

# Are Corporates on Track to Cut Their Emissions?

The vast majority of publicly traded companies have announced plans to reduce carbon emissions, but many commitments are not sufficiently ambitious or credible—particularly in high-emitting sectors. As a result, investors may be unknowingly exposed to transition risk without a rigorous process to assess these plans.

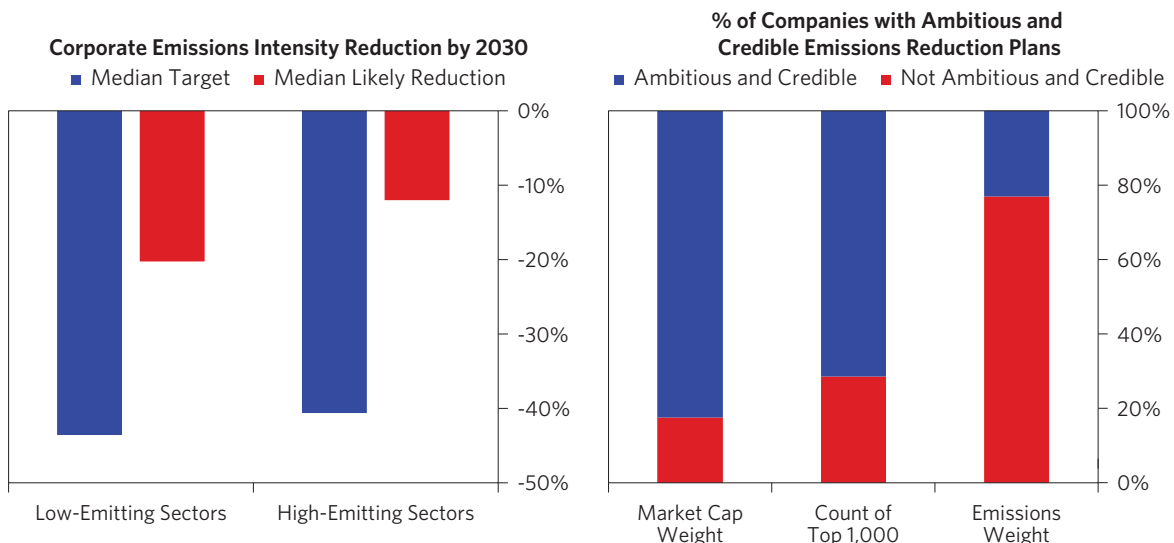
JUNE 21, 2024

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**F**or the world to reach net zero emissions by 2050, all companies will need to reduce their emissions substantially, particularly those in high-emitting sectors where emissions are concentrated. Over the past few years, the corporate sector has been under substantial pressure to develop transition plans: today, the vast majority of publicly traded companies have announced targets, and some of them have started implementing their plans. Tracking how the corporate transition is progressing is relevant to investors since it entails substantial capex and financing needs and—for some sectors—significant transition risks. As we discussed in previous research, for investors who seek to **align their portfolios to net zero**, it is particularly important to assess and report on whether high-emitting companies have ambitious and credible transition plans.

**Looking ahead, aggregating across the announced targets by publicly listed companies, we find that decarbonization commitments imply a ~40% reduction in carbon intensity by 2030.** We’ve developed a process to assess the credibility of corporate net zero plans, which involves a systematic assessment of individual company transition plans based on their intent, feasibility, and credibility. We then combine this research into enabling factors such as the maturity of **climate technologies** and a supportive policy environment, which can change the financial attractiveness of new decarbonization investments and either incentivize or disincentivize companies to transition. **Based on our assessment, we believe that only about half of these commitments are backed by credible transition plans, with larger gaps in high-emitting sectors.**

**The scarcity of credible decarbonization commitments highlights how investors may be unknowingly exposed to transition risk, and the importance of rigorously assessing transition plans.** While the impact of the climate transition—from both a financial and regulatory perspective—is just one risk among many, this lens can be an important one, especially to emissions-intensive companies that need to make fundamental changes to their production processes or business models. Below, we show that many companies are not tracking to sufficiently reduce their emissions, particularly in high-emitting sectors where transition risk is concentrated and emissions reductions are most needed to align with net zero. In the rest of this report, we walk through our framework for assessing the ambition and credibility of corporate transition plans and how investors can apply this to their own portfolios.



