.

Eric Soubeiran

CEO of the Danone Ecosystem Fund, Vice President for Nature and Water Cycle, Danone

Establishing our goals

As a multi-local food and beverage company, agriculture is at the heart of Danone's business. 57% of Danone's carbon emissions are linked to agriculture, making it a key lever of reduction. With 58,000 farmers worldwide, our supply chain is a key component of our strategy to find solutions to mitigate climate change.

Danone conducted a full scope analysis from our direct business operations all the way to our supply chains. This process allowed us to establish a Science-Based Target with an intermediate goal of 50% reduction in emission intensity for full scope & 30% absolute reduction in scope 1 and 2 by 2030. We aim to be net zero carbon by 2050. In 2019, we signed the "Business Ambition for 1.5°C" commitment.

Our supply chain—most significantly farming partners—will be crucial to achieving these goals with over half of our overall GHG footprint coming from agricultural systems.

Taking action in our supply chain

By creating new ways of doing business, Danone has built direct relationships and partnerships with farms in key supply chains such as dairy, often using long-term contracts to reduce risk and market volatility for both the farms and the company. These long-term relationships create a different business culture and assist with investments in regenerative farming practices.

Danone defines regenerative agriculture across three pillars—soil health, animal welfare and developing the next generation of farmers—as it invests in its agricultural supply chains. Regenerative farming, for example, looks beyond just minimizing harm by way of actual restoration of the soil. We also believe a high level of animal welfare is key to the regeneration of farms and results in improved economic sustainability, performance and competitiveness. Finally, because farmers understand their operations best, our goal as a partner is to help them succeed so that they can pass their business on to the next generation.

While farming systems are dynamic and can offer various opportunities to reduce emissions, soil health is a cornerstone of the regenerative agriculture and our climate strategy. Key farming practices such as cover crops, reduced tillage, crop rotations and reducing energy intensive inputs such as herbicides, pesticides and synthetic fertilizers not only build carbon stocks via soil sequestration, but also can reduce other GHG emissions such as NO2 and methane emissions related to the overall management changes implemented by farms. By reducing the dependence of synthetic inputs, we believe that farms can also increase their resilience and financial autonomy. Overall, regenerative farming systems can, over time, contribute significantly not only to a net zero GHG strategy but to the economic well-being of farms.

Danone is experimenting with distinct farming networks across the world. In France, for example, Danone is using innovative financing tools funded annually from one day of sales—approximately € 5 million—to help farms overcome initial costs associated with new management practices. Meanwhile, Danone invested $6 million to create a soil health platform in the U.S. which benchmarks farms with a data-centric process and creates continuous improvement plans to support farms in their journey to identify opportunities both within cropland and dairy systems. Danone is also implementing a variety of financial incentives and blended financing approaches for farms; including direct contractual incentives, leveraging government programs, and creating access to low interest loans.

Danone intends to continue to build quantitative proof points with farming partners of all sizes and types, to measure not just positive climate impact, but also assist farms who want to create a new economic models of food systems. Through these new foundations, we can fully transition our supply chains to regenerative farming.

Supply Chain Case study: Starbucks

> At Starbucks, we are deeply rooted in our mission to inspire and nurture the human spirit. At the core of this is coffee. We are committed to sourcing coffee responsibly, for the betterment of people and planet, while we also work to empower farmers, improve their livelihoods and positively impact their communities, thus ensuring a sustainable future of coffee for all. Our ethical sourcing standards, called C.A.F.E. Practices, has provided a strong foundation toward our company-wide aspiration to be resource positive. We look forward to sharing our learnings and working with others as part of Transform to Net Zero to further our mutual goals of a more sustainable future.

Michelle Burns
SVP Global Coffee, Tea and Cocoa, Starbucks Coffee Company

Reducing Carbon in Coffee Supply Chains

Starbucks mission to inspire and nurture the human spirit extends well beyond its customers, partners and cafes. The company takes pride in conducting business responsibly and supporting communities where they do business, from bean to cup. As a company that buys approximately four percent of the world's coffee, sourced from more than 400,000 farmers in 30 countries, we understand the importance of ensuring a sustainable future of coffee for all.

Since 2015, Starbucks coffee has been verified as 99 percent ethically sourced. The cornerstone of our ethical sourcing approach to buying coffee is Coffee and Farmer Equity (C.A.F.E.) Practices, which was one of the coffee industry's first set of ethical sourcing standards when it launched in 2004. Developed in collaboration with Conservation International, C.A.F.E. Practices is a third-party verification program that assesses farmer adoption of economic, social and environmental criteria, that if followed, help sustain and strengthen communities that grow coffee while maintaining Starbucks high-quality standards, now and into the future.

The open-sourced program consists of a scorecard with more than 200 indicators which are used to evaluate a coffee supply chain's performance. In the area of environmental leadership, it includes indicators addressing energy conservation, climate change, conservation area management, water protection, surface erosion and soil management, amongst many others. In addition, there is zero tolerance for conversion of natural forest to agricultural production since 2004.

Evidence shows that farmers participating in C.A.F.E. Practices have higher productivity than the country averages. Suppliers are also incentivized financially as they are paid premiums for high-quality coffee that is verified as ethically sourced by C.A.F.E. Practice standards. Through the program Starbucks also provides financial incentives to reward those supply chains that show continuous improvement across C.A.F.E. Practices.

Not only has C.A.F.E. Practices helped us create a long-term supply of high-quality coffee while positively impacting the lives and livelihoods of coffee farmers and their communities, but it has also delivered measurable results in reducing the companies' carbon footprint. According to Starbucks 2018 Environmental Footprint Report developed in partnership with Quantis and World Wildlife Fund, C.A.F.E. Practices increases in yield per hectare on coffee farms and its zero-deforestation policy reduces Starbucks carbon footprint for coffee by 50%, resulting in a 10% reduction in Starbucks overall carbon footprint. By implementing these standards, the company has halved what our coffee's carbon footprint would have been otherwise.

C.A.F.E. Practices has built a solid foundation for Starbucks long term aspiration to be resource positive. Future work is focused on going further to reduce our carbon footprint in coffee by developing on-farm solutions that equip farmers to succeed during challenges like climate change and helping to spark solutions for the industry at large.

Building Block: Innovation

Achieving net zero will require the deployment of existing low-carbon technologies at scale, and developing and adopting innovative new solutions and processes, many of which are at R&D or other early stages of demonstration and commercialization. Companies need to invest heavily and build innovation into their ways of working to harness emerging solutions, including new technologies, at pace.

This section is important for:

Heads of Innovation, Innovation Managers, Product Developers, Product Owners.

Checklist of key actions:

- **Ensure net zero implications are embedded in corporate R&D and innovation function:** including net zero as a core objective of corporate R&D/ innovation strategy; Setting net zero objectives within corporate innovation channels.
- **Provide finance for innovative solutions to net zero by:** ringfencing funding through a dedicated fund or explicitly as a percentage of corporate R&D or innovation budget and M&A or CVC funds.
- **Innovate to develop products and services that deliver your business objectives for net zero by:** incentivizing net zero across the product development lifecycle.
- **Leverage Corporate Innovation to unlock internal barriers to net zero transformation by:** identifying key internal barriers to net zero transformation and leveraging corporate innovation programs and incubators to find solutions internally and externally. Rapidly prototype, pilot and roll out solutions.
- **Build an innovation ecosystem for net zero through partnerships by:** actively monitoring and engaging in partnerships with relevant start-ups and research, and driving industry and cross industry corporate partnerships.

