CARBON TRUST

CARBON TRUST WHITEPAPER

Grow to Zero

How target-setting standards can incentivise responsible growth while enabling global decarbonisation.

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Economic growth remains tightly linked to emissions

Since the Industrial Revolution, growth has largely depended on fossil fuels. Decoupling emissions from economic activity is essential to limit warming to 1.5°C.

Decoupling is a business imperative

Reducing emissions helps companies manage climate risks and seize low-carbon opportunities—boosting financial resilience, competitiveness, and investor confidence.

Intensity targets in the current Net Zero Standard offer flexibility but carry significant risk

The SBTi's economic and physical intensity targets approach can be a valuable tool for encouraging efficiency improvements, particularly for high-growth companies, by linking emissions to economic or physical output. This approach is especially appropriate for providers of low-carbon solutions, as it allows for near-term increases in emissions, often an unavoidable part of scaling up climate-focused products and services. However, for other very high-growth companies, this same flexibility can lead to a substantial rise in absolute emissions even when intensity targets are being met, which would likely result in the global carbon budget being compromised.

The current Sectorial Decarbonisation Approach can disproportionately penalise growth over emissions intensity

The SBTi's Sectoral Decarbonisation Approach (SDA) is more tolerant of high baseline emissions than of growth in activity. Companies starting from a high-carbon baseline are not heavily penalised, while those pursuing aggressive growth, even from a low-carbon starting point, are required to demonstrate disproportionately greater reductions. This feature of the SDA approach places an undue burden on fast-growing firms, including those developing and scaling low-carbon solutions, while not sufficiently penalising carbon-intensive companies that are consuming a relatively higher share of the global carbon budget in the near term.

High-growth firms can lead on decarbonisation, provided key enablers are in place

The scaling and deployment of low-carbon technology required for the global Net Zero transition has proceeded at varying speed across different sectors. High-growth firms can speed up this process; by acquiring newer, low-carbon assets and services given their access to capital and greater flexibility, these companies can decarbonise faster than peers, provided they have access to clean energy, financing and supportive regulation. Strategic incentives—such as carbon pricing, innovation subsidies, and green procurement—can accelerate clean tech deployment without compromising growth or competitiveness.

High-growth climate solution companies are essential to Net Zero

Companies scaling low-carbon technologies can accelerate economy-wide decarbonisation, but their growth may increase reported emissions, creating tension with existing target-setting frameworks.

Net Zero frameworks must evolve

Target-setting standards, such as the SBTi, aim to provide a single framework that applies to a diverse range of companies, sectors and geographies. Despite its merits, the SBTi's standard presents a number of challenges as it lacks adequate guardrails to limit absolute emissions increases under the intensity target approach (which arguably should only be permitted in order to encourage growth of climate solutions providers), and under SDA approaches high-growth companies with cleaner operations and value chains are disproportionately penalised. The SBTi is in the process of evolving its framework in version 2.0, which should include a focus on promoting responsible growth and encouraging climate solutions providers, while avoiding the potential for global carbon budget being breached.

01 State of play: decoupling corporate growth from emissions in alignment with global climate targets

1.1 The relationship of economic growth and emissions

Since the Industrial Revolution, growth has been one of the fundamental principles of human development, with economic growth going hand in hand with increased greenhouse gas (GHG) emissions. To generate products and services with an economic value, energy inputs are typically required. Historically, such inputs have come from fossil fuels, which release GHG emissions when burned. Other areas of the economy do not necessarily consume fossil fuels directly, but still generate emissions, such as agriculture which produces emissions as a result of livestock enteric fermentation, land use change and more. Increased economic output, combined with meeting the needs of a growing population, have led to a significant increase in emissions. And while growth in service sectors – with its lower emissions impact, per economic value, than primary and secondary sectors related to raw material extraction and manufacturing, respectively – has grown as a share of global economic growth in recent decades, emissions across the whole economy have nonetheless risen.

There is scientific consensus on the need to cut GHG emissions. The goals of the 2015 Paris Agreement – namely that global average temperature increases should be limited to 1.5C above pre-industrial levels or well below 2C – are used as the key climate objective, despite the fundamental challenges associated with achieving 1.5C. Any warming above 1.5C would lead to catastrophic physical and social consequences, but these effects get worse for every additional increase in warming. Therefore, 1.5C remains a crucial target for the Net Zero transition to limit climate change's harmful impacts as much as possible.

In the current economic paradigm, growth is paramount. Therefore, to reach Net Zero[1] in line with the Paris Agreement targets, decoupling the relationship between economic growth and emissions is vital. There has been widespread discussion about whether "economic growth" is still a useful metric for society. In this whitepaper, the benefits and drawbacks of using "growth" as a metric will not be discussed. It has been assumed growth will remain a paradigmatic feature of society and corporates, which will keep striving for ever-growing profits and economic growth.

1.2 Corporate decoupling

The types of decoupling of emissions from growth can be classified in three categories, depending on the level of emissions reductions:

- Relative decoupling: economic growth and emissions both increase but emissions rise at a slower rate. This is insufficient for achieving Net Zero because emissions continue to rise.
- Absolute decoupling: economic growth increases while emissions fall. This yields absolute emissions reductions, but they may not be ambitious enough to align with 1.5C trajectories.
- Sufficient absolute decoupling: economic growth increases while emissions decrease in line with 1.5C trajectories. Only this form of decoupling will be sufficient to return to a way of life within planetary boundaries.

Although research has been conducted on progress on country-level decoupling, this whitepaper focuses exclusively on the state of play for corporates, with a particular focus on high-growth companies and their role in the Net Zero transition. In the corporate context, the best measure of economic growth would be changes in outputs that have a societal function. However, this is not widely applicable, so as the next best available proxy for corporate economic growth, revenues (and in some cases profits) will be evaluated. For companies in the primary and secondary sectors, revenues are typically tied to production output, which is the main emissions-generating activity for businesses. It is recognised that revenues should be adjusted for inflation, although this can be complicated by varying levels of

1 Corporate Net Zero means reducing scope 1, 2 and 3 emissions to zero or to a residual level, while neutralising any residual emissions released at the Net Zero target year and thereafter. Ultimately, there should be no additional net emissions.

inflation across regions, commodities, products and currencies. Wherever possible, inflation is accounted for, however this is not always feasible given the availability of data.

1.3 Corporate advantage: why businesses should want to decouple

Company performance has always been assessed by key financial metrics, such as revenue and profits. This is still fundamental in the modern world, although sustainability is becoming increasingly more prominent. One key impact of sustainability on public company valuations are climate risks and opportunities (CROs). These are further divided into:

Physical risks, e.g. increased severity and frequency of extreme weather events;

Transition risks, e.g. increased carbon pricing, changing customer demands, and;

Transition opportunities, e.g. development of low-carbon solutions, use of lower-emission energy sources.

The main objective of public companies is to improve share prices as much as possible. On top of market fundamentals, current earnings and financial performance, investors are increasingly incorporating present and future CROs into company valuations. In particular, companies with strong future opportunities will likely have a high price-earnings ratio – a comparison of a company's stock price to its earnings per share – and those with significant future risks will likely have a lower price-earnings ratio. Emissions reductions are a crucial pillar in both reducing the impact of transition-related risks, such as carbon pricing, and bolstering transition-related opportunities, including development of low-carbon solutions. Exploiting transition opportunities could bolster corporate economic performance and growth, while failing to mitigate transition risks will have a negative impact. From this perspective, decoupling becomes a business imperative.

Individual companies have limited influence over their own exposure to physical risks, as these depend on the action of all companies and governments globally on reducing CO_2e levels. Nonetheless, these physical risks could hamper production or supply chains, impacting revenues. Such risks will only be amplified if absolute emissions continue to rise, increasing company risk exposure and creating a vicious cycle. Companies can try to mitigate their exposure, such as by changing the location of sites or operations, but it is ultimately in all corporates' interests to reduce emissions to reduce overall physical risk exposure.

Corporates have greater influence and control on transition risks and opportunities. Companies that better adapt to the risks and exploit the opportunities, such as creating innovative new products, will perform better from a CRO perspective. Failing to respond could have a significant financial impact, weakening the economic growth side of the decoupling equation. One clear example of this is the EU's Carbon Border Adjustment Mechanism (CBAM), whereby carbon levies will have to be paid on some non-EU imports in certain sectors from 2026. Companies that have progressed on decoupling will have cut emissions, some of which may have come from altering product specifications and production processes so that products have lower embodied emissions. Not only does this mean that they are reducing emissions, but they will also improve financial performance by avoiding additional costs from the carbon levies on higher emissions imports.

Another transition risk and opportunity involves changing customer demand. For B2C sales, end customers are increasingly willing to pay "green premiums" for more sustainable products. PwC's 2024 Voice of the Consumer Survey found consumers are prepared to pay 9.7% more for sustainable products – although this may only reflect consumer intent, rather than reality at checkouts. This signals increasing customer demand for sustainable products, even during a cost-of-living crisis. For B2B sales, sustainability criteria are common in procurement criteria, while existing customers are also demanding more data and setting expectations of their suppliers to cut emissions. Some businesses are capitalising on the second term of President Donald Trump to row back on climate commitments and progress. But for some, this reversal is just a marketing tactic to appear to be falling in line with the mood music from the US, while they continue with substantive action in the background.

In PwC's second State of Decarbonization report, 37% of companies increased their climate ambitions in 2024, with just 16% slowing down. This shows that the prevailing winds are still very much in the direction of climate progress, even if companies deliberately choose to under-report or hide their environmental progress, which is often referred to as "greenhushing". Even if companies are not vocal about climate progress, it shows that decoupling is increasingly perceived as a business-critical activity and is in companies' interests, being closely linked with reduced exposure to climate risks and strengthened ability to leverage climate opportunities.

