wbcsd

SOS 1.5

The road to a resilient, net-zero carbon future

Contents

Foreword

The IPCC's 2018 Special Report on global warming of 1.5°C has given business and governments a clear ultimatum: either we accelerate systems transformation at scale to keep the world within a safe operating space of 1.5°C temperature rise above preindustrial levels, or we will fail our people and planet.

The severity of climate change is already a crushing reality for many people around the world, who have lost their homes to forest fires and extreme floods. The COVID-19 pandemic has brought devastation to millions of people, impacting every country, but most of all has delivered the whole world a stark reminder of our vulnerability to systemic risk. This crisis has shown us that the world cannot afford to return to normal, as it was this normal that is unsustainable. We must build resilience against all the interconnected crises we face, and the biggest of all remains the climate emergency.

Business has the responsibility and the need to lead this charge. To protect the employees, customers and the societies they serve and do no harm, business must act now – at scale – to accelerate the transition to a net-zero economy where economic growth is decoupled from carbon and more than nine billion people are able to live well, within the limits of the planet by no later than 2050.

Many businesses around the world are taking this responsibility and dialing up their efforts to tackle the climate emergency. I'm encouraged to see that every month more and more companies are setting science-based targets and signing up to 1.5°C Ambition pledges. Companies are moving away from fossil fuels and supporting innovative, low-carbon solutions which can create jobs, ensure sustainable growth while protecting the health of our people and planet. These ambition statements are a critical step, but it's more important than ever that business starts to invest and deploy their solutions, especially now in a post COVID economic recession. Equally, we need governments to support business to drive the global systems transformation to net-zero with investments and policies that will facilitate a green recovery and a safe operating space for business and societies.

SOS 1.5 - which aims to maintain the world at a safe operating space for 1.5°C – is a new roadmap for companies to deliver science-based climate action to reach net-zero. Working with members and partners, SOS 1.5 provides a step-by-step framework for all companies of any size and sector to build and deliver their own decarbonization journey. No single company can achieve net-zero alone. With SOS 1.5, we are convening a platform for all companies at different stages in their journey to work together and tackle the biggest barriers to decarbonizing at scale. WBCSD will continue to support companies with tools, best practice guidance, and value chain collaborations to translate this ambition into scalable climate action.

On 2020 World Environmental Day, we are pleased to launch SOS 1.5 - our new holistic climate action framework to help all companies deliver on their responsibility to reach net-zero emission.

Peter Bakker
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KEY MESSAGES

SOS 1.5 is a science-based climate action framework for business to reach net-zero carbon and drive the transition to a 1.5°C economy.

1. **RESPONSIBILITY:** Business has the responsibility to act to keep the world within a safe-operating space of 1.5°C: creating green jobs, delivering economic growth and building a more resilient society.

2. **ACTION PLANS:** All companies must align with the science and implement climate action plans to reach net-zero carbon before 2050. SOS 1.5 supports all business commitments and initiatives to achieve the 1.5°C goal by providing a framework for all companies to deliver and implement climate action to net-zero.

3. **COLLABORATION:** No company can reach net-zero alone. SOS 1.5 is WBCSD's project for companies to collaborate with their peers and their value chain to accelerate our transition to a net-zero economy. WBCSD works on SOS 1.5 aligned climate action projects in energy, transport, buildings, agriculture, nature and industry.

Introduction

2020 was set to be the landmark year for bringing global focus to the climate emergency. As the crucial year when governments are expected to announce revised climate commitments under the Paris Agreement and the UN Climate Change process, 2020 will mark the beginning of the implementation era for delivering ambitious climate action towards the 1.5°C goal of the Paris Agreement.

The COVID-19 pandemic has transformed the world in ways that we never imagined. Exacerbating inequalities and sparking unrest, the pandemic has revealed the vulnerabilities of health systems and economies around the world and the exponential nature of systemic risks to our economic, health and welfare systems. As we grapple with the devastating impact of the pandemic and begin to recover, it's clear that we were unprepared both in our health and economic systems for the scale of systemic shocks brought by COVID-19. This is a wake-up call for the bigger risk that society could face from the climate or nature emergency. As governments and businesses around the world make difficult decisions to plan our recovery, it's clear that returning to business-as-usual is not acceptable. We need a recovery that advances the global transition to net-zero carbon and builds a resilient future for all. The role of business in leveraging its resources, wide reach, and expertise will be critical to driving accelerated and ambitious climate action.

In 2019, WBCSD aligned its Climate & Energy program with the latest science including IPCC's 2018 Special Report on global warming of 1.5°C. Reflecting the rising urgency to tackle the climate crisis, we created a new flagship project – SOS 1.5 (Safe Operating Space), that builds on the detailed sectoral work of WBCSD's Low Carbon Technology Partnership initiative (LCTPi). SOS 1.5 provides a robust framework for all WBCSD activities on climate action and support to companies to net-zero carbon emissions.

At the beginning of 2020, WBCSD in collaboration with the Boston Consulting Group (BCG), conducted an extensive study with leading companies across a diverse range of sectors (agriculture, building and infrastructure, energy, industry, food and transport) to understand the complex issues they deal with on their respective decarbonization journeys.

Based on these interviews we have developed the SOS 1.5 roadmap, which presents practical guidance on how companies can reduce their emissions across all three scopes. Beyond individual company actions, this roadmap also suggests broader value chain actions that companies can take together to overcome major external barriers to accelerating efforts towards net-zero emissions.

In addition to this roadmap, the SOS 1.5 framework draws from all WBCSD projects that relate to climate (former LCTPis and new projects), to ensure a coherent set of projects aligned to the same direction: accelerating the company and sector journey to net-zero emissions. SOS 1.5 will also develop new sectoral projects and cross cutting guidance.

1 1.5°C: The new north star for climate action

1 1.5°C: The new north star for climate action

Since the launch of the IPCC special report 'Global Warming for 1.5°C', the scientific underpinning for taking ambitious climate action is clear. The report states that to keep the world as a safe operating space, we must keep temperature increase at a maximum of 1.5°C above pre-industrial levels to avoid devastating impacts on people and nature. Achieving this goal will require rapid transformation of systems to decarbonize at an unprecedented scale. The private sector has a crucial role to play.

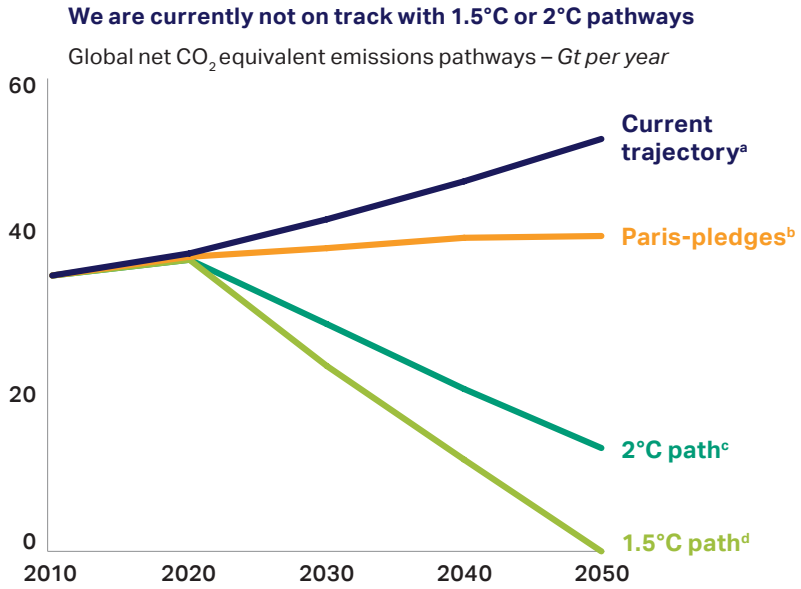
Unfortunately, global decarbonization efforts remain insufficient to achieve the Paris ambition (Figure 1).[1]

The current emission trajectory will lead to around a 4°C global temperature increase by 2100. This will result in catastrophic impacts on the global population, food systems, biodiversity as well as the economy. **The economic consequences of inaction on climate change are huge.** The current emissions pathway will result in an estimated 30% fall in GDP per capita. On the contrary, achieving the Paris ambition to maintain global warming below 1.5°C by 2100 would limit the economic impact of climate change to a reduction of 8% in GDP per capita (or 13% in a 2°C scenario).

Business leadership on climate change is gaining momentum as leading companies across the world are stepping up their climate commitments and setting targets to reduce emissions and align with the 1.5°C north star. While setting this ambition is critical, it is only the beginning of a long and complex journey to achieve full decarbonization.

Businesses need to match their climate ambition with robust strategies and implementation to accelerate the systems transformation we need.

