

Missing the Mark

2022 analysis of global CDP
temperature ratings

September 2022

In Partnership with



OliverWyman





About this report

As we approach COP27, this report uses CDP's latest temperature ratings to assess whether current corporate emissions reduction targets are ambitious enough to meet the Paris Agreement's 1.5°Celsius goal. CDP temperature ratings compare our comprehensive dataset of publicly disclosed corporate emissions target disclosures, covering more than 4,000 companies globally, with science-based global warming trajectories. The report was prepared in partnership with Oliver Wyman.

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The outlook for global warming

Across the G7, the countries with the best-performing corporate sectors are all European

G7 companies on path to a 2.7°C temperature increase

Amid a challenging global context of energy insecurity, rising inflation, and extreme weather in many regions, COP27's goal to keep the Paris Agreement's 1.5°Celsius target alive is more critical than ever.

The G7's private sector has an important role to play in that effort. Strong momentum in 2021, particularly in the runup to last year's COP26, saw the number of corporates committing and setting climate targets increase rapidly.

Yet, our analysis shows that the greenhouse gas (GHG) emissions reduction targets publicly disclosed by companies in G7 economies are still only ambitious enough to align with a **2.7°C** decarbonization pathway – or **2.4°C** if emissions from corporate supply chains, known as Scope 3 emissions are excluded. Both are still well above the Paris Agreement's goal to keep Earth's temperature rise at or below **1.5°C** – the upper temperature limit that science demands to avoid the most catastrophic environmental impacts (see Exhibit 1).

Sticking to the Paris limit is critical. For example, the difference between **1.5°C** and **2°C** means 2.6 times more people are likely to be exposed to extreme and potentially dangerous heat events, according to the United Nations Intergovernmental Panel on Climate Change (IPCC).¹ The IPCC also warns of a tenfold increase in the likelihood of ice-free arctic summers, a 38% increase in the thawing of permafrost, twice the impact on annual fishery yields.

Across the G7, the countries with the best-performing corporate sectors are all European.² Europe's relative outperformance reflects the wider uptake of emissions reduction target-setting by companies, as well as structural differences in the makeup of the economies.

The highest temperatures are found in the G7 countries where the fewest companies have adopted targets. In Canada, which is looking at a rise of **3.1°C**, 88% of all reported emissions come from companies lacking targets. In the United States, with companies aligned with a **2.8°C** increase, over half of emissions not covered by targets are from the fossil fuel sector.

Without valid targets, the CDP temperature rating methodology assumes that limited-to-no decarbonization by companies takes place.³ Where more companies have targets, such as in Europe, the distinguishing factor is how ambitious these targets are.

¹ [World Resources Institute](#)