1.4 Current state of corporate decoupling

Progress on limiting global warming to 1.5C has so far been limited, with the Priestley Centre for Climate Futures at the University of Leeds releasing a study showing that the global carbon budget for 1.5C warming – the total emissions that can be released while holding global average temperature increases to 1.5C – could be depleted within just over three years. Considering this slow pace of change in climate action, it is logical to assume corporate progress on decarbonisation and decoupling has been equally lacking.

By way of example, in the UK[2], corporate decoupling is seemingly not on track. A report by edenseven highlighted the poor progress from FTSE 250 companies, finding that scope 1, 2 and 3 emissions increased 7% in 2023 year-on-year, while revenue grew by 9%[3]. This shows a continuing close correlation between corporate growth and emissions, as well as the yawning gap between current emissions and required emissions reductions. Growth strategies clearly do not include emission reduction targets, and overall, FTSE 250 companies are not decarbonising quickly enough.

While not providing explicit analysis on decoupling, CDP's 2025 Corporate Health Check provides some useful insights into corporate emissions reduction and profits. Some sectors – including transport services and apparel – see a relationship between increased market capitalisation and progress on emissions reductions. But in other sectors, particularly high-emitting areas such as materials and power generation, the inverse is true: companies that are not set to meet their emissions targets have performed better in market capitalisation growth. Whilst some sectors are progressing towards decoupling, some key high-emitting areas do not see such a trend. This is currently not picked up by the wider investment community. This either reflects a lack of education on the impact of transition-related CROs on company valuations or demonstrates an active choice by investors not to factor in transition-related CROs to company valuations as there is no indication that they will actually have a material impact, at least in the near-term future – if governments fail to act, any impact on market share will arise much later, at which point physical risks will have a much higher weighting in valuations, compared with early action from governments which would emphasise the impact of transition risks and opportunities.

Another finding from the Corporate Health Check was that for companies that have reported consistently between 2016 and 2023, their scope 1 emissions have fallen by an average annual rate of 2%. But in the absolute reduction pathway set by the Science Based Targets initiative (SBTi), companies must reduce emissions by 4.2% at a linear annual rate between 2020 and 2050, suggesting this progress is significantly off the mark. Furthermore, "quick-wins" in scope 1 emissions reductions would be expected, such as energy efficiencies, to have taken place already, as they are the logical starting point for companies to cut their operational emissions, so the slow level of cuts in scope 1 is concerning. Although this says nothing about the economic growth side of the equation, if companies are not reducing emissions at the required level, then they cannot achieve sufficient absolute decoupling. Furthermore, CDP is a somewhat biased sample, as companies that do not report to CDP are most likely performing worse in terms of emissions cuts, so the broader market picture is most probably even more concerning.

Corporate absolute decoupling is achievable, but more and continuous action needs to be taken by all companies across all areas of the economy. To achieve this, each sector and region needs to address its own individual challenges and opportunities. In the next section, a deep dive into the road freight sector will highlight some of the necessary changes to achieve sectoral decoupling.

1.5 Road to Net Zero: decoupling the road freight sector

To achieve economic growth while cutting emissions, carbon-intensive sources of energy or activity must be displaced by low-carbon

2 Data and research for other regions and markets was not available.

3 The report does not state whether this has been adjusted for inflation.

alternatives. Different sectors will require different levers and enablers to incentivise production and uptake of low-carbon alternatives. The road freight sector provides an instructive example; many other sectors' decarbonisation pathways are dependent on transportation decarbonisation due to globalised supply chains, and the road freight sector requires action from a technological, policy and market perspective to achieve decoupling. Such a range of levers and enablers will be equally important in other sectors' decarbonisation pathways.

Demand for heavy-duty transportation is set to increase across key regions, such as China, Europe, India and US. Given this sector accounts for 3% of global emissions, decoupling is essential for increased demand not to exceed 1.5C aligned carbon budgets. The main decarbonisation lever is technological: developing and deploying zero emission trucks (ZETs) such as battery electric trucks (BETs), along with charging infrastructure, and a decarbonised electricity grid – although this latter lever sits outside of the road transportation sector. Two key barriers for the sector to overcome will be the total cost of ownership (TCO) of BETs being lower than that of internal combustion engine (ICE) trucks and two million chargers globally, which should unlock S-curve adoption – following an initial slow growth period, rapid growth is seen as the technology is increasingly adopted, which finally plateaus as the market reaches saturation. As costs of BETs come down, there will be greater incentive to purchase BETs over ICE vehicles, and as charging infrastructure becomes more widespread, there will be fewer barriers to BET adoption, which in turn encourages greater BET sales and infrastructure roll-out.

Although the BET market is still in its early stages, demand is rising, and their total cost of ownership (TCO) is beginning to approach that of diesel vehicles for certain uses. In urban and regional transport, it is expected that BETs will reach TCO parity more quickly and will be more feasible to operate because of more robust charging infrastructure. Achieving TCO competitiveness is crucial, because in a market-based structure, it will make financial, as well as environmental, sense for companies to switch to a zero-emission fleet. From a decoupling perspective, this satisfies both sides of the equation: by displacing ICE vehicles with cheaper BETs, total emissions will fall, while meeting increased demand for transportation with a ramped-up low-carbon sector.

But relying on the technology alone will not be enough; BET deployment and scale-up need to be supported by policy incentives. The EU offers a useful example. EU targets for heavy-goods vehicles form part of the "Fit for 55" package, requiring a 45% emissions reduction by 2030. Among numerous other benefits that the EU cites, the Commission notes that this target provides "a clear signal to the European industry to pursue a zero-emission pathway by investing in innovative technologies". This highlights the importance of policy in catalysing decarbonisation while supporting growth. Ultimately, policy must set the rules by which the market can operate. While the private sector will likely be the driving force behind technological advancement, effective policy and market-based mechanisms are the prerogative of governments. In the current uncertain political landscape – dominated by the US' withdrawal from the Paris Agreement – the EU should be held up as an example to emulate and for other regions to aim to surpass in ambition. And China's unparalleled EV production also shows a significant drive towards the scale-up of low-carbon technologies; in 2024, global EV production exceeded 17 million vehicles, of which over 12 million came from China, according to the IEA's Global EV Outlook 2025.

Policies should focus on supply, demand and infrastructure. Demand-side policies focus on encouraging up-take, such as by offering subsidies, tax breaks or rebates for purchasing ZETs. Influencing demand lies within the government's jurisdiction because such policies determine what can and cannot be sold in a specific region, or influence the price via subsidies or taxes. However, supply-side policies concentrate on incentivising companies to prioritise ZETs over ICE vehicles, such as by imposing phase-outs or bans on ICE vehicles. Although the impact of such supply-side policies will be felt within a single region, their impacts can be more widespread because of globalised supply chains and product offshoring. A country that incentivises greater BET production might sell more to a region without such policies in place, because of consumer demand. The policies that impact demand- and -supply-side measures have differing remits and impacts. On top of supply and demand, ZET deployment is dependent on infrastructure roll-out of charging and refuelling stations, which sits largely within the role of government. Only by addressing all three areas will there be a robust, holistic policy approach.

As well as policies shaping markets, strong signals from big market players will also move the needle. EV100 was established in 2017 and is a coalition of companies that are committed to fleet electrification, increasing EV demand and bringing down prices for others. The "First Movers Coalition" was established in 2021 to leverage large companies' purchasing power to incentivise key low-carbon technologies in crucial sectors, with one area of focus on the trucking industry. This includes 16 large firms – such as Rio Tinto, PepsiCo and Volvo Group – that have signed up to the coalition and made commitments to purchase ZETs by 2030. Trucking owners and operators also agreed that by 2030, at least 30% of their heavy-duty truck purchases will be zero-emission trucks. This up-front capital investment from large companies should help to bring down costs of this technology, opening the market to firms with less access to capital, further accelerating the progression along the S-curve.

Beyond the sector's own activities, decarbonisation of road freight is also dependent on transformations in energy. Renewable production and energy storage will need to expand to meet the burgeoning electrified transport demand, highlighting the interconnectedness of all decarbonisation pathways. The IEA notes that the transportation sector, primarily electric vehicles, will make up over 10% of the increase in global electricity demand from 2023 to 2030. Concerted action is needed from all companies across all areas of the economy.

Companies in the road freight sector have the opportunity to benefit from significant growth potential while cutting emissions. But there are some complications. A company developing BETs may actually see an increase in its own emissions as it produces more vehicles and therefore must account for increased embodied emissions in the vehicles, even though from a sector-wide perspective, displacing ICE vehicles with BETs will lower total emissions due to lower use-phase emissions in most countries of use. Of course, this will only lower overall sectoral emissions if ICE vehicles are displaced; if the increased volume is merely displacing another EV company's vehicles, the impact on emissions may not be beneficial. Challenges for companies supplying low-carbon technologies or solutions, such as battery manufacturers, need to be accounted for in target-setting frameworks, as well as ensuring that high-growth companies are incentivised to drive decarbonisation efforts. How this can be achieved through target-setting frameworks is the subject of the next section.