Figure 1: Current trajectory against 1.5 and 2°C pathways



a. Assumes CO_2 emissions grow from 2018 at same rate as the Current Policies scenario in UNEP 2019 Gap report to 2050 (1.1% CAGR)
b. Assumes countries decarbonize beyond at same annual rate that was required to achieve their INDCs between 2020 and 2030;
c. Assumes 25% reduction by 2030 and net-zero by 2070;
d. assumes 45% reduction by 2030 and net-zero by 2050.
Note: Emissions of non-CO_2 forcers are also to be reduced by more than 50% in pathways limiting global warming to 1.5°C. Source: IPCC, UNEP Emissions Gap Report, BCG analysis

2 SOS 1.5: WBCSD's flagship climate project to help companies achieve net-zero carbon emissions

STEPS AND KEY ACTIONS

Understand climate opportunities and risks

- Define multiple scenarios of vivid, distinct futures, gauging the range of uncertainty
- Understand your climate risks, quantifying implications across each scenario
- Identify new opportunities in a low-carbon economy, focusing on new value creation

Set climate targets and milestones

- Baseline your historical and future emissions across the value chain, establishing a shared reference point
- Set your ambition and emission reduction targets on all scopes, focusing on outcomes
- Identify and implement GHG emission reduction levers

Engage, disclose, and communicate climate action

- Educate your customers about their contribution, shifting demand towards low-carbon products
- Communicate from a basis of transparency, being clear about what is needed for structural change
- Disclose reliable, balanced information on climate action, giving investors and regulators transparency

Build a climate program in line with company strategy

- Evolve your competitive advantage based on climate ambition, identifying potential conflicts
- Align your corporate strategy and climate agenda, triggering tough choices early
- Set up a climate program to transform company and reduce emissions

Mobilize resources broadly to deliver impact

- Ensure delivery by securing ownership from executive level, basing your work on clear program governance and tracking
- Commit and prioritize company resources to deliver against the climate program, building capabilities in the process
- Mobilize stakeholders across your value chain to address barriers, investing and exploring together

2 SOS 1.5: WBCSD's flagship climate project to help companies achieve net-zero carbon emissions

WBCSD's SOS 1.5 framework aims to support companies to accelerate decarbonization in all sectors and maintain the 1.5°C safe operating space for people and planet. The initiative aims to shift full business decarbonization from 'mission possible' to 'mission probable', by helping companies to develop strategies to move to net-zero emissions.

SOS 1.5 is designed as a flexible framework to help companies to:

- Individually develop a strategy to move their company footprint towards net-zero carbon emissions
- Collectively identify and remove barriers to a low-carbon economy
- Mobilize their value chain and supply chains in the same direction.

SOS 1.5 is for all companies from all sectors, no matter which stage they are at along their decarbonization journey. By mobilizing companies from across sectors and value chains it will progressively bring the scale needed to transform industrial systems and value chains.

Through extensive interviews with companies from various sectors, experts and partners, we have collected insights on the challenges companies face along their decarbonization journeys to identify where they need help and collaboration to advance.

Our key learnings are:

Companies are under increasing, multi-front pressure to decarbonize

Companies are under increasing pressure to undertake ambitious climate action from multiple stakeholders including investors, regulators, employees, customers and broader society (Figure 2). These pressures are set to rise further as the impacts of climate change become more tangible: threatening the license to operate for companies not accelerating their decarbonization journey.

Figure 2: Companies are under increasing, multi front pressure

Talents

Difficulty to attract & retain talented employees in carbon intensive industries

Rising employees' expectations to take climate action

Investors

Actively engaging companies on their climate roadmap

Starting to divest from carbon-intensive sectors

Regulators

Strong policy uncertainty, but expected to become more stringent

73 countries already committed to net-zero[1]

Activists

Publicly targeting heavily emitting sectors

Raising public awareness of climate crisis

Customers

Demand starting to shift to greener products (not yet material in many sectors, esp. B2B)

Source: UNFCCC. Company interviews, BCG experience

Businesses are making ambitious net-zero carbon commitments

Through the We Mean Business coalition's partner initiatives over 1,200 companies have made more than 1,900 commitments to bold climate action. These companies have a market capitalization of over USD $24.8 trillion, which represents nearly one quarter of the entire global economy and equates in size to the US economy. Their emissions are equivalent to the total annual emissions of India. Over 215 major companies have committed to set climate targets across their operations and value chains aligned with limiting global temperature rise to 1.5°C above pre-industrial levels and reaching net-zero carbon emissions by no later than 2050, as part of the Business Ambition for 1.5ºC campaign. As of 4 June 2020, over 879 of the world's biggest companies have committed to set a science-based target through the Science-based Targets initiative. This includes 62 WBCSD companies.

While corporate ambition is on the rise, most companies are still at the start of the journey

Most companies are still at the beginning of their decarbonization journey. Approximately, 87% of companies reporting to CDP do not disclose any decarbonization target or emission reduction.

Moving from the start phase towards more advanced stages requires important changes in the company's internal decision making, governance and company strategies (see the roadmap further down).

Major external and internal barriers hinder corporate climate action

Companies are facing significant internal and external barriers to swiftly advance on their decarbonization journeys (Figure 4). External barriers relate to the sometimes uncertain and unstable policy landscape, lack of customer demand for low-carbon products and services, varying investor preferences and the higher cost and risk of new technologies. These factors are slowing companies' investment change.

Companies can better manage their direct company greenhouse gas (GHG) emissions (Scope 1) and they can choose the source of electricity to help lower their emissions (Scope 2). However, for many companies most of their emissions come from the value chain (Scope 3).

Figure 3: Companies' stages of decarbonization: Starting the journey, Advanced and Leading

Start the decarbonization journey

- Raising awareness on climate crisis
- Taking first commitments with limited scope and ambition
- Identifying discrepancies between their corporate strategy and climate ambition

Deliver significant individual impact

- Setting science-based targets
- Reducing direct & indirect footprint
- Developing low carbon products/ services
- Providing transparency on action plan

Reshape industry towards net-zero

- Evolving competitive advantage
- Redefining industry business models
- Leading value chain decarbonization
- Driving value chain mobilization

These are the upstream emissions from suppliers and downstream emissions occurring in the use phase (consumers using the product or service). Given that these emissions occur outside of company operations, the quantification of Scope 3 emissions remains a major challenge. Companies struggle to set accurate baselines for Scope 3 emissions due to the difficulties to quantify and report GHG emissions and sometimes the lack of accountability and collaboration on climate action across value chains.

Internal barriers mostly related to aligning the company's strategy with climate ambition, demonstrating clear value creation, and mobilizing internal resources also prevent companies from progressing on their journey. Many companies have difficulties demonstrating internally the business case for climate action and lack support and ownership from the executive level. That said, we see many initiatives which successfully bring their companies along by aligning their strategy with a clear vision for sustainability and climate action.

While internal barriers can be addressed through individual company actions, addressing external barriers requires broader mobilization and collaboration across value chains. In all cases, sharing best practice and learning from others was identified as an important lever for companies to advance in their journey.

COVID-19 reinforces the case for urgent business climate action

As the world reels from the devastating impacts of COVID-19, bold, collective leadership from business and governments has never been more urgent. While short-term recovery plans are crucial, the future resilience of our systems is still at stake, with the climate emergency remaining the greatest threat to our lives, economies and systems. Following the pandemic, countries are set to face a severe economic recession, with the number of people unemployed people rising with a global 10.5% deterioration of jobs compared to pre-crisis levels. Some might ask leaders to deprioritize climate action, but companies have clearly raised their voice and called for green recovery packages that direct investments to low-carbon projects that will create jobs, alleviate air pollution and its impacts on health, create economic prosperity and reduce the risk of climate change.

Many companies are working to ensure that their COVID-19 recovery responses: investments, business strategy and advocacy are aligned with their commitment to net-zero emissions, so that they can build resilience to the impacts of climate change, securing business operations and jobs for employees.

Figure 4: External and internal barriers to implementing ambitious climate action

External barriers

Policy	● No major policy changes to address climate change ● No global carbon price
Market	● Limited demand for low-carbon products ● Limited low-carbon supply
Technology	● High abatement costs ● Technology not scaled/ mature
Investors	● Investors focused on short term

Internal barriers

Baseline & set targets	● Difficulty to baseline/ address Scope 3
Build climate program aligned with strategy	● Difficulty to justify business case ● Difficulty to define concrete roadmap ● Difficulty to align strategy
Mobilize resources	● Limited ownership from middle mgt ● Limited ownership from CEO ● Lack of/ insufficient employee training ● Employees unclear on individual contributions

3 The SOS 1.5 roadmap: A practical guide to accelerate decarbonization

3 The SOS 1.5 roadmap: A practical guide to accelerate decarbonization

The SOS 1.5 roadmap described in Figure 5 is based on extensive consultation with leading companies taking significant climate action from different sectors to guide companies in their journey towards net-zero carbon emissions. It includes recommendations for all companies regardless of how far they are along their decarbonization journey.

