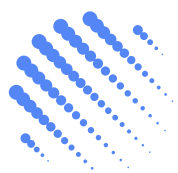
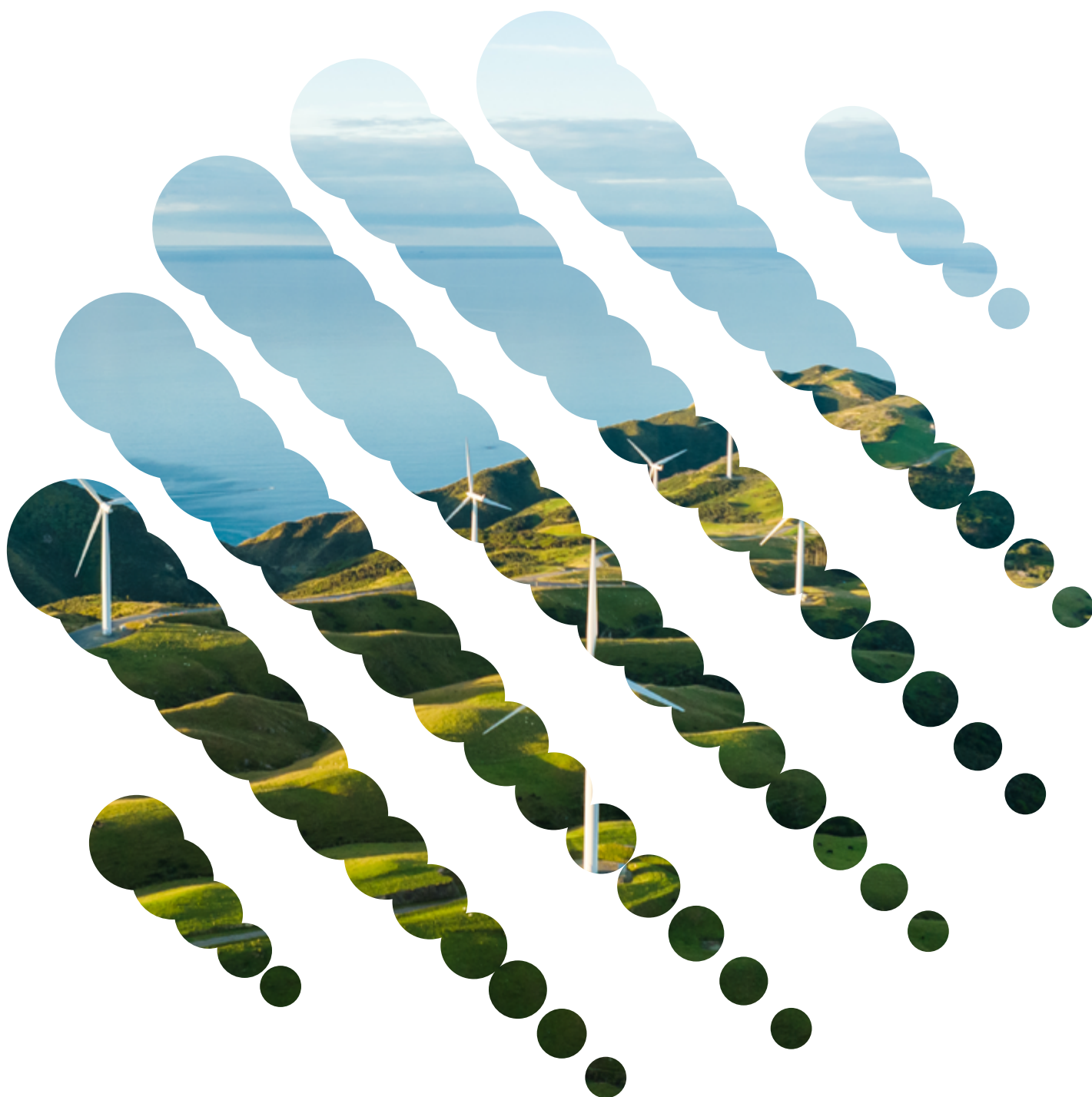


TPI State of Transition Report 2024



Transition
Pathway
Initiative



Grantham
Research Institute
on Climate Change
and the Environment

The LSE Transition Pathway Initiative Centre

The Transition Pathway Initiative Centre (TPI Centre) is an independent, authoritative source of research and data on the progress of corporate and sovereign entities in transitioning to a low-carbon economy.

The TPI Centre is part of the Grantham Research Institute on Climate Change and the Environment, which is based at the London School of Economics and Political Science (LSE). It is the academic partner of the Transition Pathway Initiative (TPI), a global initiative led by asset owners and supported by asset managers, aimed at helping investors assess companies' preparedness for the transition to a low-carbon economy and supporting efforts to address climate change. As of August 2024, 152 investors globally, representing over US\$80 trillion* combined Assets Under Management and Advice, have pledged support for TPI.

**This figure is subject to market-price and foreign-exchange fluctuations and, as the sum of self-reported data by TPI supporters, may double-count some assets.*

The TPI Centre provides research and data on publicly listed equities, corporate bond issuers, banks, and sovereign bond issuers. The TPI Centre's company data:

- Assess the quality of companies' governance and management of their carbon emissions and of risks and opportunities related to the low-carbon transition
- Evaluate whether companies' current and planned future emissions are aligned with international climate targets and national climate pledges, including those made as part of the Paris Agreement
- Form the basis for the Climate Action 100+ Net Zero Company Benchmark Disclosure Framework assessments
- Are published alongside the methods online and fully open access at www.transitionpathwayinitiative.org.

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Foreword



David Russell
Chair, Transition
Pathway Initiative

In the seven-plus years since the Transition Pathway Initiative (TPI) was launched, the world has changed. Positively, climate change has risen up the investor, political and societal agendas, largely as a result of the Paris Agreement that came to fruition at COP21 in 2015 and its commitments to hold the increase in global average temperature to well below 2°C relative to pre-industrial levels. However, the increasingly complex geopolitical situation has crystallised a focus on energy security that has seen some companies take backward steps in their transition targets.

Since we published the last *State of Transition* report in 2021, TPI itself has been through significant change. TPI's enduring relationship with the London School of Economics and Political Science has continued and was cemented by the launch there of the TPI Centre in 2022. In September 2023, Adam Matthews stood down as TPI's chair, and I had the privilege of taking over the role.

The Initiative is no less important today and its original vision still stands: to provide investors with open-access data on the low-carbon transition that are based on public disclosures and are subjected to independent, academically rigorous and transparent analysis. This process also continues to evolve. Of particular note, the TPI Centre has:

- Added a fifth level to the Management Quality staircase to help differentiate between the best performing companies
- Expanded its research and outputs to cover banks
- Continued to provide analysis used by the Climate Action 100+ (CA100+) collaborative engagement programme
- Started to produce analysis for the ASCOR (Assessing Sovereign Climate Opportunities and Risks) project on sovereigns.

Being able to link the country analysis undertaken by ASCOR with the corporate analysis is a particular boost to TPI's work, adding a new dimension that enables more nuanced assessment of how regional differences may impact how companies address transition planning.

The analysis in this report indicates that while companies are improving their Management Quality scores, their Carbon Performance results highlight they are failing to meet their medium- and long-term transition targets.

We know that investors understand climate risk better than they have ever done. And many of them use TPI data to engage with companies, as well as to encourage appropriate transition processes and performance through, for example, the CA100+ initiative. However, this report shows our work is far from done. As we publish, the world has experienced a series of its warmest months in recent history. Climate change is a systemic risk; the role of asset owners and asset managers is crucial in allocating and stewarding capital to support the transition, while also signalling to governments around the world the need for appropriate policy responses.

Investors therefore need to redouble their efforts to encourage the entities that issue the assets in which they invest to transition, as this is good for both long-term returns and for the planet. We are confident TPI will remain an invaluable tool to support investors in this effort.

Summary: key findings

3.1

Average
Management
Quality score

<5%

Proportion of
companies scoring
on any individual
Level 5 indicator –
testing for detailed,
actionable
transition plans

30%

Proportion of
companies aligned
with 1.5°C in 2050 –
four times higher than
in our 2021 report

+61%

Cumulative
exceedance of
1.5°C emissions
intensity pathways
by TPI companies,
weighted by market
capitalisation

1,027

Number of companies assessed on
Management Quality in 17 sectors

409

Number of companies assessed on
Carbon Performance in 11 sectors

The TPI Centre's *State of Transition Report 2024* reviews the progress that more than 1,000 of the world's highest-emitting public companies have made on responding to climate change. Collectively worth around US\$39 trillion, these are the key public companies for both investors and the climate. The report also shows the extent of the corporate climate action gap, i.e. the distance between where TPI companies are now and where they need to be if the international temperature goals of the 2015 UN Paris Agreement are to be achieved.

Management Quality

Based on our Management Quality framework, which tracks more than 1,000 companies' carbon management and governance from Level 0 'Unaware' to Level 5 'Transition Planning and Implementation', Level 3 functions as the new 'par score'. Most companies (57%) are at this level, which means they have recognised climate change as a relevant business risk and/or opportunity, developed a policy commitment to act, set some kind of emissions reduction target, and disclosed their Scope 1 and 2 emissions. Companies below Level 3 can be considered laggards.

Many companies go beyond what is required to reach Level 3: more than four in five now have a quantitative emissions target covering at least one of Scopes 1, 2 and 3, and a similar share have a long-term emissions target (with a target date more than five years into the future). Among companies covered by this report and assessed in previous years, we observe steady progress, with about three times as many companies moving up a level as moving down in the last year.

However, on average, companies are still well short of having a strategic approach to climate (Level 4), and fewer than 5% score on any indicator for Level 5, the highest level. No company satisfies all Level 5 indicators. Emerging disclosure guidance and rules identify that best practice means having detailed and actionable transition plans that align business practices and capital expenditure decisions with decarbonisation goals. We find this to be very rare.

Carbon Performance

Based on our Carbon Performance framework, which evaluates the extent to which the emissions pathways of more than 400 companies in 11 high-emitting sectors are aligned with meeting the Paris Agreement temperature goals, there has been a marked increase in alignment over time. Since the results published in our *State of Transition Report 2021*, the share of companies aligning with 1.5°C in 2050 has increased fourfold to 30%, and a further 14% are aligned with a Below 2°C scenario. The improvement is also observed when looking at the alignment in 2035.

However, at present most companies we assess still do not align with any of our low-carbon benchmark scenarios, and the share of those aligning with global temperature goals in the short (2025) or medium term (2035) remains low, despite the recent encouraging improvements. This indicates both that historical rates of emissions reduction have been inadequate, and that, on average, company targets imply plans to postpone deep emissions cuts until the 2040s.

For the first time we give an indication of how far our sample of companies is cumulatively overshooting the Paris goals, using the concept of Cumulative Benchmark Divergence. The physics of the climate system do not allow for backloading action: to a first approximation, global temperature depends on cumulative carbon dioxide emissions, meaning that the entire pathway of company emissions matters. There exists no unambiguous, scientifically rigorous answer to the common question of when companies must come into alignment with low-carbon scenarios. However, weighting companies and sectors by market capitalisation, we estimate that the world's highest emitting companies will cumulatively exceed their 1.5°C emissions intensity budget between 2020 and 2050 by 61%. Oil & gas companies are a major driver of the exceedance.

Link between Management Quality and Carbon Performance

Exploring the link between Management Quality and Carbon Performance produces a more holistic picture of corporate climate action.

There is tentative evidence that Management Quality is positively associated with subsequent, realised emissions reductions in the short term. This is based on some of our own analysis, previous and current, and on a recent report by FTSE Russell that applied TPI Management Quality scores to a

large sample of over 2,000 companies. However, the relationship is not fully robust.

Turning to future Carbon Performance, we find that companies on higher Management Quality levels disclose better quantitative emissions/activity data and are more likely to align with global temperature goals, as was the case in our *State of Transition Report 2021* findings. Overall, Management Quality and Carbon Performance often point in the same direction, but it is important to recognise they do not always do so: they are complementary measures and should be considered together.

The highest-achieving companies are not only ambitious in the emissions targets they set, thus aligning with the Paris Agreement temperature goals, but they are also more likely to disclose and quantify the actions necessary to meet those targets, and to align their future capital expenditures with their targets. We use Artificial Intelligence (AI) tools to analyse Management Quality data at the indicator level, finding which practices distinguish the highest-achieving companies in our database from the rest.

Geographical dimensions

We also analyse the geography of Management Quality and Carbon Performance in depth and find that geographical location matters – in particular, companies headquartered in high-income regions, especially Australasia, Europe and Japan, score better than those located elsewhere. There are different potential explanations for this pattern, including differences in regulation, availability of resources, industry composition, and corporate governance norms. Overlaying TPI data from the new *Assessing Sovereign Climate-Related Opportunities and Risks (ASCOR)* tool, we find that several aspects of national climate policy are positively associated with Management Quality or Carbon Performance, including the presence of national net zero targets, carbon pricing and mandatory disclosure.

These results show which regulatory levers might be most effective in accelerating corporate climate action. They also imply that without explicitly addressing regional nuances, investors may withdraw capital from high-emitting emerging markets and developing countries. This risks perverse outcomes in terms of both the effectiveness of decarbonisation efforts and equity. We thus make some suggestions for how corporate climate assessments might be adjusted to avoid choking off the finance needed for the low-carbon transition.



Implications for investors

Our analysis suggests that the TPI metrics should be treated as **complementary** – i.e. both Management Quality and Carbon Performance need to be looked at together to better assess the progress that companies are making in the low-carbon transition.

Furthermore, investors can:

- **Take advantage of the expanded TPI universe** to evaluate a broader segment of their portfolios.
- **Place greater focus on companies' transition plans**, as facilitated by the introduction of Level 5 into the Management Quality framework.
- **Build a better understanding of the feasibility of companies' supporting plans and governance, considering country-level operational factors** such as national policies and corporate governance norms.
- **Draw on all of TPI's expanded assets and capabilities to inform constructive engagement** with companies, industry associations and policymakers.