02 Hitting the target: how the SBTi's Corporate Net Zero Standard can incentivise responsible growth through target-setting

2.1 Current target-setting standards and target types

A range of international organisations are developing standards, frameworks, and tools to support science-based or climate-aligned target-setting and transition planning. These include but are not limited to:

- Science Based Targets initiative (SBTi)
- International Organization for Standardization (ISO Net Zero Standard)
- International Energy Agency (IEA) and Energy Technology Perspectives (ETP)
- Exponential Roadmap Initiative (ERI) Climate Solutions Framework
- Transition Plan Taskforce (TPT)

Given that the SBTi is the only framework that creates targets for corporates, the analysis in this section focuses specifically on the current SBTi Corporate Net-Zero Standard (CNZS), the most widely used and recognised framework for corporate target-setting. It is also important to note the ongoing development of Version 2.0 (CNZS V2), which introduces revisions that may affect how companies, particularly those with fast growth or complex value chains, approach target-setting. While CNZS V2 introduces greater flexibility for Scope 3 emissions, it still lacks explicit provisions for the unique challenges faced by high-growth companies or climate solution providers scaling rapidly. As CNZS V2 remains under development, it is not explicitly assessed in this whitepaper, though its potential implications are acknowledged.

The analysis focuses exclusively on emissions within companies' value chains, encompassing scope 1, 2 and 3 emissions, and does not assess the lifecycle impacts of individual products or pathways at a product level. While product-level decarbonisation and avoided emissions are crucial to the broader Net Zero transition, this analysis is concerned with how emissions targets apply at the corporate level, particularly under high-growth conditions.

Science-based targets are grounded in the global carbon budget established by the Intergovernmental Panel on Climate Change (IPCC). This budget defines the total amount of greenhouse gas (GHG) emissions that can be released globally while limiting temperature rise to a specific threshold, most commonly 1.5°C above pre-industrial levels. Emissions scenarios derived from this budget model how emissions must decline over time to remain within these limits.

Using these principles, the SBTi methodology outlines three science-based target types:

Cross-sector absolute reduction
(Absolute Contraction Approach - ACA)

Scope 3 physical and economic intensity reduction

Sector-specific intensity convergence
(Sectoral Decarbonisation Approach - SDA)

Absolute targets do not account for business growth. A company that expands and displaces high-emitting incumbents may see emissions rise in the short term, even as its efficiency improves. Conversely, a shrinking company may meet its targets by default, without genuine decarbonisation. Therefore, absolute targets are not examined further in this report, as they may misrepresent climate performance in rapidly growing or enabling sectors.

Target Type	Description	Emission scopes
ACA	Requires fixed, absolute emissions reductions (tonnes CO_2e) regardless of growth. Long-term target: ≥90% emissions reduction by 2050.	Scope 1, 2 and 3
Intensity	Emissions reductions per unit of physical (e.g. kg CO_2e/tonne) or economic output (e.g. kg CO_2e/£ gross profit[4])..	Scope 3 only
SDA	Sector-specific emission intensity pathways (e.g. from IEA scenarios) that require all companies within a sector converge to a fixed-intensity in the target year. Takes into account baseline intensity and growth in economic activity.	Scope 1, 2 and 3 (unless otherwise stated)

Table 1: Comparison table of SBTi methodologies

Under the SBTi methodologies, intensity targets used outside of sector-specific SDA pathways (e.g. emissions per tonne of output or gross profit) are allowed only for Scope 3 emissions, which cover indirect upstream and downstream activities outside a company's direct control. In contrast, Scope 1 and 2 emissions, which companies can control more directly, are expected to follow absolute reduction pathways, as this is considered more ambitious and credible. Companies that set intensity targets for Scope 3 commit to show a 7% year-on-year reduction in emissions intensity from 2020 through to their near-term target year and achieve a 97% total reduction in emissions intensity by their Net Zero year (no later than 2050).

2.2 The role and limitations of intensity targets

Intensity targets focus on emissions per unit of output and promote decarbonisation in proportion to activity. They can be applied under two separate methodologies:

1) Reduction targets that reduce emissions intensity by a certain fixed percentage year-on-year, whether economic (e.g., per unit of value added) or physical (e.g., per tonne of product) or;

2) Convergence targets that require companies to achieve a sector-specific emissions intensity fixed value in a set year, as in the SDA. While the Science Based Targets initiative (SBTi) generally permits intensity targets only for Scope 3 emissions, the Sectoral Decarbonization Approach (SDA) allows for near-term and long-term intensity-based targets across all scopes, unless otherwise specified. This section focuses on intensity reduction targets, while section 2.2 explores convergence targets (SDAs).

The intensity reduction approach can be valuable for:

- Companies growing at moderate rates (<7% per year), where intensity improvements typically still lead to an overall reduction in absolute emissions.
- Climate solution providers scaling low-carbon products (e.g. EVs, plant-based foods), where rapid growth is not only expected but essential for the global transition.

However, for very high-growth companies (defined by the OECD as those with >20% compound annual revenue growth over three years), this same flexibility can result in a significant increase in absolute emissions, even while meeting intensity reduction goals, as illustrated by the analysis below. The analysis focuses on the economic intensity pathway, as it enables clearer cross-sector comparability, aligns with financial metrics, and leverages widely available economic data. Frameworks like GEVA (Greenhouse Gas Emissions per Value Added) provide a scalable method for allocating carbon budgets in proportion to global GDP.

4 Value-added revenue is a more appropriate metric for such intensity targets than profit, as profit distorts the emissions reductions required in a manner that is not correlated with emissions impact. If outputs are identical but profits are different, companies should be expected to set similar emissions reduction targets.

Figure 1 indicates the effect of growth on absolute emissions

- Company A (10% nominal growth, 7% year-on-year intensity reduction): Absolute emissions rise by 25.5%% between 2020 and 2030.
- Company B (20% nominal growth, 7% year-on-year intensity reduction): Absolute emissions rise by 199.7% between 2020 and 2030.

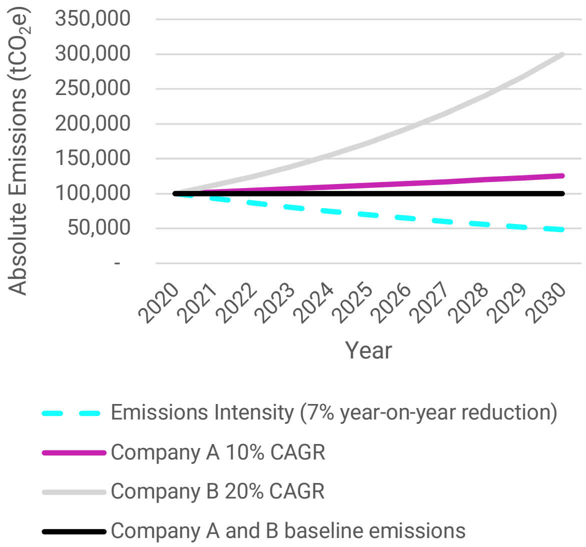

Figure 1: Impact of growth rates on absolute emissions

Figure 1 assumes nominal growth rates. However, when setting emissions targets, it is vital that the growth rate is adjusted to reflect both real economic growth and inflation. For example, if real growth is 7% and inflation is 3%, a nominal growth rate of 10% is used. This ensures that targets account for increases in economic activity driven not only by real demand but also by rising prices over time. Without including inflation, emissions reduction targets might appear more ambitious than they are in real terms.

A nominal CAGR of 10% (not adjusted for inflation) is not uncommon among corporates. Analysis by the Stern School of Business at New York University found an average nominal revenue CAGR of 9.97% over the past five years across a sample of more than 6,000 firms from various sectors. Some industries showed much higher nominal revenue growth rates, such as software (15–28%) and pharmaceutical drugs (25%).

There are nuances to bear in mind when interpreting economic intensity metrics, such as sensitivity to market conditions, inflation, and currency fluctuations, which can obscure whether changes in emissions intensity are due to operational improvements or economic variability. Some sector-specific examples are outlined below:

Pharmaceuticals

Gross profit is heavily influenced by patent expirations, R&D cycles, and regulatory price controls. A drop in emissions intensity may reflect pricing power, not emissions improvements and therefore Intensity metrics may not be comparable year-to-year, let alone across firms.

Luxury goods

Value added is strongly tied to brand perception, which may not reflect emissions performance. A strong brand year can improve intensity performance without any operational decarbonization.

Commodities

Revenues are subject to highly volatile market indices, making intensity metrics less stable year to year.

Arguably, for these sector examples, physical intensity targets, where emissions reductions are tied to production output, for instance, would be more appropriate, as these would remove price effects from distorting the emissions picture. This shows the importance of companies reflecting on the pros and cons of different target types when setting science-based targets.

As well as sector-specific considerations, geography also impacts targets. Economic intensity targets assume a uniform relationship between emissions and economic output. In practice, this can obscure meaningful differences such as emissions profiles (due to grid intensity, technology availability and cost and regulation) and expected growth trajectories varying significantly across sectors and regions.A further complexity to incorporate into sector pathways is the distinction between different types of growth. Organic growth is where a company grows through internal expansion, higher sales, greater market penetration and new products or services. This contrasts with inorganic growth, whereby a company grows through mergers, acquisitions and other such external changes to the business.

Crucially, these different types of growth, as well as the myriad ways of achieving such growth, do not necessarily generate increased emissions. For instance, in the case of organic growth by increased market share, provided that overall sector activity remains constant and the company gaining market share displaces business from a less carbon efficient company, this would have a net positive impact on sector emissions. As long as these companies achieve their intensity targets, this form of growth should be encouraged, at least in the short-term to incentivise a greater share of sector activity among more carbon efficient market participants. However, there are significant challenges with such approaches, as there are currently no mechanisms under the economic intensity approach to distinguish between the relative efficiency of companies in a sector and to ensure that sector or global budgets are not breached.