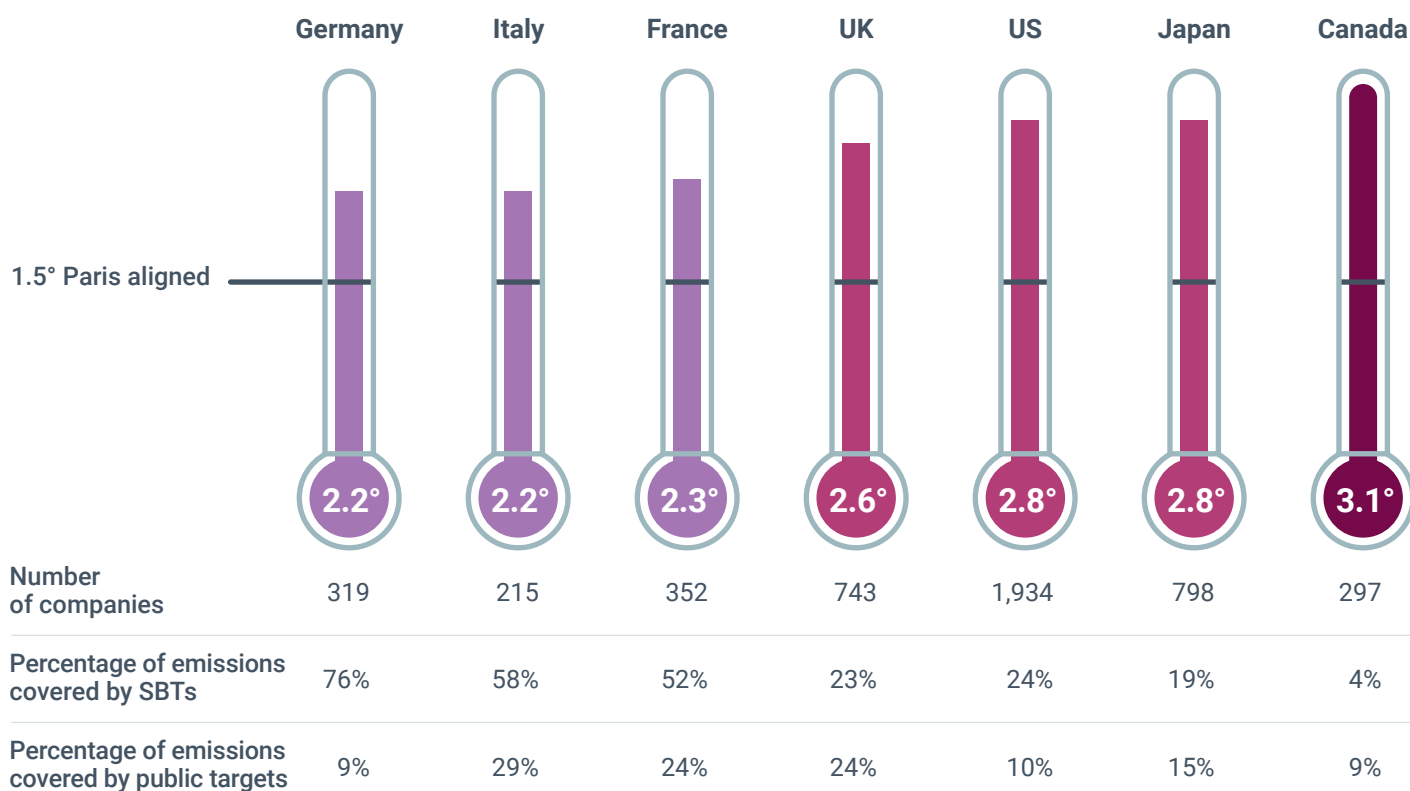
² Across the G7, the countries with the best-performing corporate sectors are all European companies headquartered in the 27 European Union member states, the United Kingdom, and countries of the European Free Trade Association Area (EFTA) were included in this analysis.

³ A valid target is one where the company reported sufficient target details for CDP to perform the temperature translation. This includes base year, target year, greenhouse gas emissions, and boundary coverage. For intensity targets, companies must report certain standard intensity metrics.

Exhibit 1: How G7 countries rank against each other

Based on the aggregate ambition level of emissions reduction targets set by companies in G7 countries

All temperature units are given in °Celsius



Note: SBTs stand for science-based targets
Source: CDP data, Oliver Wyman analysis

Infobox

CDP methodology for temperature ratings

This analysis uses CDP temperature ratings. Ratings are calculated by comparing the expected rate of change of company emissions implied by their targets with science-based global warming pathways. Companies with valid targets, assessed to reduce emissions in line with the level of decarbonization required to be consistent with 1.5°C warming scenarios, receive a score of 1.5°C. Companies without valid targets receive a default score of 3.2°C, which represents the likely level of global warming by 2100 under a “business as usual” scenario.

Temperature ratings aggregated at country level in this paper represent the global emissions of companies headquartered in these countries. They do not reflect the emissions reduction targets set at national government or EU level.

Unless otherwise stated, all temperature ratings include all value chain emissions (Scope 1, 2 and 3) by default. All ratings are aggregated using an emissions-weighted approach. As a result, high-emitting companies can heavily impact their country’s temperature rating, with differences between countries also driven by different sector mixes as well as target-setting behavior.