Looking ahead, TPI intends to continue its research programme through its TPI Centre at LSE, to support investors, and financial institutions more broadly, advancing the net zero transition. These efforts will include a further expansion of the universe of the entities we assess – with the number of corporates doubling to around 2,000 by year-end, plus more banks and sovereigns being evaluated – alongside enhanced outreach activities to boost the adoption of our resources.

1. Introduction

This is the *State of Transition Report 2024* from the Transition Pathway Initiative Centre (TPI Centre). It documents the progress being made by the world's highest-emitting public companies towards a low-carbon economy. The companies analysed in this year's report collectively represent approximately US\$39 trillion in market capitalisation (cap), which is about 35% of the global total of publicly listed equities. It also shows the extent of the corporate climate action gap, i.e. the distance between where TPI companies are now and where they need to be

if the international temperature goals of the 2015 UN Paris Agreement are to be achieved.

The report covers more than 1,000 public companies in 17 sectors (see Table 1.1). These companies typically represent the largest holdings in investor portfolios and are often the highest emitters of greenhouse gases. The data presented in the report were published on the [TPI tool](#) between November 2022 and January 2024. The next comprehensive update of the database will be conducted in stages during the remainder of 2024.¹

Table 1.1. Sectoral coverage by the TPI tool

	Companies assessed on Management Quality	Market cap (share of total sector)	Companies assessed on Carbon Performance
 Energy			
Electricity utilities	124	97%	80
Oil & gas	84	97%	52
Coal mining	54	100%	Not assessed
Oil & gas distribution	25	100%	Not assessed
 Transport			
Airlines	38	100%	34
Autos	37	100%	33
Shipping	31	100%	26
 Industrials/materials			
Other industrials	116	Not applicable	Not assessed
Chemicals	99	90%	Not assessed
Steel	65	97%	40
Cement	60	100%	45
Paper	36	100%	34
Aluminium	31	100%	24
Diversified mining	27	97%	17
 Consumer goods and services			
Services	88	Not applicable	Not assessed
Food	58	90%	26
Consumer goods	54	Not applicable	Not assessed

¹ Further details on the Carbon Performance data upload are provided in this [TPI Centre explainer](#).



Methodology: TPI's tool for assessing publicly listed companies

Using public disclosure, we assess companies on their Management Quality and Carbon Performance, two distinct but interconnected aspects of their approach to the low-carbon transition (see Figure 1.1). Management Quality focuses on inputs and processes, while Carbon Performance focuses on outcomes:

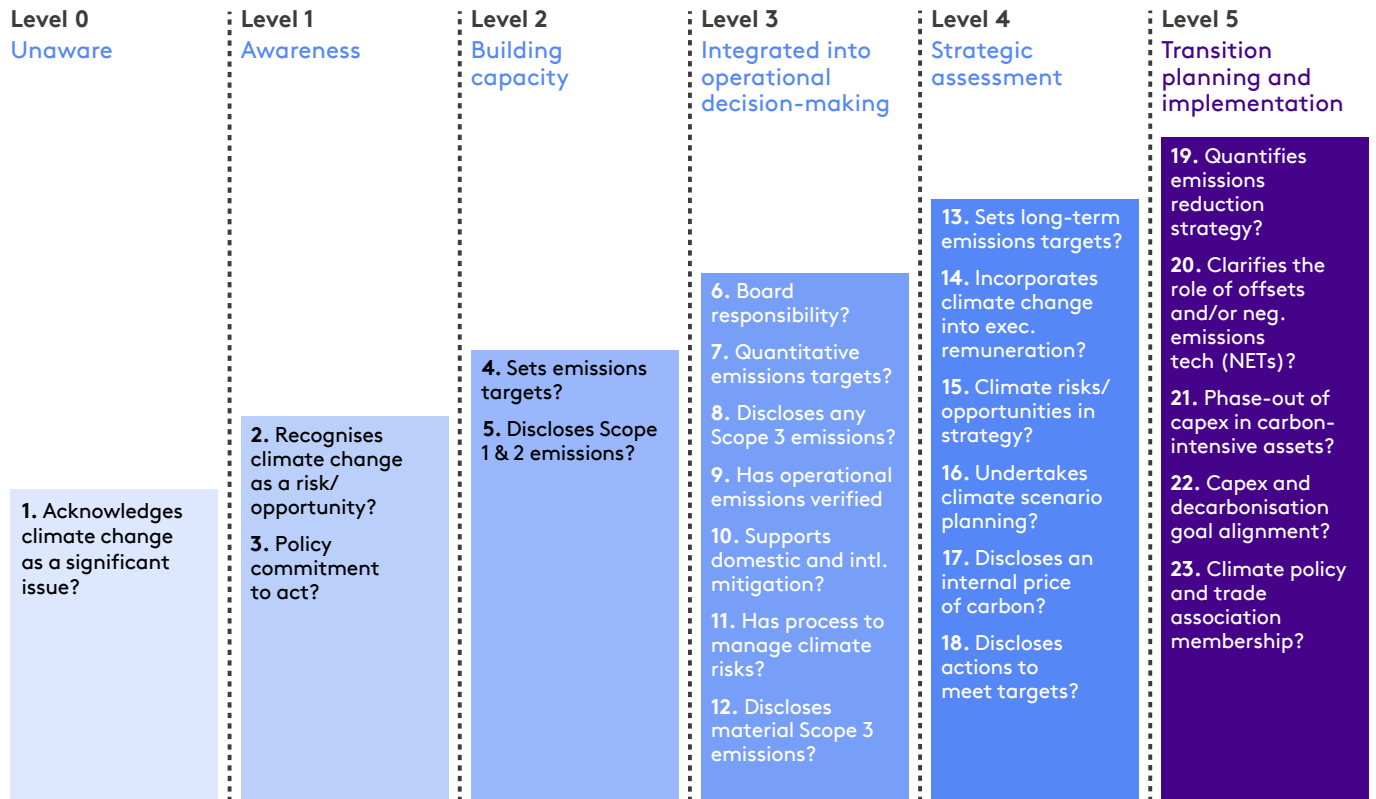
- **Management Quality** evaluates and tracks the quality of companies' governance, including reporting and targets on greenhouse gas emissions, and the risks and opportunities related to the low-carbon transition. This analysis now includes an evaluation of the credibility of companies' climate transition plans.
- **Carbon Performance** assesses companies' greenhouse gas emissions pathways against low-carbon benchmark scenarios, including National Pledges, Below 2°C and 1.5°C. This enables comparisons of companies in high-emitting sectors both against each other and against sector-specific benchmarks that represent the performance of an average company that aligns with the Paris Agreement goals. The assessment examines companies' entire pathway over the short (2025), medium (2035) and long term (2050).

Together, these assessments offer a comprehensive view of companies' backward- and forward-looking progress on the low-carbon transition.

Figure 1.1. The TPI tool: methodologies

Management Quality

Assessment covers companies' governance of greenhouse gas emissions and the risks and opportunities arising from the low-carbon transition.

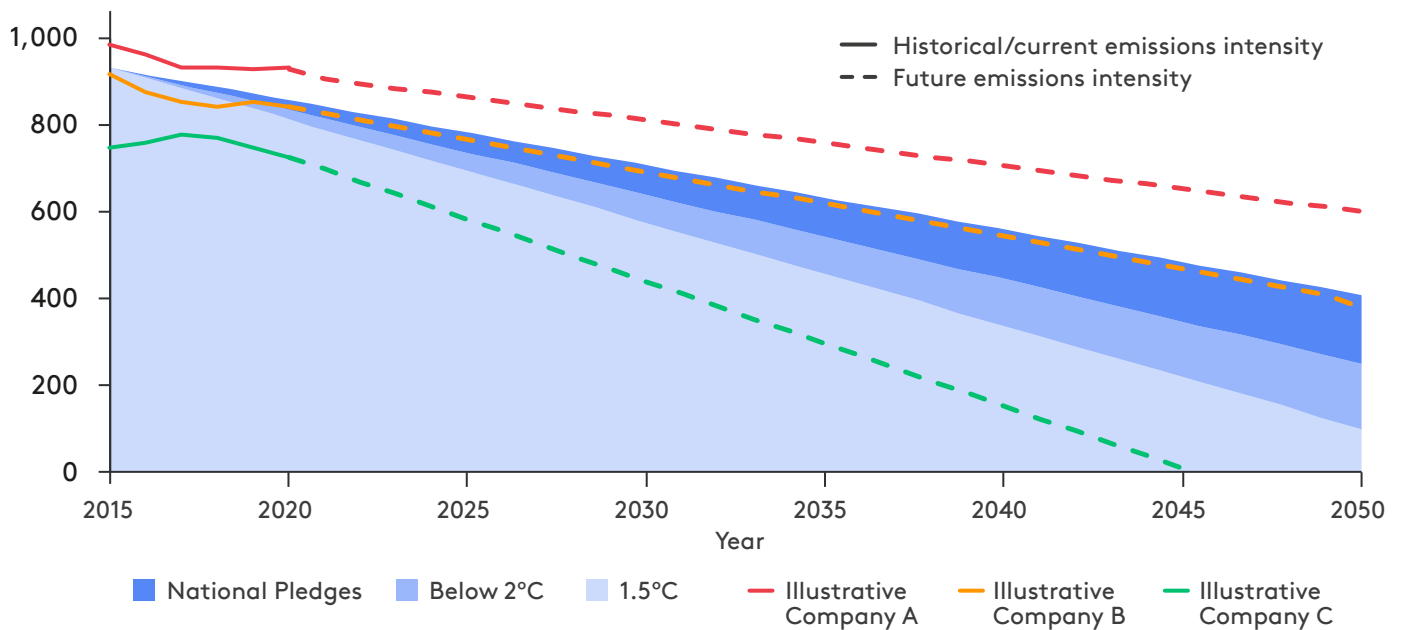


Note: See Appendix 1 for the full list of Management Quality indicators.

Carbon Performance

Assessment covers quantitative benchmarking of companies' emissions pathways against different climate scenarios consistent with the 2015 UN Paris Agreement.

Emissions intensity



Seven principles have guided our approach to designing the TPI methodologies:

1. Company assessments should be based solely on publicly available information.
2. Indicators should be assessable objectively.
3. Management Quality indicators should be relevant to all companies in all sectors.
4. Carbon Performance benchmarks should be sector-specific to recognise different decarbonisation challenges.
5. Data provided should be useful to investors for their investment processes, including engagement with companies.
6. Indicators should build on existing initiatives and disclosure frameworks.
7. Indicators should be pitched at a high level of aggregation and applied to the company as a whole.



Development of the TPI Centre

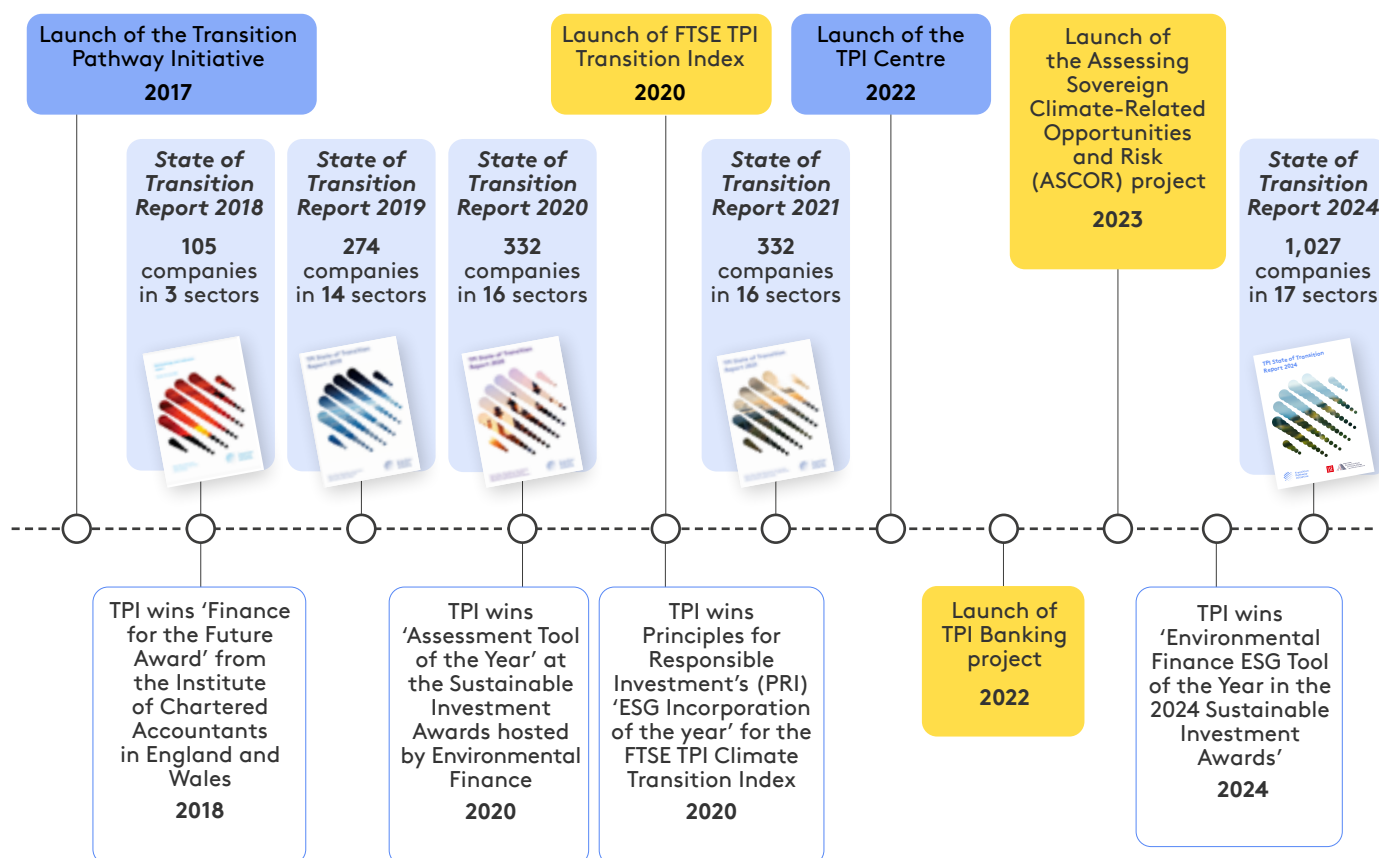
TPI was launched in 2017 with the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science (LSE) as its academic partner and FTSE Russell as its data partner. The partnership aimed to provide rigorous and independent research for investors on the financial and corporate world's transition to a low-carbon economy. It led to the creation of the open-access TPI tool, which initially covered 40 publicly listed companies in two sectors: oil & gas and electricity. Each year the number of assessed companies has increased, as shown in Figure 1.2.