The roadmap sets out **six key steps** with **16 actions** to help companies start or accelerate their journey to net-zero emissions.

Figure 5: SOS 1.5 roadmap

Ground net-zero ambition in your company purpose

- Ground net-zero ambition in your company purpose, showing commitment to all stakeholders

STEP 1: GROUND NET-ZERO AMBITION IN YOUR COMPANY PURPOSE

DAIMLER used their purpose, **"First move the world"**, as the cornerstone to initiate their transformation towards low-carbon, sustainable mobility. It translated into a clear roadmap, Ambition 2039, aiming at a carbon-neutral passenger car fleet, carbon-neutral production, and supply chain mobilization.

Action 1: Ground net-zero ambition in your company purpose, showing commitment to all stakeholders

Strategic grounding of the net-zero climate ambition will help companies lay the foundation for starting their decarbonization journey. It clearly articulates what a company's authentic and distinctive strengths are and what needs it fulfills for society.

Purpose gives coherence to bold climate ambition and can inspire and demonstrate to stakeholders, employees, clients, shareholders, that economic performance and positive social contributions are complementary.

Understand climate opportunities and risks

- Define multiple scenarios of vivid, distinct futures, gauging the range of uncertainty
- Understand your climate risks, quantifying implications across each scenario
- Identify new opportunities in a low-carbon economy, focusing on new value creation

STEP 2: UNDERSTAND CLIMATE OPPORTUNITIES AND RISKS

Action 2: Define multiple scenarios of vivid, distinct futures, gauging the range of uncertainty

Science is clear on the climate change impacts and the urgency to meet net-zero carbon emissions before 2050, however strong uncertainty remains on how the world will deliver against this goal. GHG emissions are still rising and the gap between where we are and where we should be keeps increasing. To account for this uncertainty, companies need to consider and better understand how their business may perform under different future scenarios. The Task Force on Climate-related Financial Disclosures (TCFD) recommends testing against three to five scenarios exploring a diversity of future climate states both favorable and unfavorable (including a 2°C pathway).[2]

Companies can make these assessments by using existing "meta-scenarios" developed by IEA or IPCC as reference to provide them with an overall context and set of macro trends. Companies can also develop custom scenarios, adapted to their specific sector and geographical carbon footprint, making sure that they are divergent, but also plausible and challenging, while describing potential future business environments.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Understand climate opportunities and risks

Action 2. Define multiple scenarios of vivid, distinct futures, gauging the range of uncertainty

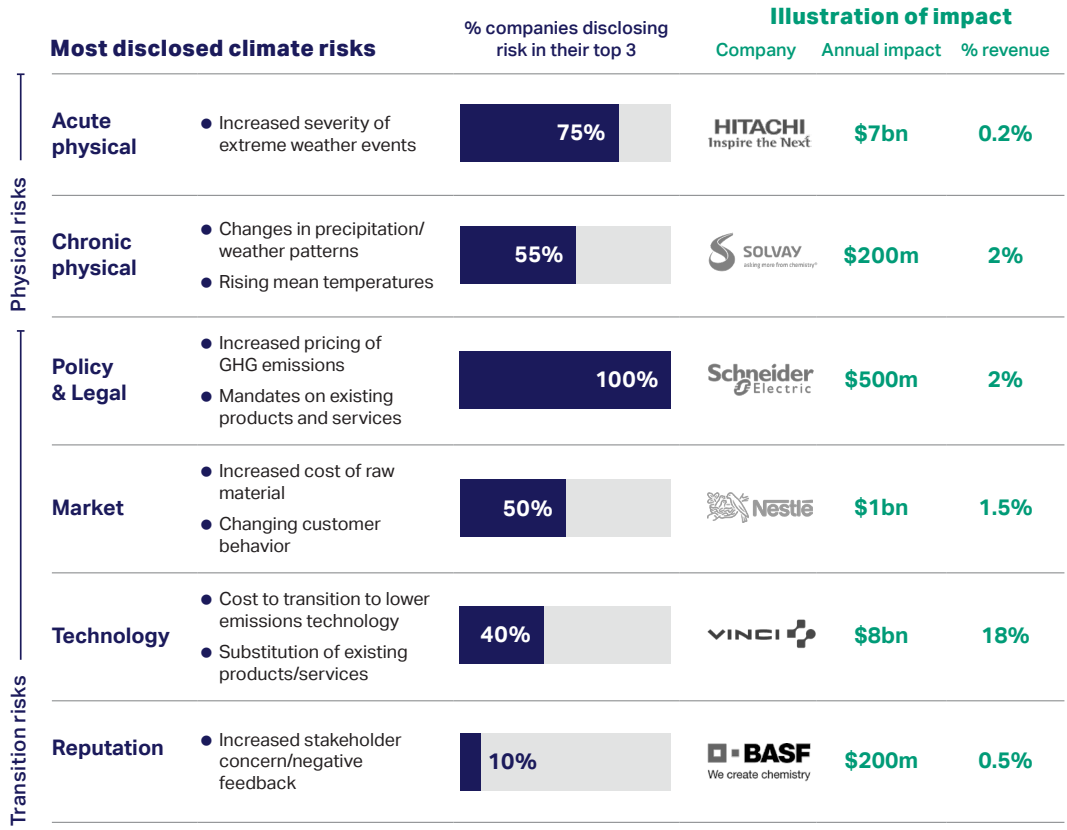
Starting the journey	Advanced	Leading
• Use standard scenarios (IEA, IPCC) • Leverage external expertise	• Build custom scenario(s) • Track trends and events to assess likelihood of moving towards scenario	• Refine data and quantitative models • Leverage own expertise to set new scenario standards for the sector/ geography • Track trends and events to assess likelihood of moving toward scenario

Action 3: Understand your climate risks, quantifying implications across each scenario

As the impacts of climate change continue to unfold, companies will increasingly need to address multiple climate-related risks to safeguard assets, protect investments and transform business models to build climate resilience. Figure 6 shows companies' quantification of the different risks in terms of their annual impact and share of the annual revenue.

Following the Task Force on Financial Disclosures (TCFD), companies must identify and understand the financial implications of both physical and transitional climate-related risks impacting their business using a megatrend analysis, SWOT analysis or sectorial materiality assessments.[3] More than 1000 companies are implementing TCFD recommendations and WBCSD has developed a number of preparer forums to help companies implement them.[4]

Figure 6: Understanding climate risk. Most companies identify physical and policy risks as top climate risks



Note: Top climate risks of interviewed companies (N=30) as disclosed in CDP questionnaires
Source: Company interviews, CDP Climate Change 2019, BCG analysis

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Understand climate opportunities and risks

Action 3. Understand your climate risks, quantifying implications across each scenario

Starting the journey — **Advanced** — **Leading**

- Assess level of exposure to physical risks
- Estimate short term impacts under each scenario
- Identify risk responses
- Specify risks at a more granular level
- Refine impact estimates per Business unit/geography, under set of selected scenarios
- Set new risk standards for the sector
- Specify business impact estimates on short- and long-term timelines across the full supply chain

Action 4: Identify new opportunities in a low-carbon economy, focusing on new value creation

The transition to a low-carbon economy generates sizeable growth opportunities across all sectors. Identifying, assessing, and quantifying these climate opportunities is essential to justify the business case and accelerate climate action.

Opportunities will vary depending on the region, market and industry in which the company operates. However, companies are increasingly realizing that topline growth will come through developing low-carbon products and services and expanding access to new markets.

Low-carbon energy sources are a major opportunity for oil and gas companies. Demand for biofuel is expected to triple over the next 20 years, mostly driven by hard to abate sectors with limited alternatives to fossil fuels such as aviation. In 2018, Total grew by USD $4.7 billion from the development of biofuels, efficiency solutions, and large-scale energy storage.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Understand climate opportunities and risks

Action 4. Identify new opportunities in a low-carbon economy, focusing on new value creation

Starting the journey	Advanced	Leading
• Identify high-level opportunities in a low-carbon economy • Assess financial impacts/ materiality under standard scenarios	• Refine impact estimates under set of selected scenarios • Adapt product/services offer based on identified opportunities	• Radically change business model • Evolve competitive advantage • Foster momentum for a complete industry overhaul

Set climate targets and milestones

- Baseline your historical and future emissions across the value chain, establishing a shared reference point
- Set your ambition and emission reduction targets on all scopes, focusing on outcomes
- Identify and implement GHG emission reduction levers

STEP 3: SET CLIMATE TARGETS AND MILESTONES

Action 5: Baseline your historical and future emissions across the value chain, establishing a reference point

Reliable carbon accounting is critical for companies to successfully deliver their net-zero commitments. Today, over 90% of Fortune 500 companies reporting to CDP are leveraging leading standards like WBCSD & WRI's Greenhouse gas (GHG) protocol to establish their emissions baselines.

