



From Aspiration to Action:  
**Credible Corporate  
Climate Leadership and  
the Net-Zero Imperative**

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# Foreword



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## Set goals – then deliver

Commitments from companies pledging to do their part to mitigate climate change tend to climax in the lead-up to every Conference of Parties, and COP26 was no exception. By the end of 2021, [more than 2,200 companies](#) worldwide were working with the [Science Based Targets initiative](#) (SBTi) to align their greenhouse gas reduction goals with climate science. Impressive as it sounds, these commitments are still insufficient to bend the global emissions curve to limit warming to no more than 1.5°C and avoid the worst impacts of climate change.

As of December 2021, [65% of companies](#) with a potential “high impact” on climate mitigation (as identified by CDP), had not committed to setting science-based targets through the SBTi. Of those that have science-based targets, more than a quarter had not publicly disclosed any progress towards achieving their targets. In addition, [fewer than one in five](#) Fortune 500 companies’ climate goals cover indirect value-chain emissions, which often comprise the largest portion of their total carbon footprint.

According to Climate Action Tracker, setting pledges and commitments aside, the planet is on a trajectory to reach [2.7°C of warming by the end of the century](#). The adverse, irreparable implications of that climate future on ecosystems, biodiversity and communities cannot be understated. The latest report from the [Intergovernmental Panel on Climate Change \(IPCC\)](#) states the urgency of immediate and deep emissions reductions and emphasizes the importance of achieving peak global emissions by 2025.

Ambitious goals require ambitious action. Corporations cannot delay action until every piece of the decarbonization puzzle is in place. They must cut emissions immediately, while putting investments and strategies in place to sustain a low-carbon future in the long-term. This paper shows the steps every firm can take today to reduce its carbon footprint and advance the energy transition.

# Executive summary

**Addressing the climate emergency in this decisive decade requires bold private sector leadership.** Corporations are global engines of innovation, change and prosperity – but they also have control over the vast majority of greenhouse gas (GHG) emissions. There is no feasible pathway to a climate-stable future without harnessing the leadership and implementation capacity of the private sector. Meeting this critical responsibility will require companies to set and achieve science-based targets aligned with bringing global emissions to net zero by 2050.

**Over recent years we have witnessed a groundswell of climate ambition from corporate leaders, but actual emissions reductions are still lagging massively behind what is required to limit global warming to 1.5°C.** According to Climate Action Tracker, real world climate action sets the planet on a trajectory of [2.7°C warming by the end of the century](#). As of December 2021, [65% of companies](#) with a potential “high impact” on climate mitigation, as identified by GDP, had not committed to setting science-based targets. By June 2021, just [17% of Fortune 500](#) companies had set long-term net-zero climate targets and only [13% of Fortune 500](#) companies had set near-term science-based targets. In addition, [fewer than one in five](#) Fortune 500 companies’ climate goals cover indirect value-chain emissions, which often comprise the largest portion of their total footprint. Moreover, of the companies who set science-based targets as of July 2021, [28% had not reported any information](#) on progress toward their targets. In this regard, private sector commitments are not (yet) on track to deliver a future where warming is kept below 1.5°C. **Target-setting alone will not bend the planet’s climate trajectory.** Climate commitments only become material when they are followed by bold and innovative action that reduces greenhouse gas emissions in the near and long term in line with these promises.

“By June 2021, just 17% of Fortune 500 companies had set long-term net-zero climate targets and only 13% had set near-term science-based targets.”

**Success in this domain – for companies and for the planet – requires leaders and businesses to accurately measure and report on the progress of their goals and strategies rigorously and continually.** It is a formidable task for the business community, but not an impossible one. New accounting and decarbonization solutions are quickly emerging to support companies in charting a path to meet their goals.