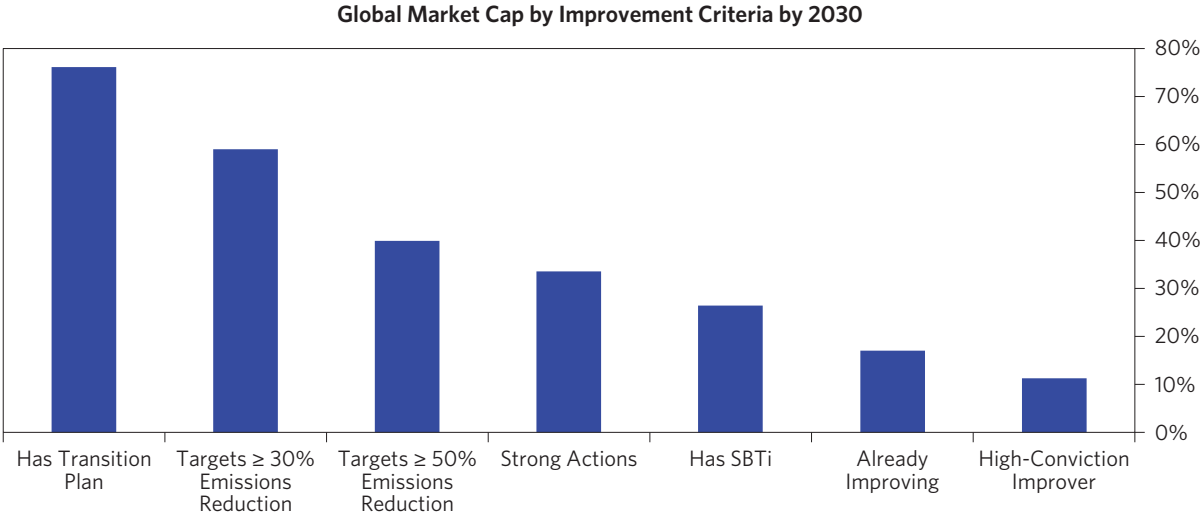
Companies are likely to reduce emissions by far less than they have committed to, with the largest gaps in high-emitting sectors...

...while companies **without** ambitious and credible emissions reduction plans make up the bulk of emissions (and hence transition risk) in typical investor portfolios

Note that this assessment is a snapshot based on what we know today—in some cases, the credibility of the plans could improve as companies flesh out their transition plans, start executing on them, and begin to reduce their emissions over time—but, in other cases, credibility could worsen as companies cut back on their targets (e.g., oil companies reducing commitments amid high oil/gas prices) or capex plans (e.g., auto manufacturers delaying investments in EVs). New developments in AI have also put increased demand on electricity consumption from tech firms—many of which have made ambitious net zero commitments—such that competing in the **AI arms race** creates tension with these goals.

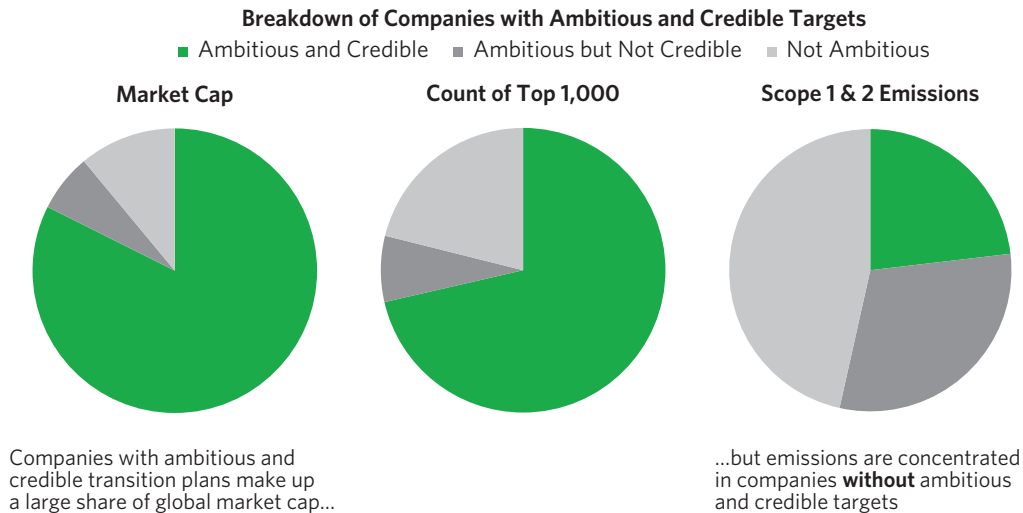
## Systematically Assessing Companies' 2030 Net Zero Alignment

Today, most public companies have announced some form of an emissions reduction target and transition plan, but these plans come with highly different levels of ambition and credibility. More specifically, while the vast majority of companies have put forward transition plans, fewer than half of global companies are aiming to reduce their emissions intensity by 50% or more (which is the goal specified under the Paris Agreement), and a far smaller share is backing that up with credible policies and actions or track records.



**To assess companies' 2030 net zero alignment, we systematically assess three dimensions of a corporate transition plan: feasibility, intent, and credibility.** On feasibility, we consider factors such as the breakdown of emissions from different sources/scopes, such as electricity use or industrial processes; on intent, we assess company targets based on their granularity, timeline, and covered scopes; and on credibility, we consider factors such as the strength of a company's policies and plans, whether it has a track record of reducing emissions, and how much capital or financial investment it has allocated to the transition. We then bring these components together into an overall assessment of what emissions reductions a company is likely to achieve by 2030, and we compare the company against established science-based pathways anchored to absolute contraction and sectoral decarbonization approaches aligned with 1.5°C.