Our study indicates that robust accounting for Scope 3 emissions is particularly challenging because of its heterogeneity from upstream supply chain to downstream use of products, as well as data availability and accuracy across value chains. Addressing Scope 3 emissions will therefore require updating current standards and a push for increased transparency in reporting emissions across value chains.

To set emission baselines, companies can start with high level estimates of Scope 1, 2 and 3 emissions and progressively work to achieve a robust set of baselines with enhanced granularity and transparency in approach.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Set climate targets and milestones

Action 5. Baseline your historical and future emissions across the value chain, establishing a shared reference point

Starting the journey	Advanced	Leading
• Start measuring your emissions • Per bucket using KPIs & external support • Partial emissions & business scopes • Static high-level view available	• Increase accuracy, granularity, and exhaustiveness of emissions measurement • Higher granularity on main emission buckets • Full Scope 1&2, part of Scope 3 • Systematic estimates / impacts on all projects	• Implement full carbon accounting • Full emission & business scopes • Integrate carbon accounting across business strategy to support decision making

Action 6: Set your ambition and emission reduction targets on all scopes, focusing on outcomes

Setting climate targets means identifying specific and measurable performance goals that a company aims to achieve over a specified time frame.

They are critical for delivering an organization's strategy and demonstrating progress over time and are increasingly combined with more aspirational and long-term stretch targets. Companies need both short-term reduction targets and longer-term ambition. Companies setting net-zero carbon targets should establish a clear end goal with distinct milestones. There are many organizations working on the definition of net-zero targets. Business need clarity on how to address Scope 3, which accounts for the majority of their emissions (Figure 7) and how they can use natural climate solutions in their decarbonization journey.

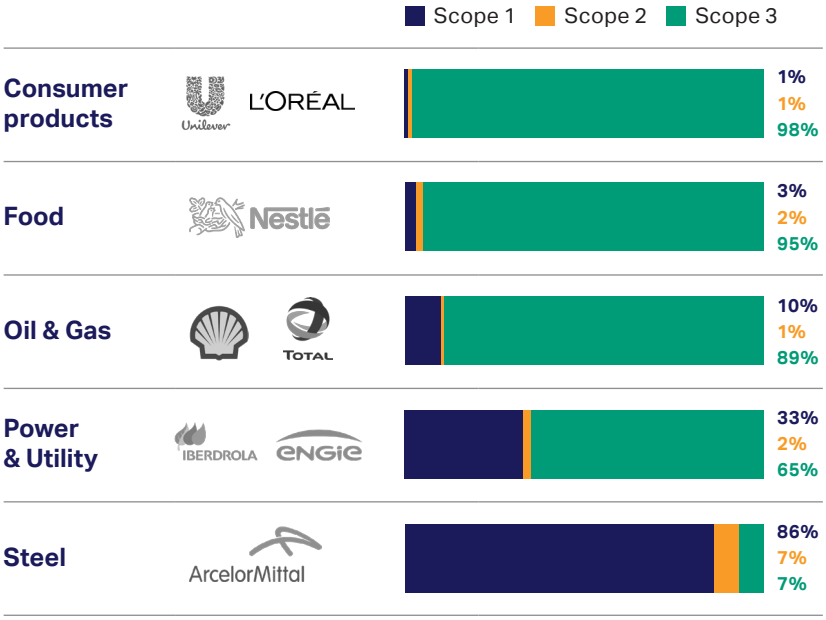
The Science Based Target Initiative (SBTi) is working intensively with companies and experts in defining methodologies for different sectors. WBCSD has worked in the development of guidance on science-based targets for the building and the utility sectors.

By protecting and restoring natural landscapes, we not only sequester carbon out of the atmosphere, we also support the ecosystem services on which we all depend. Natural climate solutions could provide around one third of the total emissions reductions needed by 2030 to be on track to meet the Paris Agreement targets, while also delivering benefits for biodiversity and people.

Natural climate solutions are part of the broader group of nature-based solutions, which can also deliver solutions for natural infrastructure, disaster prevention and health. To clarify the relationship between natural climate solutions and nature-based solutions, and to provide guidance for business on how to implement them, WBCSD is currently preparing a report series to help businesses scale up investments to deliver on climate and nature-related goals.

Scope 3 is the major source of emissions in most sectors. Therefore, meaningful targets should include targets that go beyond direct operations and consider upstream and downstream emissions.

Figure 7: GHG emission across the value chain per industrial sectors. GHG missions for Scope 1,2 and 3 (% total emissions)



Source: CDP questionnaire, Company interviews conducted by WBCSD and BCG in Q1 2020, BCG analysis

Agriculture presents a major potential for carbon removal contributing significantly to a 1.5°C world. While interest and demand in agricultural carbon sequestration is growing rapidly, current economics are a significant barrier to wide-scale adoption on climate smart practices. To address this, in 2016, Bayer along with the National Corn Growers Association and its Soil Health Partnership and several collaborators began work on a Conservation Innovation Grant (CIG) from the USDA-NRCS to help farmers better understand and adopt farming practices that help mitigate climate change impacts.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Set climate targets and milestones

Action 6. Set your ambition and emission reduction targets on all scopes, focusing on outcomes

Starting the journey — **Advanced** — **Leading**

Set the first climate target

- Either long-term ambition or short-term target
- Align target scale and ambition with peers

Increase ambition of targets

- Set long and short-term targets, with limited consistency between them
- Targets should be SBT-aligned
- Full Scope 1+2 and main Scope 3 buckets

- Lead industry with SBT 1.5° approved target

Action 7: Identify GHG emission reduction levers and implement low carbon projects

Globally, about 80% of the emission gap between current policies and the Paris well below 2°C target can be closed with proven technologies.[5] There are six main levers for companies to address Scope 1 and 2 emissions (Figure 8).

Assessing abatement potential of those levers must be sector and company specific. In the past decade there has been a lot of research well captured in the International Energy Agency and IPCC publications.

Once companies have identified reduction levers, they need to quantify the reduction potential and the implementation costs. This step will help them prioritize actions as displayed in Figure 8. By exploring the use of these levers many companies can simultaneously save money and carbon.

Ikea is testing a circular business model, based on furniture leasing and re-use, in around 30 countries. The company also encourages refurbishing and repair, handing over a million spare parts to help customers repair products instead of throwing them away. Through this model, Ikea re-packed and re-sold 8.7 million products to prevent them going to waste in 2018.