**Closing the ambition-action gap is the single greatest challenge for private-sector climate leadership.** To meet this urgent need, business leaders must accelerate decarbonization by setting ambitious goals aligned with gold standard practices, such as the criteria defined by the [Science Based Targets initiative \(SBTi\)](#), to develop and implement bold decarbonization strategies and then measure progress. Closing the ambition-action gap requires every business to take three fundamental steps:

- 1. Set science-based and net-zero targets:** Ensure that emissions reduction targets cover the majority of scopes 1, 2 and 3 and achieve net-zero accumulation of GHGs in the atmosphere, in alignment with global climate goals that limit warming to 1.5°C with no or limited overshoot, as defined by the Intergovernmental Panel on Climate Change.
- 2. Decarbonize quickly and continuously:** Make strategic investments needed to achieve substantial reductions in the long term, while simultaneously driving near-term reductions to keep the company on a successful decarbonization pathway.
- 3. Demonstrate progress:** Measure progress and remain accountable by communicating the company’s decarbonization results to the rest of the business community and public sector on an annual basis.

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# Eyes on the prize: three challenges for business leaders

Taking action to reduce upstream and downstream emissions is a vital priority. Investors need to provide capital for heavy-emitting industries to decarbonize, even if these investments show up as carbon-intensive on balance sheets. Meanwhile, corporate leaders must act with courage, or risk missing out on the first-mover's advantage.



# 1.1 What's mine is yours: the importance of scope 3 emissions

Greenhouse gas (GHG) emissions are classified by scopes that categorize a company's emissions by ownership and control. In the past, companies focused almost exclusively on their "direct" emissions from fuel and electricity used for in-house processes (called scopes 1 and 2). Meanwhile, "indirect" emissions – those generated upstream and downstream of their operations (called scope 3) – have been left unaddressed and undisclosed.

Scope 3 emissions are, on average, [over 11 times higher than scope 1 and 2 emissions](#). By ignoring these emissions, companies have been handcuffed in their ability to adequately measure and manage progress towards climate alignment for the majority of their total GHG footprint.

Leading practice, for example the Science Based Targets initiative (SBTi), requires companies to address material scope 3 emissions, reflecting the fact that these indirect emissions are essential to assessing a company's contribution to climate change and its exposure to carbon risk. In the past, a narrower focus on scopes 1 and 2 alone indulged a logical fallacy: that a snapshot of one segment of the total value chain could be a useful metric for the overall corporate climate footprint.

Accounting for these scope 3 emissions is essential for aligning incentives and building accountability. This remains true in supply chains that diligently report scope 1 and 2 emissions. For example, an

auto manufacturer's climate impact depends less on putting solar panels on the roof of its factory (scopes 1 and 2), and more on its decision to use low-carbon steel to build electric vehicles (scope 3 emissions). By turning a blind eye to scope 3, this firm would ignore its purchasing power over steel in its supply chain (upstream emissions) as well as the CO2 spilling from the tailpipes of the vehicles it produces (downstream emissions). Factor in the emissions from employee travel, and from end-of-life emissions of vehicles, and it becomes clear that scope 3 emissions account for the vast majority of the firm's total footprint.