Looking across the universe of public companies, we assess about 80% of global market cap—including ~700 of the top 1,000 names—to have ambitious and credible plans to lower their emissions consistent with science-based sector decarbonization pathways. However, when we look at these numbers in emissions terms, we find that **companies without ambitious and credible targets make up the bulk of global corporate emissions.**



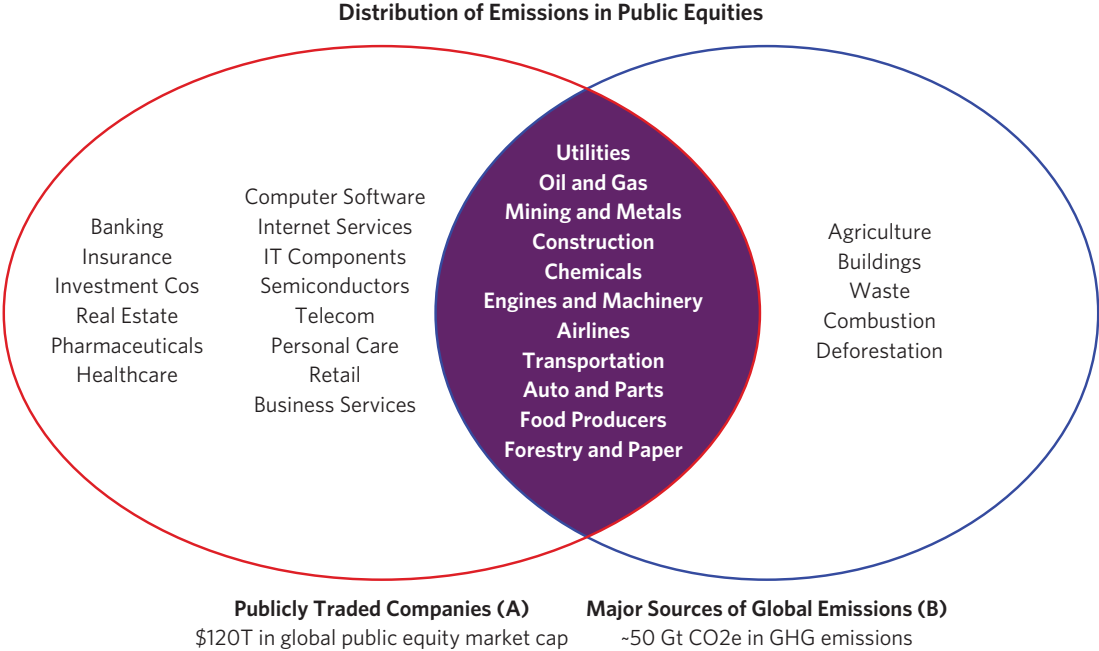
**In addition to individual company characteristics, we also assess enabling factors such as the maturity of required green technologies and how supportive policies are in terms of encouraging the transition.** We have discussed both of these topics at greater length in previous research and include some of the key charts in the appendix. Having mature climate technologies that are cost-competitive with fossil-fuel-based alternatives today can make it economical for companies to transition, while for technologies that are less mature, supportive climate policies can help to reduce upfront costs or increase the certainty of future demand.