There are several alternative approaches to estimating implied temperature increases. For a more general discussion and guidance relating to the use of portfolio alignment metrics, please refer to the [Glasgow Financial Alliance for Net Zero’s portfolio alignment workstream](#), on which the CDP is an advisor. The CDP temperature ratings methodology, used for this analysis and made available to financial institutions, is published on [CDP’s website](#).



Europe is improving, but still running hot

1.9°C

Across all regions and sectors, only the European power generation sector achieves a temperature rating below 2°C

Following an 85% increase in the number of European companies with science-based targets last year, over half (51%) based on market capitalization have now set targets through the Science-Based Targets Initiative (SBTi).⁴ This means that the targets have been developed consistent with pathways for carbon reduction anchored in climate science and approved by the SBTi. The most recent [SBTi Progress Report](#) found that companies with science-based targets decarbonize significantly faster than companies without targets.

This fast progress in Europe has “cooled” the temperature of the European economy **0.3°C** since 2021. Still, the emissions reduction targets publicly disclosed by European companies are now aligned with a **2.4°C** decarbonization pathway, or **2.2°C** if corporate Scope 3 emissions (value chain) are excluded.⁵

Germany, Italy, and the Netherlands — all with targets that support **2.2°C** — have the best-performing corporate sectors, inclusive of all value-chain emissions (see Exhibit 2).

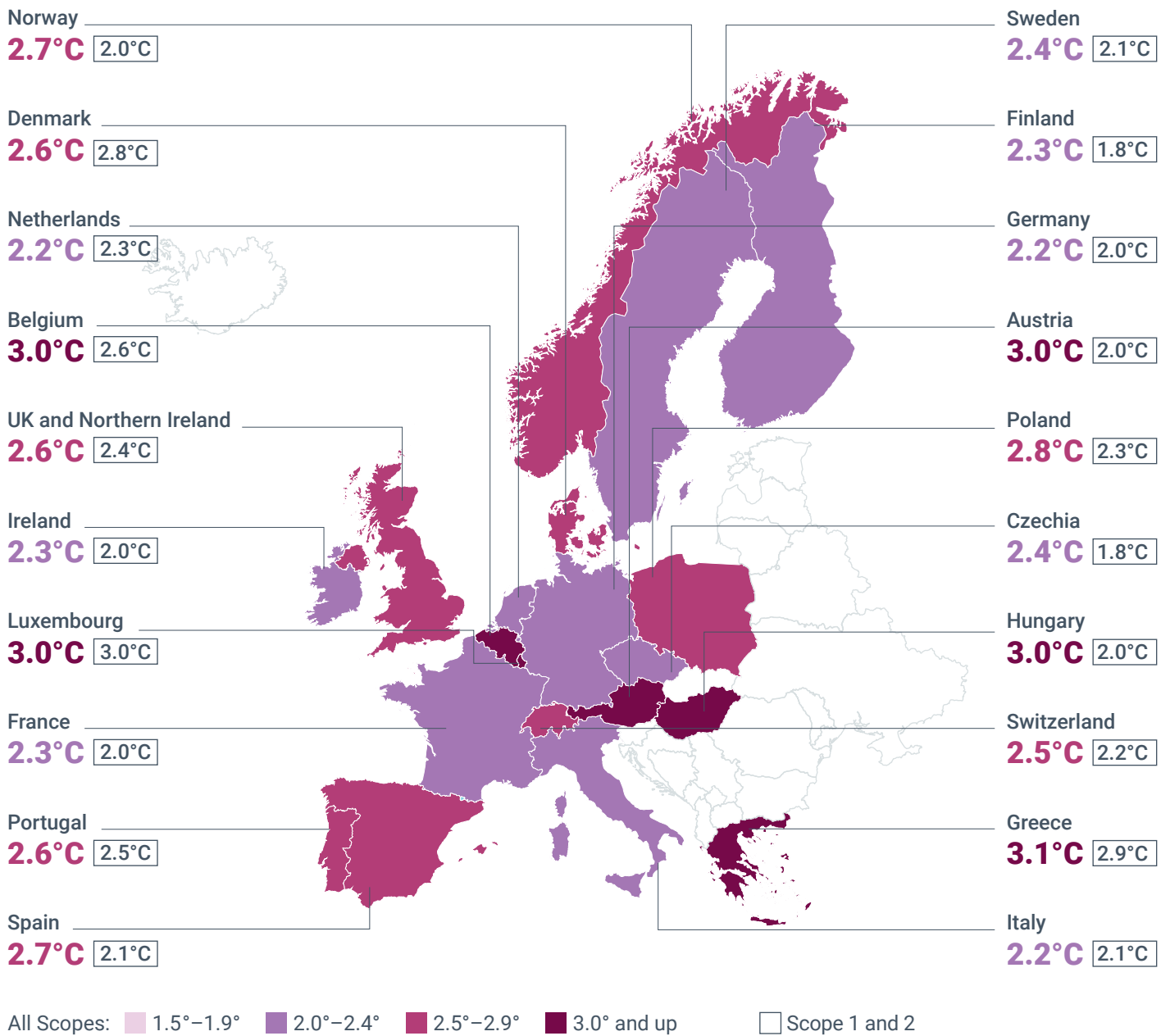
However, despite this progress, the average temperature ratings for corporates remain well above 1.5°C across all major European economies.