Figure 8: Six levers to address Scope 1 & 2 emissions

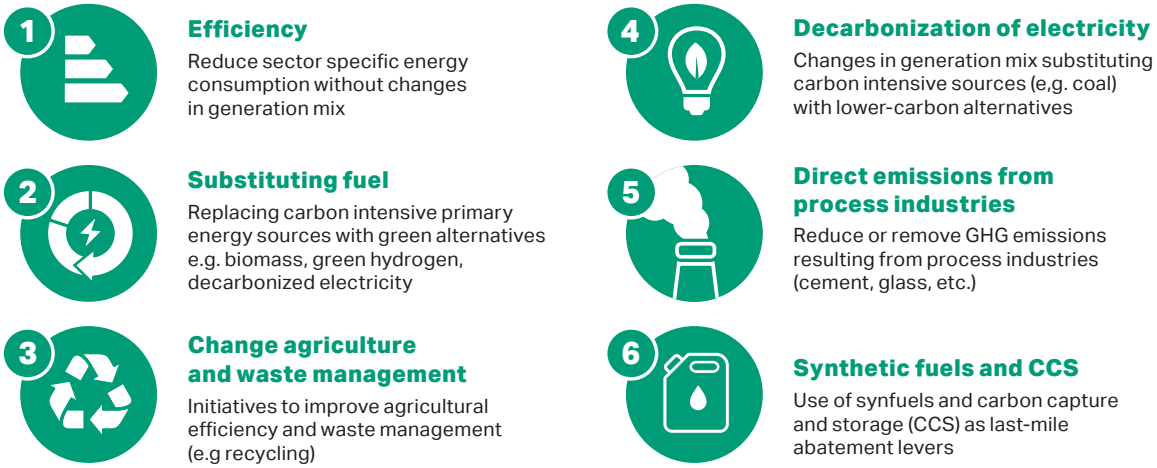
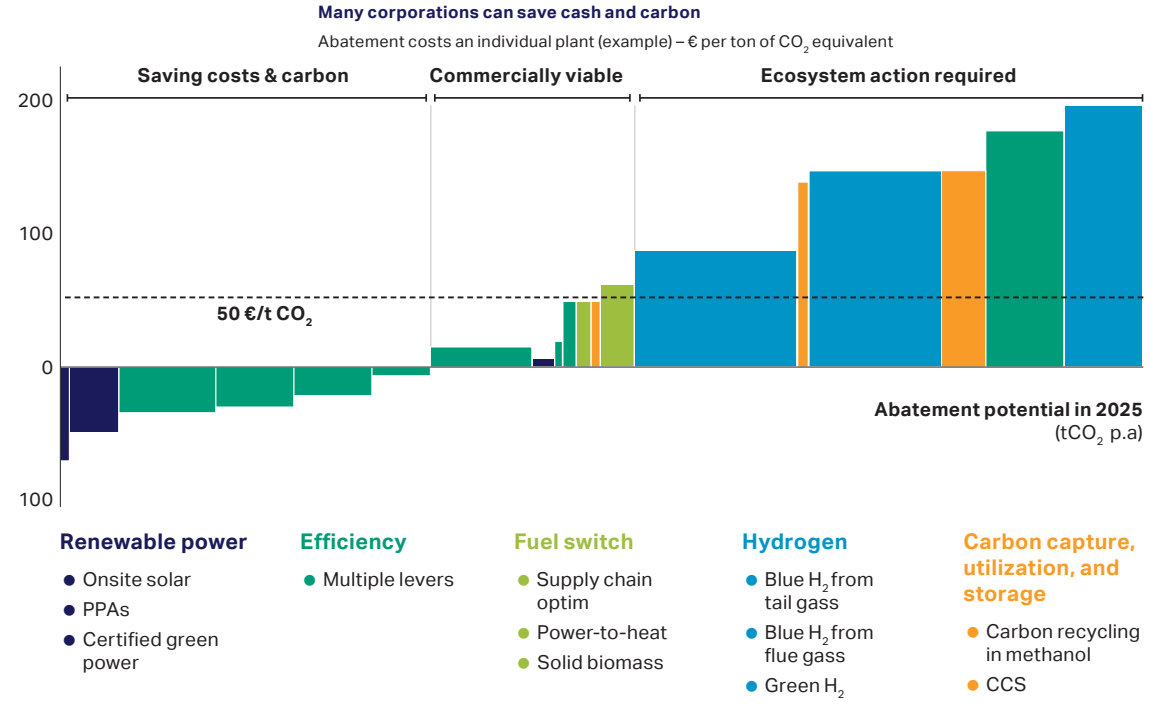


Figure 9: Marginal abatement cost curve



Source: BCG project experience

Though significant emission reduction can be achieved with already economically viable levers, companies will not be able to reduce their emissions to zero across all three scopes in the near term. **Credible carbon offsets and carbon capture and storage (CCS) are needed to achieve net-zero.**

Voluntary offset markets are still nascent (representing less than 0.05% of overall emissions) and need to build credibility and solve concerns about quality of the offsets (disincentives, additionality, efficacy and complexity). There is a lot of potential and effort underway to make natural climate solutions credible both from the supply and demand in the work developed by WBCSD and the World Economic Forum under the Natural Climate Solutions Alliance.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Set climate targets and milestones

Action 7. Identify and implement GHG emission reduction levers

Starting the journey	Advanced	Leading
Start with solutions that are well understood and require a limited mobilization of the business, e.g.: • Assess and deploy energy efficiency measures • Procure low-carbon power in jurisdictions where options are tried and tested	Continue with proven levers, yet requiring mobilization of resources across the organization, e.g.: • Deploy solutions to decarbonize heating and cooling	• Develop unproven levers and work with your value chain to address Scope 3 emissions

Build a climate program in line with company strategy

- Evolve your competitive advantage based on climate ambition, identifying potential conflicts
- Align your corporate strategy and climate agenda, triggering tough choices early
- Set up a climate program to transform company and reduce emissions

STEP 4: BUILD A CLIMATE PROGRAM IN LINE WITH A COMPANY STRATEGY

Action 8: Evolve your competitive advantage based on climate ambition

Companies should identify whether their current competitive advantage is still viable in a low-carbon world. Some conflicts between organization's current competitive strengths and decarbonization ambition may exist. **To enable their climate ambition, companies must evolve their competitive advantage by rethinking the way the produce goods and services.**

First movers should build competitive advantage from their decarbonization action through:

- Reducing costs from resource efficiency and circular economy approaches;
- Reducing costs from switching to low-carbon energy sources;
- Lowering product carbon footprint to make them more attractive;
- Creating sustainable business model innovation;
- Attracting and retaining talents that want to work in companies with a climate purpose;
- Improving the climate resiliency of the company; and
- Mobilizing the value chains and larger ecosystem (e.g., investors, regulators, etc.) to align with the company climate ambition.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Build a climate program in line with company strategy

Action 8. Evolve your competitive advantage based on climate ambition

Starting the journey	Advanced	Leading
• No competitive advantage from climate action yet • Identify conflicts between climate ambition & existing competitive strengths	• Build competitive advantage from climate action, creating value	• Reshape industry business models and value creation drivers

Action 9: Align your corporate strategy and climate agenda, triggering tough choices early

Fully aligning a company's corporate strategy and net-zero ambition requires shifting away from carbon-intensive assets and building sustainable growth strategy focused on climate-related opportunities. Aligning the company portfolio and climate agenda requires tough choices: trading off between assets generating short term profitability and climate ambition. A portfolio shift must therefore follow a clear strategy, creating value from climate action. There is no one-size-fits-all strategy to adapt a company's portfolio. For example, utilities shifting away from fossil fuel generation is done by reshaping the portfolio towards renewables via organic and external growth and energy services and decarbonizing current portfolio.

Companies must develop sustainable growth strategies that are inextricably linked to net-zero ambitions to keep all corporate plans aligned with the climate goal.

Low-carbon opportunities must be placed at the core of growth strategy for any company to reach its climate ambition. The strategy and climate ambition will translate into adaptation of capital allocation plans from conventional to low-carbon solutions.

BT, which uses around 1% of the UK's electricity to run its business, focuses on energy efficiency and switching to renewables as the main climate-opportunity saving around £38 million per year.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Build a climate program in line with company strategy

Action 9. Align your corporate strategy and climate agenda, triggering tough choices early

Starting the journey — **Advanced** — **Leading**

- Minimize discrepancies between current strategy & climate ambition
- Adapt strategy, aligning it to climate agenda
- Test new business models to capture climate-related opportunities
- Fully shift strategy and shift portfolio
- Set climate action as key value creation driver

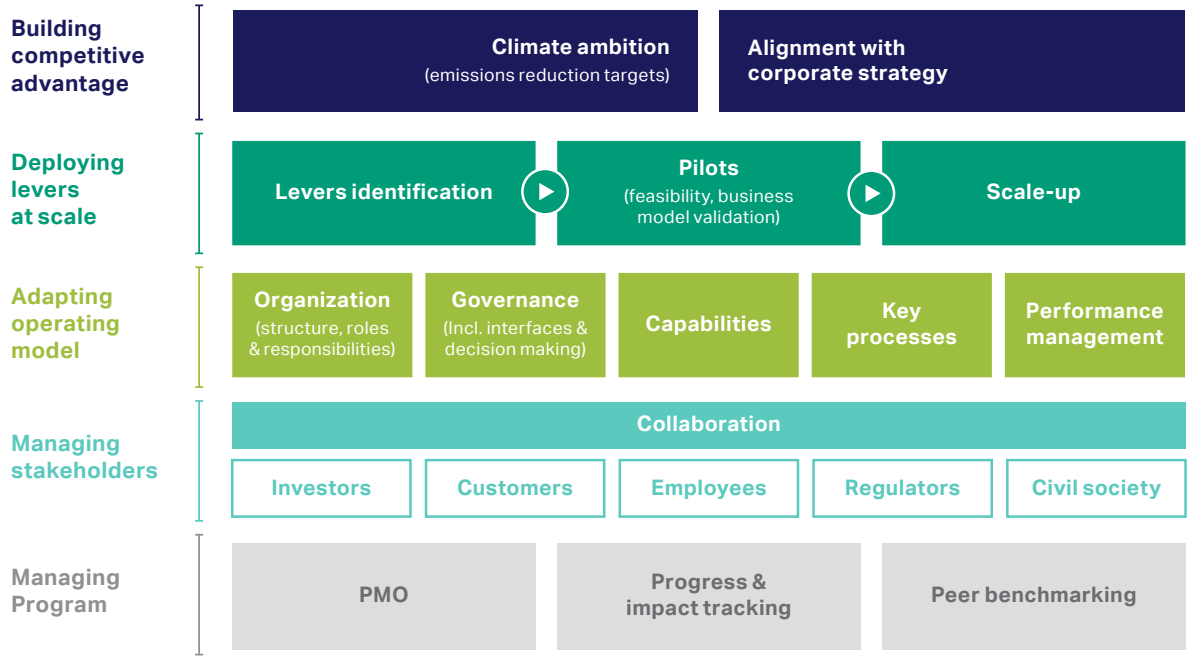
Action 10: Set up a climate program to transform company and reduce emissions