**Classification of High-Emitting Sectors by Strength of Enabling Environment**

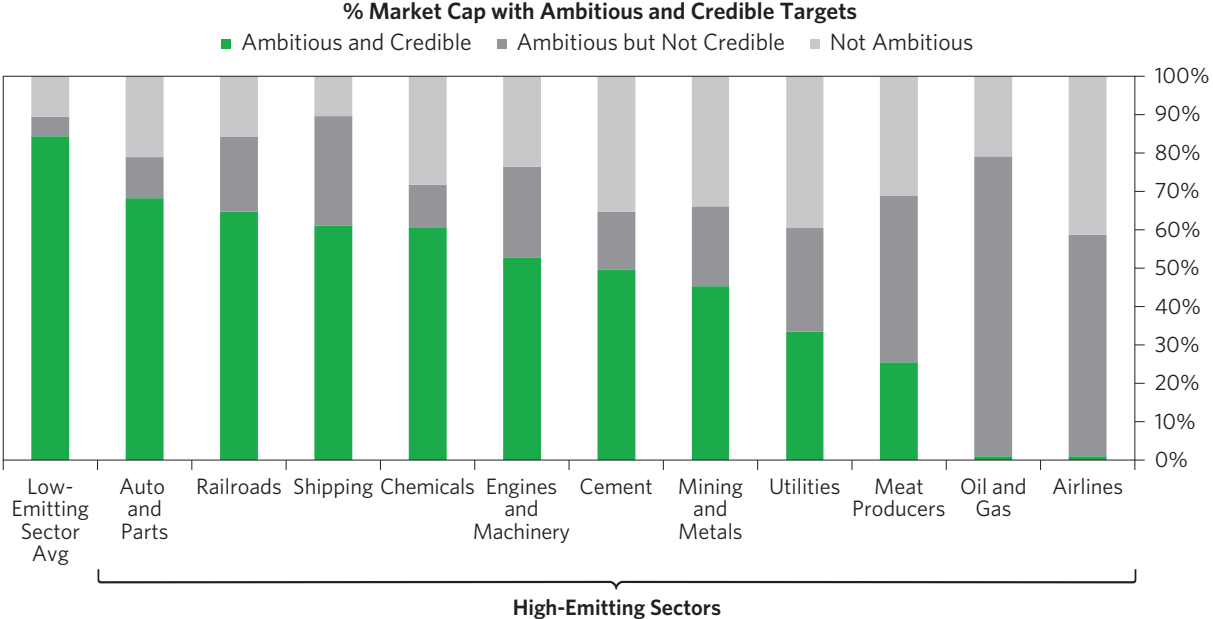
Strong Enabling Environment	Limited Enabling Environment	Weak Enabling Environment
<b>Auto and Parts</b> <b>Engines and Machinery</b> <b>Utilities</b>	<b>Industrials (Cement, Chemicals)</b> <b>Mining and Metals</b> <b>Oil and Gas</b> <b>Transportation</b>	<b>Airlines</b> <b>Food Producers</b> <b>Forestry and Paper</b>
Mature technologies approaching cost competitiveness with brown alternatives; large policy support through direct subsidies or institutional mechanisms (e.g., contracts for difference)	Rapidly developing technologies catalyzed by government policies (e.g., subsidies for green hydrogen or carbon capture), but not yet commercially scalable despite some large investments	Technologies still in pilot phase (e.g., sustainable aviation fuels), or limited policy intervention as most emissions occur outside public equity markets (e.g., livestock, deforestation)

# Most Companies in High-Emitting Sectors Do Not Have Credible and Ambitious Plans to Reduce Their Emissions

Corporate emissions are highly concentrated among **11 high-emitting sectors**: utilities, oil and gas, mining and metals, construction, chemicals, engines and machinery, airlines, transportation, auto and parts, food and agriculture, and forestry. By our estimates, **the publicly traded firms in these key sectors, accounting for about 30% of public equity market capitalization, are responsible for about 90% of public company emissions and about 60% of all global emissions.** In other words, they account for the bulk of the global climate change challenge, and global decarbonization goals cannot be met without reducing emissions in these sectors (or replacing these companies with cleaner competitors). **These high-emitting sectors will face the most transition risk and thus have a greater need for improvement**, as they are most vulnerable to—and sometimes have the most opportunities from—the transition to a low-carbon economy via aggressive policy moves (such as carbon taxes, product sales restrictions, or energy rations), competitive pressures from new disruptive and cleaner companies, or technological breakthroughs that undermine existing emissions-intensive business models.