Therefore, companies with high growth rates that set intensity reduction targets may undermine the objective of maintaining the global carbon budget if the companies' absolute emissions increase. While companies may still show relative decoupling (emissions growing slower than revenue), they may fail to demonstrate absolute decoupling. This gap can draw scrutiny and raise questions about the credibility of a company's sustainability ambitions.

As a result, there are a number of potential methodological improvements to the SBTi framework to factor in considerations for high-growth companies, which include:

1. **Add in guardrails to intensity targets**

   In the context of significantly high growth, companies with intensity targets can improve emissions intensity and efficiency while simultaneously increasing absolute emissions, putting global carbon budgets at risk. Intensity targets must include limitations on absolute emissions increases to maintain their rigour and robustness in aligning with a Net Zero world.

2. **Define what activities constitute "clean" or "climate solutions" products or services**

   Intensity targets allow for company growth while improving efficiency. Such approaches are justified for companies that need to grow to enable the decarbonisation transition, such as climate solutions providers and sustainable businesses. But there need to be clear definitions of what business activities, products and services fall into this category, and which should be subject to more stringent emissions targets.

3. **Factor in different types of growth**

   The definitions of "clean" businesses above should also account for intra-sector variation. Companies that are relatively cleaner versus competitors should be encouraged to grow by market share, which ultimately reduces total sector emissions. Although there are currently no mechanisms to assess these factors, such considerations are integral to decarbonising key sectors of the economy.

2.3 SBTi's sectoral decarbonisation pathways and their suitability for fast-growing companies

In contrast to the economic intensity method, the Sectoral Decarbonisation Approach (SDA), provides a more granular, sector-specific framework grounded in physical output metrics and science-based emissions trajectories. The SDA draws on detailed scenarios from the International Energy Agency's *Net Zero by 2050* (NZE) and *Energy Technology Perspectives* (ETP) frameworks to define decarbonisation pathways for high-emitting sectors. The NZE outlines a global strategy for achieving net-zero CO_2 emissions by 2050, aligned with the 1.5°C temperature limit set out in the IPCC's Sixth Assessment Report. The ETP complements this by examining the role of clean energy technologies and innovation in meeting long-term climate goals. The methodology is based primarily on Scope 1 and 2 emissions, derived from countryand sector-level data on fuel combustion, electricity use, and heat consumption. However, the same activity pathways can be applied to relevant Scope 3 categories if they correspond to emissions sources within a company's value chain.

A core principle of the Sectoral Decarbonisation Approach (SDA) is convergence: all companies within a sector must reach the same emissions intensity by the net-zero target year, regardless of their starting point. This reflects the physical reality that, over time, every unit of output must be produced using the lowest emissions possible for that sector. Convergence promotes sector-wide consistency, supports benchmarking, and drives innovation by aligning companies around a common emissions intensity target.

Sectoral Decarbonisation mitigation pathways have been developed for some of the most carbon-intensive sectors, including power generation, transport, and heavy industry. These pathways take into account each sector's mitigation potential, expected growth, and broader macroeconomic trends. This allows for the setting of differentiated carbon intensity targets that reflect the pace at which decarbonisation is technically and economically feasible. For example, sectors such as electricity are expected to decarbonise rapidly due to the availability of low-carbon technologies, while others like aviation and cement may progress more slowly due to technical constraints and longer investment cycles.

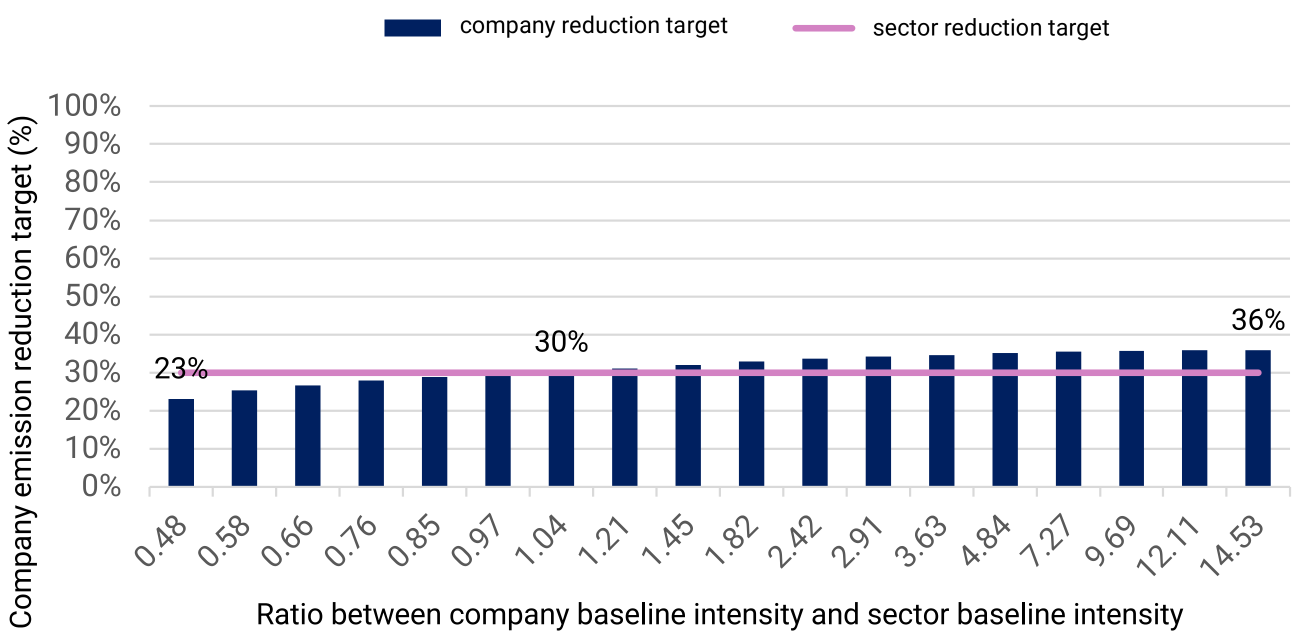

Figure 2: SDA rate of reduction based on baseline emission intensity

Each company's emissions reduction pathway within a sector is shaped by two key factors:

1	Its baseline emissions intensity relative to the sector average at the starting point
2	Its projected growth in physical activity compared to average sector growth (e.g. production volume or tonne-kilometres).

This approach maintains the integrity of the sector's overall carbon budget while allowing for company-level differentiation based on current performance and growth expectations. Sector pathways serve as valuable directional tools, helping organizations understand the expected end-state of emissions within their sector.

Baseline Emissions Intensity Sensitivity

Figure 2 illustrates scenarios from the SBTi's Well Below 2°C (WB2DS) Land Transport Guidance for the high freight truck (HFT) sub-sector as an example. The x-axis represents the ratio of a company's baseline intensity to the sector baseline, ranging from well below (e.g., 0.48) to significantly above (up to 14 times) the sector average (set at 1.04 in this example). To isolate the impact of baseline intensity, company growth is assumed to match the sector average (approximately 4% annually).

The y-axis shows the corresponding required percentage reduction in emissions intensity by the target year. Notably, the required reductions vary only moderately across this wide range of starting points. Although the SBTi SDA methodology means that companies already operating at lower emissions intensities benefit from less stringent required reductions, companies with emissions intensities many times higher than the sector average are not significantly penalised: a company with a baseline 14 times the sector average still faces a reduction of only around 36%. The small spread, from 23% to 36%,demonstrates that the SDA treats baseline intensity as a low-sensitivity factor.

Projected Activity Growth Sensitivity

Figure 3 shifts the focus to projected activity growth, illustrating scenarios from the SBTi's Well WB2DS Land Transport Guidance for HFT . In each case, the company's baseline emissions intensity is set at the sector average, while compound annual growth rates (CAGR) vary from -5% (declining activity) to +25% (high-growth trajectory). The results show that as long as a company's growth remains at or below the sector average (approximately 4% annually), its required emissions intensity reduction remains aligned with the sector pathway, mirroring the same overall decarbonisation trajectory. However, if growth exceeds the sector average, required reductions

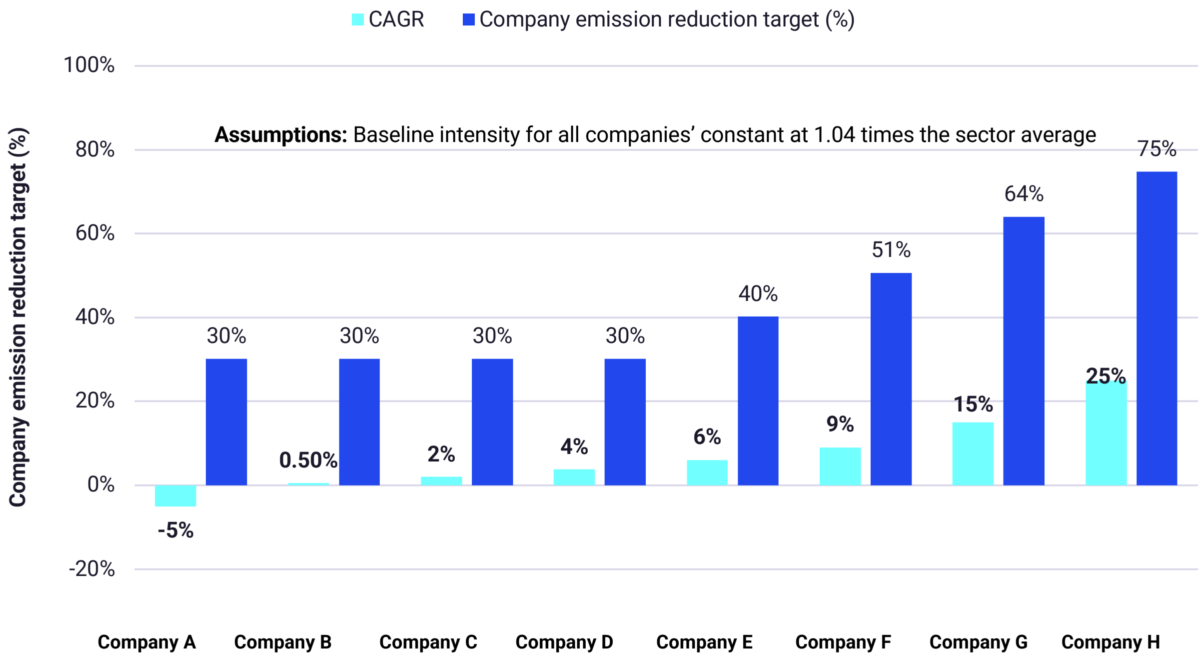

Figure 3: SDA rate of reduction required based on CAG

increase steeply. At 6% growth, the reduction target rises to around 40%; at 15% growth, it jumps to 64%; and at 25%, it reaches 75%.