Recognising the impact of the TPI tool, in 2022 LSE expanded the academic team by establishing the

TPI Centre, with support from TPI Ltd.,² Climate Arc, LSEG Foundation and FTSE Russell. As well as assessing publicly listed companies, today the Centre also assesses banks against the Net Zero Banking Assessment Framework, and sovereign bond issuers against the new framework of the Assessing Sovereign Climate-Related Opportunities and Risks (ASCOR) project.³ It also provides regular updates on the focus companies of the Climate Action 100+ initiative.

Information on the Centre's work in addition to this report's focus on the decarbonisation progress of publicly listed companies can be found on the TPI website.

Figure 1.2. Milestones in the development of TPI and the TPI Centre



² Since 14 October 2021, TPI has been registered as Transition Pathway Initiative Ltd. by the UK's Companies House.

³ ASCOR is the first publicly available, independent and open-source investor framework and database assessing the climate action and alignment of sovereign bond issuers. See www.ascorproject.org/ and <https://transitionpathwayinitiative.org/ascor>

2. State of Transition 2024

This section presents TPI's latest findings on Management Quality and Carbon Performance, drawing on data published on the TPI tool between November 2022 and January 2024. It also compares these with previous years' results.

2.1. Management Quality: companies' carbon management and governance

Over the last year, we have taken two important steps in the development of the TPI Management Quality framework. First, we have introduced a new Level 5 focusing on transition planning and implementation. Second, we have increased our Management Quality coverage to over 1,000 companies. These two extensions increase both the breadth and depth of company coverage, maintaining the framework at the cutting edge of research into the climate transition. The latest Management Quality methodology is presented in our recent *Management Quality and Carbon Performance Methodology Report*. Appendix 1 provides a full list of Management Quality indicators.

Management Quality levels – results

The average Management Quality level of all companies in the TPI database is now 3.1 and Level 3 therefore functions as the new 'par score': 57% of companies now sit on Level 3 (see Figure 2.1). This means that, on average, companies are now in the process of integrating climate change into operational decision-making.

At a minimum, companies on Level 3 have recognised climate change as a relevant business risk and/or opportunity, developed a policy commitment to act, set some kind of emissions reduction target, and disclosed their Scope 1 and 2 emissions. Many companies do more, but on average companies are still well short of having the strategic approach that would see them reach Level 4.

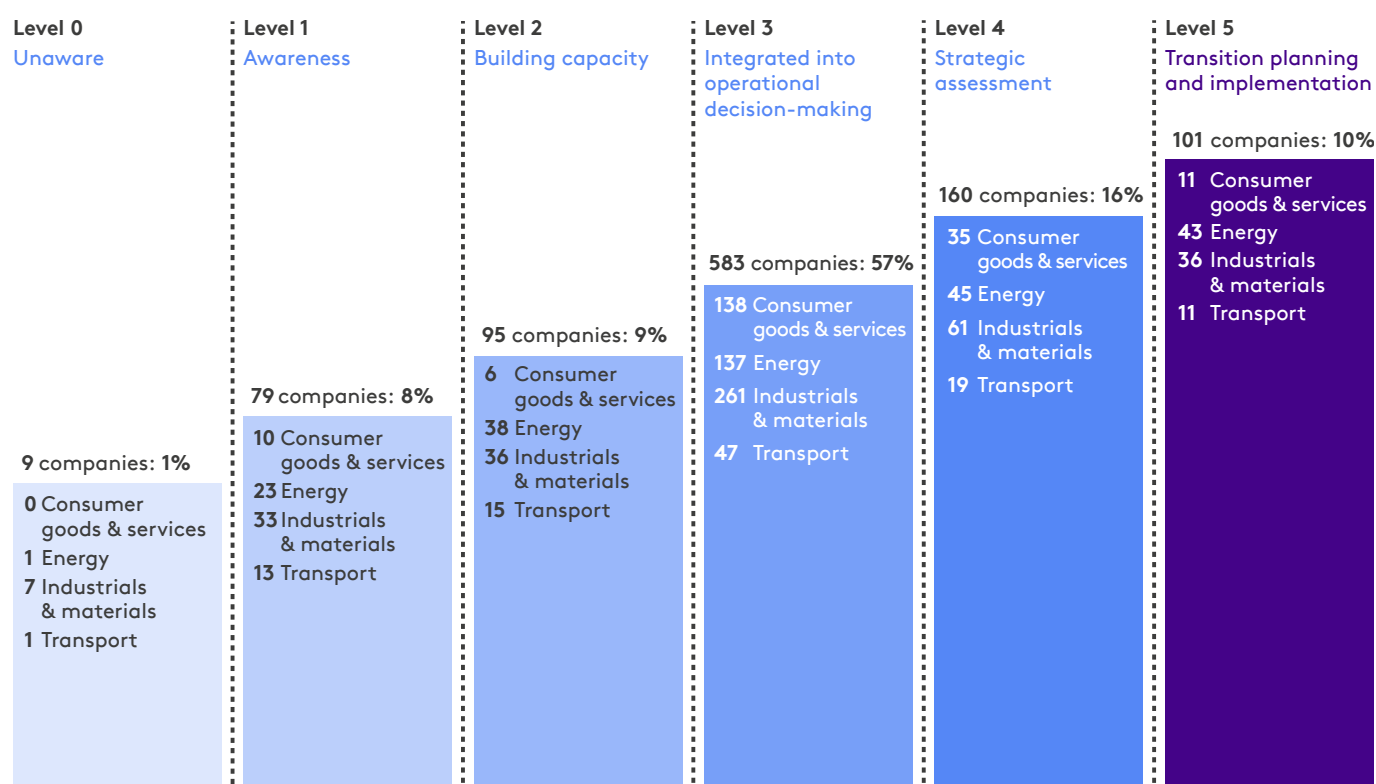
Companies that fall short of the Level 3 threshold can be considered laggards. Only 18% of companies sit on Levels 0–2. These are companies that fail to implement at least one of the most basic carbon management practices: for example, setting emissions targets or disclosing Scope 1 and 2 emissions.

In total, 82% of companies are on Management Quality Level 3 or above. This highlights the benefit of introducing a new Level 5 to differentiate between high-performing companies.

Ten per cent of companies sit on Level 5, but no company has obtained the 5* rating that would result from achieving all Management Quality indicators on Level 5. This shows that while leading companies have developed a strategic and holistic understanding of low-carbon risks and opportunities and integrated these into their business strategy, none has created a detailed, actionable transition plan that aligns business practices and capital expenditure decisions with decarbonisation goals.



Figure 2.1. Management Quality level of all TPI companies, on aggregate and by cluster



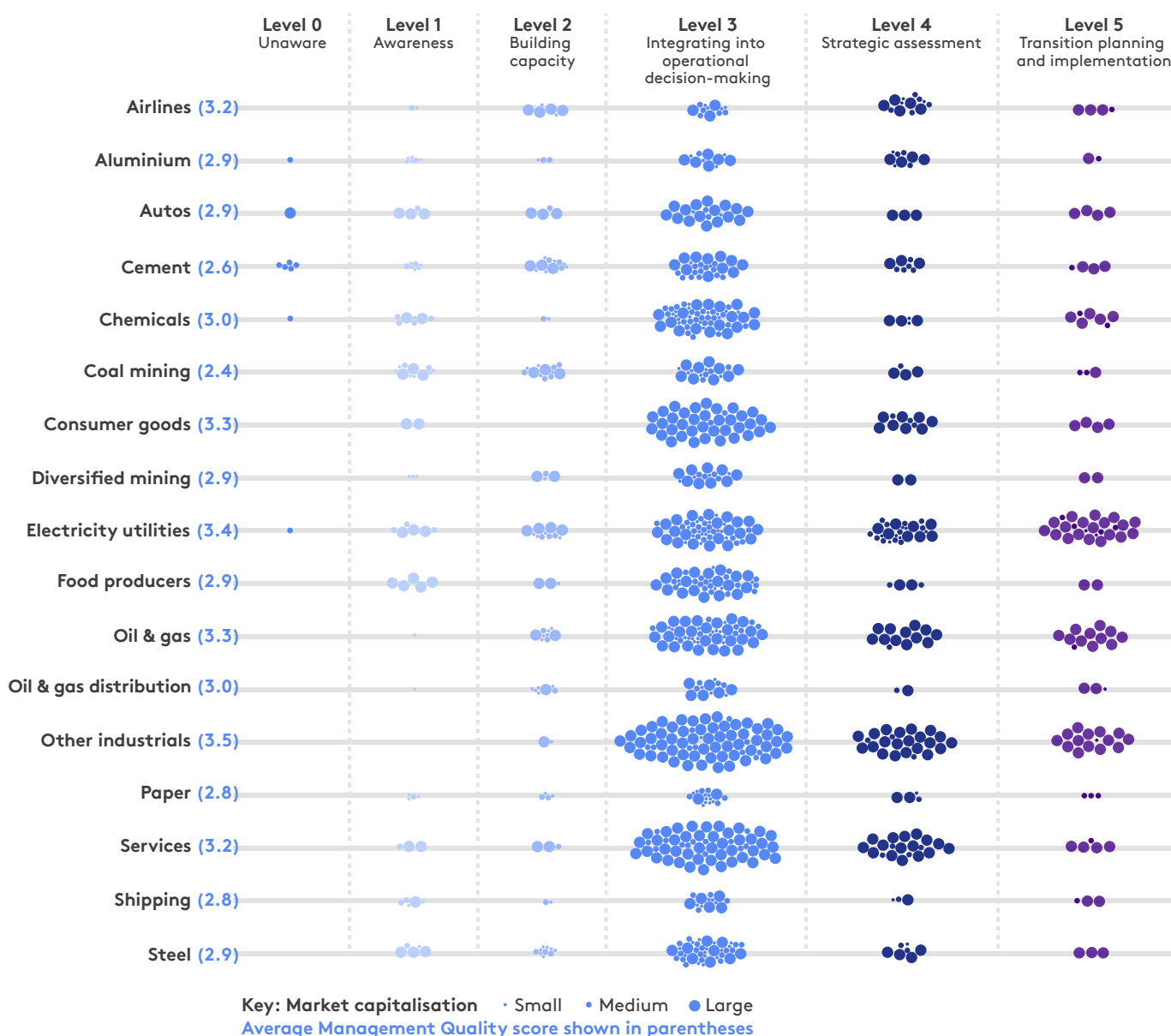
Of the core TPI sectors,⁴ companies in electricity and oil & gas perform the best on Management Quality, while cement and coal mining are the worst-performing sectors. The average Management Quality scores of the core sectors assessed by TPI range from 2.4 to 3.4 (see Figure 2.2). Manufacturers of basic materials (aluminium, cement, paper and steel) tend to perform poorly as a group and sit at the lower end of this interval, all with an average Management Quality score below 3.0. Meanwhile, energy sectors excluding coal, and transport sectors excluding shipping, sit at the higher end.

Larger companies in terms of market cap also perform better on Management Quality. Only 8% of large-cap companies sit on Levels 0–2, while 32% sit on Levels 4 or 5. In contrast, 25% of small-cap companies sit on Levels 0–2, while only 10% reach Levels 4 or 5. This positive association between market cap and Management Quality is statistically significant and was also found in previous years (e.g. see Dietz et al., 2018). Section 2.3 explores the relationship between Management Quality and company sector and size in more depth, and also factors in geographical focus.

“Introducing a new Level 5 and increasing our Management Quality coverage maintains TPI’s framework at the cutting edge of research into the climate transition.”

⁴ TPI’s core sectors are all those listed in Figure 2.2 but excluding consumer goods, services and other industrials.

Figure 2.2. Management Quality level by sector



Indicator-by-indicator analysis

Figure 2.3 shows the breakdown of companies meeting each indicator⁵ in the Management Quality framework.

The high proportion of companies sitting on Level 3 or above reflects the fact that corporate acknowledgement of climate change and the case for a low-carbon transition is now almost universal. More than 90% of companies acknowledge climate change, recognise it as a relevant business risk and/or opportunity, and have a policy commitment to act (indicators/Questions 1–3 in the framework). While there is some sectoral variation, over half of companies in all sectors satisfy these early-stage indicators.

Setting quantitative emissions targets is also now commonplace. More than four in five companies (84%) now have some form of quantitative emissions target covering at least one of Scopes 1, 2 or 3 (Q7), and a similar share (82%) have a long-term emissions target (with a target date more than five years into the future) (Q13). This marks a change from previous years, when a significant proportion of companies did not have a long-term target in place. For example, in 2021, 69% of companies had an emissions target of some sort but only 58% had a long-term target.

Companies continue to struggle on key indicators at the interface between corporate and public policy. Two of TPI's indicators evaluate companies

⁵ To satisfy an indicator, a company must be able to answer 'Yes' to a related question, thus the indicators are referred to by their corresponding questions, Q1–23.