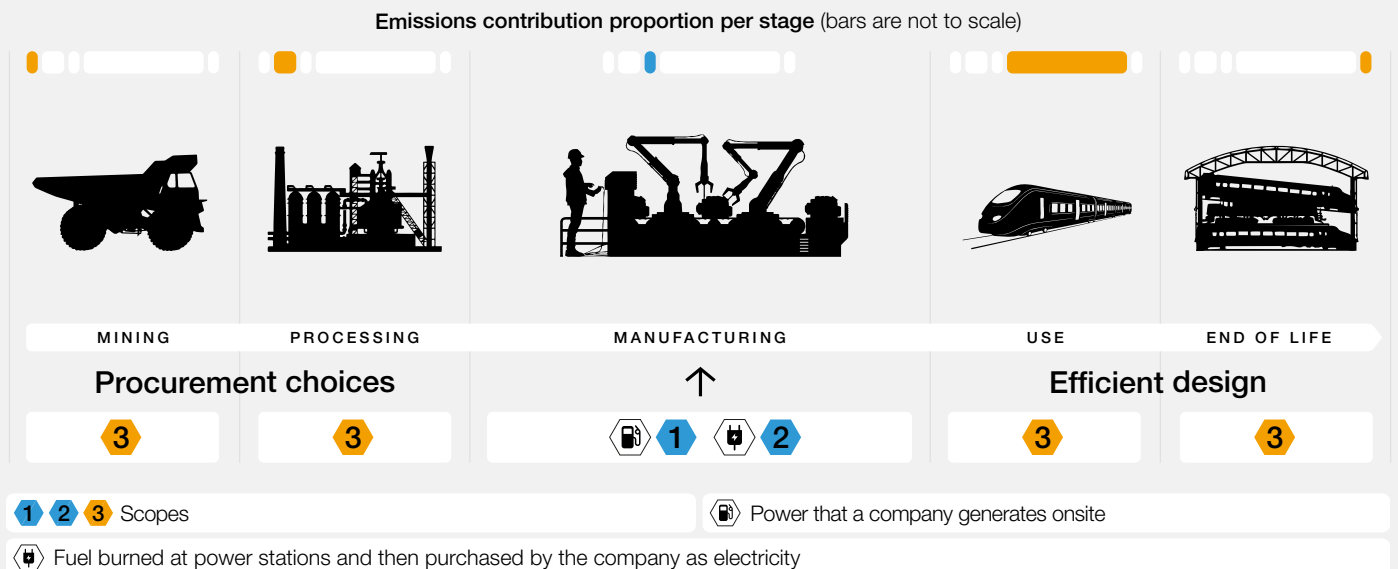
Some sources of scope 3 emissions are more difficult to manage than others. For instance, a manufacturer of electric trains has limited influence over the carbon intensity of the power grids where its trains operate. But it can still influence upstream emissions through purchasing less carbon-intensive steel, and influence downstream emissions by installing high-efficiency engines and other energy-saving technology (see Figure 1).

Historically, measuring scope 3 emissions has been a difficult task. More recently, new tools have brought scope 3 accounting into much sharper focus, dispelling the myth that these indirect emissions are unmeasurable. For instance, the [Coalition on Material Emissions Transparency](#) (COMET) is harmonizing the crowded landscape of GHG accounting tools in supply chains, allowing for unprecedented accuracy and compatibility in emissions reporting.

FIGURE 1 Scopes 1, 2, and 3 emissions of an electric train manufacturer

## Scope 1, 2, and 3 emissions - The perspective from a manufacturer of electric trains

Scopes 1 and 2 include emissions from the manufacturer's direct energy consumption and purchased electricity, respectively. Scope 3 includes value chain emissions upstream and downstream of operations. In the case of this manufacturer, scope 3 emissions dominate the emissions profile.





**SBTi requires companies with substantial scope 3 emissions to set a near-term (5-10 year) target that encompasses at least two-thirds of indirect emissions, while their long-term target (by 2050) requires at least 90% coverage for scope 3. Such rigorous accounting is not over-achieving – it is imperative for climate progress.**

Put simply, the term “indirect” does not infer “beyond control.” Declining to account for scope 3 emissions is an abdication of climate responsibility and, by extension, an under-representation of carbon risk and of the solutions a company could put in place to mitigate such exposure. When direct control of these emissions is limited, companies should actively seek out opportunities to lobby for policy change and form buyers’ alliances (e.g. for low-carbon fuels) to accelerate market shifts.

It is also misleading to rest on the notion that “if everyone addressed their scope 1 emissions,

scope 3 would not be a problem”. Misconceptions around the effectiveness of drawing boundaries of responsibility solely on direct emissions have led to a global lack of understanding about how to effectively stay within our global carbon budget.