This highlights that the SDA approach is more accommodating of differences in baseline emissions intensity than growth in activity levels. As a result, companies starting from a high-carbon baseline are not heavily penalised, while those pursuing aggressive growth, even from a low-carbon starting point, must demonstrate disproportionately greater emissions reductions. This dynamic can place an undue burden on fast-growing firms, including those developing and scaling low-carbon solutions. At the same time, the methodologies do not sufficiently penalise carbon-intensive companies that are not aligned with global Net Zero goals but continue to consume a significant share of the global carbon budget. As a result, the current SDA framework risk discouraging the expansion of low-carbon technologies and allows slower-moving, high-emitting companies to operate with less accountability.

How high-growth companies can support low-carbon asset deployment

At first glance, the emissions reductions that the SBTi SDA pathway requires of high-growth companies could make sense for climate alignment, as more growth means more responsibility and a larger share of the sector emissions.

The IEA NZE scenarios which the SBTi SDA pathways are based on, track the deployment of low-carbon alternatives and assumes the deployment of all available clean energy technologies within each sector. The pathways are based on average sectoral decarbonisation rates and assume coordinated system transitions in infrastructure, regulation and behavioural change. Therefore, faster decarbonisation for individual companies requires them to adopt new technology at a rate faster than the sector, which can quickly become very ambitious, especially in the near-term. This can result in fast-growing companies needing to pursue cutting-edge solutions, often before they are commercially ready, widely available or competitive in price.

The analysis shown in Figure 4 exemplifies the carbon intensity of all assets within a market as a distribution bell curve, with X-axis representing the carbon intensity of the asset and Y-axis representing the number of assets at that intensity. This illustrates how, at any point in time, most assets cluster around an average emissions intensity, with relatively few at the high or low emissions extreme.

Over time, and assuming IEA decarbonisation trajectories hold, the average emissions intensity across a sector steadily declines as older, higher-emission assets are retired and replaced with newer, cleaner technologies. Standard emissions pathways, such as those from the IEA, typically assume that assets remain in operation for approximately 20 years before being upgraded or decommissioned*. As a result, the distribution of emissions intensities at any given point in time reflects a mix of technologies, ranging from those installed up to a decade ago to those expected to remain in service for another 10 years. This creates a spread of emissions performance, with the full curve gradually shifting leftward as the asset base turns over and today's best-in-class technologies eventually become outdated.

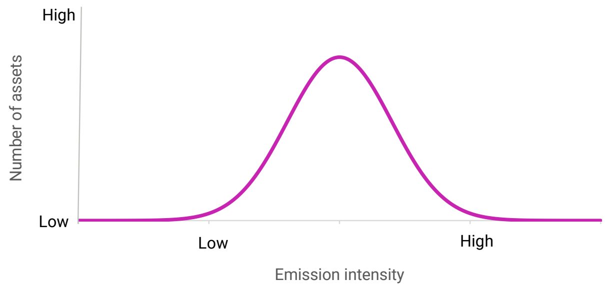

Figure 4: Example distribution of asset emissions intensities at a point in time.

At the company level, this dynamic is amplified for high-growth firms. These companies often operate on faster asset purchasing and replacement cycles, enabling them to integrate low- or zero-emission technologies at a quicker pace. In parallel, these companies can reduce emissions further by phasing out older, higher-emission assets ahead of schedule and by prioritising clean technologies when meeting new demand. While the sector as a whole may see most assets clustered around a central emissions intensity, high-growth companies, with greater access to capital and newer infrastructure, can acquire a higher proportion of best-in-class assets as they become available. This results in a leftward shift in their individual emissions distribution curve, indicating a lower average emissions intensity compared to the sector baseline. Therefore, while the SBTi's SDA approach requires steeper reductions from companies with higher growth, this is justified because these corporates have greater access to capital and finance, meaning they have greater practical capacity and opportunity to decarbonise. High-growth firms should therefore show heightened ambition versus other market participants, provided that the enabling conditions for technology adoption are in place.

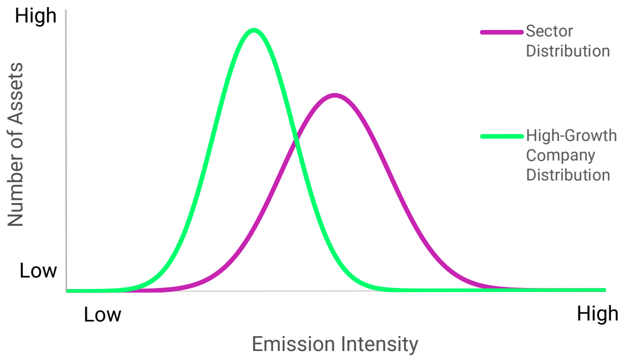

Figure 5: Distribution of asset emissions intensities at a point in time (sector vs high-growth)

Beyond their growth dynamics, these firms often possess characteristics that enable faster decarbonisation. Many are digitally native, operate with modern infrastructure, and leverage advanced data capabilities, which support more efficient integration of emerging technologies. Established high-growth companies also tend to have greater access to capital, allowing for larger investments in low-carbon assets, for their own operations and their suppliers. This has the knock-on effect of propelling nascent technology along an S-curve of development, helping to bring down costs for others and ultimately speed up the deployment of the technology. Additionally, their substantial purchasing power and influence across supply chains give them the ability to shape procurement practices and accelerate decarbonisation across broader industry networks. Taken together, these factors – new asset deployment, early asset turnover, technological agility, capital access, and supply chain influence – create a strong argument for expecting high-growth companies to decarbonise at a pace that exceeds sectoral averages and lead the transition to a low-carbon economy.

The road transport sector offers a clear example of how acquiring best-in-class low-carbon assets, when combined with renewable energy procurement and green electricity tariffs, can significantly accelerate a company's decarbonisation trajectory. The figure below illustrates the IEA's projected average emissions intensity for heavy goods vehicles (HGVs), modelling the transition from internal combustion engine (ICE) trucks to electric HGVs (E-HGVs).

This example highlights how some sectors operate with parallel asset populations—in this case, ICE HGVs and E-HGVs. The sector's average emissions intensity is influenced by the relative share of each vehicle type. As the proportion of E-HGVs increases, the average emissions per vehicle decreases accordingly. However, individual companies may fall above or below this average, depending on the age, composition, and turnover rate of their fleet. High-growth companies, in particular, are often better positioned to adopt new technologies rapidly. Their expansion enables more frequent fleet upgrades and earlier adoption of electric vehicles, allowing them to move ahead of sectoral averages projected for 2030 and 2040. By acquiring the latest low-emission vehicles and retiring ICE vehicles at a faster rate, these companies can achieve accelerated emissions reductions relative to peers. Moreover, the long-term emissions profile of an electrified fleet depends not only on vehicle adoption but also on the carbon intensity of the electricity used for charging. Companies that procure electricity from low- or zero-carbon sources via green tariffs or power purchase agreements can substantially reduce the effective emissions of their electric fleet. In this context, a dual-lever strategy is key: increasing the share of electric vehicles in the fleet while simultaneously sourcing clean electricity to power them. This integrated approach enables emissions reductions well beyond what sector averages alone would predict, positioning forward-looking companies to lead on decarbonisation.

Still, depending on individual company's circumstances, the reality of meeting steep reduction targets can be limited by economic and technological challenges. The IEA NZE pathways assume the availability of low-carbon assets markets, an underlying assumption common to most target-setting frameworks. It does not provide a detailed assessment of the real-world availability, maturity, or scalability of these assets. While this assumption is widely accepted, it is critical for high-growth companies, as their ability to accelerate decarbonisation hinges on timely access to next-generation low-carbon assets. Using transport as an example, the IEA NZE scenario assumes improvements in technical and operational efficiency across all modes, as well as the deployment of highly efficient vehicles, e.g. electric vehicles (EVs) or hydrogen fuel cell electric vehicles[5]. Most of the reductions in CO_2 emissions through 2030 come from technologies already on the market today.