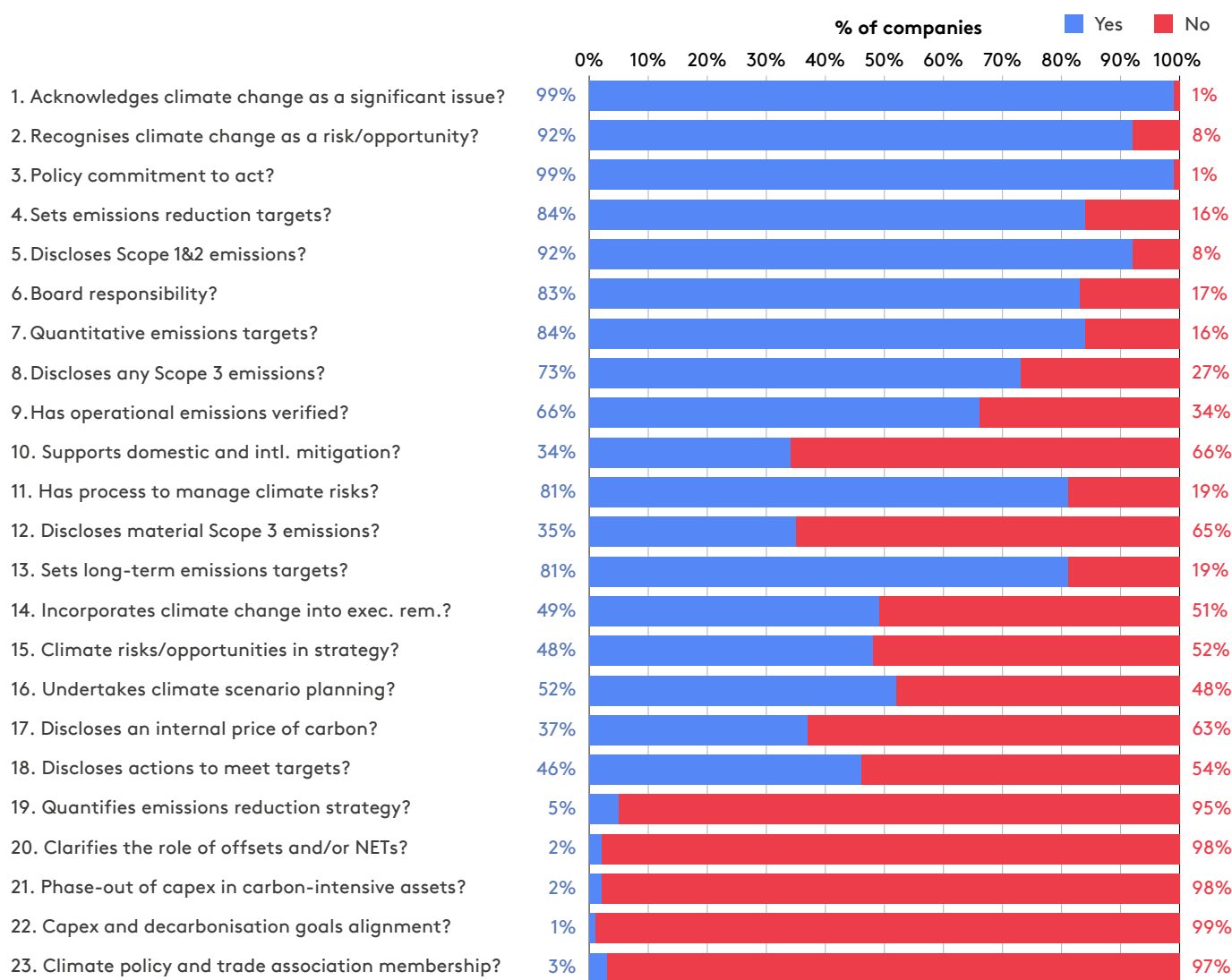
based on their involvement in the broader climate policy sphere. The first (Q10) tests whether companies support international and national mitigation efforts in the form of regulations, taxes and subsidies. The second (Q23) tests whether companies are managing any inconsistencies between their own positions on climate issues and those of the trade associations of which they are members. Thirty-four per cent of companies satisfy Q10 but only 3% satisfy Q23, suggesting that while many companies are making progress on their carbon reporting and management, there is less evidence of this being aligned with the broader policy environment. This indicates companies have not advanced greatly on this measure since 2021, when performance against these two indicators was also notably poor.

Transition planning and implementation, elements of Management Quality Level 5, are currently very scarce. It is rare for companies to

disclose details of transition plans or to show they are aligning capital expenditure with decarbonisation goals. No company meets all Level 5 indicators and fewer than 5% score on any individual Level 5 indicator. Even within high-scoring sectors such as electricity utilities and other industrials, only a handful of companies satisfy any Level 5 indicator. Thus, even high-achieving sectors appear to lack standout leaders or 'transition champions'.

The companies satisfying at least one indicator on Level 5 are spread across all sectors, from electricity utilities to diversified mining, suggesting that the challenge of providing relevant disclosure is not unique to any one sector. Companies from sectors with a higher average Management Quality score are no more likely to do well on Level 5 indicators than companies in sectors with a lower average Management Quality score.

Figure 2.3. Management Quality results for each indicator



Note: 'exec. rem.' is executive remuneration; 'NETs' are negative emissions technologies.

Trends in Management Quality

Making a controlled, year-on-year comparison of companies' Management Quality requires that we hold the framework fixed. The recent addition of Level 5 complicates trend analysis, because it makes higher Management Quality scores possible. Therefore, this section analyses trends using the previous (v. 4.0) rather than the current (v. 5.0) Management Quality framework. Version 4.0 consisted of 19 indicators across Levels 0–4 and continues to be displayed on the TPI website. It can be used to consistently assess company scores from 2017 to 2023 (see Figure 2.4).

The data from the latest research cycle show that the average Management Quality score of all companies on v. 4.0 of the framework is 3.0, slightly up from the 2022 average of 2.9. This change has been driven by improvements among previously assessed companies, which currently achieve an average of 3.1. Meanwhile, newly added companies score 2.9 on average.

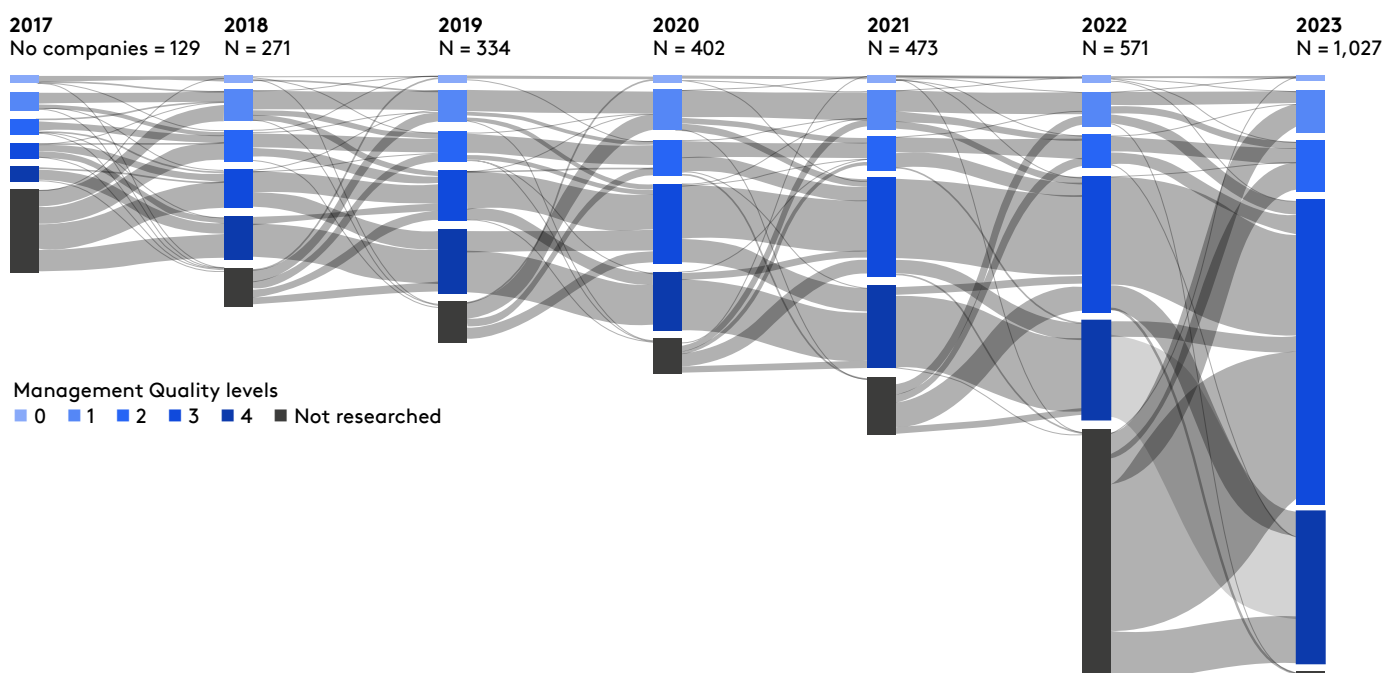
There has been significant net progress among companies assessed in this research cycle compared with the last one. While the majority of the 563 companies assessed in both 2022 and 2023 remain on the same Management Quality Level, 114 have moved up at least one level while 37 have moved down.⁶ The most common upwards move is from Level 3 to Level 4, with 42 companies making this improvement. Twenty-seven companies have

moved up two Management Quality Levels, and most of these (23) from Level 1 to Level 3.

The average scores of newly assessed companies differ between those added to the core TPI sectors and those added to other sectors. This difference appears to be attributable to companies' market cap. In the core TPI sectors, which are carbon-intensive, the majority of new companies are small- and medium-cap because our company coverage is already high and our sampling procedure begins with the largest companies. The newly added companies score on average 2.6 on Management Quality. In the other industrials, consumer goods, and services sectors, newly added companies tend to be large-cap. These companies score 3.2 on average. This is in keeping with the statistically significant relationship between company size, as measured by market cap, and higher Management Quality score, as discussed above and in further detail in Section 2.3.

New additions to the core TPI sectors score particularly poorly against Q12, which tests if companies disclose materially important Scope 3 emissions. Only 17% of newly-added companies score on this indicator. This adds to the comparatively poor scores of existing companies on Q12 (only 43% of existing companies satisfy this indicator) and makes disclosure of materially important Scope 3 emissions another area of underperformance.

Figure 2.4. Distribution of companies across Management Quality levels from 2017 to 2023 (v. 4.0 of the Management Quality framework)



⁶ While 571 companies were assessed in 2022, eight of these were not assessed in 2023 due to delisting, company takeovers or removal of Russian companies. See statement [here](#).

2.2. Carbon Performance: companies' alignment with the Paris Agreement

Alignment with low-carbon benchmarks on different timeframes

TPI's Carbon Performance assessments evaluate whether companies' emissions intensity pathways are aligned with the Paris Agreement goals, taking a sector-specific approach. This year's report discusses the assessments of 409 companies on Carbon Performance in 11 high-emitting sectors.⁷ Alignment is assessed on three timeframes – 2025, 2035 and 2050 – which enables comparisons between short-, medium- and long-term ambitions. All these horizons are important because global temperature change is primarily driven by cumulative CO₂ emissions.

We use the following benchmarks:

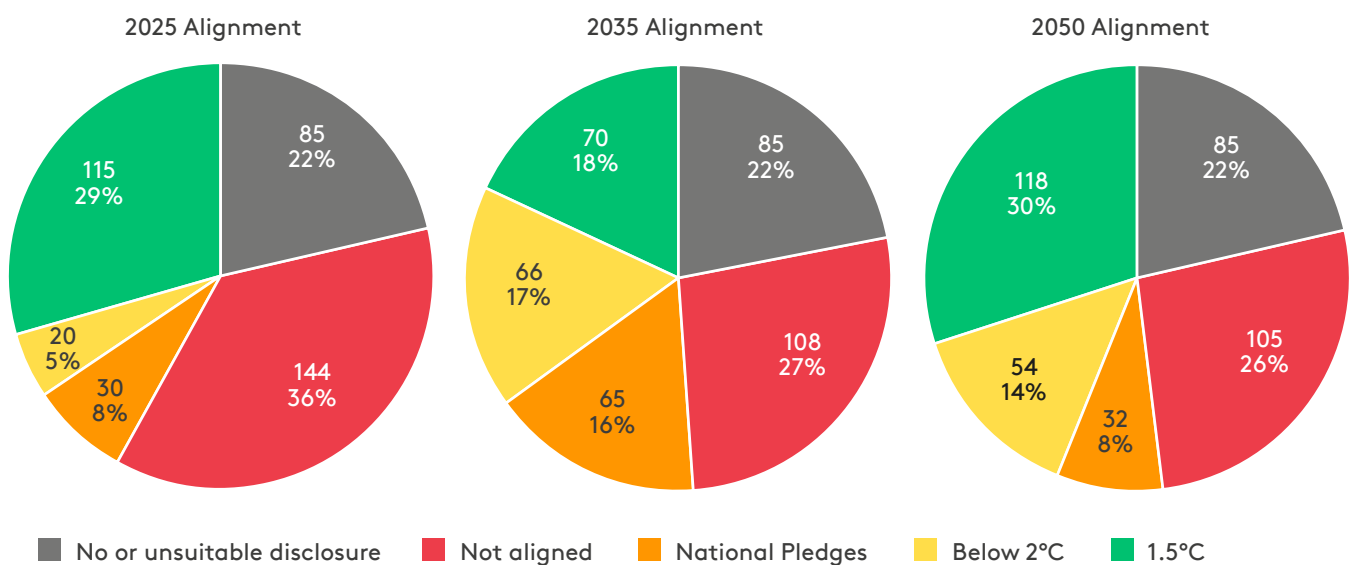
- **National Pledges:** this one reflects the global aggregate of countries' emissions reduction pledges made as of mid-2021.⁸
- **Below 2°C and 1.5°C:** these two reflect pathways to limit global warming to these specified temperature levels, which correspond to the targets in the Paris Agreement.⁹

Alignment with the benchmarks is highest in the long term (2050), but most companies do not align with 1.5°C or Below 2°C on any timeframe.