Innovation: Developed innovation and technologies to deliver net zero

✔ Ensure Corporate Innovation function delivers net zero ambition

Delivering net zero in 'hard to abate' parts of the value chain will require deployment of solutions that today are at R&D or early stage of demonstration. Investment in innovation will be critical to commercializing these key technologies in the coming one to two decades.

To achieve this, companies must put **net zero transformation as a core objective of its R&D and innovation strategy**. This includes both a roadmap to tackling the key technological challenges critical to achieving net zero for the organization and sector, and identification of wider net zero business model "disruptors" including in the start-up ecosystem. In practice this will mean embedding net zero considerations into corporate innovation channels including corporate research, corporate venture capital, accelerator and/or incubator, and M&A.

Equally, **setting innovation KPIs** allows the company to measure and monitor the decarbonization impact from innovation. These should focus on a mixture of scaling up approaches and solutions that are delivering significant, and measurable, emissions reductions; alongside a portfolio of higher-potential, but perhaps individually less certain, early stage approaches and solutions. For example, these could include emissions reduction achievable in a five-year period, or total lifetime emissions reduction potential. This approach balances the desire to achieve quick and important wins, with the need to also explore more innovative approaches to transformation.

✔ Provide finance for innovative solutions to net zero

Finance is a prerequisite for action, and investment must be made at a level commensurate with the challenge in order to rapidly decarbonize over the next decade.

Companies should ring fence funds and invest in innovative solutions to net zero at an amount consistent with other strategic corporate priorities.

This investment can be internally-focused at first i.e. providing grants for innovation and innovation partnerships, and then can evolve to be more externally-focused to create a bigger societal impact and / or to address gaps the organization needs to meet to fulfil its goals.

This can be achieved through a dedicated **Climate Innovation Fund** or explicitly as a percentage of the innovation budget. Some of this funding may come from ESG-focused investors, for example through the green bond market.

Companies should also **develop a framework business case for net zero investments**, and put in place appropriate tools and methodologies to support their product developers effectively, and consistently articulate the value of net zero projects.

Lessons learned from net zero investments should be shared transparently, to bridge the existing knowledge gap on net zero, and enhance the development of future business cases.

✔ Innovate to develop products and services that deliver your business objectives for net zero

Net zero products and services provide an opportunity for companies to reduce their value chain footprint and also meet growing demand from customers looking to deliver their own net zero ambitions. Achieving net zero will require full alignment across the portfolio, so any new products or services also need to be assessed against this ambition.

Net zero should be **embedded into product development strategy across relevant business functions.** Net zero products and services are a major business opportunity. A robust innovation and product development strategy for net zero will curtail the risk of efforts being haphazard, delayed and costing far more than expected.

Companies can incorporate **net zero objectives across the product development cycle** and consider incentives to do so**.** Innovation and product development teams should factor in the growing importance of net zero when thinking about future markets, customer wants and needs, and evolve products and services to meet net zero requirements.

Unintended social and environmental consequences from new products and services also need to be managed. **GHG emissions savings should be introduced as a key metric** for new product and service development. Solutions that deliver dual benefit of value creation and decarbonization should be prioritized.

Who is responsible for delivering Innovation for Net Zero: Heads of Innovation, Innovation Managers, Product Developers and Product Owners.

Innovation: Developed innovation and technologies to deliver net zero

✔ Leverage Corporate Innovation to unlock internal barriers to net zero transformation

To meet the challenges posed by a net zero transformation, whole new approaches and ways of thinking will be required. Innovation teams are a critical tool which companies have at their disposal to unblock internal challenges with new approaches and solutions.

Iteration is important, so solutions should be rapidly prototyped, piloted and rolled out at scale by innovation teams**,** to maximize emissions reductions in the short term. Sustainability grants can help support this key aspect of the innovation process.

Companies should also **identify key internal barriers** to net zero transformation that would benefit from a technological, innovative or disruptive approach (e.g. a lack of data or information, or limited ability to interact with suppliers or customers).

These problems should feed into corporate innovation programs and pipelines to ensure all functions within businesses are aligned and optimized to deliver emissions reductions.

✔ Build an innovation ecosystem for net zero

System-wide changes require collaboration and coordination across actors, industries and value chains. Academics are driving leading thinking and developing technologies at the frontier of climate technology, and a rapidly growing number of startups in the climate tech space present the opportunity for companies to leverage new and disruptive solutions, to diversify into new areas, as well as portfolio digitization.

Companies should build an innovation ecosystem by **actively monitoring, then engaging, start-ups and academia** which are relevant for industry, and identifying priority actors for partnerships, corporate venturing or M&A.

In support of this, companies should **refresh their partnership strategies,** and their build-incubate-invest-buy-partner framework, to align with their updated net zero strategy.

It is also important to **actively seek and drive industry and cross-industry corporate partnerships** to accelerate innovation around 'harder to abate' or more technologically challenging solutions (e.g. sustainable aviation fuels, clean steel, or hydrogen fuel cells). It is critical that companies focus on engaging in partnerships to **take solutions beyond pilot stage rapidly** in order to reach the scale required to realize significant emissions reductions.

Practical advice for:

Companies just starting their net zero journey:

Develop a roadmap for change that will embed net zero across the innovation function, which needs to include a critical early-milestone, and quick-win, to secure dedicated funding.

Begin with a high-level review of your innovation function against net zero objectives and milestones. Does your current innovation strategy and approach deliver substantive decarbonization benefits? In what areas can innovation really shift the dial on your value chain GHG impact i.e. what are the key challenges and products / services that present the biggest risks and opportunities?

Mature companies seeking to be net zero leaders:

Leaders will be publicly committing large-scale budgets for net zero innovation, that are meaningful amounts with an associated time-bound impact target (the range of $500m to $1 billion USD is increasingly becoming a market benchmark). Companies should be scaling innovative solutions over the next 1 - 5 years, sharing learnings and best practice with the market as they go. Innovative, net zero aligned products, services and business models should be fundamentally changing the business to take emissions out of the innovation journey, with net zero being the design-phase benchmark for all new innovations. Companies should be actively engaged with the innovation ecosystem, with defined avenues for partnerships aligned with strategy.

Who is responsible for delivering Innovation for Net Zero: Heads of Innovation, Innovation Managers, Product Developers and Product Owners.

Innovation case study: Unilever

> The transformation to Net Zero requires innovation at every point Unilever's value chain – from the way we source materials and operate factories, to the way design products and deliver them to the consumer, and even the way they are used in the home. Our responsibility as business leaders is to drive that innovation and radical thinking in a way that can open up new opportunities for zero-carbon growth with products and services that meet the needs of today's and future generations.
>
> **Marc Engel**
> Chief Supply Chain Officer, Unilever

Sustainable innovation for a net zero world

Innovation is essential to enable the transition to a low-carbon economy – and opening up the business opportunities this will bring.

We're drawing on our expertise in innovation and R&D to bring people everyday products that have lower climate impacts – when they're made and when they're used.

Sustainable innovation and design are also vital to the growth of our business. The latest "Who Cares, Who Does" report by Kantar/GFK indicates that 67% of consumers surveyed across the world are actively trying to buy products produced in an environmentally friendly way.