5 [World Energy Outlook 2022 (windows.net)]

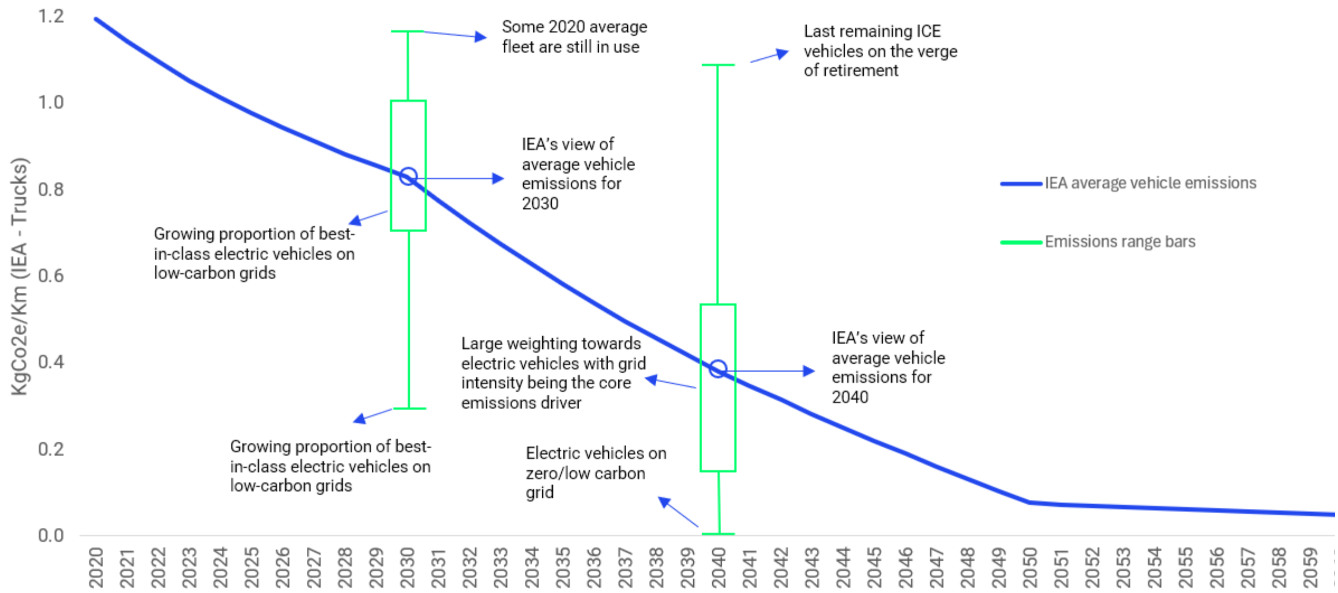

Figure 6: IEA HGV average emissions intensity

But in 2050, almost half the reductions come from technologies that are currently at the demonstration or prototype phase and the IEA have stated that major innovation efforts must take place this decade to bring these new technologies to market in time[6]. Any large-scale disruption, delay, or bottleneck in a specific asset class, could lead to missed targets or exceedance of sectoral carbon budgets. This underscores the importance of sustained investment in R&D and innovation at both the company and sector level. Advancing the development and commercial readiness of emerging technologies is essential to ensure that the pace of decarbonisation envisioned in target-setting frameworks can actually be realised in practice.

Furthermore, low-carbon asset transitions vary significantly by sector, and decarbonisation is often not a matter of marginal or linear improvement. Contrary to assumptions embedded in the Sectoral Decarbonisation Approach (SDA), many sectors undergo step-changes or binary shifts in technology rather than continuous efficiency gains. Companies frequently face a series of discrete technological "curves," each with distinct performance and cost profiles. Achieving emissions reductions beyond IEA sector pathways may therefore require firms to leap from one technology curve to another, often before those technologies are mature or cost-competitive. For example, a new steel plant might achieve a 10–15% improvement in emissions intensity through process efficiency. However, deeper decarbonisation typically necessitates a shift to fundamentally different production methods, such as Electric Arc Furnaces (EAF), which may not yet be commercially viable at scale due to high capital costs and supporting infrastructure requirements. As a result, transitions in asset-heavy industries can be constrained by technological readiness, capital availability, and enabling infrastructure, leading to potential plateaus or delays in decarbonisation progress.

The investment case for low-carbon technologies is also heavily influenced by operating cost dynamics. Where these technologies offer energy efficiency and reduced operating costs, the business case is often compelling, contingent mainly on securing upfront capital and achieving viable payback periods. However, where low-carbon alternatives result in higher operating costs than conventional options, adoption becomes significantly more difficult. In such cases, broad deployment typically depends on external support—either through consumer willingness to pay a green premium or through policy interventions. This is where government policy plays a critical enabling role. Instruments such as carbon pricing, green public procurement, accelerated depreciation for low-carbon technologies, and targeted subsidies can help de-risk investment and improve the relative economics for early adopters. For high-growth firms, aligning investment cycles with supportive policy environments not only accelerates decarbonisation but can also create a significant competitive advantage.

6 Net Zero by 2050 – Analysis - IEA

Understanding methodological adjustments to maintain sector carbon budgets

A critical feature of the SBTi's Sectoral Decarbonisation Approach (SDA) methodology is the use of the *'m' adjustment factor*, which accounts for a company's growth relative to its sector when setting emissions intensity targets. Mathematically, this factor ensures that companies growing faster than their sector contribute proportionally more to decarbonisation, helping to maintain the integrity of the sector-wide carbon budget.

When a company maintains or loses market share (i.e., company growth is equal to or less than sector growth), the *m* factor is capped, meaning the company must reduce its emissions intensity in line with the sector average. However, when a company's growth exceeds sector growth (i.e., the ratio of company growth to sector growth is greater than 1), the calculation inverts—*sector growth over company growth*—resulting in a more stringent target. The graph in Figure 7 illustrates how this dynamic plays out across different growth scenarios.

This mechanism is designed to align high-growth companies with the overarching sector budget by adjusting their targets downward as their market share increases. In effect, the higher the relative growth of the company, the lower the emissions intensity it must achieve by the target year

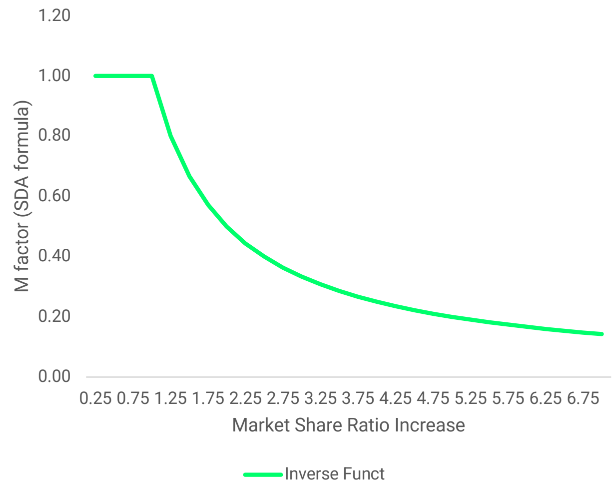

Figure 7: SDA formula growth function

Using the SBTi's Well-Below 2°C (WB2DS) Land Sector guidance (2020 base year, 2030 target), the analysis performed demonstrates that without applying the 'm' adjustment factor, high-growth companies can rapidly exceed their proportionate share of sector emissions, leading to a breach of the overall sectoral carbon budget. This risk is illustrated in Figure 8.

The implications of growth distribution within a sector are illustrated through scenario analysis using the 1.5C-aligned Cement Sector Target Setting tool, which provides consistent outputs and a complete dataset. Cement is one of the most carbon-intensive

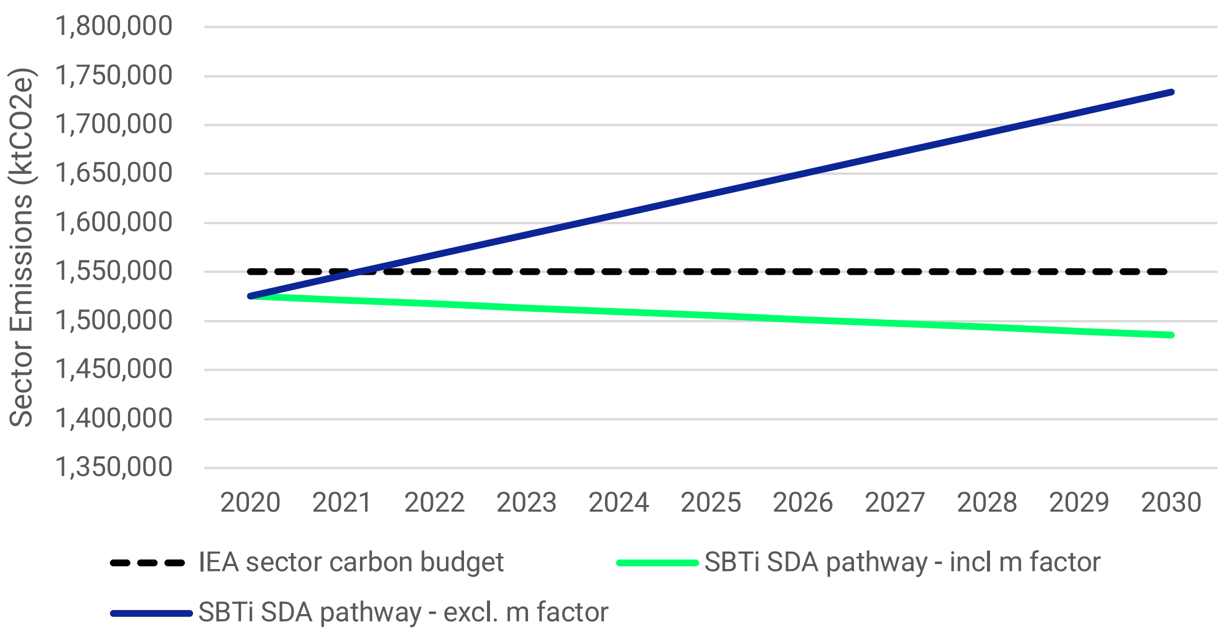

Figure 8: Analysis of sectoral budget overshoot for different approaches to the 'growth penalisation' factor

industries, responsible for approximately 8% of global CO_2e emissions. Recent advances in low-carbon cement include clinker substitution (e.g. calcined clay and slag), alternative chemistries, and carbon capture and utilization (CCU) technologies. Several companies have achieved commercial or pilot-scale success with these solutions. Using the SBTi model and IEA data, Figure 9 evaluates how different growth distributions between high- and low-emission intensity companies impact total sector emissions. The model assumes a simplified illustrative population of nine companies with emission intensities ranging from low (0.185–0.216 tCO_2e/tonne) to high (0.924–1.232 tCO_2e/tonne).