Incremental approaches will not bring companies to net-zero emissions. Companies need to fully transform their organizations to embed the new strategic focus, deploy decarbonization levers to achieve bold climate ambition and gain competitive advantage from climate action. The extent of transformation needed depends on the starting point of the company, the sector and geographies in which it operates and the level of climate ambition. Establishing a climate program will allow companies to deploy decarbonization levers at scale (see Action 7) which should be followed by adapting their operating model including:

- Organization structure, roles, responsibilities and interfaces between sustainability function and other functions;
- Governance (See Action 11);
- All key business processes (operations, procurement, product development, business planning and controlling);
- Skills and capabilities: both technical and behavioral and addressing capability gaps with upskilling and reskilling programs; and
- Performance management.

In-depth transformation as this requires companies to engage with internal and external stakeholders to manage the change including employees, investors, customers, regulators and civil society. Companies should be transparent and demonstrate their plan coherence and how it is implemented through a strong program and management structure.

Figure 10: Building a climate program to transform your company



PRACTICAL RECOMMENDATIONS FOR COMPANIES

Build a climate program in line with company strategy

Action 10. Set up a climate program to transform company and reduce emissions

Starting the journey	Advanced	Leading
Companies with no transformation launched yet: Build consolidated roadmap with: • Initiatives at business unit / local level consistent with climate ambition • Centralized steering	• Launch pilot lighthouse initiatives with strong impact potential (e.g., new tech development, new low-carbon product line) • Adapt operating model to deploy advanced levers & execute revised strategy • Deploy program steering	• Deploy flagship climate initiatives at scale • Maintain strong pipeline of decarbonization initiatives to be tested & scaled • Fully transform operating model to achieve climate ambition

Mobilize resources broadly to deliver impact

- Ensure delivery by securing ownership from executive level, basing your work on clear program governance and tracking
- Commit and prioritize company resources to deliver against the climate program, building capabilities in the process
- Mobilize stakeholders across your value chain to address barriers, investing and exploring together

STEP 5: MOBILIZE RESOURCES BROADLY TO DELIVER IMPACT

Action 11: Ensure delivery by securing ownership from executive level, basing your work on clear program governance and tracking

Executive ownership is a prerequisite to any material progress in the decarbonization journey. Given the complexity of the climate topic, it is key to increase carbon literacy and understanding of company executives and boards and raise their awareness on major emissions buckets, actions needed to mitigate them and overall understanding of climate targets. In parallel, executives should understand the value created as new business opportunity and future competitive advantage or mitigated risks, which inevitably will make climate action a business imperative.

Climate action should be embedded in all decision-making processes by implementing measures such as:

- Internal carbon pricing
- Assessing climate impacts of new products
- Cascading climate targets and performance indicators throughout the full organization
- Steering climate action at board and executive committee level: bringing the Chief Sustainability Officer to the Executive Committee
- Including a variable compensation scheme indexed to sustainable performance
- Regular oversight by the executive board on the climate program's progress.

In 2016, Volkswagen Group appointed a Sustainability Council, composed of international climate experts, to advise board & executives on the topics of sustainable mobility and environmental protection.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Mobilize resources broadly to deliver impact

Action 11. Ensure delivery by securing ownership from executive level, basing your work on clear program governance and tracking

Starting the journey	Advanced	Leading
• Appoint Chief Sustainability Officer at corporate level to drive climate action agenda • Define climate action scorecard • Start to educate executives on climate and sustainability	• Steer climate action progress at Board & Executive Committee level • Cascade climate KPIs & targets across organization • Include climate action in employee incentives / bonus	• Position climate action as clear priority on CEO agenda • Fully embed climate into internal processes • Report business performance linked to climate actions • Include climate actions into performance management

Action 12: Commit and prioritize company resources to deliver against the climate program, building capabilities in the process

Many decarbonization levers can help companies reduce business costs. Unfortunately, not all climate initiatives have such a clear business case. To deliver on companies' net-zero commitments, it is essential to systematically strengthen the business case for climate initiatives and create dedicated climate funds for strategic, longer-term, high impact potential projects which still have an unclear business case.

Beyond executives, it is equally important to mobilize mid-level management and all employees to ensure that the entire company is well aligned with the goal to deliver net-zero emissions. This will also require specific expertise and capabilities and companies must clearly assess their capability gap and aim to progressively close it as they advance in their climate journey.

In January 2020, Microsoft announced a USD $1billion climate innovation fund to accelerate the global development of carbon reduction, capture, and removal technologies.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Mobilize resources broadly to deliver impact

Action 12. Commit and prioritize company resources to deliver against the climate program, building capabilities in the process

Starting the journey	Advanced	Leading
• Educate employees on climate stakes • Identify capability gaps	• Secure funding of climate journey • Foster cross-functional teams to address climate challenges • Actively build capabilities	• Safeguard climate funds to explore immature levers • Fully reshape culture in line with climate ambition • Be recognized for climate expertise

Action 13: Mobilize stakeholders across your value chain to address barriers, investing and exploring together

Individual companies cannot deliver the reductions required to reach net-zero carbon emissions at a global level on their own. Mobilizing value chains can help foster the collaboration that companies need to address their Scope 3 emissions, which represent more than 80% total emissions for most sectors.

In that regard, companies will have to engage key stakeholders beyond their own operations including suppliers, customers, investors, peers and competitors, regulators, and business organizations to take collective action to address key barriers.

Value chain action aims to render all actors of the value chain accountable for Scope 3 emissions and can deliver solutions at the scale needed to overcome external barriers.[6] These actions can also remove potential first mover disadvantages to unilateral climate action where individual companies are waiting for solutions to be more mature before making moves.

Collaboration beyond supply chains is essential to tackle many of the external barriers, create value chains around new technologies and scale up underused decarbonization solutions such as **carbon capture and utilization, low-carbon hydrogen or synthetic fuels**. Additionally, value chains can be leveraged to scale up the use of existing decarbonization solutions such as **natural climate solutions and circularity.**

Companies most advanced in their climate journey have a key role to play to mobilize their value chain and steer collaborative actions. Collaboration across systems should increase shared accountability for system global emissions, each player being encouraged to take action to reduce its own emissions across all scopes, or to help avoid emissions of others.

BT rolled out in 2012 a systematic approach to mobilize its key suppliers, the Better Future Supplier Forum, a comprehensive educational program to help its suppliers initiate and accelerate their climate journey. This program is not limited to raising awareness or sharing best practices, but pushes suppliers to identify concrete solutions to decarbonize BT products.