Eliminating fossil fuels from cleaning products

We apply a lifecycle approach to our products to identify where the biggest impacts lie and help us understand how we can reduce them. The lifecycle analysis shows the need to have different approach to reducing carbon across the various divisions of Unilever.

In our Home Care business, the chemicals used in our **cleaning and laundry products** make up the greatest proportion of their carbon footprint (46%) across their lifecycle. Most cleaning and laundry products available today contain chemicals made from fossil fuel feedstocks, a non-renewable source of carbon.

On September 2nd 2020, Unilever announced that it will eliminate 100% of the carbon derived from fossil fuels in its cleaning and laundry product formulations and replace it with renewable or recycled carbon by 2030. This move to renewable or recycled sources of carbon for these chemicals is a deliberate shift away from the fossil fuel economy. It is an important step towards the company's pledge of net zero emissions from its products by 2039. Indeed, by using renewable and recycled carbon in our cleaning and laundry product formulations, we are reducing the extraction of fossil fuels that would otherwise add to the atmospheric carbon burden through ingredient biodegradation. We are expecting a reduction of up to 20% of the product formulations' GHG emissions from this alone.

Carbon Rainbow powered innovations

Central to this commitment is our 'Carbon Rainbow', an approach to diversify the carbon used in our cleaning and laundry product formulations. Non-renewable fossil sources of carbon (identified in the Carbon Rainbow as black carbon) will be replaced using captured CO_2 (purple carbon), plants and biological sources (green carbon), marine sources such as algae (blue carbon), and carbon recovered from waste materials (grey carbon). This transformation through the Carbon rainbow will take time but we have already put it in action through some innovations:

Purple carbon: New technologies, like carbon capture, offer huge potential as a source of renewable or recycled carbon for ingredient production. Soda ash is a key ingredient in laundry detergents due to its ability to help cut through grease and soften water. We are partnering with Tuticorin Alkali Chemicals (TAC) in southern India and Carbon Clean Solutions (CCSL). They have developed technologies to capture the CO_2 from their use of energy in their production processes and turn it into soda ash.

Green Carbon: When it comes to surfactants – the compounds that create foam and allow cleaning products to work by breaking down oil, grease and soil – there are few sustainable alternatives out there. But we've made a breakthrough with one of the world's leading biotechnology companies – Evonik Industries. They're producing Rhamnolipids – a biosurfactant made from naturally occurring fermentation and which is 100% biodegradable and renewable. It gives superior cleaning performance and mildness on skin. We are working towards building large-scale production of this ingredient, and it's already in some of our dishwashing products in Chile and Vietnam.

Innovation case study: A.P. Møller - Maersk

> We have begun a journey towards having net-zero CO_2 emissions from our own operations by 2050. This is an important ambition and one we can only deliver on in collaboration with many other stakeholders.

Søren Skou
CEO, A.P. Møller - Mærsk A/S

Responding to the call for innovation

The shipping industry contributes 2–3% of the world's greenhouse gas emissions. Maersk has had a strong focus on climate change and energy efficiency for many years, achieving close to 42% reductions in relative emissions in 2019 compared to a 2008 baseline. But improving efficiency is not enough.

In 2018, we committed to achieve net zero emissions from our own operations by 2050. The roadmap to deliver on this ambition covers three broad workstreams, technology development, market acceleration, and policy engagement, to develop the carbon-neutral fuels for container shipping that do not exist today, and at the same time to support market demand and the regulatory framework to incentivize the use of carbon neutral fuels.

The main challenge is not at sea but on land. The technological changes inside the vessels are minor compared to the massive innovative solutions and fuel transformation that must take place in the fuel supply chains to produce and distribute entirely new energy sources. To make this happen, we are working in coalitions across sectors and partners including customers, technology developers, researchers, investors, and industry peers, for example the Getting to Zero Coalition and the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping.

We are seeing growing customer interest in low- or zero-carbon container transportation, and at least 60 of our 100 most important customers have set ambitious carbon emission reduction targets for the next decades. Some of Maersk's largest customers are taking part in the innovation projects and pilots to test the future fuels. In spring 2019, a pilot with second-generation biofuel was successfully completed. Following that, we launched the first carbon-neutral ocean shipping product, Maersk ECO Delivery, to our customers.

Our R&D milestones

In addition to biofuel, Maersk is also looking into other possible lower emission sources such as alcohol. Because of the long asset lifecycle of container vessels, to reach the 2050 ambition there must be a commercially viable net-zero vessel at sea already by 2030. Our R&D strategy includes the following milestones:

2020-23: Explore and invest in the most likely future fuels

2023-27: Vessel design, supply chain pilots

2027-30: First vessels in production

2030: First carbon-neutral vessel in business viable operation

2030-50: Change fleet to carbon-neutral vessels

Innovation case study: NIKE, Inc.

> When it comes to protecting the playing field we share—our planet—there isn't a moment to lose. That's why we're coming together as global leaders to create climate action solutions. If we act now, and work together, we can drive meaningful progress toward a more sustainable future. We'll be relentless in our pursuit to help ensure a healthy planet for generations of athletes to come.

Andy Campion
Chief Operating Officer, NIKE, Inc.

At Nike, Inc., we believe we must all come together to have a more positive impact on our planet. As creators it's our obligation to consider how we source, make, use, return and then reimagine the products we design.

Our sustainable design ethos is to design products with better materials, made with fewer resources and assembled with the end in mind. We believe sustainable technologies can help unlock new, fresh perspectives and create products that have a lighter environmental impact.

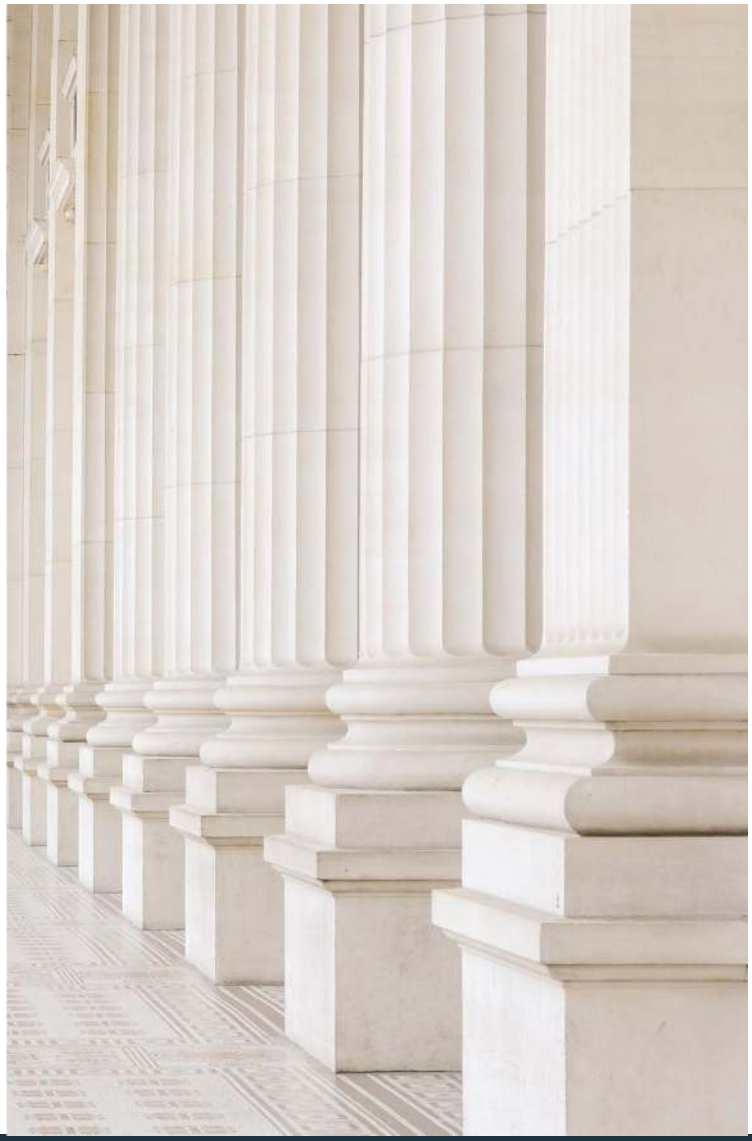
In 2020, Nike introduced a footwear collection made from our "space junk,"- scrap material from factory floors - and transformed it into a radical design, with circularity as the core inspiration. Every detail of the Nike Space Hippie footwear capsule collection, from material choices to methods of make to packaging, was chosen with consideration for its environmental impact, adding up to the lowest carbon footprint score for Nike footwear.