In 2050, 30% of companies are aligned with 1.5°C, 14% are aligned with Below 2°C, and a further 8% are aligned with National Pledges (see Figure 2.5). In 2035, only 18% of companies are aligned with 1.5°C, 17% are aligned with Below 2°C, and 16% are aligned with National Pledges. Thus, a similar share of companies in 2050 and 2035 is aligned at least with National Pledges, but the share of companies aligned with 1.5°C is markedly lower in the medium term than the long term. In the short term (2025), the corresponding shares are 29% aligned with 1.5°C; 5% with Below 2°C; and 8% with National Pledges.

This pattern reflects different determinants of alignment on different timeframes. The 30% of companies aligning with 1.5°C in 2050 are almost all companies with 'net zero by 2050' targets, which have appropriately wide emissions coverage. Alignment in the medium term is influenced by whether companies have set ambitious intermediate emissions targets. In all sectors, the benchmark pathways require relatively steep emissions reductions over the coming 10 to 15 years, and linear reduction pathways between today and net zero in 2050 are normally insufficient to align in 2035. Alignment in the short term is difficult for companies to influence through emissions targets. On this timeframe, alignment depends on companies' current business models and current/historical emissions reductions.

Figure 2.5. Carbon Performance alignment with the Paris Agreement benchmarks in 2025, 2035 and 2050 (number and % of companies)

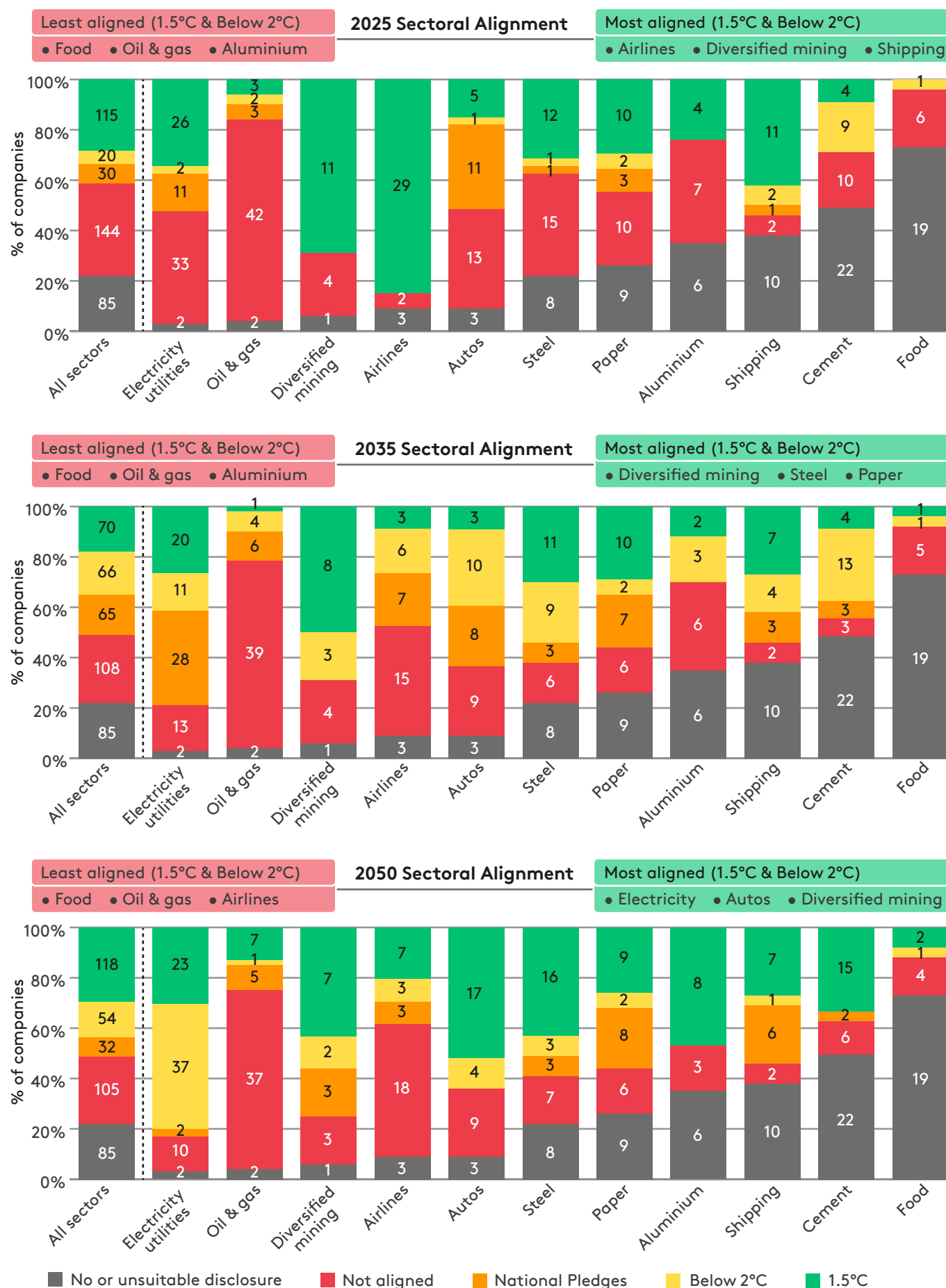


⁷ 394 out of 409 companies have Carbon Performance alignment scores; the remaining 15 companies have been excluded for not matching the criteria of our sectoral methodologies.

⁸ For the airlines and shipping sectors, we use International Pledges instead, as decarbonisation in these sectors falls outside of national policies.

⁹ For the paper sector, we use Below 2°C, 2°C and Paris Pledges benchmarks instead. For the food sector, we use 1.5°C, Below 2°C and 2°C instead. This is due to the lack of updated climate scenario data for these sectors.

Figure 2.6. Carbon Performance alignment with the Paris Agreement benchmarks in 2025, 2035 and 2050 by sector (% and number of companies)



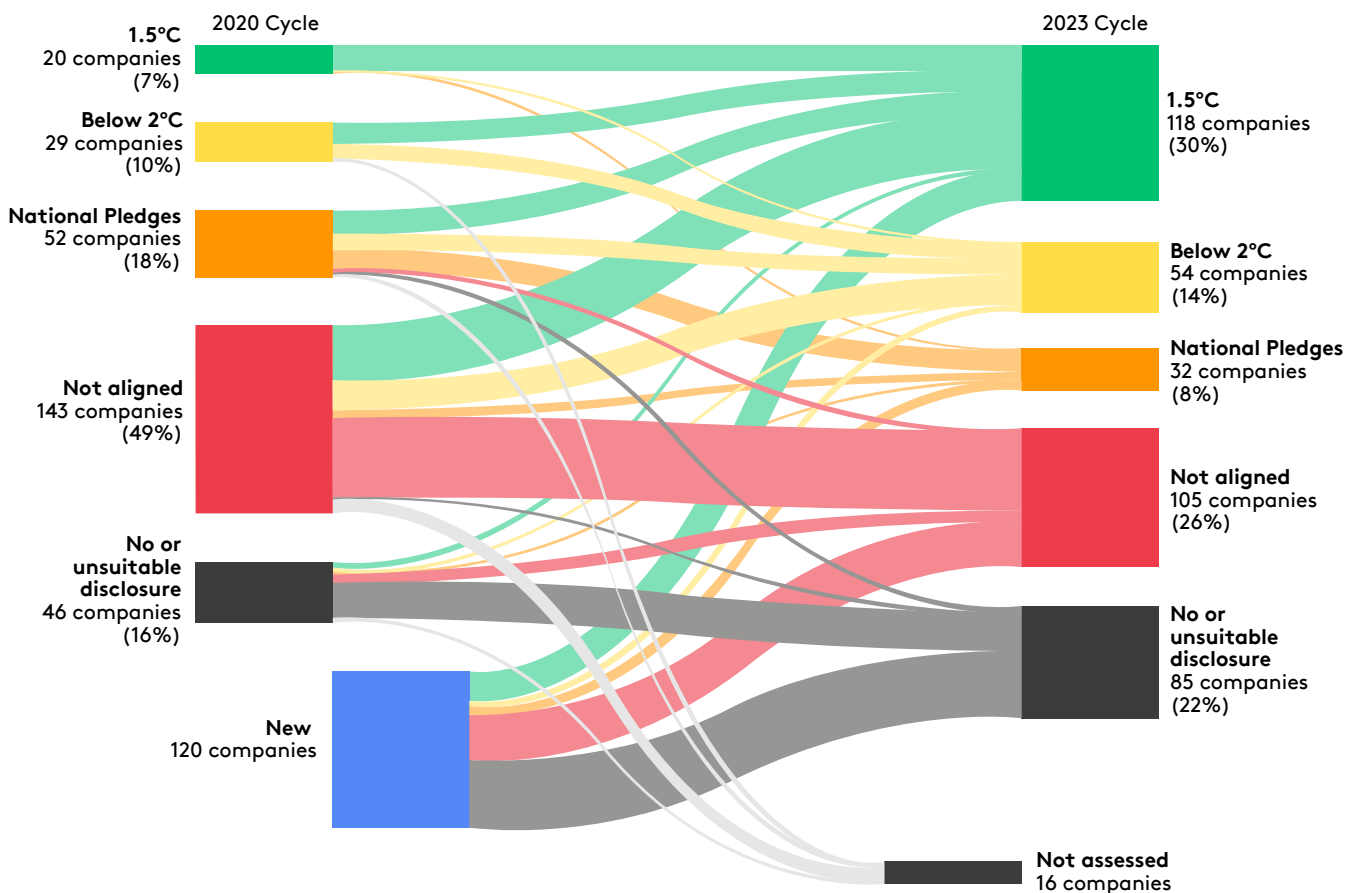
Patterns of alignment also differ significantly between sectors, reflecting their varying transition challenges. As shown in Figure 2.6 above, diversified mining companies consistently align the most across all timeframes, though it is important to note the number of companies in this sector, at 16, is small. Alignment in this sector is largely driven by what commodities feature in a company's portfolio of mined products, as different commodities are associated with widely varying lifecycle emissions. Food producers and oil & gas companies align the least across all timeframes. Disclosure is a particular problem in the food producers sector, while in the oil & gas sector disclosure is good but ambition is lacking. In contrast to the overall picture, airlines tend to align more in the short term than in the long term. This is primarily due to the aviation benchmarks, which are initialised at a high emissions intensity level due to the distortionary effect of the COVID-19 pandemic on aviation activity.

Trends in Carbon Performance

Our *State of Transition Report 2021* assessed the Carbon Performance of 292 companies across 10 sectors. Since then, we have expanded our coverage by 120 companies in total, including adding food producers as a new sector.¹⁰ Figure 2.7 illustrates progress in long-term alignment between the *State of Transition Report 2021*, which was based on our 2020 assessment cycle, and this report, which is based on our 2023 assessment cycle. The Carbon Performance sector methodologies have been updated since 2020 to reflect developments in low-carbon scenarios. To enable a consistent comparison, the 2020 company alignment scores have been recalculated using the latest benchmarks.

There has been a significant increase in long-term alignment (2050) with the Paris goals since our 2021 report. In the 2020 assessment cycle, only 7% of companies were aligned with 1.5°C; this has

Figure 2.7. Change in Carbon Performance alignment in 2050 between the 2020 (left) and 2023 (right) assessment cycles



Note: Percentages may not sum to 100% due to rounding.

¹⁰ Between 2020 and 2023 we removed 16 Russian companies from the assessment universe. See statement [here](#).

increased to 30% in the latest cycle. Alignment with Below 2°C has improved from 10% to 14%. The percentage of companies not aligned with any benchmark has dropped significantly, from 49% in the 2020 cycle to 26% in the 2023 cycle. Focusing on the 129 companies that improved their Carbon Performance between the 2020 and 2023 cycles, nearly half of these companies have progressed from being not aligned in 2050 to aligning with 1.5°C or Below 2°C. Approximately 60% of companies that were aligned with the National Pledges benchmark in the 2020 cycle now align with the more ambitious 1.5°C or Below 2°C benchmarks. In contrast, there has been only a marginal improvement in the quality of disclosure from companies previously categorised as having no or unsuitable disclosure.

On repeating this analysis for medium-term alignment (2035) we find similar if slightly slower progress. In the 2020 cycle, 7% of companies were aligned with 1.5°C in the medium term, compared with 18% now. Alignment with Below 2°C has increased from 12% to 17%, and alignment with National Pledges from 12% to 16%. Far fewer companies now are not aligned with any benchmark (27% in the 2023 cycle compared with 53% in the 2020 cycle). These results can be found in Appendix 2.

Companies newly added to the assessment cycle in 2023 tend to have worse Carbon Performance than companies represented in our data from before this date. Only 28% of these 120 newly added companies are aligned with any of the benchmarks in the long term, compared with 62%

of the 274 companies that were already assessed. Conversely, 43% of newly added companies have no or unsuitable disclosure, while this figure is only 12% for previously assessed companies. The newly added companies generally have smaller market cap, indicating company size is positively associated with Carbon Performance too. This is discussed further in Section 2.3.