BP have declared their redefined purpose: to reimagine energy for people and our planet – and their ambition: to be a net zero company by 2050 or sooner and help the world get to net zero. To do that the company are reinventing BP to become a different type of energy company. This requires a change in how they are organized – and leadership from the very top.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Mobilize resources broadly to deliver impact

Action 13. Mobilize stakeholders across your value chain to address barriers, investing and exploring together

Starting the journey	Advanced	Leading
• Limited mobilization, focusing on identifying best practices to accelerate own efforts	• Actively engage all stakeholders on their climate agenda, to unlock significant emission reductions across value chain	Lead value chain mobilization: • Driving collaboration initiatives • Co-designing sector-level standards

Engage, disclose, and communicate climate action

- Educate your customers about their contribution, shifting demand towards low-carbon products
- Communicate from a basis of transparency, being clear about what is needed for structural change
- Disclose reliable, balanced information on climate action, giving investors and regulators transparency

STEP 6: ENGAGE, COMMUNICATE AND DISCLOSE CLIMATE ACTION

Action 14: Educate your customers about their contribution, shifting demand towards low-carbon products

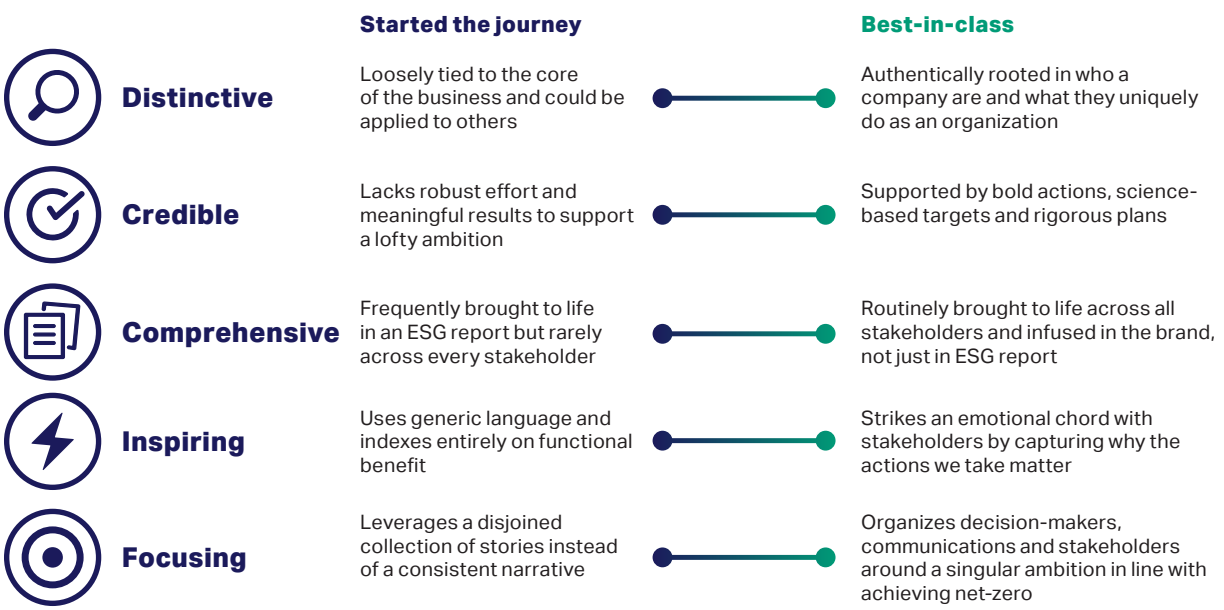
In most cases, climate change is not the top priority for customers. Customer education, is therefore, a key driver to create demand for low-carbon products. Companies must contribute to their customers' education, helping them to integrate climate impacts into their purchasing decisions. This also implies challenging unnecessary demand, especially for carbon-intensive products. The power sector has a long experience educating its clients on energy conservation.

Action 15: Communicate from a basis of transparency, being clear about what is needed for structural change

Corporate communication on climate is under tough scrutiny from environmental activists and broader society. As such, the fear of reputational harm prevents many companies from communicating about their climate journey, missing an important tool needed to mobilize their stakeholders and gain the maximum benefits for their actions. Broad communication and disclosure of climate action must therefore be based on transparency (Figure 11).

KLM launched its "Fly responsibly" campaign, encouraging customers to explore other travel options, more sustainable than flying, or to challenge the necessity for travel altogether, for instance replacing in-person meetings requiring fly-in with virtual meetings.

Figure 11: Five guiding principles for effective climate communication



PRACTICAL RECOMMENDATIONS FOR COMPANIES

Engage, communicate, and disclose climate action

Action 14. Educate your customers about their contribution, shifting demand towards low-carbon products

Action 15. Communicate from a basis of transparency, being clear about what is needed for structural change

Starting the journey	Advanced	Leading
• Acknowledge climate risks • Share first commitments to match the challenge • Provide visibility on roadmap	Provide transparency on: • Both risks and opportunities • Strategy to decarbonize • Progress & impact made	• Communicate climate action with full transparency in inspiring narrative • Clear vision of the future business and long-term quantitative commitment • Articulated short-and long-term actions with progress updates on levers implementation

Action 16: Disclose reliable, balanced information on climate action, giving investors and regulators transparency

Investors are increasingly demanding climate-related information to guide their investment decision making with informed assessments of risk. This makes disclosure a prerequisite for companies to translate their climate action into an attractive equity story. Widespread disclosure can also help companies more effectively evaluate and quantify their own risks, and those of their suppliers, clients, competitors However transparency is still insufficient, even for large companies that started to report environmental information.

Meaningful disclosure requires balanced and reliable information. TCFD is emerging as the de-facto standard framework for climate-related disclosure, requiring disclosure against four key dimensions: governance, strategy, risk management, and metrics & targets. WBCSD has extensive experience helping its members to improve their climate related disclosure.

Despite ongoing alignment of reporting and disclosure frameworks, climate information still lacks comparability across peers, calling for sectorial reporting standards and metrics. Emission footprints do not include the same elements of the value chain; targets are based on different baseline year or business scope; and risks, opportunities and financial estimates rely on scenarios based on different hypotheses. This lack of comparability complicates the analysis of disclosed information. Providing this comparability means evolving or complementing current standards with new reporting norms which would specify standard climate metrics, at sector level.

Unilever reports its core sustainability performance metrics within its Annual Report and Accounts, and in 2017 began implementing the recommendations of the Task Force on Climate-Related Financial Disclosures, including the development of 2 and 4-degree temperature rise scenarios. In 2019, Unilever evolved its approach to include the disclosure of its exposure to physical and transition risks as well as its plans to remain resilient. The company also held an investor day focused on climate change and sustainability, involving the CEO, CFO, other members of the executive and sustainability leaders, to engage investors in the action being taken and how it drives value for the company.

PRACTICAL RECOMMENDATIONS FOR COMPANIES

Engage, communicate, and disclose climate action

Action 16. Disclose reliable, balanced information on climate action, giving investors and regulators transparency

Starting the journey	Advanced	Leading
• Start disclosing risks following the TCFD recommendations, acknowledging it is work in progress	• Fully disclose as per TCFD • Demonstrate value creation from climate action	• Fully embed climate action in communication to investors, as major shareholder value creation driver • Contribute to new sectorial metrics / standards to disclose progress & impact

4 Call to action

4 Call to action

Companies from all over the world recognize that aligning their company strategies and climate plans to get to (net) zero emissions by 2050 or earlier is the only way to keep a safe operating space for business to operate. **Achieving this goal will not be easy.** As the impacts of the climate crisis continue to intensify, businesses need to accelerate the shift towards a net-zero carbon economy and build resilience to the associated physical and transitional risks.

Incremental change will not be enough. Companies will need to undergo deep transformation and collaborate with their supply chain and a wide range of stakeholders to make this joint transformation. Businesses that successfully implement their transformation to net-zero emissions will be more resilient and successful.

We have created **four distinct cross-cutting workstreams** for SOS 1.5 to accelerate the necessary actions to achieve net-zero emissions:

1. Shape the narrative:

Companies will work together in this workstream to raise awareness of net-zero climate action and mobilize their supply chain to step up their climate commitments. They will also develop key policy messages for advocating the policy changes required to drive business climate action to net-zero carbon emissions.

2. Accelerate the individual climate journey:

Leveraging WBCSD's extensive expertise on specific decarbonization levers, SOS 1.5 will organize sector-specific deep-dives to develop sector specific roadmaps to achieve their net-zero ambition. This workstream will help companies progress in their climate journey, learn from peers to navigate the challenges, and provide a forum to share best practices. Through this work, companies can jointly identify barriers and ways to address them.