In Scenario 1, all companies grow at the same annual rate (0.49%), consistent with IEA ETP sector growth assumptions, resulting in aggregate emissions aligned with the IEA 2030 budget. In Scenario 2, high-intensity emitters grow rapidly (3.93%) while low-intensity companies decline (-4.51%), triggering steeper decarbonization requirements and resulting in emissions below the sector budget. Scenario 3 reverses these dynamics: low-intensity firms grow (3.93%) and high-intensity firms contract (-4.51%), yielding emissions significantly lower than the IEA target due to the dominance of low-carbon cement production.

Scenario 3 achieves a much improved performance vs the sector budget, which could be considered favourable – indeed, it should be encouraged for firms that have greater emissions efficiency to take increasing market share from those with less efficient business activities, as this would support sector emissions reductions. But by imposing a very steep decarbonisation trajectory on low carbon intensity companies, the risk of disincentivising engagement with the target setting framework is significant. This suggests there may be scope within the current SBTi's methodology for recalibrating the *m* adjustment to avoid unnecessary stringency, while still preserving the integrity of the sectoral emissions trajectory. A more flexible convergence mechanism could encourage growth for high-performing, low-intensity companies while the current methodology does not encourage enough of a shift to lower carbon products and services and fails to hold carbon-intensive industries sufficiently accountable for their outsized contribution to climate change.

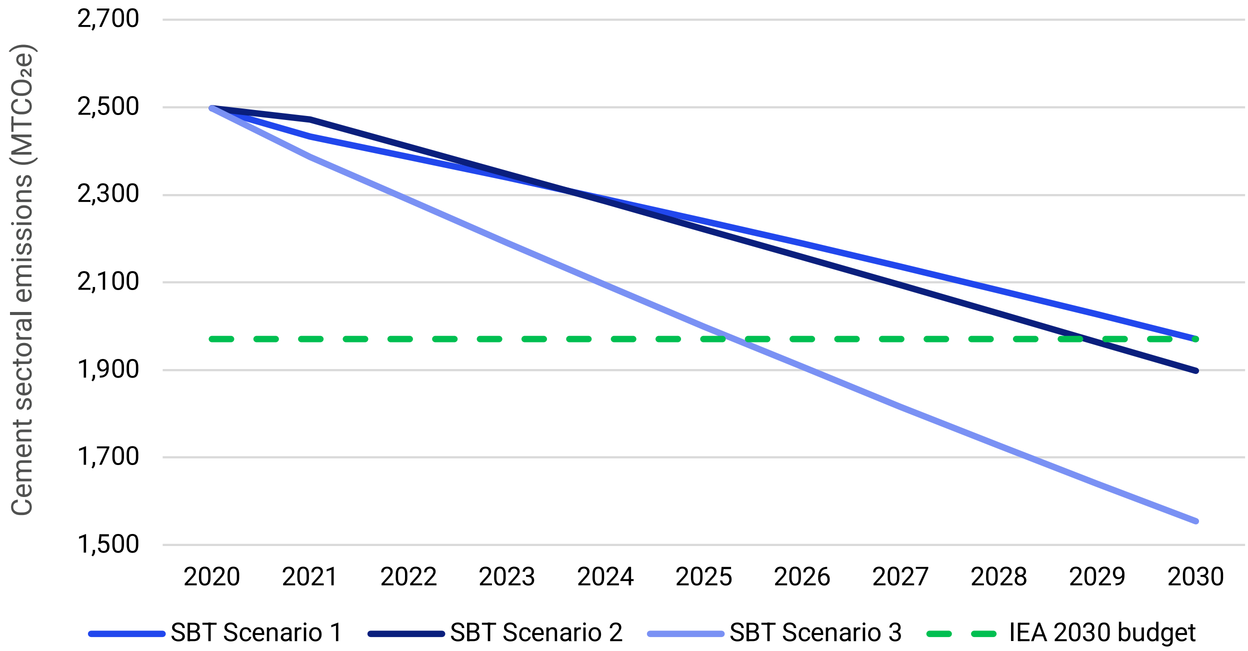

Figure 9: SBTi Cement Sector Pathway Comparison

Based on the discussion of the SDA approach, there are some enhancements that would make the SBTi methodology better suited for high-growth companies:

1. **Recalibrate the expectations based on baseline emissions**

   The current SDA approach penalises high-growth companies that start from a low-carbon baseline, while being too lenient on high-carbon baseline firms. This risks hampering the engagement of good-performing firms that could unlock a faster progression towards decarbonisation for the sector as a whole. Targets must be more stringent for slower-moving, high-emitting companies in order to maintain global budgets.

2. **Incentivise investment in low-carbon technologies**

   The SBTi could look to find tools or approaches to indirectly incentivise companies to invest heavily in new low-carbon technologies, R&D and innovation at both the company and sector level. In particular, high-growth firms have greater access to capital, meaning they are best placed to lead in this investment. Advancing low-carbon technology deployment is crucial for achieving emissions reductions targets. The SBTi Net Zero Standard v2 draft outlines ambitions to provide a stronger incentive to do this by officially recognising companies who take responsibility for addressing the impact of wider sector and global emissions in the atmosphere [7]

3. **Adapt the mathematical approach to baseline intensity and growth**

   The SBTi's current SDA methodology can lead to overly conservative outcomes, with companies coming significantly under their share of the sector budget. The formulas could be recalibrated – while maintaining sector emissions trajectories – to strike an appropriate balance to ensure targets are realistic, ambitious and achievable.

4. **Development of sub-sector pathways**

   The current SDA approach represents emissions within a defined sectoral boundary, without accounting for sub-sector nuances or regional variations and applies universal decarbonisation trajectories to all companies within a sector. This could be refined as data quality, methodologies, and sector understanding improves. In cases where existing pathways are misaligned, particularly at the sub-sector level, industry collaboration must take place for granular differentiation to be captured.

7 CNZS V2.0_Consultation Draft with Narrative

2.4 Encouraging growth in climate solutions providers while ensuring budget alignment

Achieving Net Zero by mid-century requires a dramatic scale-up and deployment of low-carbon technologies and energy systems, such as renewables, electric vehicles (EVs), energy storage, carbon capture and storage (CCS), green hydrogen, and energy efficiency solutions. By 2045, for example, most passenger vehicles must run on electricity or hydrogen fuel cells, aviation must rely heavily on synthetic and biofuels, and industrial sectors must integrate hydrogen or CCS technologies[8]. The IEA's Net Zero pathway projects $4.5 trillion annually in clean energy investment by 2030 and a tripling of global clean energy manufacturing capacity within the decade[9]. Realising this vision requires companies producing these technologies to grow at unprecedented speed and scale.

However, companies operating in climate-critical sectors face a structural challenge under the current SBTi Net Zero target-setting method. While their products enable systemic decarbonisation, their own scope 1, 2, or 3 emissions are likely to temporarily rise due to energy- and material-intensive production processes, carbon intensive grids and supply chains, and construction and deployment-related emissions. The IEA and ETP frameworks acknowledge this trade-off[10], assuming that such emissions are transitional and front-loaded[11], and that the net effect of scaling these solutions is a significant net reduction in global emissions.

For example, firms like Ørsted, Tesla, and Vestas play a critical system-level role by providing climate-enabling technologies. Many already report both their operational (Scopes 1-3) emissions and the avoided or enabled emissions resulting from their solutions. While this dual reporting improves transparency, it does not influence their pathway under current SBTi methodologies. These companies are still required to reduce their own emissions, even when increases are a necessary part of scaling up climate-critical solutions.

Under the SBTi framework, intensity targets allow companies to become more efficient while increasing absolute emissions. While not appropriate for all high-growth companies, this approach does enable climate solutions providers to scale as required. However, the SBTi does not suitably acknowledge the broader system-level benefits their products provide. Existing frameworks are not wholly adapted to climate solutions providers, as their growth should be actively encouraged from a broader decarbonisation perspective.

This creates a misalignment between how targets are assessed and the system-wide role these companies play in advancing the net-zero transition. It's important to recognise that while enablement typically falls outside the boundaries of Scope 1-3 emissions, it remains central to global decarbonisation. Target-setting approaches will need to evolve to better account for this dynamic.

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8 Net Zero by 2050 – Analysis - IEA
9 IEA: Clean energy investment must reach $4.5 trillion per year by 2030 to limit global warming to 1.5°C | World Economic Forum
10 Energy Technology Perspectives 2012 | OECD
11 Energy transformations for net-zero emissions – Energy Technology Perspectives 2020 – Analysis - IEA

To better align Net Zero target-setting frameworks with the urgent need to scale climate solutions, the following methodological enhancements could be considered:

1. **Define and Classify Climate Solution products or services**

   A clear and consistent definition of "climate solution products or services" is essential to prevent misuse. The Exponential Roadmap Initiative (ERI) Climate Solutions Framework provides a promising foundation, setting criteria for identifying products and services that genuinely contribute to the Net Zero transition.