⁴ Source: [“Now For Nature, the Decade of Delivery”](#), CDP and Oliver Wyman

⁵ In 2021, CDP and Oliver Wyman calculated the European economy to be aligned with 2.7°C. [“Running Hot: Accelerating Europe’s Path to Paris”](#)

Exhibit 2: Europe is out of alignment with Paris agreement goals

Based on current emissions reduction targets adopted by companies, Europe is looking at temperature increases considerably above the Paris Agreement target of 1.5°C



Note: Scope 3 financial sector emissions are not counted within Scope 1, 2 and 3 temperature rating
Source: Oliver Wyman analysis, CDP dataset

Focusing on Scope 1 and 2 emissions, where emissions reporting is more robust and target-setting more widespread, the power and infrastructure sectors perform best. Together, the two sectors represent 29% of all European Scope 1 and 2 emissions and have temperature ratings of 1.9°C and 2°C, respectively.

By contrast, companies in the materials and transportation services sectors lag behind. When combined, they represent more than 40% of reported Scope 1 and 2 emissions and have significantly higher temperature ratings of 2.4°C and 2.6°C, respectively.

Key drivers by sector

Power Generation

Companies contributing more than 80% of the sector's total Scope 1 and 2 emissions have targets aligned with below 2°C. The most ambitious targets are from renewable and nuclear power generation companies.

Infrastructure

Companies accounting for more than 70% of the sector's total Scope 1 and 2 emissions have set valid targets aligned to below 2°C. Construction companies are ahead of energy and non-energy utilities.

Materials

Lower levels of target-setting in these hard-to-abate sectors explain high temperature ratings, particularly in the cement (2.2°C), chemicals (2.3°C), and metals processing (2.8°C) subsectors.

Transportation Services

Wide variations across the subsectors exist, with marine on the high end at 3.1°C and rail and air transport at the low end at 2.1°C.

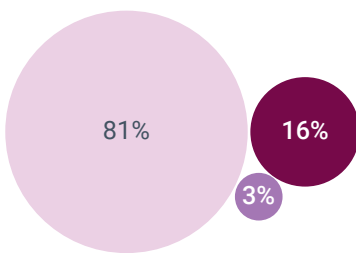
Exhibit 3: Scope 1 and 2 emissions reduction targets across high-impact sectors in Europe

Progress is mixed across sectors: Power generation is the only sector with a temperature below 2°C.