For this reason, SBTi requires companies with substantial scope 3 emissions to set a near-term (5-10 year) target that encompasses at least two-thirds of those indirect emissions, while their long-term target (by 2050) requires at least 90% coverage for scope 3. Such rigorous accounting is not over-achieving – it is imperative for climate progress.

## 1.2 Invest wisely: past performance does not predict future emissions

Decarbonizing the world’s most climate-intensive industries will be significantly capital-intensive. This raises an issue: if today’s investors minimize carbon exposure in their portfolios by favouring companies with low absolute emissions, then the most energy-intensive firms and supply chains will be starved of the capital they need to decarbonize. This paradox of “financed emissions” threatens to confound the fast-growing realm of climate finance.

Consider the steel industry, which accounts for nearly one-tenth of global emissions. Decarbonizing steel production will require \$278 billion of new investment by 2050. To transition this coal-dependent industry to renewable energy, hydrogen, and other low-carbon steel technologies, investors will have to act like firefighters: running towards the flames with the goal of putting them out.

Capital investments in technologies such as low-carbon steelmaking, which take many years

to deliver emissions reductions, will initially register as significantly carbon-intensive on investors’ balance sheets. But these technologies are critical to producing climate-differentiated products, which in turn will enable supply-chain decarbonization and subsidize further investment in renewable technology.

This paradox poses a measurement challenge because investment in these carbon-intensive industries is essential to climate progress. For this reason, climate-conscious investors must look beyond the near-term metrics of “financed emissions” to integrate change-based performance metrics that value relative reductions in the near-term future – and in alignment with a company’s net-zero pathway – alongside absolute emissions measured at year zero. By looking past immediate returns and carbon intensity, investors will be able to allocate capital to the nascent technologies that will power the clean energy transition in the years to come.



**Decarbonizing steel production will require \$278 billion of new investment by 2050. To transition this coal-dependent industry, investors will have to act like firefighters: running towards the flames with the goal of putting them out.**

## 1.3 Fortune favours the bold: ambitious goals require ambitious action

When it comes to deep decarbonization, there are no incumbents. Risk aversion remains a towering obstacle to corporate climate leadership. In this time of planetary urgency, business leaders must tap into their unique skills as risk takers and first movers to act with conviction. Corporate climate leadership cannot be achieved through a wait-and-see approach – there simply isn't enough time.

It is encouraging to see several initiatives rallying business leaders around the common objective of catalysing climate action driven by science-based targets, including the We Mean Business Coalition and the World Economic Forum's [Alliance of CEO Climate Leaders](#), which was founded in 2014 to support an ambitious Paris Agreement through bold corporate climate targets and actions aimed at reducing their own emissions and inspiring others to do the same. Today, the alliance has grown to 120 members representing 26 countries

and 12 industries, committed to set Paris-aligned, science-based targets across their value chains. As they stand today, alliance members' commitments would reduce 1 gigatonne of GHG emissions annually by 2030. (1Gt is roughly 2% of annual global emissions)