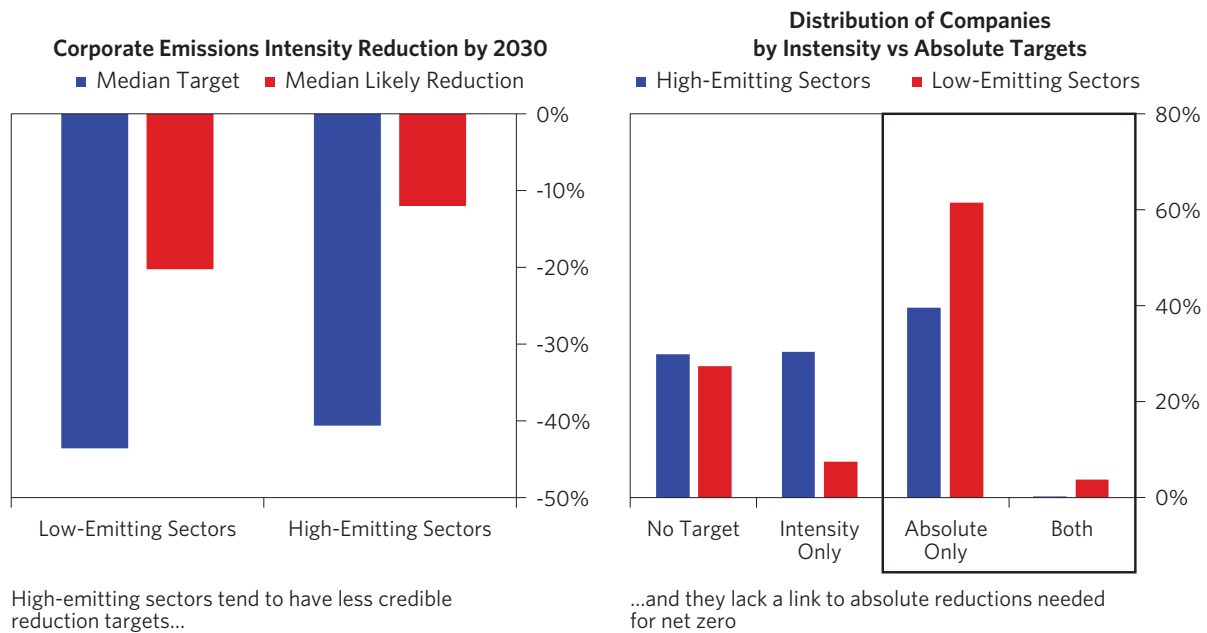


**We assess only around one-third of companies in these high-emitting sectors to have ambitious and credible transition plans.** Of the high-emitting companies that are not aligned, around 60% have emissions reduction targets that fall short of what is needed (as indicated by the light gray bars in the chart below), while the remaining 40% are setting reasonably ambitious targets relative to what is needed for their sector—for example, sectors with mature technologies like utilities will require more rapid emissions reductions by 2030 compared to sectors with emerging technologies like cement, even though both will need to reach net zero by 2050—but have shown insufficient signs to suggest a realistic path to achieve their goals (as indicated by the dark gray bars), which we determine by looking at their corporate policies and actions, track records, and committed capital. Even within high-emitting sectors, there are large divergences in how companies are committing to a low carbon transition (e.g., autos companies have an established transition pathway in the form of EVs, compared to airlines where sustainable aviation fuels are more early-stage).



**When we look at the total public market, company commitments aggregate to a ~40% reduction in carbon intensity by 2030—but when we humble those commitments based on our assessment of their credibility, we estimate that companies are only likely to achieve half of that.** Targets set by companies in high-emitting sectors tend to be both less ambitious and less credible than their counterparts in low-emitting sectors, as many of them face considerable technological or financial hurdles in reducing emissions (e.g., having to re-engineer complex, emissions-intensive industrial processes), which we discuss in more detail in the appendix.

Additionally, most targets in high-emitting sectors are not yet linked back to absolute emissions reductions that will ultimately support real-world net zero (as laid out in the Paris Agreement). Without absolute emissions reduction targets, companies may continue increasing emissions as long as their revenues also grow (even if they reduce their emissions *intensity*). Today, fewer than half of companies in high-emitting sectors are setting absolute reduction targets, compared to around two-thirds in low-emitting sectors. When combined with companies that have yet to set any targets, this means that **~60% of corporate emissions are still not covered by absolute targets**.



## Identifying High-Conviction Improvers Is Necessary for Investors Looking to Construct Net-Zero-Aligned Portfolios

Investors who seek to **align their portfolios to net zero** face a two-step challenge: first, to identify companies that are net-zero-aligned and second, building a well-diversified portfolio. Broadly speaking, a net-zero-aligned portfolio would have three types of companies—**low-emitting companies**, **climate solutions** (e.g., renewable energy), and **climate improvers** (e.g., high-emitting companies with credible decarbonization trajectories). While a portfolio allocation that is overweight climate solutions and carbon improvers is likely to have higher spot emissions metrics than if investors were to take the common approach of simply reducing allocations to these emissions-intensive sectors, it is likely to have more impact on the net zero transition over time. Through both capital allocation and engagement, investors can play an important role in ensuring that more companies take actions to decarbonize.

As we discussed above, companies setting ambitious and credible targets tend to be in low-emitting sectors (e.g., pharma, tech). By contrast, while many companies in high-emitting sectors (e.g., industrials, resources) are setting targets, not all of these are ambitious enough to align with a net zero pathway, and many are not backed up by sufficient policies or capital investment. In certain cases, the financial incentives do not currently line up well: for example, oil and gas companies need to weigh the high costs and uncertain return of decarbonization (e.g., investments in early-stage technologies, such as hydrogen and carbon capture) against high fossil fuel prices today (e.g., in the wake of the Russia-Ukraine war).