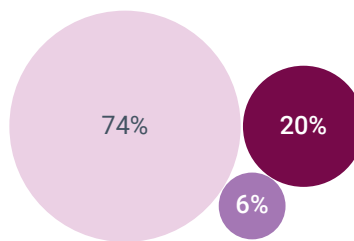
Transport is the hot spot

Companies headquartered in Europe

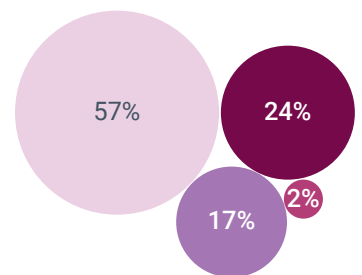
Power Generation 1.9°C



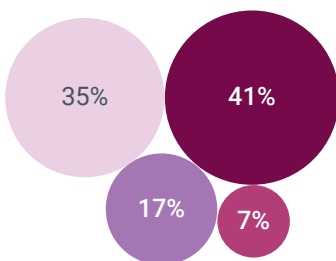
Infrastructure 2.0°C



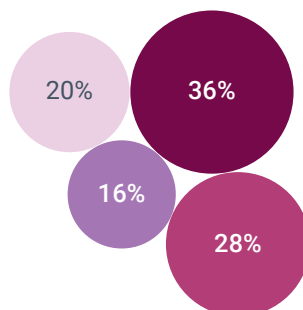
Fossil Fuels¹ 2.2°C



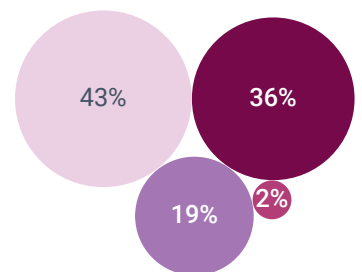
Materials 2.4°C



Transportation Services 2.6°C



Other² 2.3°C



All Scales: 1.5°–1.9° 2.0°–2.4° 2.5°–2.9° 3.0° and up

¹ For 10% of Fossil Fuel emissions to be aligned to a 1.5 degree target, companies with Scope 1 and 2 targets of 1.5 degrees make up 10% of total European fossil fuel sector emissions