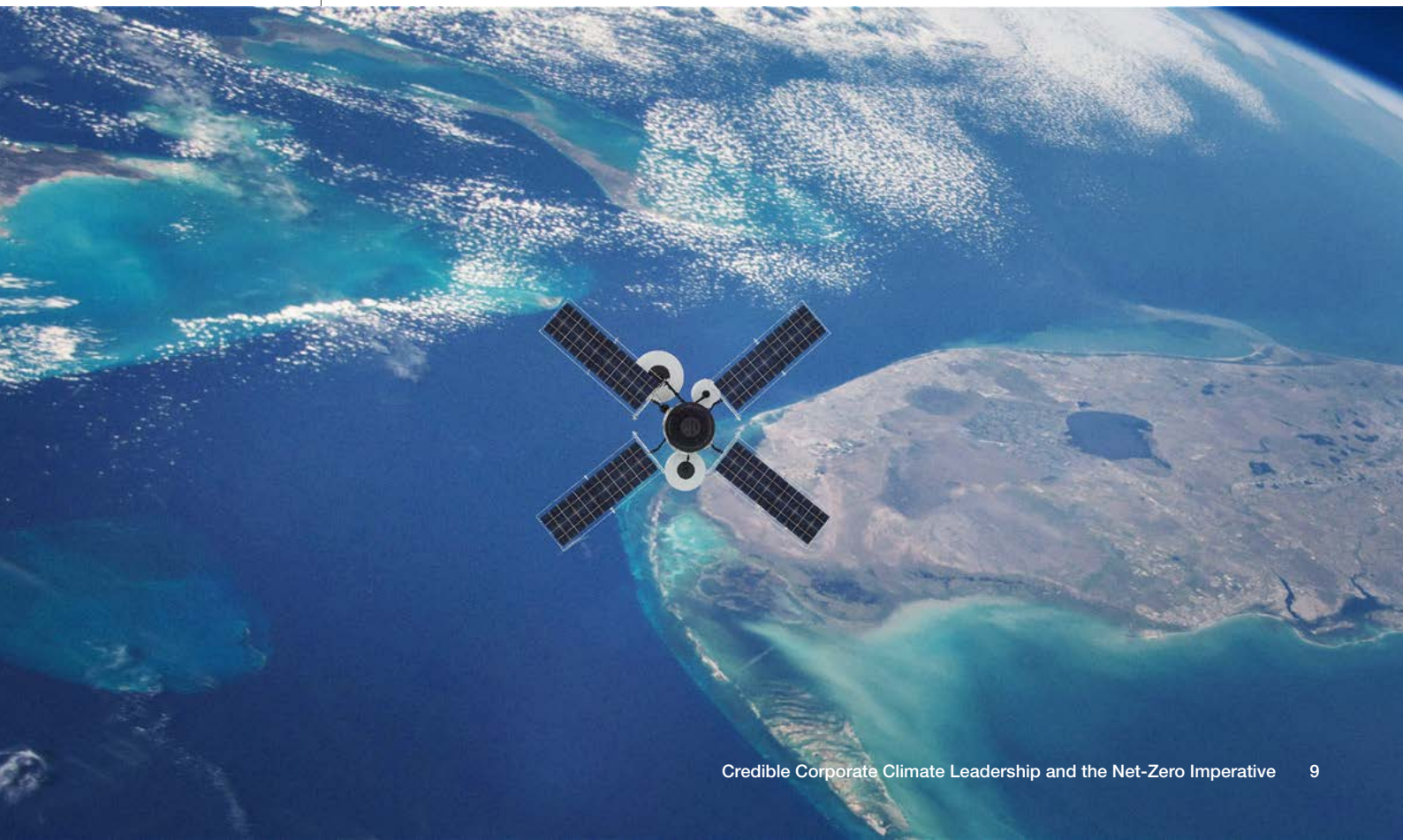
Before companies began establishing science-based climate targets, environmental metrics were often set by benchmarking against peers or competitors, creating a "race to the middle" with no connection to global climate goals. But under climate alignment, corporate leaders will instead benefit from a first mover's advantage: climate-responsible production will attract a premium among consumers and investors, while laggards will suffer from shrinking demand for their unsustainable products. This isn't innovation for innovation's sake; it's future-proofing our industries for a climate-safe world.



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## All hands on deck: three solutions for collective accountability

Technology is quickly filling the remaining gaps in emissions visibility as momentum towards corporate decarbonization accelerates, making reporting and accountability more robust than ever. New solutions are available to help provide the transparency and accountability necessary to ensure that the private sector delivers on its bold ambition.



## 2.1 Visibility: improving emissions transparency

Innovators are staging a quiet revolution in the world of climate disclosures by adding the possibility to independently validate corporate disclosures. These new technologies will free emissions reporting from a paradigm that rewards under-counting.