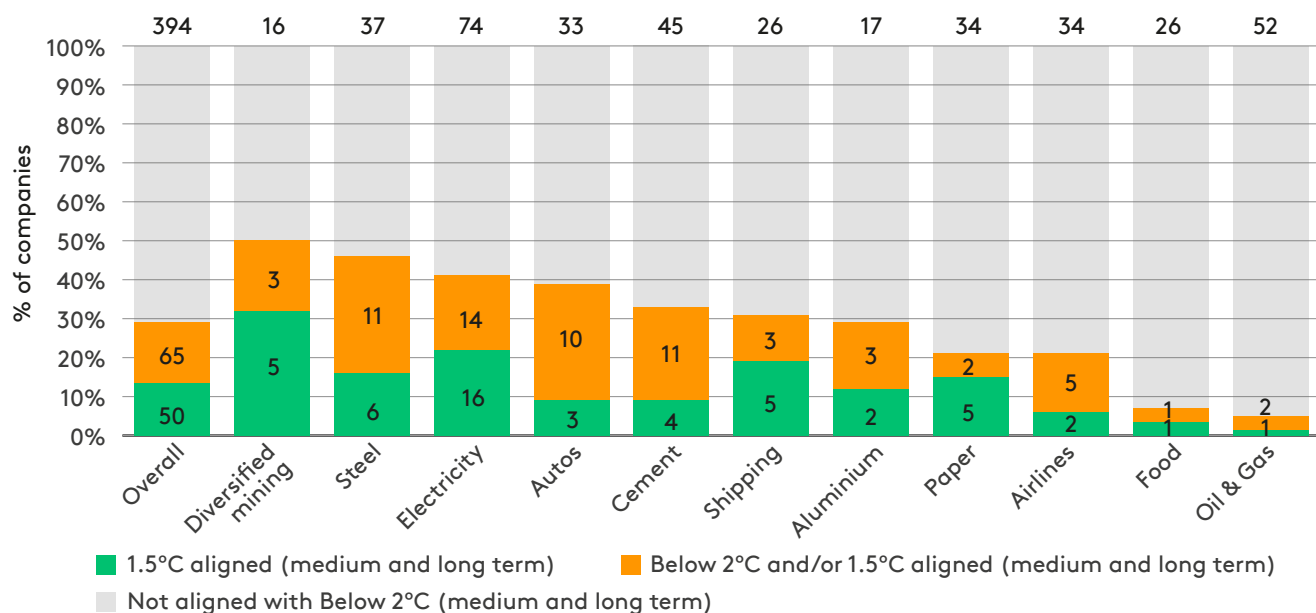
Updating the Carbon Performance benchmarks has only slightly affected company alignment.

As new low-carbon scenario data have been produced by organisations such as the International Energy Agency (IEA), we have updated our benchmarks accordingly. The updated sectoral benchmarks have mostly become more stringent, particularly in aluminium, cement, diversified mining, electricity and shipping. However, only 8% of alignment scores have decreased as a result of the benchmark updates.

Aligning in the medium and the long term

Climate science has shown that changes in global temperature are proportional to cumulative CO₂ emissions. Therefore, alignment across all years is more important than alignment in any individual year. Figure 2.8 shows the proportion of companies in each sector that align with 1.5°C or Below 2°C in both the medium term (2035) and the long term (2050). We omit short-term (2025) alignment from this analysis since it is difficult for companies to affect significantly and is largely a function of their starting positions.

Figure 2.8. Carbon Performance alignment with ambitious Paris Agreement benchmarks in the medium (2035) and long term (2050) (% and number of companies)



Note: The numbers at the top of each bar indicate the total number of companies evaluated in that sector.

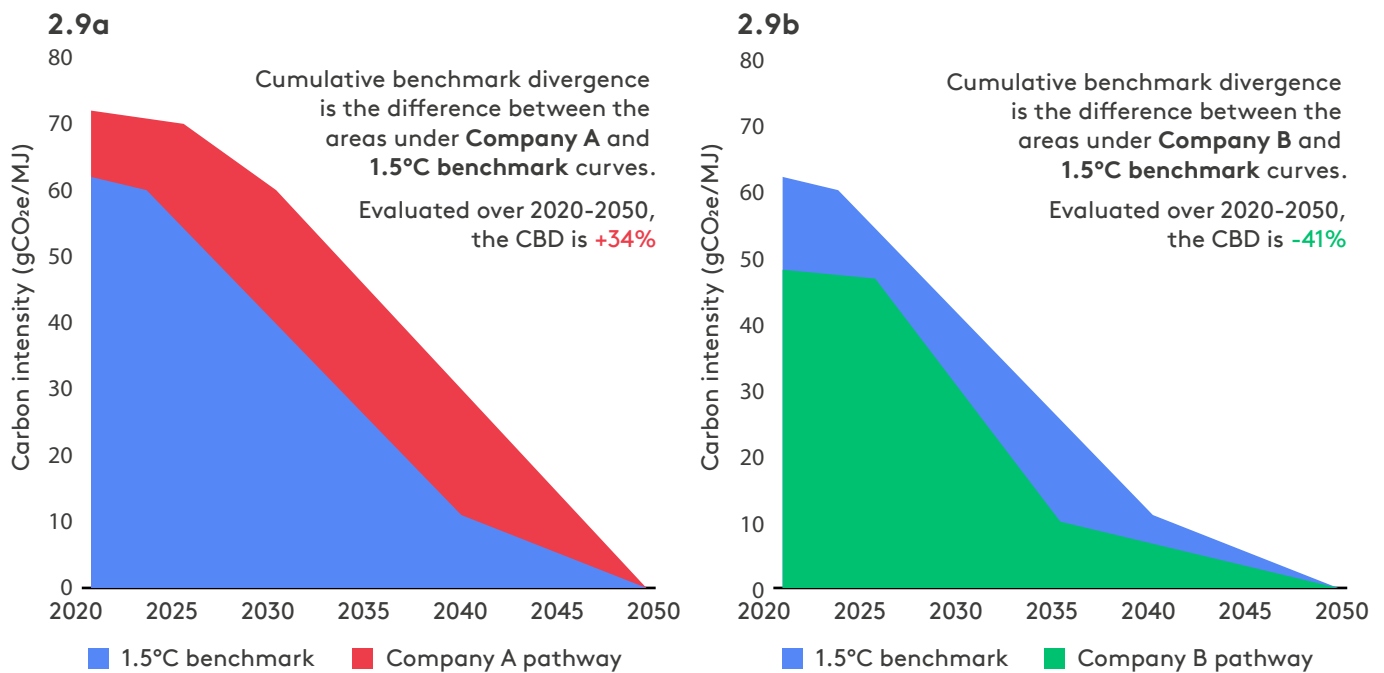
Overall, 115 companies (29%) are aligned with 1.5°C or Below 2°C in both the medium and long term, a significantly smaller proportion of companies compared with the share aligning on just one or other of these timeframes. The sectors most aligned with 1.5°C or Below 2°C are diversified mining, electricity and steel. The least aligned sectors are again food producers and oil & gas.

Cumulative benchmark divergence

Another way to measure alignment is using cumulative benchmark divergence (CBD).¹¹ CBD measures the difference (divergence) between

a company's emissions pathway and its sectoral benchmark across the whole pathway by plotting these on a graph, then comparing the area underneath the two curves. As shown in Figure 2.9a, the further the company pathway (red) is above the benchmark (blue), the less aligned its emissions targets are and the higher its CBD score will be. A zero or negative CBD score indicates that the company's emissions targets are aligned with a benchmark when taking the whole pathway into account – see Figure 2.9b. This approach based on cumulative emissions is consistent with climate science and allows alignment to be expressed in a single percentage figure.

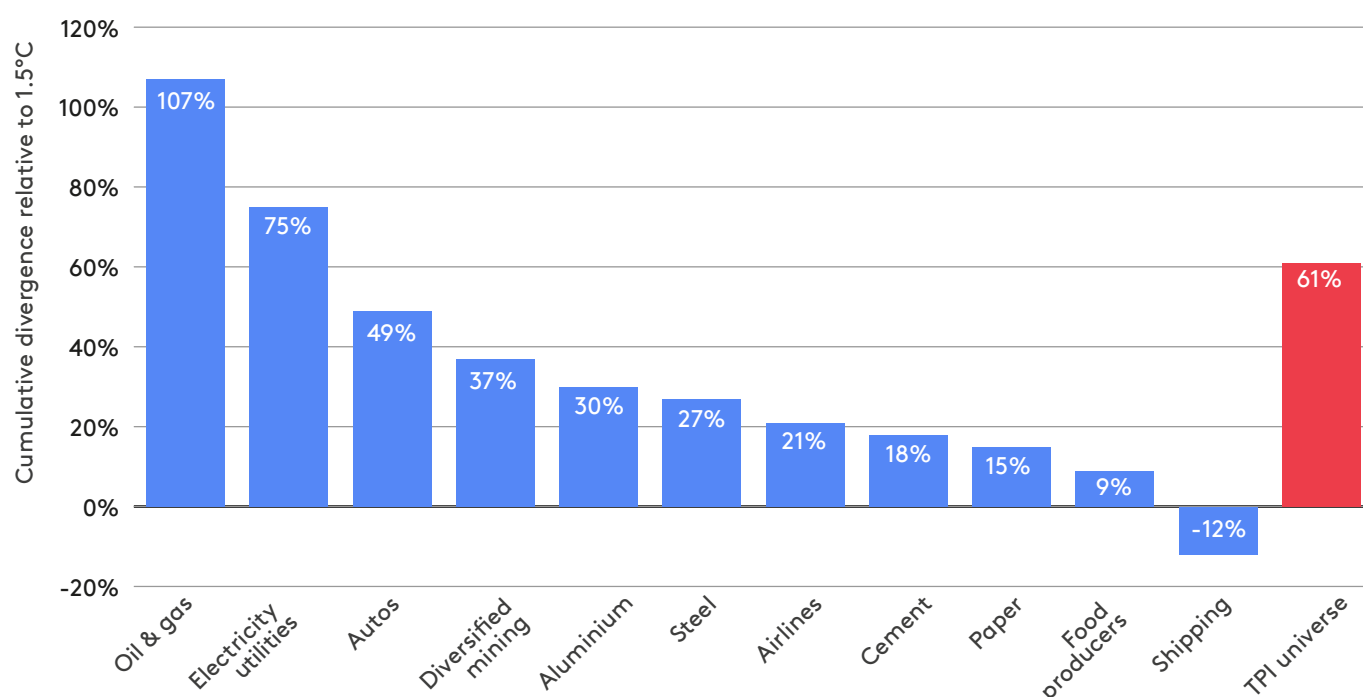
Figure 2.9. Illustration of how cumulative benchmark divergence (CBD) is calculated using emissions intensity pathways for a) a company that is above the benchmark (Company A) and b) a company that is below the benchmark (Company B)



“CBD can help investors identify transition risk across their portfolio and prioritise engagement resources accordingly”

¹¹ Developed by the Institutional Investors Group on Climate Change (IIGCC, 2024).

Figure 2.10. TPI universe cumulative benchmark divergence by sector



One of the merits of expressing alignment using CBD is that company values can be aggregated to calculate an overall sector or portfolio value. Companies with negative CBD can potentially compensate for companies with positive CBD, providing the flexibility to achieve sector- and economy-wide emissions targets cost-effectively. We calculated CBD for a total of 301 companies across 11 sectors.¹² To aggregate these data into a sector score, we weighted each company's CBD score by its share of the sector's market cap¹³ as a proxy for company size/absolute emissions. Similarly, by weighting each sector's CBD by the sector's share of total market cap, we can compute a single, overall CBD score for all companies in the TPI universe.

The CBD of the TPI universe is 61%, taking 1.5°C as the benchmark and measured between 2020 and 2050.¹⁴ This indicates that companies in the

TPI universe plan to cumulatively emit much more than is consistent with a 1.5°C scenario. However, as Figure 2.10 shows, performance varies widely by sector. The oil & gas sector is the most misaligned, with a CBD score of 107%. By contrast, shipping has a negative CBD (-12%), indicating it is aligned with a 1.5°C scenario. This is largely due to the Carbon Performance of two large, publicly listed shipping companies, AP Moller-Maersk and Hapag-Lloyd, which outperform the shipping benchmark and together represent nearly 60% of the sector's market cap. Although the food sector has a CBD of only 9%, it is important to note that only seven companies could be assessed in this sector due to limited disclosure.

Used in this way and in combination with other data, CBD can help investors identify transition risk across their portfolio and prioritise engagement resources accordingly.

¹² Not all companies disclose sufficient information for an emissions pathway to be projected. For this analysis we exclude companies with no or unsuitable disclosure (featured in our results above). For companies whose pathways do not extend to 2050, emissions intensity pathways are held constant at the latest historical or targeted value and extrapolated to 2050.

¹³ Free-float market cap data, standardised to 31 December 2020, was used to calculate the weights.

¹⁴ For the paper sector, we use the Below 2°C benchmark as this is the most ambitious scenario available for this sector.