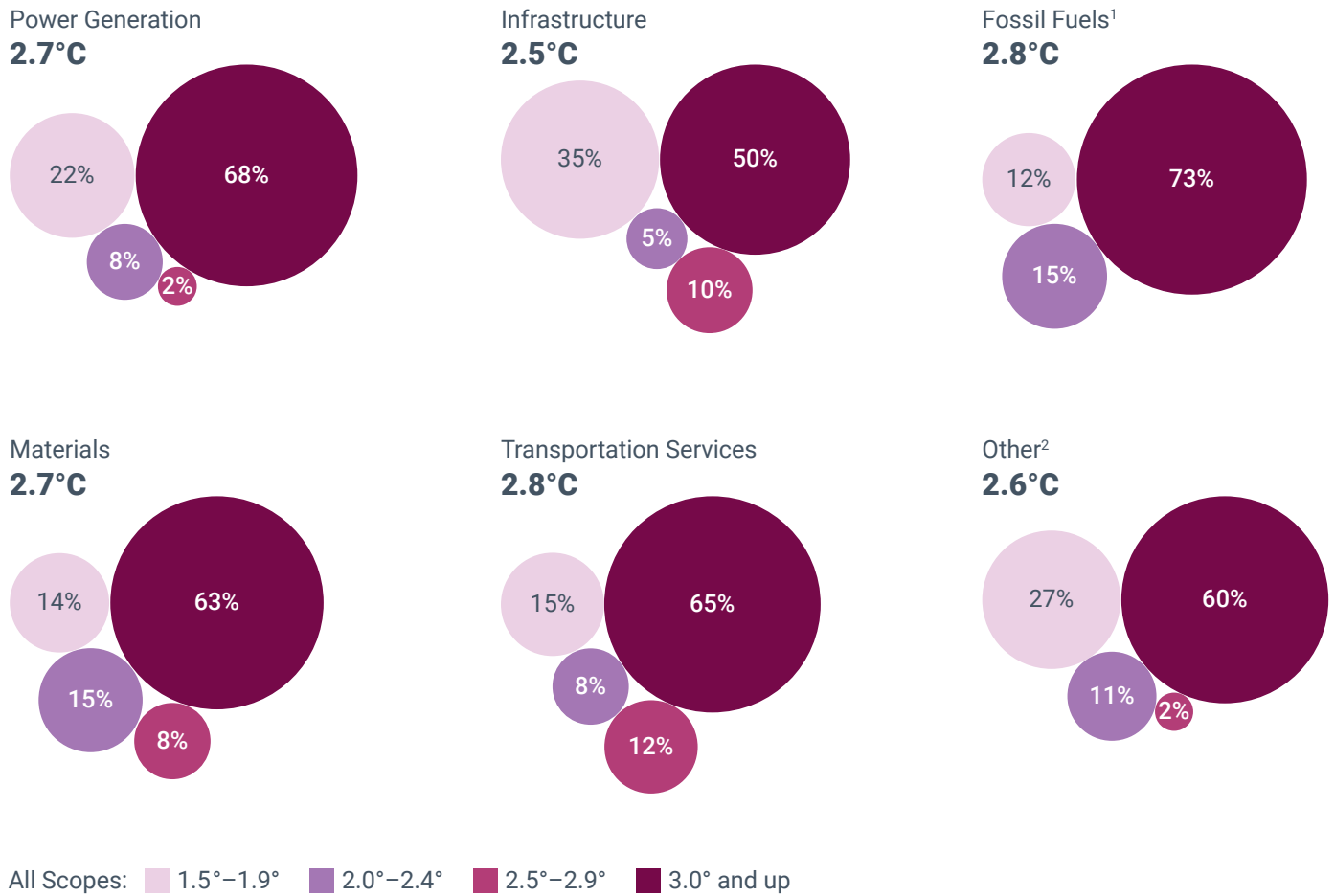
² The Other category includes (in order of size): Services, Manufacturing, Food beverage and agriculture, Retail, Biotech healthcare and pharma, Financial services, Hospitality and Apparel

Source: Oliver Wyman analysis, CDP temperature rating

Exhibit 4: Global temperature ratings for Scope 1 and 2 emissions reduction targets for high-impact sectors keep temperatures well above 2°C

Globally, all high-impact sectors are aligned with 2.5°C or worse

All companies in the global dataset



1 For 10% of Fossil Fuel emissions to be aligned to a 1.5°C target, companies with Scope 1 and 2 targets of 1.5°C make up 10% of total European fossil fuel sector emissions

2 The Other category includes (in order of size): Services, Manufacturing, Food and Beverage, Agriculture, Retail, Biotech, Healthcare, Pharmaceutical, Financial Services, Hospitality, and Apparel

Source: Oliver Wyman analysis, CDP temperature ratings

Other regions aren't keeping up with Europe

2.5°C

Aggregate temperature rating of companies in North America puts it between Europe and Asia