The concept began in 2017 when new research allowed Nike to pinpoint CO2e emissions of individual materials and manufacturing processes in putting together a shoe.

Space Hippie Flyknit yarns include at least 85% rPoly – made from recycled plastic water bottles, t-shirt and yarn scraps – creating engineered knit uppers with an expressive sustainable aesthetic. Each of Space Hippie's four silhouettes provide a unique fit option — traditional laces, lace-less and Flyease — for the lifestyle of people on-the-go. Crater Foam tooling uses 15% Nike Grind rubber and is combined with 100% recycled ZoomX foam scraps for a more sustainable, lightweight and responsive feel during city exploration.

Building Block: Finance

Business transformation for net zero requires investment across several building blocks and on a scale commensurate with investment in other strategic corporate priorities. It also requires embedding net zero value creation and erosion considerations across all corporate finance functions including operations, financial planning, business strategy & development, facilities, corporate venture investing, and treasury. The net zero corporate investment strategy should ensure alignment and complementarity across priorities required to deliver business transformation.



This section is important for:

CFO, CIO, Head of Corporate Finance, Head of Venture Capital, Finance Managers, Business Strategy & Development, Facilities and Operations.

Checklist of key actions:

- **Develop a net zero corporate investment strategy by:** assessing assets under ownership/control; analyzing value chain opportunities/ risks; developing a net zero investment portfolio and working closely with business strategy & development and sales teams to understand how the portfolio can be realized and its potential impact.
- **Embed net zero considerations across Corporate Finance function by:** establishing net zero criteria for economic assessments and integrating net zero Finance Transformation efforts, including into Treasury, Risk, Audit, M&A and strategic and financial planning.
- **Identify and prioritize financing mechanisms and sources by:** evaluating internal revenue raising and external financial options for financing net zero related transformation efforts.
- **Embed net zero into corporate venture capital and corporate accelerators/ incubators by:** setting net zero as a strategic investment area for corporate venture and start-up investment.

Finance: Financing the net zero transformation

✔ Develop a net zero corporate investment strategy

The net zero transition will require companies to proactively minimize value erosion and maximize value creation impacts. Business transformation means a new way of doing things, which in turn will require investment, and a re-engineering of the investment appraisal and decision making process to factor in transition impacts.

Companies should develop a **net zero aligned corporate investment strategy;** considering five key elements:

- **Operational assets**: quantify investment needs and return on investment for GHG reduction levers, estimate asset value creation/destruction on assets (infrastructure, fleets, products, technology).
- **Value chain opportunities:** assess investment needs including funding for supplier engagement and support new technologies.
- **Identify actions that require dedicated (new or re-allocated) funds** i.e. finance for R&D and innovation (*see Innovation building block*); finance to support a just transition for employees through investment in up/re-skilling; new product/service development costs; finance to acquire new critical capabilities/talent; investment in offsets or insets for carbon removals.
- **Investment portfolio:** assess financial materiality of net zero transition risk across investments, identify green investment opportunities (including nature-based solutions) and required divestments.
- **Companies may wish to consider and evaluate the potential of company acquisitions to support** business rationalization and inorganic growth to deliver net zero transformation.

Development and implementation of the net zero corporate investment strategy should be driven by an **inclusive and structured process** that includes the identification and setting of objectives; monitoring, evaluation and learning; and regular milestones for progress assessment and review.

✔ Embed net zero considerations across Corporate Finance function

Achieving net zero will require it to sit at the heart of the business and for all decisions to be looked at through a net zero lens.

The Finance function, led by the CFO, will need to holistically **incorporate net zero impacts on value creation and destruction**, and risk management more broadly. Finance transformation efforts, therefore, should look to embed net zero as a key business and value driver.

This will include embedding net zero impacts into business processes with respect to tax, operational risk management, strategic planning, financial planning, transactions, reporting and compliance, internal audit, investment and appraisal processes, analysis of product lines and pricing, and business partnering.

Treasury, Risk, Audit, Tax, Operations, and M&A functions will need to expand their mandates and work closely with Sustainability and wider technical support.

✔ Identify and prioritize financing mechanisms and sources

Internal revenue raising and external financing options will provide finance options to deliver the investment strategy.

Internal options include an **internal carbon price** with fees pooled and linked to a central fund for net zero investment. External options include: **PPPs for capital projects** (Concessional Green Loans; **Special Purpose Vehicles** for specific net zero investments; and **government subsidies, incentives and/or rebates** to implement net zero aligned activities.

✔ Embed net zero into corporate venture capital and corporate accelerators and/or incubators

The entrepreneurial ecosystem will generate many of the disruptive innovations critical for realizing net zero within specific sectors.

Corporate Venture Capital should evaluate potential net zero investment opportunities, and consider **embedding net zero as a strategic investment area for early stage investment where there is scope for value creation and emissions reduction.** This will enable companies to identify, support and scale key transformative technologies and businesses strategically aligned to their organization. Many of the disruptive solutions for net zero are emerging from the entrepreneurial ecosystem.

Practical advice for:

Companies just starting their net zero journey:

Begin by undertaking an assessment of your financial exposure to climate risk to enable the CFO and Finance leads to understand the value drivers of net zero and the company's current status, and improve investment decision-making.

Undertake a high level assessment of your net zero investment needs, and identify key Finance function processes that need to incorporate net zero implications. Engage with the CFO and senior Corporate Finance stakeholders, and incorporate into strategic planning and financial planning.

Mature companies seeking to be net zero leaders:

Leading companies will have holistically integrated net zero implications into Finance Function transformation efforts.

Leaders will be unlocking finance in the billions to enable enterprise and supply chain transformation, raised through internal and external (public and private) mechanisms. Good practice internal efforts include integration of a robust carbon price into operations and strategic decisions including new investments and risk management, in addition to a pooled levy to fund innovation.