3. Mobilize value chains:

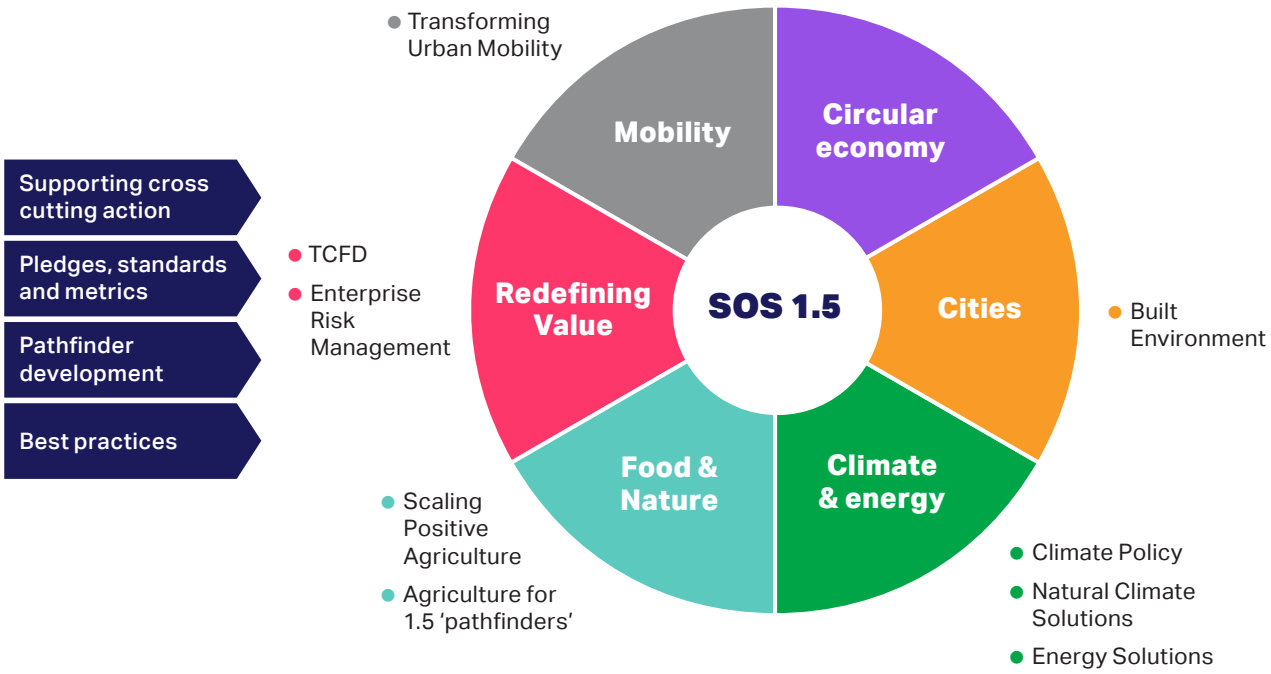
SOS 1.5 will facilitate full value chain mobilization, by bringing to scale all available solutions. It will provide a unique collaboration platform for companies to collectively remove barriers, demonstrate scalability and deliver fast, concrete impact.

4. Adapt and improve global standards and metrics:

This workstream will work with companies to focus on Scope 3 accounting and science-based target setting and common reporting metrics permitting to increase transparency and comparability between peers.

With the launch of SOS 1.5, WBCSD is committed to helping companies build a resilient, zero-carbon future. We have aligned our entire climate portfolio behind this goal with every program at WBCSD providing pathways and solutions that are sector specific; all aligning and contributing to SOS 1.5.

We are calling on all companies to take a bold step of climate leadership.

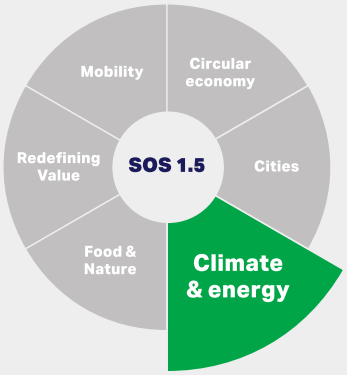


Built Environment

Supporting synergies in commitments and action from both individuals and stakeholders along the buildings value chain; and in turn supporting governments and regulators to enable change through legislation. In addition, a Science-Based Targets system guidance will be developed to help companies and other stakeholders align their decarbonization commitments.

Circular Economy

The business case for circular construction will articulate why real estate, development and finance should prioritize circularity in their projects due to the financial and societal benefits. One benefit that is both financial and societal is the reduction in embedded emissions, which will become the next frontier in decarbonizing after buildings are sources with renewable energy.



Climate Policy

For governments and business to achieve ambitious commitments to achieve net zero emissions, climate policies and measures should be developed to accelerate action climate action. WBCSD's work on climate policy and engagement provides a unique platform for companies to shape key policy messages from business and facilitate dialogue with governments and policymakers to achieve the 1.5°C goal of the Paris Agreement.

Through the learnings from SOS 1.5, we will support the development of 1.5°C aligned climate policy messages and maximize our engagement across major climate processes and moments with a strong private sector voice on climate action.

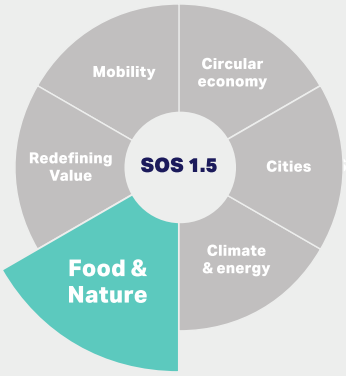
Energy Solutions

The Energy Solutions project supports companies to progress their own energy transition, and play a leading role in delivering an affordable, reliable and net-zero carbon energy system in line with limiting global warming to 1.5°C.

We empower companies to design and implement ambitious (energy-related) business strategies and help them advance their deployment of sustainable energy technologies and services.

Natural Climate Solutions

Our work on Natural Climate Solutions centers on building a collective voice to raise the profile of these vital solutions. Our engagement with policymakers delivers the business perspective on natural climate solutions at global events and key moments. We are also working on the business case for voluntary investment in natural climate solutions alongside our member companies.



Scaling Positive Agriculture Project

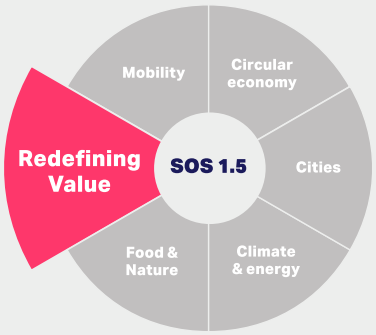
Scaling Positive Agriculture (SPA) is an ambitious project to maximize the positive potential of agriculture as a solution for our climate, nature and farmers.

SPA is developing 'climate positive' business solutions to shift agriculture from a net source to a net sink of GHG emissions.

Agriculture for 1.5 deliverables ('pathfinders')

Several new collaborations are delivering net zero value chains aligned to SOS1.5:

- The Better Meat Initiative delivers new solutions for the animal proteins sector
- Banking for Impact supports agricultural banks to align their portfolios to 1.5 degrees
- Fertilizer solutions are focused on the nitrogen-based fertilizer sector

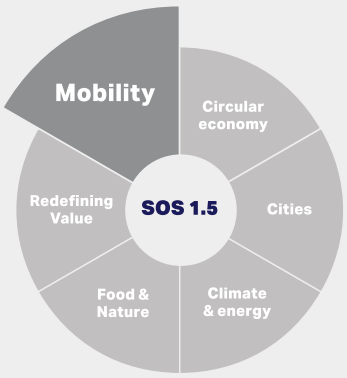


TCFD

The TCFD Preparer Forums bring leading companies together to discuss disclosure practices, work that's needed to enhance disclosure effectiveness and implement the TCFD recommendations. In the Forums, members will identify examples of good practice, develop disclosure roadmaps and seek investor perspectives on TCFD disclosures, including how market participants use the information.

Entreprise Risk Management

Our work with COSO (the Committee of Sponsoring Organizations of the Treadway Commission) helps companies integrate ESG risks into their mainstream risk processes. Leveraging key tools such as our ERM application guidance, we help organizations align ERM to ESG-related risks. WBCSD also provides workshops and training on the ESG risk guidance.



Transforming Urban Mobility

Transforming Urban Mobility delivers a cohesive set of actions to ensure clean, safe, accessible and efficient mobility.

It focuses on: electric vehicle adoption, multimodality to promote low-emissions transport modes and corporate mobility policies to accelerate behavior change for sustainable mobility.

ENDNOTES

[1] WEF, The net-zero challenge, 2020

[2] The Task Force is recommending that organizations use, at a minimum, a 2°Celsius (2°C) scenario and consider using other scenarios most relevant to the organization's circumstances, such as scenarios related to Nationally Determined Contributions (NDCs), business-as-usual (greater than 2°C) scenarios, physical climate risk scenarios and transition scenarios. See TCFD Technical Supplement, The Use of Scenario Analysis in Disclosure of Climate Related Risks and Opportunities, 2017.

[3] See COSO-WBCSD framework, Applying enterprise risk management to ESG-related risks

[4] See WBCSD's Redefining Value resources

[5] BCG publication "The Economic Case for Combating Climate Change", 2018

[6] WEF, The Net-Zero challenge, 2020

ACKNOWLEDGEMENTS

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ABOUT WBCSD

WBCSD is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than USD $8.5 trillion and 19 million employees. Our global network of almost 70 national business councils gives our members unparalleled reach across the globe. Since 1995, WBCSD has been uniquely positioned to work with member companies along and across value chains to deliver impactful business solutions to the most challenging sustainability issues.

Together, we are the leading voice of business for sustainability: united by our vision of a world where more than 9 billion people are all living well and within the boundaries of our planet, by 2050.

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