2. **Develop Sector-Specific Pathways for Climate Enablers**

   Dedicated pathways for climate solution providers should reflect the reality of transitional emissions during scale-up. These pathways would allow differentiated emissions trajectories while ensuring alignment with long-term 1.5°C goals. These must be rigorously designed, tested, and applied only to companies that meet strict climate enabler criteria.

3. **Use Dual Accounting Metrics**

   Introducing dual metrics to track both:

   - Absolute emissions across Scope 1–3
   - Emissions avoided or enabled through a company's products would provide a more comprehensive view of climate impact without compromising accountability.

4. **Disaggregate targets by business function and activities**

   Allowing companies to set separate targets for different business functions (e.g., manufacturing, operations, logistics) may enable deeper decarbonisation in areas with viable abatement options, while acknowledging the limitations in hard-to-abate areas. Similarly, many large companies have multiple different business activities, which can be very distinct. For instance, many car manufacturers produce both ICE vehicles and EVs; target-setting frameworks should encourage reductions in emissions from the former within the business at a suitably fast rate of decline, whilst allowing growth in the low-carbon products. Although complex to implement, this could offer a more realistic path to Net Zero across diversified operations.

5. **Support Alignment Metrics**

   The SBTi's upcoming Corporate Net Zero Standard revision introduces alignment-based metrics, such as:

   - Share of procurement aligned with net zero targets
   - Share of revenue derived from climate-aligned products or services

   These measures offer alternative promising ways to demonstrate alignment, especially for companies facing temporary Scope 3 emissions increases due to supply chain expansion.

Determining a fair share of the global carbon budget for any individual company is inherently complex. But achieving global Net Zero requires not only reducing existing emissions—it requires rapidly scaling the companies, technologies, and systems that enable those reductions. Current methodologies do not yet fully reflect this dual imperative. By evolving Net Zero frameworks to include climate enabler classifications, sector-specific pathways, dual accounting, and alignment-based metrics, standard setters can help bridge this gap—ensuring climate solution providers can scale at pace, while remaining accountable to science-based climate goals. These enhancements must be underpinned by transparency, independent verification, and strong safeguards against greenwashing. Done right, they can foster a robust enabling environment for the companies driving the global decarbonised economy.

Conclusion

The historical link between growth and emissions remains deeply entrenched in the current corporate landscape. Given the limited level of climate progress to date, the need to decouple corporate economic growth from greenhouse gas emissions has never been more urgent and corporates must make greater progress on reducing emissions in line with Net Zero pathways.

The SBTi framework is intentionally broad to ensure consistency, scalability and accessibility across sectors, regions, and businesses. Still, despite their strengths, its current methodologies have limited applicability to high-growth companies and climate solutions providers - two types of businesses that have a crucial role to play in decarbonising the economy. The SBTi should embed various methodological enhancements when revising its framework in v2.0, which will provide greater flexibility and relevance for these companies and therefore incentivise them to set science-based targets.

Scope 3 intensity reduction targets offer a pragmatic and scalable means to align corporate emissions with economic growth. But in high-growth contexts, especially in examples of market share being taken from more carbon efficient firms or where companies have inherently unsustainable business models, such targets should be accompanied by absolute emissions limits in order to ensure carbon budgets are not breached. Intensity targets are most appropriate for companies developing climate solutions, which need to scale and grow to provide decarbonisation solutions to society.

The Sectoral Decarbonisation Approach (SDA) offers a science-based and sector-specific framework that ties emissions intensity to physical outputs. It introduces mechanisms to ensure that companies growing faster than their sector reduce emissions at an accelerated rate. While effective in theory, this approach can set overly ambitious reductions for businesses operating at a low carbon intensity, which could disincentivise such companies from setting targets in the first place.

High-growth firms, with their greater access to capital, should be responsible for supporting in the deployment of low-carbon technologies by purchasing low-carbon assets at a faster-than-market rate. This will help to support technological roll-out at the speed required to support decarbonisation pathways, providing the right market signals to manufacturers and helping to lower costs for other market participants, all while bringing down high-growth firms' emissions intensity.

Additionally, climate solutions providers, such as manufacturers of electric vehicles, battery technology, or solar energy solutions, must be incentivised to grow sustainably. Such growth will be vital for achieving economy-wide decarbonisation but will inevitably generate absolute emissions increases for such firms in the near term. However, as this is expected to catalyse emissions reductions more broadly in society, the growth and scale-up of such corporates should be accommodated for and encouraged by target-setting frameworks.

History suggests that economic growth will not stop; it must therefore be channelled in the right areas. Target-setting frameworks have a crucial role to play in shaping and guiding corporate action. To remain effective in driving action aligned with science, target-setting frameworks must incentivise low-carbon, high-growth companies to lead on the Net Zero transition while also enabling and rewarding climate solutions providers for scaling-up to power that transition. Incorporating these and other methodological changes will be complex, but they will be fundamental in setting correct ambitions for companies across the economy and ultimately ensuring that pathways to Net Zero remain credible and achievable.

Bibliography

CDP. (2025). *CDP 2025 Corporate Health Check.* Retrieved from CDP: https://assets.ctfassets.net/v7uy4j80khf8/281Eh1yV0Cj9JiXpPArVRF/99f8d92a5a0ee3aa670765623a33abf1/CDP_Corporate_Health_Check_2025.pdf

Edenseven. (2024). *Are businesses ignoring the climate crisis?* Retrieved from Edenseven: https://www.edenseven.co.uk/press-release-are-businesses-ignoring-the-climate-crisis

European Commission. (n.d.). *Heavy-duty vehicles*. Retrieved from European Commission: https://climate.ec.europa.eu/eu-action/transport-decarbonisation/road-transport/heavy-duty-vehicles_en

IEA. (2024). *Global growth in final electricity demand by use in the Stated Policies Scenario, 2023-2030*. Retrieved from IEA: https://www.iea.org/data-and-statistics/charts/global-growth-in-final-electricity-demand-by-use-in-the-stated-policies-scenario-2023-2030

IEA. (2024, 1 31). *The relationship between growth in GDP and CO2 has loosened; it needs to be cut completely*. Retrieved from IEA: https://www.iea.org/commentaries/the-relationship-between-growth-in-gdp-and-co2-has-loosened-it-needs-to-be-cut-completely

IEA. (2025). *Trends in the electric car industry*. Retrieved from IEA: https://www.iea.org/reports/global-ev-outlook-2025/trends-in-the-electric-car-industry-3

Institute and Faculty of Actuaries, University of Exeter. (2025). *Planetary Solvency – finding our balance with nature.* Retrieved from Institute and Faculty of Actuaries: https://actuaries.org.uk/document-library/thought-leadership/thought-leadership-campaigns/climate-papers/planetary-solvency-finding-our-balance-with-nature/

MPP. (2022). *Making zero-emissions trucking possible.*

MSCI Institute. (2025, 3 31). *Revenue and emissions trend of listed companies*. Retrieved from MSCI Institute: https://www.msci-institute.com/charts/revenue-and-emissions-trend-of-listed-companies/

NYU Stern School of Business. (2025, 1). *Historical (Compounded Annual) Growth Rates by Sector*. Retrieved from NYU Stern School of Business: https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histgr.html

PwC. (2024, 5 15). *Consumers willing to pay 9.7% sustainability premium, even as cost-of-living and inflationary concerns weigh: PwC 2024 Voice of the Consumer Survey*. Retrieved from PwC: https://www.pwc.com/gx/en/news-room/press-releases/2024/pwc-2024-voice-of-consumer-survey.html

PwC. (2025). *PwC's Second Annual State of Decarbonization Report.* Retrieved from PwC: https://www.pwc.com/us/en/services/esg/library/assets/pwc-sustainability-decarbonization-2025.pdf

SBTi. (2019, 4). *Foundations of Science-based Target Setting.* Retrieved from SBTi: https://files.sciencebasedtargets.org/production/files/foundations-of-SBT-setting.pdf

Science Based Targets initiative (SBTi). (2021, 2 26). *Understand the methods for science-based climate action*. Retrieved from SBTi: https://sciencebasedtargets.org/news/understand-science-based-targets-methods-climate-action

Science Based Targets initiative (SBTi). (n.d.). *SBTi Corporate Net-Zero Standard Criteria - Version 1.2.* Retrieved from SBTi: https://files.sciencebasedtargets.org/production/files/Net-Zero-Standard.pdf?dm=1734357634&_gl=1*3uxnlx*_gcl_au*MTU3OTk4Nzg4LjE3NDU5MTAyNzQ.*_ga*MTY0MzIwOTEwMC4xNzI4OTk5OTIx_ga_22VNHNTFT3*czE3NTA5MjIwOTMkbzExNyRnMSR0MTc1MDkyMjM4NCRqNjAkbDAkaDUwNzU3MjAxNA

Systemiq, University of Exter, Bezos Earth Fund. (2023, 1 19). *The Breakthrough Effect:* . Retrieved from Systemiq: https://www.systemiq.earth/wp-content/uploads/2023/01/The-Breakthrough-Effect.pdf

United Nations. (2015). Paris Agreement.

University of Leeds. (2025, 6 19). *Scientists find three years left of remaining carbon budget for 1.5°C*. Retrieved from University of Leeds: https://www.leeds.ac.uk/main-index/news/article/5801/scientists-find-three-years-left-of-remaining-carbon-budget-for-1-5-c

We Mean Business Coalition. (2016, 11 5). *The pathway to decoupling emissions from revenue*. Retrieved from We Mean Business Coalition: https://www.wemeanbusinesscoalition.org/blog/the-pathway-to-decoupling-emissions-from-revenue/

World Economic Forum. (n.d.). *First Movers Coalition Members*. Retrieved from World Economic Forum: https://initiatives.weforum.org/first-movers-coalition/community

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