Who is responsible for delivering Finance for Net Zero: CFO,COO, CIO, Head of Corporate Finance, Head of Venture Capital, Finance Managers

Finance Case study: Microsoft

> We're making investments in climate technologies because the best available science says that we must, but also because of incredible customer demand for these digital solutions. Through our targeted investments in innovation via our Climate Innovation Fund, we aim to ensure that the capital that we put out is as additional as possible, drives climate equity and puts us closer to a net zero future.
>
> **Dr. Lucas Joppa**
> Chief Environmental Officer, Microsoft

While the world will need to reach net zero carbon, those who can afford to move faster and go further should do so. That is why earlier this year, Microsoft announced its intent to become carbon negative by 2030. In addition, Microsoft committed that by 2050, it will remove from the environment all the carbon the company has emitted either directly or by electrical consumption since it was founded in 1975.

This kind of transformation requires not only bold goals and organizational commitment, it will require new financing models inside the company to accelerate progress as well as the deployment of capital to accelerate innovation outside our four walls as well.

Microsoft has utilized an internal carbon fee since 2012. Unlike some other companies, our internal carbon fee isn't a "shadow fee" that is calculated but not charged. Our fee is charged to each division in our business based on its carbon emissions, and the funds are used to pay for sustainability improvements, with the intention of creating a virtuous cycle of carbon reduction. The fee has funded the development and deployment of new innovations in energy efficiency technologies and strategies, the purchase of renewable energy and carbon removal credits, and programs such as AI for Earth.

Currently this fee is $15/metric ton and covers all scope 1, 2 and 3 emissions. We charge a lower price per ton for scope 3 and we will phase in increases over time until all our scope 1, 2, and 3 emissions are charged the same rate. This will both increase incentives across the company to reduce all scope 3 emissions and fund the added work to reduce our own scope 3 emissions and invest in carbon removal activities.

Solving our planet's carbon issues will require companies and governments not only to reduce their own operational footprints, but to invest in innovation in the broader market to deliver the necessary carbon reduction and removal solutions. That's why a significant part of our endeavor involves putting Microsoft's balance sheet to work to stimulate and accelerate the development of sustainability technologies such as carbon removal. Our Climate Innovation Fund will invest $1 billion over the next four years into new technologies and innovative market solutions. We understand that this is just a fraction of the investment needed, but our hope is that it spurs more governments and companies to invest in new ways as well.

We will primarily deploy this capital in two areas: (1) to accelerate ongoing technology development by investing in project and debt finance; and (2) to invest in new innovations through equity and debt capital.

We'll focus our funding on investments primarily based on four criteria: (1) strategies that have the prospect of driving meaningful decarbonization, climate resilience, or other sustainability impact; (2) additional market impact in accelerating current and potential solutions; (3) relevance to Microsoft and our customers in delivering technologies we can use to address our current and future emissions; and (4) consideration of climate equity, including for developing economies.

We will primarily invest in climate solutions that have been developed and need capital to scale in the market. We aim to make investments that will accelerate existing climate solutions and create new technologies. We'll invest directly in companies as well as investment funds, to scale new innovative solutions in the market, to demonstrate the viability of new technologies, and to partner with other investors to meet the world's climate objectives. An investment will be prioritized if it ensures developing economies and underserved communities will benefit from the climate solution.

Microsoft has already begun making investments to advance our sustainability objectives. In July, we announced a $50 million investment in Energy Impact Partners' (EIP) global platform for innovation of new technologies to transform the world's energy and transportation systems, the two sectors that account for the majority of greenhouse gas emissions. We followed that with a $30 million investment in Closed Loop Partners' funds, announced in August, to help accelerate the infrastructure, innovation and business models for supply chain digitization, e-waste collection, food waste reduction, and recycling industry products to build a more circular economy at scale . In September, we announced a $10 million investment in Emerald Technology Ventures' Global Water Impact Fund, a collaborative venture capital initiative to support sustainable innovation in the water sector. Taken together, these early partnerships signal our commitment to three key pillars of Microsoft's sustainability strategy – carbon, waste, and water.

It's clear that progress and innovation across all of these pillars will be needed to mitigate the climate challenge at Microsoft and around the world. In particular, through intensive and directed investment, we believe the price of carbon reduction and removal technologies can be reduced while maturing the market. We're making a bet on certain technologies that don't exist at the scale or price point we need them. If we want to get them, we need to start investing. This is how innovative financing can help deliver both nature-based and engineered solutions at a price point and scale we need.

Building Block: Transparency

Companies will need to provide transparent and balanced reporting on progress against net zero ambition, including pace of business transformation, implementation of strategy, and progress against KPIs including actual emissions reductions achieved. This promotes accountability for transformation, drives progress and informs relevant stakeholders, including investors, enabling them to accurately price risk.

This section is important for:

Heads of Communication, Public Affairs & Corporate reporting, Sustainability & CSR managers.

Checklist of key actions:

- **Communicate your net zero strategy and what it means for the future of the business by:** disclosing how net zero is embedded into business strategy and transformation in, for example, annual financial reports / 10-K filings, considering the recommendations of the FSB TCFD.
- **Disclose progress against net zero strategy by:** defining and reporting on net zero KPIs**,** calculating and disclosing societal and environmental impacts, reporting on net zero incentives**.**
- **Disclose with clarity and transparency by:** reporting publicly and comprehensively, highlighting areas for improvement, articulating barriers to progress, highlighting innovation and actions to enable conditions needed to achieve effective, just, and sustainable climate solutions, considering external, independent review of net zero KPIs and results.

Transparency: Communicating action

✔ Communicate your net zero strategy and what it means for the future of the business

Stakeholders, including investors, want to see evidence of the real action that has been taken by the business to embed net zero into its business model, operations and decision making. Transparency and better access to data will also enhance how climate-related and/or net zero risks are assessed, priced and managed, allowing companies to more effectively measure and evaluate their own risks, those of their supplies, and of their competitors.

Companies should be disclosing how **net zero is embedded into business strategy and transformation** in their annual financial reports / 10-K filings. Practically, this translates to the disclosure of activities and outputs from buildings blocks on Ambition, Strategy, Enterprise Transformation and Supply Chains.

The recommendations of the FSB TCFD provide good practice guidance in disclosures to stakeholders on the financially material impacts (including risks and opportunities) of climate change to the business.

✔ Disclose progress against net zero strategy

Setting targets with milestones over time demonstrates an organization's accountability and commitment to its net zero transformation. Clear presentation of progress towards targets is evidence that transformation efforts are taking place at the pace and scale required to deliver the ambition.

Companies should therefore **define and report external net zero KPIs** (at minimum scope 1,2 and 3 GHG emissions, both absolute and intensity) and consider further KPIs beyond GHG impact. The KPIs should have **specific, quantifiable and science-based short, medium and long term targets** set against them and the financial implication behind each KPI should be defined.

It is also important to calculate and **disclose the societal and environmental impacts** of net zero transformation, going beyond climate impact and considering impacts on other material sustainability issues (e.g. water, biodiversity, plastics, human rights, local communities and diversity and inclusion). These disclosures should also be **quantified in monetary terms** where possible.

Companies should **report on how staff at both senior and junior levels are engaged and incentivized** to deliver on the net zero strategy throughout the company. This may include financial and non-financial incentives (e.g. remuneration, employee awards, performance grades).

✔ Disclose with clarity and transparency

Clear and transparent disclosures are critical for business credibility. For net zero it is especially important as companies need to be aware of avoiding 'greenwash'.