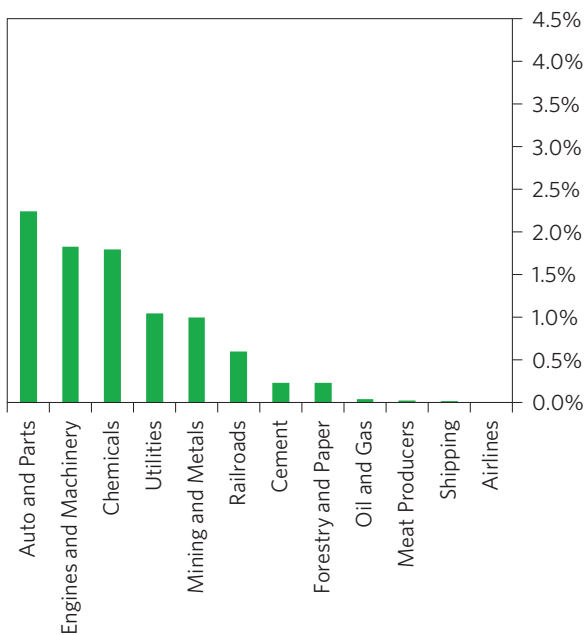
	Market Cap (USD, Tln)	% with Scope 1 & 2 Targets	% Ambitious and Credible	Scope 1 & 2 Emissions (Mt CO2e)	% with Scope 1 & 2 Targets	% Ambitious and Credible
Information Technology	29.2	81%	91%	406	61%	56%
Financial	20.1	63%	81%	81	61%	73%
Non-Cyclical Consumer Goods	17.2	73%	88%	275	71%	52%
Cyclical Services	13.6	70%	71%	882	86%	33%
Industrials	12.1	67%	52%	2304	71%	32%
Resources	10.3	78%	14%	4387	76%	16%
Non-Cyclical Services	3.9	71%	39%	2297	86%	11%
Cyclical Consumer Goods	3.2	51%	69%	120	70%	55%

More ambitious and credible targets in low-emitting sectors...

...and fewer in high-emitting sectors

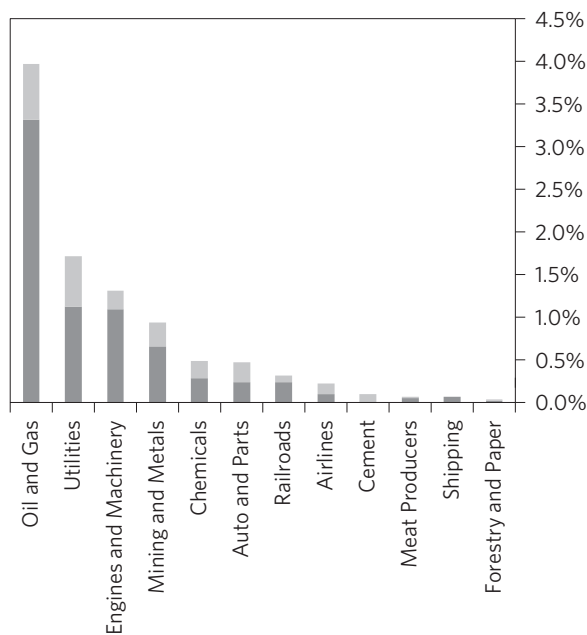
**Investors holding a market-weight portfolio will typically not have large exposures to these high-conviction improvers, as they represent a relatively small share of global market cap.** However, these are the companies that are doing the most to mitigate transition risk or invest in decarbonization opportunities, and thus play an important role in portfolios for investors looking to align with net zero.

Share of Global Equities with Ambitious and Credible Targets



Share of Global Equities without Ambitious and Credible Targets

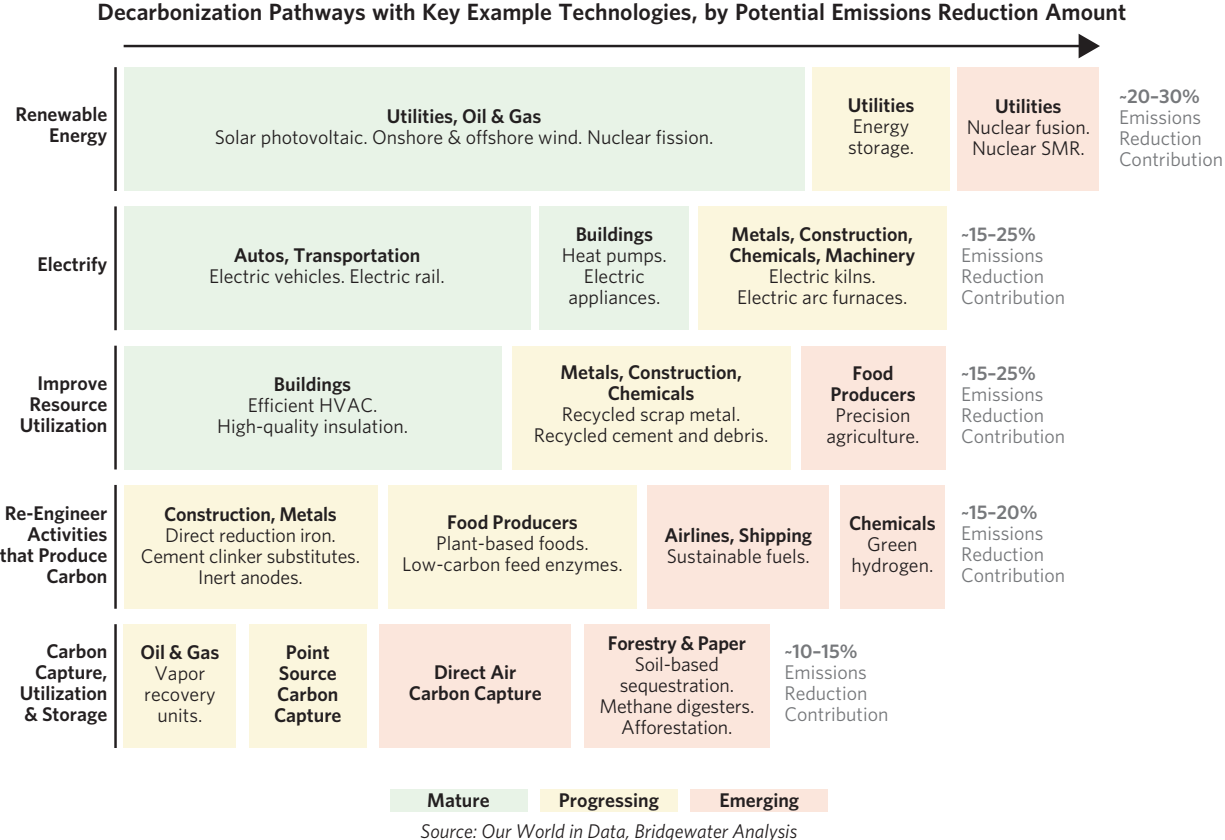
■ Ambitious but Not Credible ■ Not Ambitious