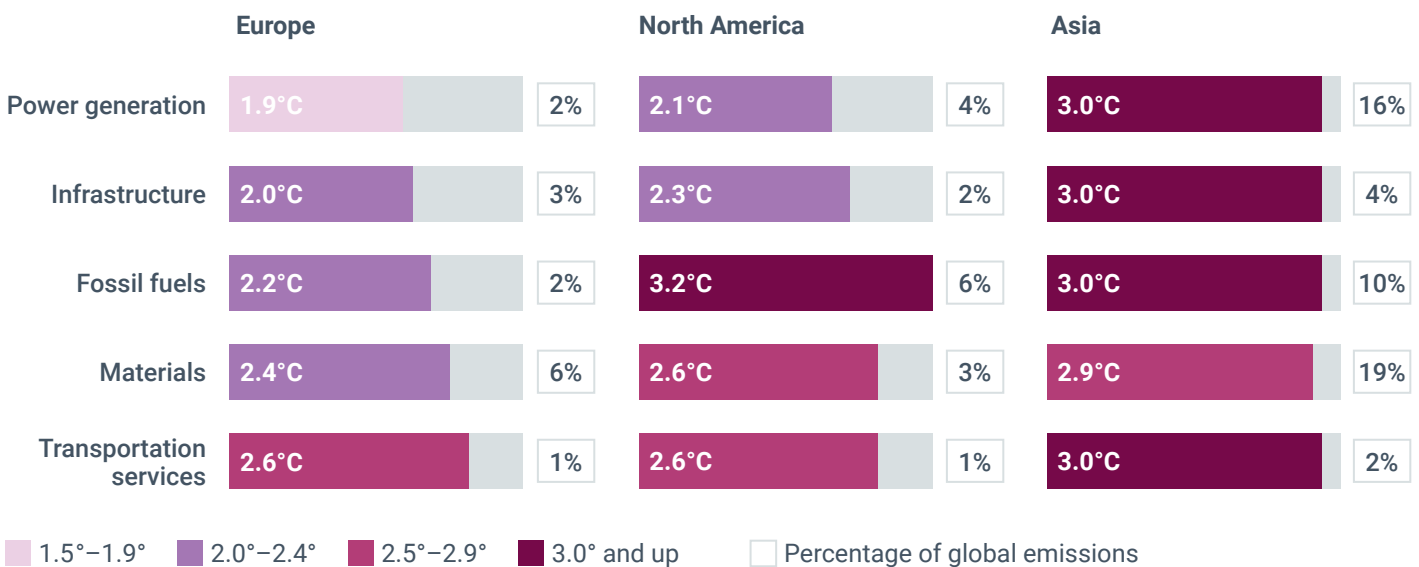
Looking beyond the G7, European corporates score ahead of their counterparts in Asia and North America across industries. Based on Scope 1 and 2 emissions, companies headquartered in North America are collectively on a path to a 2.5°C rise in temperature, while companies headquartered in Asia are on a path to 3°C. Both are significantly higher than Europe's 2.2°C.

Some of the largest differences across regions are in the power generation and infrastructure sectors. Europe's 1.9°C power sector, for instance, compares with 2.1°C in North America and 3°C in Asia. This differential reflects the important role for long-term domestic policies supporting decarbonization in these strategically important sectors.

The materials sector, by contrast, is more global in nature, and companies face common challenges in reinventing industrial processes, such as steel and cement production. Nonetheless, differences exist in the ambition level of companies across regions: Europe's 2.4°C-aligned sector compares with 2.6°C in North America and 2.9°C in Asia.

Exhibit 5: Regional comparison of Scope 1 and 2 emissions targets for high-impact sectors