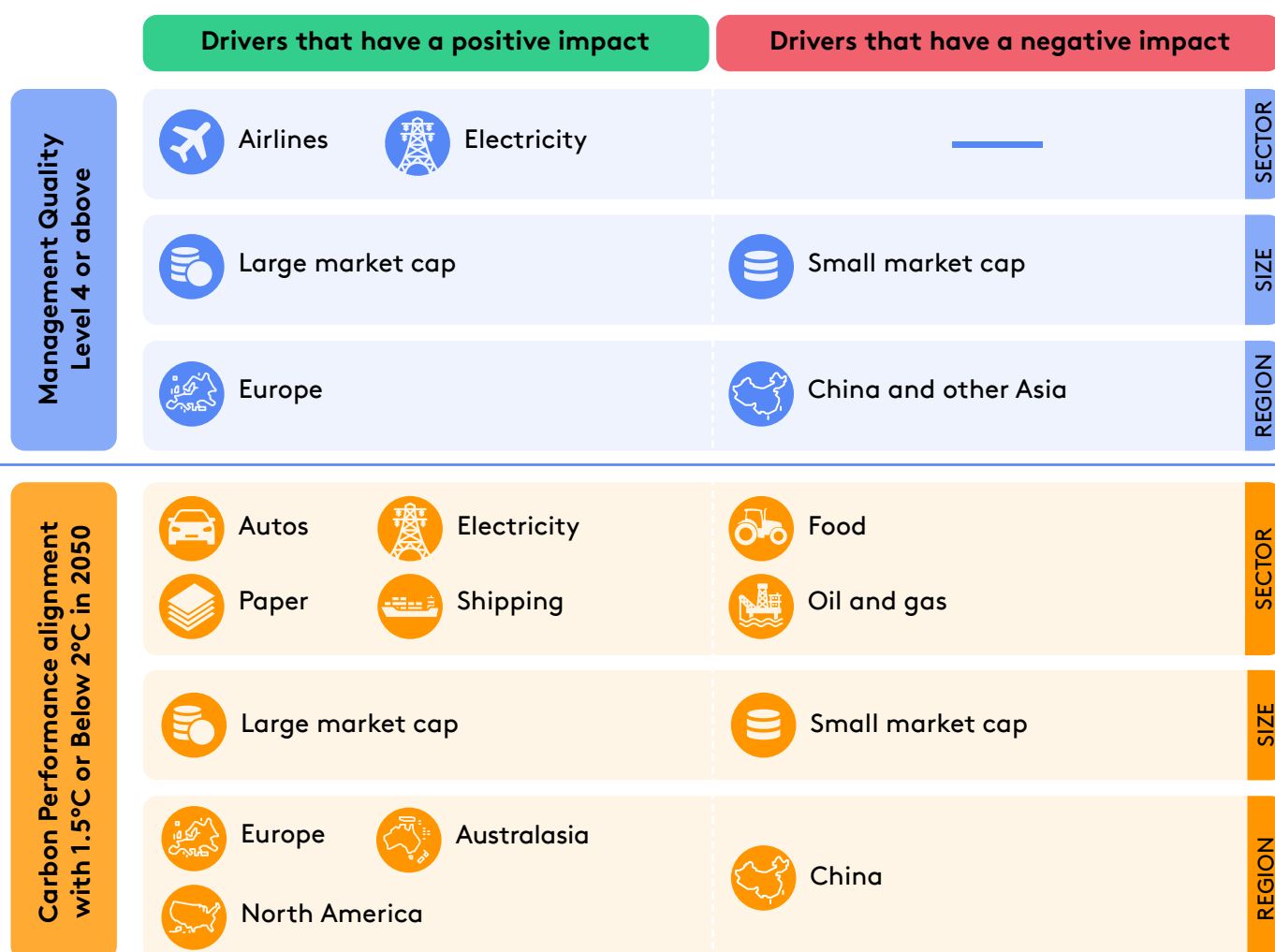
2.3. Drivers of Management Quality and Carbon Performance: company size, region and sector

Management Quality is affected by company size, region and sector. Above we have shown that Management Quality in the TPI universe varies across sectors and is positively associated with company size, as measured by market cap. However, we want to know if sector affects Management Quality after controlling for size,

and similarly if size affects Management Quality after controlling for sector. We also want to take geographical region into account. To establish this, we regressed Management Quality scores on all three determinants simultaneously.

We find that size, region and sector all matter for Management Quality. Companies with larger market cap are statistically more likely to be at Management Quality Level 4 or above, controlling for company region and sector (see Figure 2.11). Taking Africa and Latin America together

Figure 2.11. Results¹ from regressing Management Quality level² and Carbon Performance³ alignment with 1.5°C or Below 2°C in 2050 on sector, size and region



1. The chart identifies results that are statistically significant with at least 95% confidence.

2. Management Quality level: Ordered Probit using robust standard errors was used for the Management Quality regression analysis. The chart shows how the variables affect the likelihood of a company reaching Management Quality Level 4. It indicates how changes in one variable, compared with its reference category, can increase or decrease this probability. It employs the reference categories of coal mining for the sector, medium market cap for company size, and Africa and Latin America for the region. The models exclude companies classified as 'unlisted' due to their lack of market cap. This yields a sample size of 1,006 companies.

3. Carbon Performance: Logit model using robust standard errors was used for the Carbon Performance regression analysis. The chart shows how the variables affect the likelihood of a company aligning with 1.5°C or Below 2°C in 2050. It indicates how changes in one variable, compared with its reference category, can increase or decrease this probability. It employs the reference categories of airlines for the sector, medium market cap for company size, and Africa and Latin America for the region. Again, the models exclude companies classified as 'unlisted' due to their lack of market cap, and also companies that were 'not assessed' for Carbon Performance. This yields a sample size of 377 companies.

For both Management Quality and Carbon Performance, sector, size and region effects should be interpreted individually and relative to their reference category, assuming other variables are held constant.



as the composite reference region, companies headquartered in Europe are statistically more likely to reach Level 4 or above, controlling for size and sector. Using coal mining as the reference section, airlines and electric utilities are statistically more likely to be at Level 4 or above than companies in other sectors, controlling for size and region.

Repeating the analysis for Carbon Performance, specifically for alignment with 1.5°C or Below 2°C in 2050, we again find that size, region and sector all matter. Companies with larger market cap are statistically more likely to align, controlling for region and sector (see Figure 2.11). Taking Africa

and Latin America together as the composite reference region, companies headquartered in Australasia, Europe and North America are comparatively more likely to align and companies headquartered in China are less likely to align, controlling for size and sector. Using airlines as the reference sector, companies operating in autos, electricity, paper and shipping are comparatively more likely to align, and companies in oil & gas and food producers are less likely to align, controlling for size and region.

We elaborate on these geographical differences and set out their implications for investors in Section 4.

3. Towards a holistic view of corporate climate action

This section explores the relationship between a company's Management Quality and its Carbon Performance, with a view to building a holistic understanding of corporate climate action. We examine how Management Quality relates to both historical and future Carbon Performance, and use Artificial Intelligence (machine learning) tools to let the data identify the defining features of high-achieving companies.

3.1. Signs of a positive relationship between Management Quality and realised emissions reduction in the short term

Companies that had higher Management Quality in 2017 made greater reductions to their emissions intensity over the period 2017–2021 compared with those with lower scores. In our *State of Transition Report 2021*, we showed that companies with higher Management Quality scores in 2017 subsequently reduced their emissions intensity more between 2017 and 2019 than companies with

lower Management Quality scores. For this report, on repeating the analysis for the longer period of 2017 to 2021 we find an even stronger effect: companies on Management Quality Level 4 in 2017 reduced their emissions intensities by an average of 9.6% between 2017 and 2021, 2.7 times more than companies on Levels 0 to 3. This difference is statistically significant.¹⁵

However, companies with higher Management Quality in 2018 did not reduce their emissions intensity more than those with lower scores over the period 2018–2021. Because the sample size of companies with a Management Quality



¹⁵ The difference in means is statistically significant at the 90% confidence level. Since the means could be skewed by outliers, we also undertook a test of medians and confirmed that the differences are statistically significant at the 95% level over the 2017–2021 period.

score for 2017, the first year of TPI, was only 72, we repeated the analysis on companies with a Management Quality score for 2018 (see Figure 3.1), bringing the sample up to 151. In this case, there is no statistically significant difference between companies on Level 4 and companies on Levels 0–3. In fact, companies on Level 4 in 2018 reduced their emissions intensity by an average of 3.8% between 2018 and 2021, less than the 4.7% average reduction made by companies on Levels 0–3. The exception is the electricity sector, where companies on Level 4 made higher mean and median emissions intensity reductions between 2018 and 2021. The lack of a statistically significant relationship holds even when we exclude the airlines sector, which was most impacted by the COVID-19 pandemic. To attenuate the effects of the pandemic, we repeated the analysis of 2018 Management Quality using emissions intensity reductions over the period 2018–2020 only. We find that although companies with higher Management Quality in 2018 reduced their emissions intensity more over the period 2018–2020, the difference is not statistically significant either.

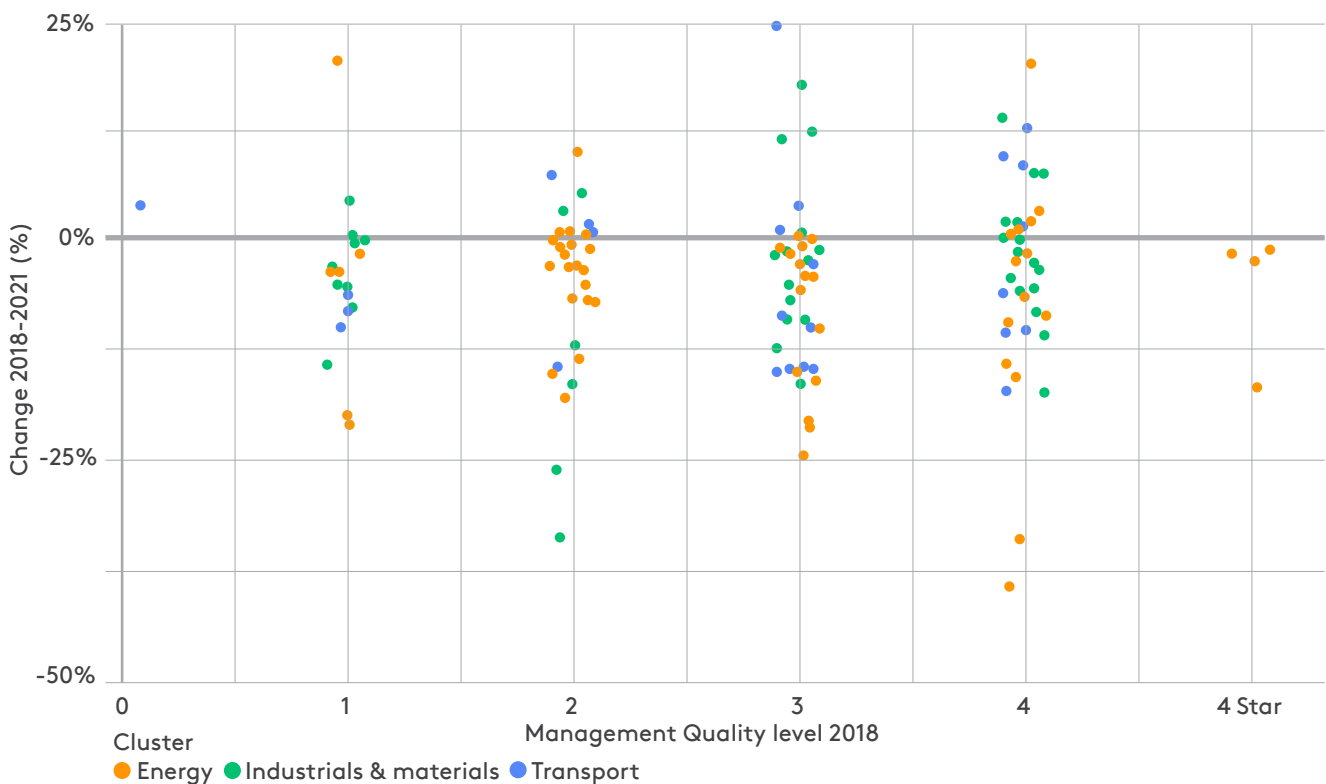
A study by FTSE Russell covering more than 2,000 companies found a positive association between TPI Management Quality scores in 2019 and

emissions reductions over the period 2019–22 (Rocamora et al., 2023). The study reported that companies with higher Management Quality scores in 2019 reduced their Scope 1 and 2 absolute emissions and emissions intensities (per dollar of revenue) more between 2019 and 2022 than companies with lower Management Quality scores, although no statistical tests were performed.

Looking at all the evidence, there are signs of a positive relationship between Management Quality and realised Carbon Performance in the short term, although we cannot yet say the relationship is robust and statistically significant.

There are several differences in scope between these various analyses, which could explain the different results, including sample size (larger is better), differences in sectoral and size composition between samples, how emissions reductions are measured (ideally, these would include material Scope 3 emissions and revenue would be per unit of physical production, as in TPI's Carbon Performance metrics), the length of the period over which emissions reductions are measured (longer is better), and the possible confounding effects of the COVID-19 pandemic on emissions data in 2020 and 2021.

Figure 3.1. Changes in emissions intensities between 2018 and 2021 (using TPI Carbon Performance metrics) against Management Quality level in 2018



3.2. A positive relationship between Management Quality and medium- and long-term future emissions reduction

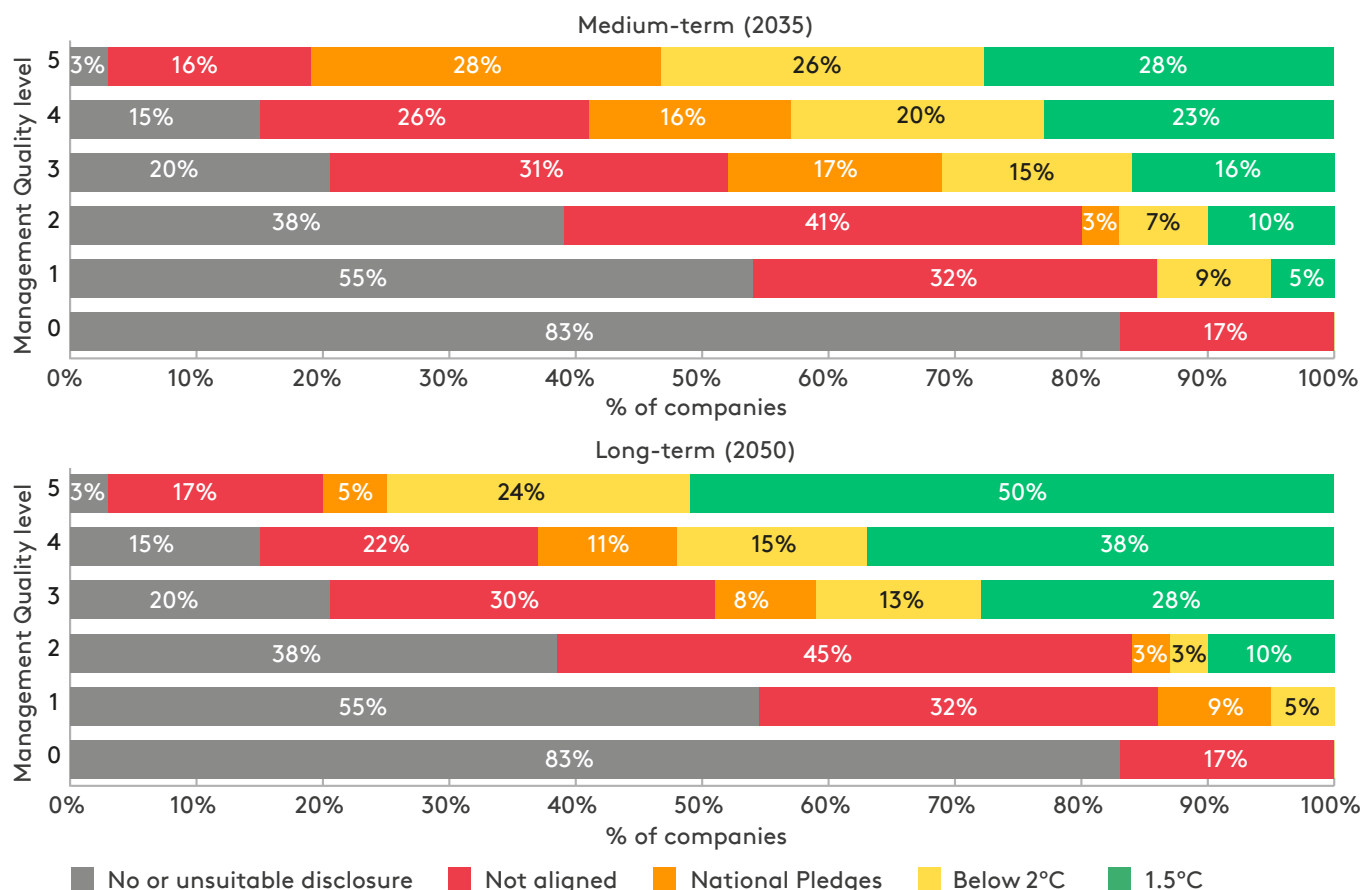
Figure 3.2 shifts the focus from short-term realised emissions reductions to Carbon Performance alignment in the medium- and long-term future. Companies are grouped by their 2023 Management Quality level and their alignment with each Carbon Performance benchmark in 2035 and 2050.