Disclosures should:

- Provide **clear and consistent messages and data points** (along with basis of reporting), enabling those outside the organization to form a view and compare across organizations.
- **Highlight progress being made and - critically - areas for improvement** to ensure disclosures are balanced and to give confidence that the organization is fully aware of its impacts and is honest and transparent about progress towards net zero.
- Articulate **barriers to progress** across the company, value chain and ecosystem, and structural changes required to enable net zero transition.
- Include **focus on innovations** as well as **actions to help enable the conditions needed to achieve effective, just, and sustainable climate solutions** for people of all gender, race, or skills.

External, independent review is also advised as it enhances credibility of disclosures. It provides additional confidence to management/ senior leaders on the organization's performance over time and to external stakeholders on the company's progress and plans.

Practical advice for:

Companies just starting their net zero journey:

It is critical for companies to set out their ambition and the rationale for the chosen level of ambition in the context of the business. Companies will not be expected to have fully developed their plans nor have all aspects of a net zero strategy embedded across the entire organization. However, the progress made, as well as realistic expectations for the short and medium term, should be articulated.

It may be helpful to complete a rapid gap analysis assessment against the TCFD recommendations and develop a plan of what to disclose, when and through which communication channels. An important step within the above will be to ensure that existing external disclosures of governance arrangements incorporate considerations of net zero. It may also be helpful to have workshops or learning sessions on net zero with those responsible for all forms of external communication.

Mature companies seeking to be net zero leaders:

For mature companies it is expected that many net zero activities and initiatives will be taking place therefore disclosures should focus upon what is 'material' to the company as well as other stakeholders. Companies should look at the inventory of all primary external disclosures, including investor presentations and roadshows as well as regulatory disclosures, and to consider the need to include or exclude relevant aspects of net zero implementation and outcomes achieved to date.

Companies should have clearly defined rationale and objectives for utilizing external assurance. This will help ensure that the right level of assurance using the right assurance provider is selected.

Who is responsible for delivering Net Zero Transparency and Accountability: Heads of Communication, Public Affairs & Corporate Reporting; Sustainability / CSR managers.

Transparency case study: Mercedes-Benz AG and Microsoft

Mercedes-Benz AG

In our sustainable business strategy, we have set ourselves the overall goal of making the mobility of the future carbon-neutral. To measure our effectiveness we've established a sustainability KPI system.

Within the context of our "Ambition 2039" and our strong commitment to the Paris Agreement on climate protection, we combine both internal and external performance reviews in our management approach. In line with this approach, we derive measures for ensuring that we reach our goals and assess our implementation of these measures. Each unit conducts internal reviews in its area of responsibility at short intervals throughout the year. The external review consists of an annual audit of a selection of our corporate goals and our attainment of them that is conducted by an auditing company. In addition, the Science Based Targets Initiative (SBTI) monitors and confirms the conformity of our path toward goal attainment with the Paris Agreement on climate protection.

Not only does our annual Sustainability Report outline our strategic goals and measures, it also documents current actuals. Starting with the report 2019 we are including a reference table for the TCFD disclosure. For climate-related activities and the related performances, we also disclose via CDP Climate Change questionnaire.

As far as individual vehicles are concerned, we publish a "360° Environmental Check" in which we summarize the results of the life cycle assessment in material resources, energy consumption and CO_2 emission.

In the environmental workshop at our annual Daimler Sustainability Dialogue, we conduct in-depth discussions with environmental institutes and NGOs. Throughout the year, there are numerous discussions and direct exchanges with our Board of Management on the subject of climate protection. In addition, the feedback we continually receive from government and the public lets us know how the sustainability goals we have set for ourselves are being perceived and evaluated.

The attainment of our fleet's CO_2 emission targets in EU has already been a component of the remuneration of our Board of Management for years now. In 2020 we will further differentiate this system and expand it to involve the entire senior management structure, from the department heads on up. We expect this process to motivate everyone involved even more strongly to reach the sustainability goals we have set for ourselves.

Microsoft

IReal progress requires real transparency. Microsoft has long been committed to transparency on climate and carbon performance, reporting on climate performance to CDP and on our CSR reports for nearly a decade.

Microsoft embraces transparency on its performance. Reporting on progress – as well as challenges – is a responsibility Microsoft has to its shareholders and employees, and is also an opportunity to make it easier for others to find their way from ambition to action more easily and efficiently. Given its more ambitious carbon goals announced this year, to become carbon negative, this reporting is even more important. As such, Microsoft will now deliver a Sustainability Report annually.

In addition, Microsoft is practicing transparency in disclosing its roadmap, and incremental steps along the way. A key example is the issuance of a new request for proposal to source carbon removal solutions that are net negative and verified to a high degree of scientific integrity. To ensure that our funding will maximize carbon being taken out of the atmosphere, we are doubling down on scientific verification of each project, and using this RFP to harvest and share best available science and market intelligence on carbon removal. Microsoft has committed to publicly sharing the learnings from this process to accelerate carbon removal efforts of others.

This transparency carries through to products. Microsoft introduced a new feature, the Microsoft Sustainability Calculator. It provides Azure cloud customers transparency into their total carbon emissions – Scopes 1, 2 and 3 – resulting from their cloud usage.

In addition, Microsoft committed to playing a role in accelerating greater transparency beyond its four walls. It stated it will support strong industry-wide standards for transparency and reporting on carbon emissions and removal and apply these to itself. To that end, Microsoft has a certified Science Based Target and is also a signatory to the United Nations' 1.5-degree Business Ambition Pledge.

Building Block: Engagement

Companies will need to engage and influence stakeholders across a variety of ecosystems to deliver emissions reductions at pace and scale, and create the enabling conditions for an accelerated transition. Leading companies also have an important role to play in inspiring and spurring greater action through demonstration, cooperation, collaboration and sharing of information with key stakeholders.

This section is important for:

Head of Partnership & Engagement, Corporate Affairs, Corporate Social Responsibility, Communications, Marketing, Brand owners, Climate & Sustainability experts.

Checklist of key actions:

- **Develop a net zero-aligned stakeholder engagement strategy by:** identifying critical stakeholders to engage on the net zero transformation journey; developing tailored content and using innovative approaches to engage stakeholders.
- **Inspire others and lead by example by:** mobilizing and convening stakeholders to share experiences; engaging with climate and net zero initiatives and platforms; demonstrating progress through consistent absolute reductions and consideration of social alongside environmental impact.
- **Influence value chain partners and customers by:** listening to customer and partner experiences; educating customers about their impact; collaborating with upstream and downstream partners to deliver systems change.
- **Use influence to promote policies that enable and accelerate progress by:** advocating for net-zero aligned policies including a focus on actions that help enable the conditions needed to achieve effective, just, and sustainable climate solutions for people of all gender, race, or skills; engaging with civil society and NGOs; using brand communications and marketing campaigns to encourage customers and consumers to reduce emissions.

Engagement and influence: Enhancing the pace and scale of net zero action

✔ Develop a net zero-aligned stakeholder engagement strategy

Net zero requires collaboration across all stakeholder ecosystems. It is important that shareholders and investors are 'bought in' to support transformation efforts; and that customers, NGOs and civil society trust companies' commitments to transformation else run the risk of reputational damage and greenwash.