[Climate TRACE](#), a collaboration between leading satellite technology companies and environmental NGOs, has set out to track greenhouse gas emissions with unprecedented accuracy, speed and independence. Climate TRACE is raising the bar on emissions disclosures by using satellite-based remote sensing to deliver asset-level emissions visibility on all large industrial facilities across the world.

Emerging data platforms and exchanges have the potential to vastly improve scope 3 information accessibility, enabling footprints based on primary rather than estimated data. CDP (formerly the Carbon Disclosure Project) and Boston Consulting Group have created [CO2 AI](#), an artificial intelligence platform to facilitate the sharing of product emissions data between customers and suppliers.

Meanwhile, the World Business Council for Sustainable Development (WBCSD) has created the [Pathfinder](#) initiative to improve product-specific GHG emissions data accuracy and enhance the exchange of information across value chains.

## 2.2 Accounting: simplifying the complex

The most widely used accounting standard for corporations has been the Greenhouse Gas Protocol's [Corporate Accounting and Reporting Standard](#). In addition, there are dozens of other sector- and region-specific accounting methodologies.

New initiatives have been created to harmonize a complex reporting landscape, such as the [Coalition on Materials Emissions Transparency](#) (COMET), noted in Chapter 1. COMET is developing a new framework to create universal metrics for emissions attribution that will lay the foundation to harmonize existing GHG accounting standards. These common metrics enable greater clarity, comparability and transparency in understanding how to measure climate performance.

Similarly, the industry-led [Partnership for Carbon Accounting Financials](#) (PCAF) has created a new standard that harmonizes GHG accounting methodologies for the loans and investments of financial institutions. Meanwhile, the World Economic Forum's initiative to establish a common set of [Stakeholder Capitalism Metrics](#), led by the International Business Council in collaboration with Deloitte, EY, KPMG and PwC, has identified a set of universal, material sustainability metrics and recommended disclosures, allowing companies to align their mainstream reporting on performance against environmental, social and governance (ESG) indicators and track their contributions towards the UN's Sustainable Development Goals (SDGs) on a consistent basis.

## 2.3 Disclosure: no more weak links

The International Financial Reporting Standards (IFRS) Foundation (which creates global financial reporting standards) has recently launched the [International Sustainability Standards Board](#) (ISSB) to standardize sustainability-related disclosures for global financial institutions. This process aims to bring two disclosure giants into one consolidated board: the [Climate Disclosure Standards Board](#) (CDSB) and the [Value Reporting Foundation](#) (VRF) – itself a recent amalgamation of the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB).

The ISSB's standard will provide the minimum global baseline for sustainability-related disclosures. However, more ambitious regional regulations

are already on the way – and encouraged. For example, the [EU Corporate Sustainability Reporting Directive](#) will require EU corporations to report against ESG metrics starting in 2023 from both a financial and non-financial perspective in a concept they term “double materiality.” In addition, the [US Securities and Exchange Commission](#) has proposed rule changes requiring climate-related disclosure in registrant statements and reports to enable investors to make better-informed investment decisions.

[The Task Force on Climate-Related Financial Disclosures \(TCFD\)](#) framework outlines the climate-related financial information that allows financial markets to evaluate climate-related risks and

opportunities. In October 2021, to navigate the evolving landscape of climate initiatives, TCFD released new guidance on metrics, targets and transition pathways to help organizations better understand how to develop robust plans to move towards a low-carbon economy and subsequently better inform the users of these disclosures (financial institutions).

Covering visibility, accounting, and disclosure all at once, [Horizon Zero](#) is creating a blockchain-based technical architecture to track asset- and product-level emissions as they move through complex value chains. In the process, it is bringing emissions accounting into the digital age via blockchain technology – allowing supply chains to use decentralized reporting so that emissions data points are not lost in complicated chains of custody.