# Appendix: Climate Technologies and Policies Can Help to Support Sector-Wide Emissions Reductions

With the current state of **climate technologies**, we estimate only around 40-50% of emissions reductions needed for net zero are feasible today. This means that even if there is a perfect scale-up of the existing technology, ~50-60% of emission reductions demand new technological breakthroughs. However, the dispersion across sectors is relatively large: mature technologies are concentrated in sectors such as utilities, autos, and buildings, while other major emissions sources have much less feasible paths, such as agriculture, aviation, and cement. **For many low-emitting sectors, their emissions are concentrated in electricity use, buildings, and (to a smaller extent) transportation, all of which have highly feasible technological alternatives today.** As such, it is easier for them to develop ambitious and credible transition plans as the pathway is relatively known (e.g., sign green power purchase agreements, retrofit offices or retail stores, transition to electric vehicle fleet). **By contrast, many emissions-intensive sectors not only rely on less mature technologies, such as re-engineering activities that produce carbon** (e.g., clinker substitutes for cement, green hydrogen), **but also require activating multiple levers to reduce emissions** (e.g., reducing emissions from steel requires a combination of electrification, recycling, new technologies, and carbon capture).



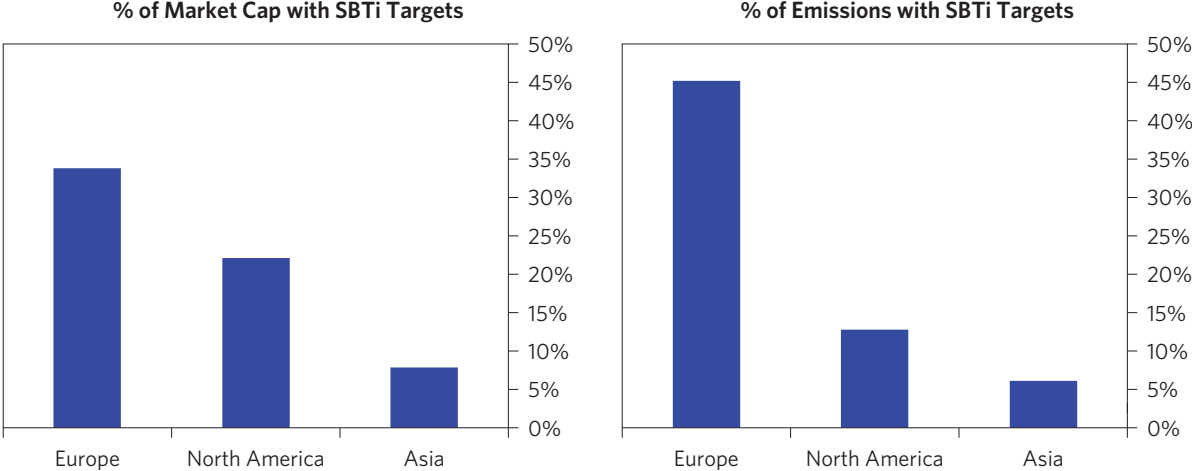
**However, even for sectors with mature technologies, catalysts such as climate policy are still important to overcome switching costs and help support the new investments in physical infrastructure needed.** The impact of policy is even more pronounced for rapidly progressing technologies, which are often not cost-competitive without subsidies or other incentives. On this front, while much of climate policy to date has been broad-based across sectors such as utilities, autos, and chemicals—which makes the decision for companies in these sectors to invest in their transition plans more economically feasible—there are still other emissions-intensive sectors, like food producers or forestry and paper, that have received much less direct policy support.