Companies should assess the landscape to **identify critical stakeholders** to engage on the net zero transformation journey, including investors, employees, customers, governments, NGOs and civil society. Companies need to develop **tailored and proactive engagement strategies** based on stakeholder requirements and expectations. Shareholders and investors will be interested in your transformation strategy, approach and metrics (economic, environmental and social). While employees, customers, NGOs and civil society will be interested to understand if you are delivering a socially-just transition, robust results, and whether you are on track to meet your commitments.

Companies should adopt **innovative approaches to engage stakeholders on net zero and to showcase results.** For example, through targeted outreach such as events showcasing results, creation or use of virtual platforms for information exchange, or newsletters to share knowledge.

✔ Inspire others and lead by example

The pace and scale of the challenge requires a focus on action and tangible emissions reductions. Cooperation and sharing learnings and best practices enables quicker identification and scaling of solutions, and greater overall mitigation of emissions.

Companies should use their size and influence to **mobilize and convene stakeholders** across ecosystems, including peers, to share best practice, learn, address common barriers and structural challenges. They should jointly invest in these opportunities and develop publicly available research, roadmaps, data, tools and low carbon solutions.

While commitment initiatives are important, companies should also **engage in initiatives and platforms that focus on action** such as REBA, RE-Source, REscale, 100s, etc.

To lead by example, it is critical for companies to demonstrate progress through **consistent and absolute reductions** beyond scope 1 and 2 emissions, company wide and by geography, business unit, and product and services.

✔ Influence value chain partners and customers

In many sectors, the most material emissions are in product use and end of product life. Engaging, educating and supporting customers to change behaviors; and working extensively across value chain partnerships is crucial to achieve net zero.

Product owners, environmental specialists, communications, marketing and brand managers should work together to **educate customers about their impact** when using products or services. They can do this by identifying ways to reduce impact and leveraging brand and marketing channels to encourage behavior changes.

Companies should collaborate extensively with upstream and downstream partners to enable transformation across the whole value chain including a. focus on circular models of consumption. Support should be provided to SMEs to enable inclusion.

✔ Use influence to promote policies that enable and accelerate progress

Governments, NGOs and civil society are all important in creating the drivers and enabling conditions for companies to transform to net zero: Governments want to understand what the business community needs to unlock emission reductions at pace and scale; and NGOs and civil society are pushing for greater ambition and green policies in the midst of turbulent global events and politics.

Companies should **advocate for policies** that create the market conditions to accelerate emissions reductions and create wider social impact, and provide the evidence to support these policies. Companies should **engage with civil society and NGOs** to leverage their influence to create political momentum for policy change. Companies should leverage their **brand communications channels and marketing campaigns** to encourage broader civil society to adopt more sustainable behaviors.

Practical advice for:

Companies just starting their net zero journey:

Start by defining your ecosystem. Who are your key stakeholders? What does net zero mean to, and imply for, each stakeholder constituency? What are your stakeholders' expectations, needs, and incentives? Where do you operate and how might that alter your engagement approach? What material will you develop and share to influence your stakeholders and attain buy-in? Which climate initiatives are most relevant to you? What levers are available to you to engage value chain partners, customers, governments, NGOs and civil society? Use this exercise to inform your engagement strategy, and identify initiatives you would consider joining as a first action.

Mature companies seeking to be net zero leaders:

Leaders need to be driving initiatives, inspiring others to take action, and openly sharing their experiences and lessons learned. Crucially leading companies need to 'walk the talk' by demonstrating absolute GHG reductions across their value chains and engaging a diverse range of stakeholders to identify ways to deliver a just transition and to create the conditions for further and faster emissions reductions.

Who is responsible for delivering Engagement for Net Zero: Head of Partnership & Engagement, Corporate Affairs, Corporate Social Responsibility, Communications; Marketing, Brand owners; Climate & Sustainability experts

Engagement Case study: Natura &Co

> At Natura &Co, we believe we can't run a business on a dead planet. We will address the climate crisis by working on science-based solutions to become a carbon neutral business by 2030. In order to achieve this, we will engage with a broad range of stakeholders and together, we will find solutions that create a wider positive impact. Businesses, governments, civil society, and the scientific community must act together, but we must be even more ambitious and act with urgency before it's too late. This is an important part of our Commitment to Life vision for 2030.

Roberto Marques
Executive Chairman of the Board and Group CEO, Natura & Co

Our commitment

Natura &Co is a global, purpose-driven, multi-channel and multi-brand cosmetics group which includes Avon, Natura, The Body Shop, and Aesop. Each of the four companies that form the group is committed to generating positive economic, social, and environmental impact.

In June 2020, we published our Commitment To Life for 2030, a comprehensive sustainability plan to address some of the world's most pressing issues.

Creating circular carbon

To combat deforestation in the Amazon and to encourage family agricultural producers to conserve local vegetation, we developed a first project that pays for carbon offsetting in our production chain, known as Circular Carbon (or carbon insetting). The project pays the families of smallholders not only for the purchase of raw materials and benefit sharing, but also for environmental conservation services.

The project was undertaken initially in partnership with reforestation cooperative Cooperativa de Reflorestamento Econômico Consorciado e Adensado or RECA, consisting of agricultural producers in Porto Velho (Rondônia) and surrounding regions in the states of Acre and Amazonas. Through the payment for environmental services, a practice known as carbon insetting, Natura is seeking to work with communities on three integrated fronts:

- Ingredients purchases
- Benefit sharing for access to traditional knowledge/genetic heritage
- Forest conservation

Engaging local communities

With this, we are seeking to broaden relations with the communities supplying biodiverse ingredients in the region, underscoring the fact that it is economically feasible to reconcile production and keeping the forest standing. The lower the deforestation in the area, the higher the financial return from environmental services for the agricultural producers.

The RECA cooperative, which has supplied ingredients for Natura's Ekos product line since 2001, is located in one of the regions in Brazil under the greatest pressure from deforestation, both by livestock breeding and by the exploitation of timber. For this reason, in 2013 the area was chosen for the pilot project, developed in partnership with the sustainable development body Idesam (Instituto de Conservação e Desenvolvimento Sustentável da Amazônia).

The land and farms involved in the RECA cooperative project have significantly helped conserve the forests. The work has helped strengthen the local economy and protect the native forest areas. The program creates a virtuous circle because it gives the ingredients suppliers additional income and increases the resilience of the chain.

Between 2013 and 2016, the deforestation rate in the surrounding area averaged 1.9% per year, while the 126 properties participating in the project had a rate of 0.93% - less than half the deforestation rate of its surroundings. An area equivalent to approximately 190 football fields pitches was conserved during the period, avoiding 104,000 tons of carbon gas emissions in the atmosphere.

The payment for this environmental service from 2013 to 2016 was equivalent to the amount Natura &Co paid RECA for the ingredients it supplied during the period (around US$500,000).