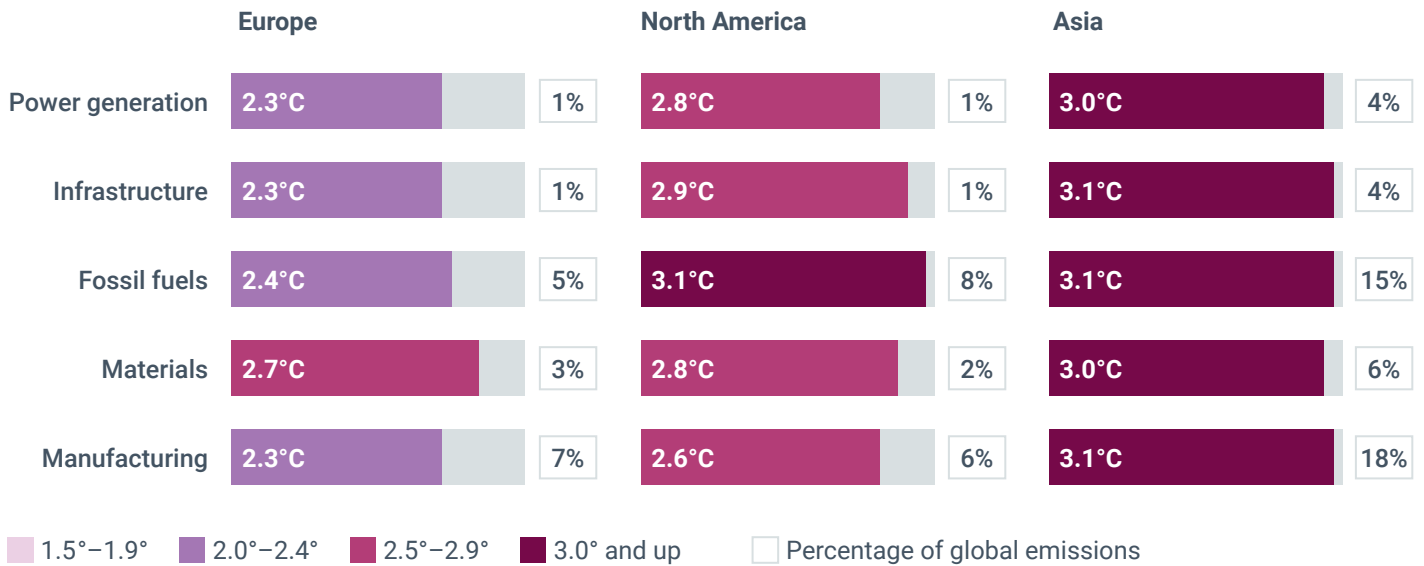
European companies are leading the way, especially in power and fossil fuels. Asia is lagging in all sectors with only one below 3°C



Source: Oliver Wyman analysis, CDP temperature rating

Exhibit 6: Regional comparison of Scope 1, 2 and 3 emissions targets for high-impact sectors

Including all value chain emissions shows all sectors much further from aligning with the 1.5°C goal



Source: Oliver Wyman analysis, CDP temperature rating

Globally, only 43% of reported Scope 1 and 2 emissions and only 26% of Scope 3 emissions are covered by publicly reported emissions reduction targets

The analysis shows warmer temperature ratings in nearly all sectors and regions when all value-chain emissions (Scope 1, 2 and 3) are included. This reflects that Scope 3 emissions, concentrated largely in supply chains and the use of end products, are harder to measure and manage. As a result, targets are much less widespread and also less ambitious

In previous CDP-Oliver Wyman research, only 53% of high-impact companies were found to be disclosing data on their most important Scope 3 categories, usually following emissions from purchased goods and services or how products are used. While 43% of global Scope 1 and 2 emissions are covered by targets, only 26% of global Scope 3 emissions are covered. Yet, these emissions are critical: They represent, on average, six times the volume of Scope 1 and 2 emissions combined. In the US, this may be changing if the Securities and Exchange Commission adopts a proposed rule that will compel many companies to disclose Scope 3 emissions.

Taking this wider view, the focus shifts to supply chains and the end use of products, particularly in the fossil fuels and manufacturing sectors. In manufacturing, there are sharp differences across regions, with Europe in the lead, Asia lagging, and North America in between. Some manufacturing sector leaders have embraced stronger targets than global peers.

In fossil fuels there is a stark difference between Europe where a number of companies have now set targets to reduce Scope 3 emissions and North America and Asia where few have. Even in Europe, however, average temperature scores are 2.4°C in this critical sector. Both North America and Asia are significantly higher at 3.1°C.

Conclusion

Growing numbers of corporates are setting credible, science-based targets to reduce their emissions, and this is starting to have a real impact on expected emissions pathways. Importantly, this is also helping to spur bolder public policies in several major economies, notably the US and Australia.

Yet, progress remains patchy. Not enough companies have embraced target-setting and those that have are not nearly ambitious enough in their plans to reduce emissions. Even among those with targets, there are too many that are neglecting to address Scope 3 emissions.

To keep the goal of 1.5°C meaningful and viable, more progress is needed in spreading best practices from those companies taking the lead. At the same time, those advanced companies also must push harder for more rigor in their own targets.



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