Often, these are sectors in which emissions largely occur outside of public markets (e.g., livestock emissions from individual farmers or deforestation).

#### Examples of Policy Disincentives and Incentives in Emissions-Intensive Sectors

	% Market Cap	Examples of Policy Disincentives	Examples of Policy Incentives
Oil	6.8%	<b>Disincentives on operational emissions, but has technological obstacles (e.g., carbon capture).</b> Free allowances in EU ETS gradually being removed. Regulation to reduce methane leakage in CAN, USA, AUS.	<b>Incentives to make advancements in carbon capture.</b> Tax credits under the IRA; carbon capture a priority area in AUS technology road map.
Engines and Machinery	4.6%	Wide range of operational emissions depending on specific products. Large Scope 3 impact, especially in heavy industry and power/electricity-related segments.	<b>Incentives to expand production of renewable energy technology (e.g., solar panels, wind turbines).</b> Investment and production credits for green-energy segments in USA; \$3 bln fund in AUS to support renewables manufacturing.
Utilities	2.9%	<b>Disincentives on operational emissions.</b> Covered by EU ETS and more early-stage carbon pricing systems in USA, CHN, etc.	<b>Incentives to shift to clean energy (e.g., wind, solar).</b> Tax credits in USA amounting to \$160 bln+ over 10 years; price stability measures in GBR.
Auto and Parts	2.6%	Low operational emissions. Large Scope 3 impact, some tightening of fuel-economy standards, and zero emissions mandates for new sales in 10-15 years (EUR, GBR, CAN).	<b>Incentives to transition to EVs.</b> Consumer subsidies across USA (\$7,500 per EV, plus battery subsidies), EUR (similar levels, with variation between countries), and CHN (\$70 bln over four years).
Mining and Metals	2.3%	<b>Disincentives on operational emissions.</b> Free allowances in EU ETS gradually being removed, along with carbon border tax to prevent leakage.	Limited direct policy. Trade restrictions on “dirty” steel and aluminum in USA and EUR.
Chemicals	2.1%	<b>Disincentives on operational emissions, but has technological obstacles (e.g., clean hydrogen).</b> Free allowances in EU ETS gradually being removed.	<b>Incentives to transition to clean hydrogen.</b> Subsidies of up to \$3 per kg credit in USA; \$50 bln+ over 15 years in subsidies in JPN to support new demand sources (e.g., hydrogen-based fuels).
Construction	2.1%	<b>Disincentives on operational emissions, but has technological obstacles (e.g., green cement).</b> Free allowances in EU ETS gradually being removed; ban on heavy industrial projects in polluted regions of CHN.	<b>Incentives to support construction of green buildings.</b> Around \$70 bln in grants and loans to upgrade buildings and transmission in US IRA.
Transportation	1.8%	<b>Disincentives on operational emissions.</b> Slated to be added to the EU ETS in the coming years. International Maritime Organization regulations to lower shipping emissions intensity.	Limited direct policy. Revenues from EU ETS may be redirected to marine decarbonization projects.
Food Producers	1.5%	Low operational emissions. Large Scope 3 impact that tends to fall outside carbon pricing schemes, but discussion in NZL to incorporate it.	Limited direct policy. Farm to Fork strategy in EUR on sustainable agriculture, grants supporting investment in plant-based foods in CAN.
Airlines	0.4%	<b>Disincentives on operational emissions, but has technological obstacles (e.g., sustainable fuels).</b> Slated to be added to the EU ETS in the coming years; short-haul flights banned in FRA and NLD.	<b>Incentives to make technological advancements in sustainable aviation fuels.</b> Minimal tax credits as technology is still in early stages.
Forestry and Paper	0.3%	Not included in most carbon pricing schemes, but need to decrease operational emissions. Ban on products with evidence of large-scale deforestation in GBR.	Limited direct policy. Some activities eligible for credits under CAN's GHG offset system.

**Differences in climate policies also exist across geographies.** For example, Europe has had a stronger history of climate policy since the inception of the EU Emissions Trading System (ETS) in 2005, which has led many high-emitting European companies to set ambitious targets as a way to manage transition risk and the cost of emissions. By contrast, many of the companies in the US that have set ambitious targets to date also tend to be in less emissions-intensive sectors (e.g., tech), although recent moves have been positive, with important policies such as the Inflation Reduction Act. However, this picture is not set in stone: in the EU, there are elevated concerns surrounding energy security and costs following the Russia-Ukraine war, and global competitiveness fears with China on technologies like EVs, while in the US, a potential Trump presidency could lead to increased deregulation and further constraints on green activities.



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