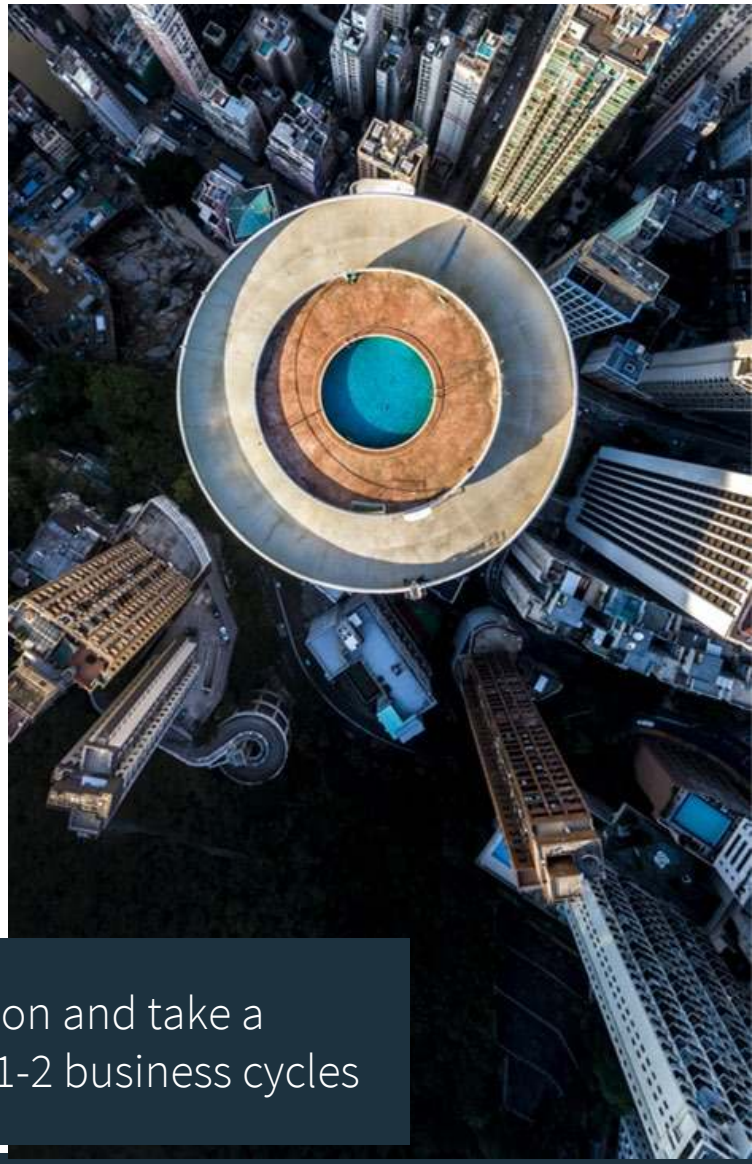
The goal is to improve the resilience of the chain and reduce RECA's deforestation rate to zero, as well as to replicate this model in other communities in the Amazon region.

Conclusion

This document provides a 'blueprint' for a company starting out on, or on their net zero journey. The framework outlines the key building blocks for business transformation needed to deliver net zero. It is intentionally holistic, wide ranging and sector neutral, such that it can be engaged with by any company.

The next step is for companies to apply the framework in a way that works for their business. Here are some ways companies can use this framework:

- Deploy the building blocks checklists as a diagnostic tool to help identify current strengths and improvement areas, and where to direct effort and resource.
- **For companies just starting their net zero transformation journey**:
  Establish a cross functional working group to follow our practical advice for each building block; which would include
  - An articulation of 'net zero' and what it means in your business context
  - A high level market assessment to highlight strategic risks and opportunities
  - Briefings to share results and establish a roadmap of key actions that should cover:
    - Oversight and management of net zero from the highest levels of the organization
    - Review of Corporate Strategy, Innovation Strategy, Operating Model, Supply Chain Strategy and Investment Strategy to determine quick wins for embedding net zero and key next steps and business owners
    - Review of existing and priority enterprise and supply chain transformation programs to ensure net zero is embedded in programs underway
- **For mature companies:**
  Deep dive into key building block areas you know you need to focus on. Read the framework and ensure there is a program of work, with designated resource to deliver against each of the action points.



There is an immediate need for companies to move from ambition to action and take a pragmatic approach to transformation to deliver on next zero in the next 1-2 business cycles

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Abbreviations and terminology

Net Zero

Net zero is a "state in which the activities within the value chain of a company result in no net impact on the climate from greenhouse gas emissions."

A credible net zero strategy means eliminating sources of emissions in the value chain at a pace and scale consistent with limiting global warming to 1.5°C as far as possible, and after this point removing any residual emissions that remain unfeasible to eliminate through permanent carbon dioxide removals.

Companies can avoid or reduce emissions outside of their value chains (compensation measures) or remove carbon from the atmosphere within or beyond their value chains (neutralisation measures). Both measures are being used by companies to offset emissions, and include natural climate solutions such as tree planting and ecosystem restoration.

Reducing emissions in line with 1.5°C means aligning to, where possible, the de facto standard set by the Science-Based Targets Initiative, which also provides external validation of companies' public targets against that standard.

Emissions are categorised into three scopes: operational emissions consist of Scope 1 and 2 emissions and value chain emissions consist of Scope 3 emissions.

Assets under management (AUM): The total market value of the investments that a person or entity manages on behalf of clients

Dual benefits: When an activity results in a reduction in GHG emissions as well as/ alongside its primary business objective

Decarbonisation: Refers to reduction and/or elimination of GHG emissions

Financial Stability Board Task Force on Climate-related Financial Disclosures (FSB TCFD): The TCFD develops recommendations for voluntary climate-related financial disclosures that are consistent, comparable, reliable, clear, and efficient, and provide decision-useful information to lenders, insurers, and investors. On June 29, 2017 the Task Force released its recommendations report, that provides context, background, and the general framework for climate-related financial disclosures along with more detailed and technical guidance for companies to explain how to implement the recommendations. As of February 2020, 1,027 organizations, representing a market capitalization of over $12 trillion support the TCFD.

Greenhouse gas (GHG): The atmospheric gases responsible for causing global warming and climate change: Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_20), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

The Intergovernmental Panel on Climate Change (IPCC): The United Nations body for assessing the science related to climate change. The IPCC provides regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

Paris Agreement: At the Paris climate conference (COP21) in December 2015, 190 nations adopted The Paris Agreement. Its central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C.

Nationally Determined Contributions (NDCs): The Paris Agreement requests each country to outline and communicate their post-2020 climate actions, known as their NDCs. Each climate plan reflects the country's ambition for reducing emissions, taking into account its domestic circumstances and capabilities.

Representative Concentration Pathway (RCP): To model and predict future climate it is necessary to make assumptions about the economic, social and physical changes to our environment that will influence climate change. Representative Concentration Pathways (RCPs) are a method for capturing those assumptions within a set of scenarios. The conditions of each scenario are used in the process of modelling possible future climate evolution.[12]

Science-Based Targets (SBT): Science-based targets provide companies with a clearly defined pathway to future-proof growth by specifying how much and how quickly they need to reduce their greenhouse gas emissions. Targets adopted by companies to reduce greenhouse gas (GHG) emissions are considered "science-based" if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement – to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.

Science-Based Targets initiative (SBTi): The Science Based Targets initiative champions science-based target setting as a powerful way of boosting companies' competitive advantage in the transition to the low-carbon economy. The initiative showcases companies that set science-based targets, defines and promotes good practice and offers resources and independently assesses and approves companies' targets.

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We hope this document - produced by PwC and commissioned by Microsoft - proves a useful contribution to Transform to Net Zero and helps accelerate the transformation journey for companies of all sizes and geographies.

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