Disclosure innovations like these eliminate a significant amount of uncertainty from climate reporting. Previously, supply-chain assessments used average emissions values for key inputs such as steel, despite the wide range of emissions intensity between best and worst performers in these commodities. These new tools are now allowing companies to integrate primary data into scope 3 calculations, creating new incentives for responsible production and procurement.

In order to meet their obligations to shareholders, society, and the planet, companies should set science-based and net-zero targets immediately. Those that have targets must follow through on their commitments by reducing their emissions in the near and long term, and by reporting on progress annually.



**New blockchain-powered tools are allowing companies to integrate primary data into scope 3 calculations, creating new incentives for responsible production and procurement.**

# Conclusion

As we head deeper into this decisive decade, tools and technologies for decarbonization continue to improve, but bold climate leadership remains the exception rather than the rule. The private sector – more than governments or individuals – is best equipped to meet the challenge of this planetary emergency. Making emissions visible, transforming carbon accounting, and adopting transparent reporting protocols are critical catalysts for driving change.

Success in this time of urgency requires scaling a steep learning curve. The global carbon budget cannot afford continued equivocation on the importance of scope 3 accounting and whether

to avoid or engage carbon-intensive industries. Nor can we indulge in a risk-averse mindset that stymies innovation and investment. Business-as-usual practices precipitated the climate crisis - they will not solve it.

In the coming weeks, months, and years, corporate leaders must increasingly see themselves as climate leaders. The tools detailed in this paper were chosen specifically for their ability to catalyse deep decarbonization at enterprise scale, avoiding the pitfalls that can ensnare even well-meaning climate leaders – such as a narrow focus on scopes 1 and 2. Success cannot be measured by the volume of conversation, but by the quality of action.

# Appendix: additional resources on the 1.5°C horizon

Certain technologies stand out for their potential and readiness, but they are hardly alone. The years ahead will see significant progress in the following domains, helping to further advance corporate climate leadership:

- **Accounting tools** (e.g. [Salesforce Net Zero Cloud](#), [Watershed](#), [Persefoni](#), [SINAL Technologies](#)) help expedite what can be a labour-intensive, manual accounting process. These platforms have built-in accounting calculations in line with standards such as the Greenhouse Gas Protocol and they can project future emissions against science-based and net-zero targets.
- **Industry alliances** (e.g. [Mission Possible Partnership](#), [Carbon Transparency Partnership](#)) are providing technical expertise and sector-specific guidance for private-sector actors seeking to accelerate decarbonization, especially in high-emitting industries and across scope 3 emissions. These alliances will serve as catalysts between individual

corporations and global frameworks for climate action.

- **Buyers' alliances** (e.g. [Sustainable Aviation Buyers Alliance](#), [Clean Energy Buyers Association](#), [First Movers Coalition](#)) aggregate demand for low-carbon products, such as synthetic aviation fuels. In the process, they de-risk investment and allow climate-conscious firms to “lead together”.
- **Merging GHG accounting and more-than-climate ESG monitoring, using cutting-edge technology** (e.g. [Horizon Zero](#)), will streamline corporate transparency on all aspects of sustainability. Improving sustainability reporting writ-large will allow responsible firms to de-risk their supply chains by monitoring their procurement from mine sites to factory gates.

These tools have the potential to drive high-impact, catalytic change – but private sector action is required to scale these solutions and safeguard the planet's future.

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# Endnotes

1. In 2019, CDP (an international non-profit organization specializing in environmental disclosures) identified a “High Impact Sample” of companies based on a combination of greenhouse gas (GHG) emissions and market capitalization using the MSCI ACWI index. Source: [https://cdn.cdp.net/cdp-production/comfy/cms/files/files/000/003/668/original/CDP\\_SBT\\_Campaign\\_High-impact\\_sample\\_explained.pdf](https://cdn.cdp.net/cdp-production/comfy/cms/files/files/000/003/668/original/CDP_SBT_Campaign_High-impact_sample_explained.pdf).
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