Companies with higher Management Quality disclose more comprehensive emissions and activity data than those on lower levels. Fewer than half of companies on Levels 0 and 1 in 2023 disclose the appropriate emissions and activity data that would enable their Carbon Performance to be assessed (17% and 45%, respectively). The share of companies with suitable disclosure rises progressively across Levels 2, 3, 4 and 5 (to 62%, 83%, 85% and 97%, respectively). This underscores the importance of basic carbon management practices around emissions disclosure, which are necessary for the quantitative assessment of alignment against the Paris Agreement goals.

Higher Management Quality is associated with better Carbon Performance scores in both the medium and long term. Almost three-quarters (74%) of companies at Level 5 are aligned with Below 2°C or 1.5°C in 2050, and over half (54%) are aligned in 2035. Strong alignment is also observed for companies at Level 4, with 53% of companies aligning with Below 2°C or 1.5°C in 2050 and 43% in 2035. Fewer companies at Levels 0 to 3 are aligned. Similar results are found when assessing alignment exclusively against the 1.5°C benchmark. The relationship between Management Quality levels and Carbon Performance alignment scores is statistically significant, although it is stronger in the long term than in the medium term.¹⁶

Therefore, Management Quality is associated with more ambitious medium- and long-term emissions reduction targets. Although the Management Quality and Carbon Performance frameworks overlap partially (because some Management Quality indicators test for emissions disclosures and targets), most Management Quality indicators are not directly related to setting independently verifiable emissions reduction targets, so this result is not simply mechanical.

Figure 3.2. Alignment of companies at each Management Quality level with the TPI benchmarks



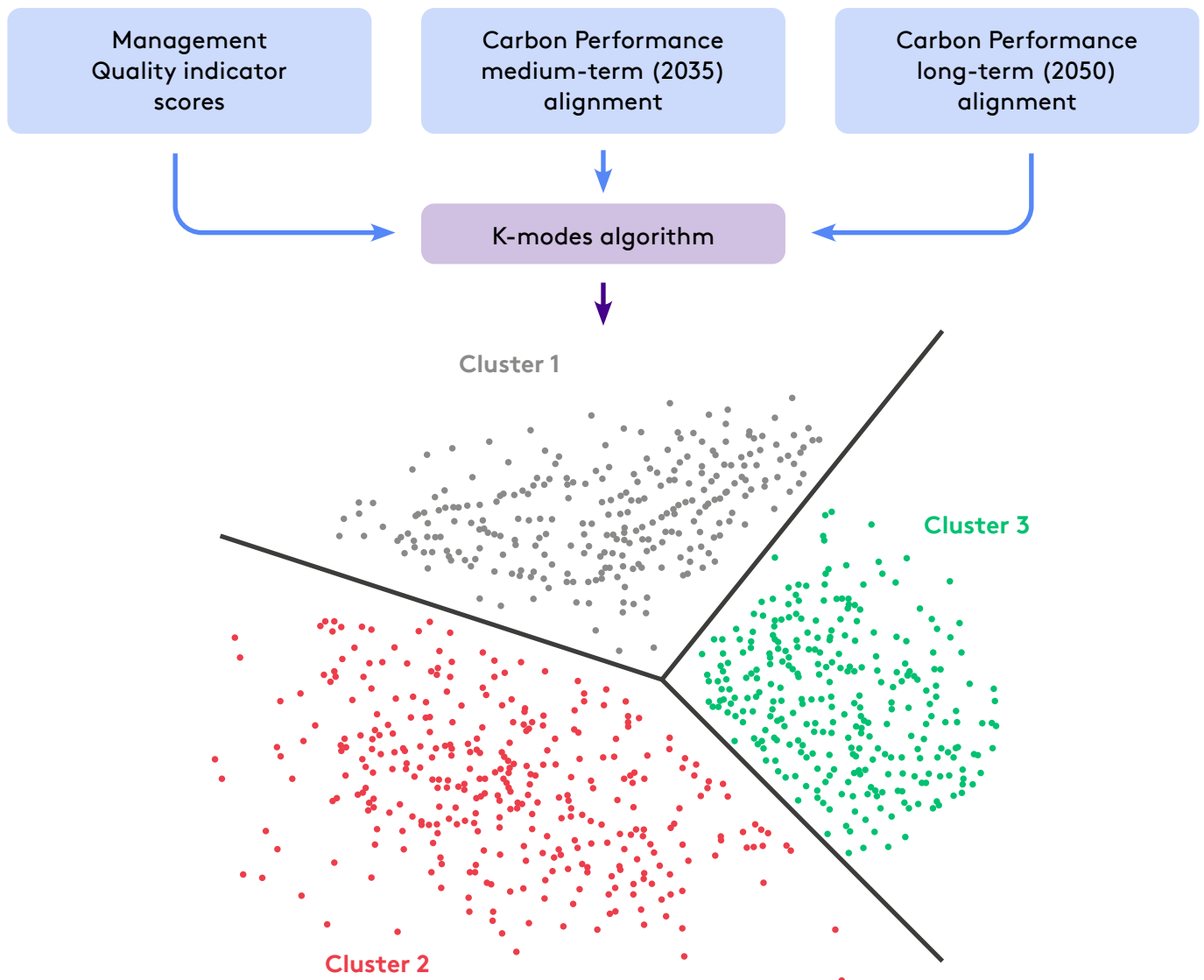
¹⁶ The relationship between Management Quality and Carbon Performance across all companies is statistically significant with 90% and 99% confidence in 2035 and 2050, respectively, based on Pearson's Chi-squared test.

3.3. Management Quality and Carbon Performance: the defining characteristics of leading companies

Drilling down into individual Management Quality indicators, we investigate whether specific practices are more strongly associated with medium- and long-term Carbon Performance, using a machine learning technique. To further analyse the link between Management Quality and Carbon Performance at the indicator level, we undertook cluster analysis using the K-modes

algorithm (see Figure 3.3 for an illustration). The K-modes algorithm groups data points with similar qualitative characteristics into clusters, thereby revealing patterns and relationships between variables. It identifies groups by assigning each data point to the nearest cluster centre (mode) and iteratively updating these modes. Clustering can help to simplify complex datasets and uncover hidden patterns in the data. Carbon Performance alignment scores in 2035 and 2050 were fed into the algorithm alongside 22 Management Quality indicators for 390 companies.¹⁷

Figure 3.3. Stylised representation of K-modes clustering method applied to Management Quality and Carbon Performance data (with illustrative clusters)



¹⁷ The Management Quality framework comprises 23 indicators in total, but Q12 (Does the company disclose materially important Scope 3 emissions?) was excluded from the analysis as it is not applicable to all companies.

The analysis suggests three main clusters: ‘Low’, ‘Moderate’ and ‘High’ achievement, reflecting companies’ overall scores on both Management Quality and Carbon Performance. Low-achieving companies satisfy relatively few Management Quality indicators and are less likely to align with their Carbon Performance benchmarks in the medium and long term. Moderate-achieving companies do somewhat better on both dimensions and high-achieving companies satisfy many Management Quality indicators and are more likely to align with the benchmarks. Figure 3.4 shows the medium- and long-term Carbon Performance of each of these three groups. While the main point of the cluster analysis is to investigate individual indicators, it provides another way of showing that Management Quality and medium- and long-term Carbon Performance alignment are positively associated.

High-achieving companies distinguish themselves from moderate-achieving companies on several Management Quality indicators. High-achieving companies are both ambitious in the targets they

set and clear on the actions that are necessary to meet them. Low-achieving companies are less likely to satisfy indicators 1 to 17, while medium- and high-achieving companies score well on all these indicators (see Figure 3.5). Few companies in any group satisfy any Level 5 indicator. However, some indicators can effectively differentiate between the moderate- and high-achievement groups, above all Q18, which assesses whether companies disclose the actions necessary to meet their emissions reduction targets. Eighty-nine per cent of high-achieving companies satisfy this indicator, compared with only 30% of moderate-achieving companies. Level 5 indicators have a similar effect: in particular, quantification of key emissions reduction elements (Q19), alignment of future capital expenditure (Q22) and consistency of climate-change policies with trade association lobbying (Q23). Incorporating climate change risks and opportunities into strategy (Q15) has a similar effect, albeit less pronounced. These indicators could therefore be said to be the defining characteristics of the leading companies.

Figure 3.4. Breakdown of Carbon Performance alignment by cluster group (% and number of companies)

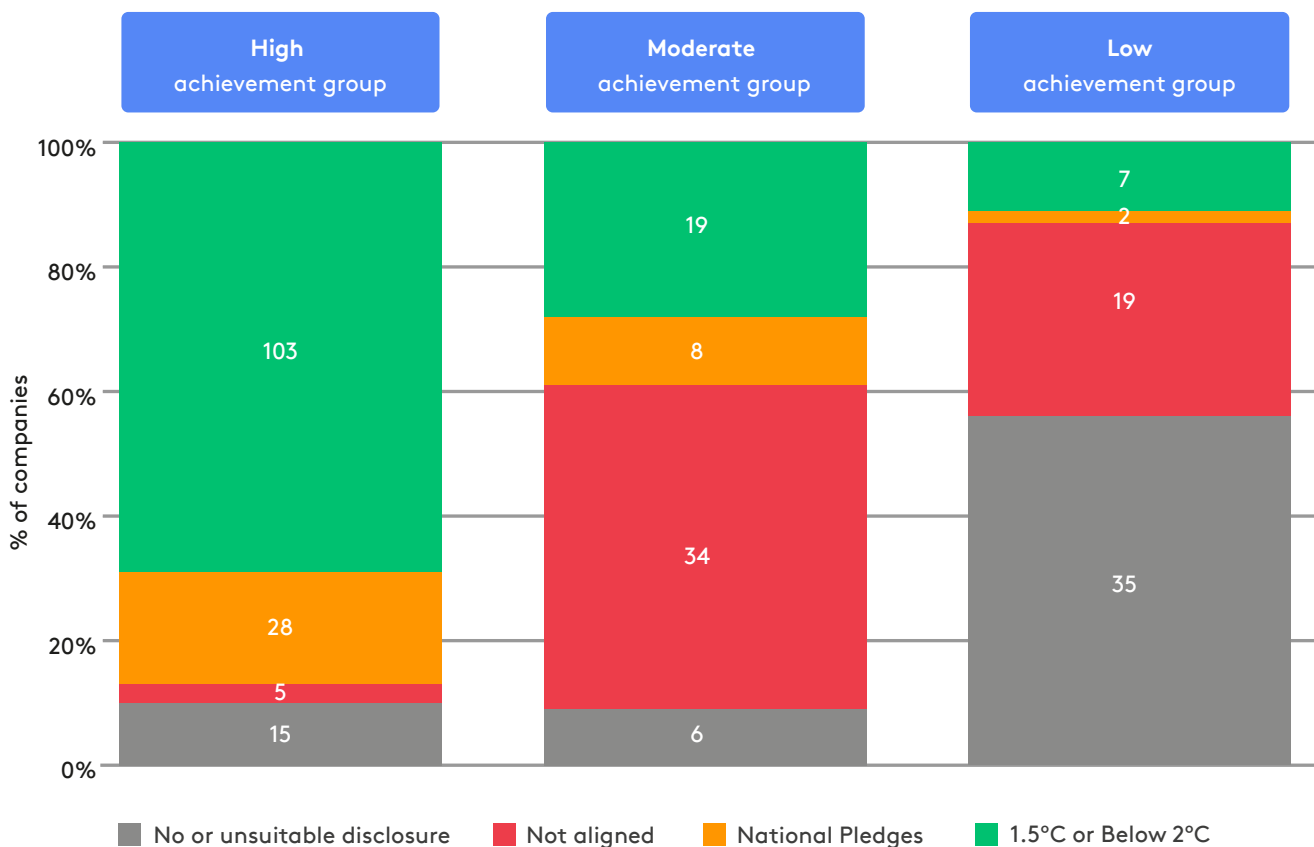
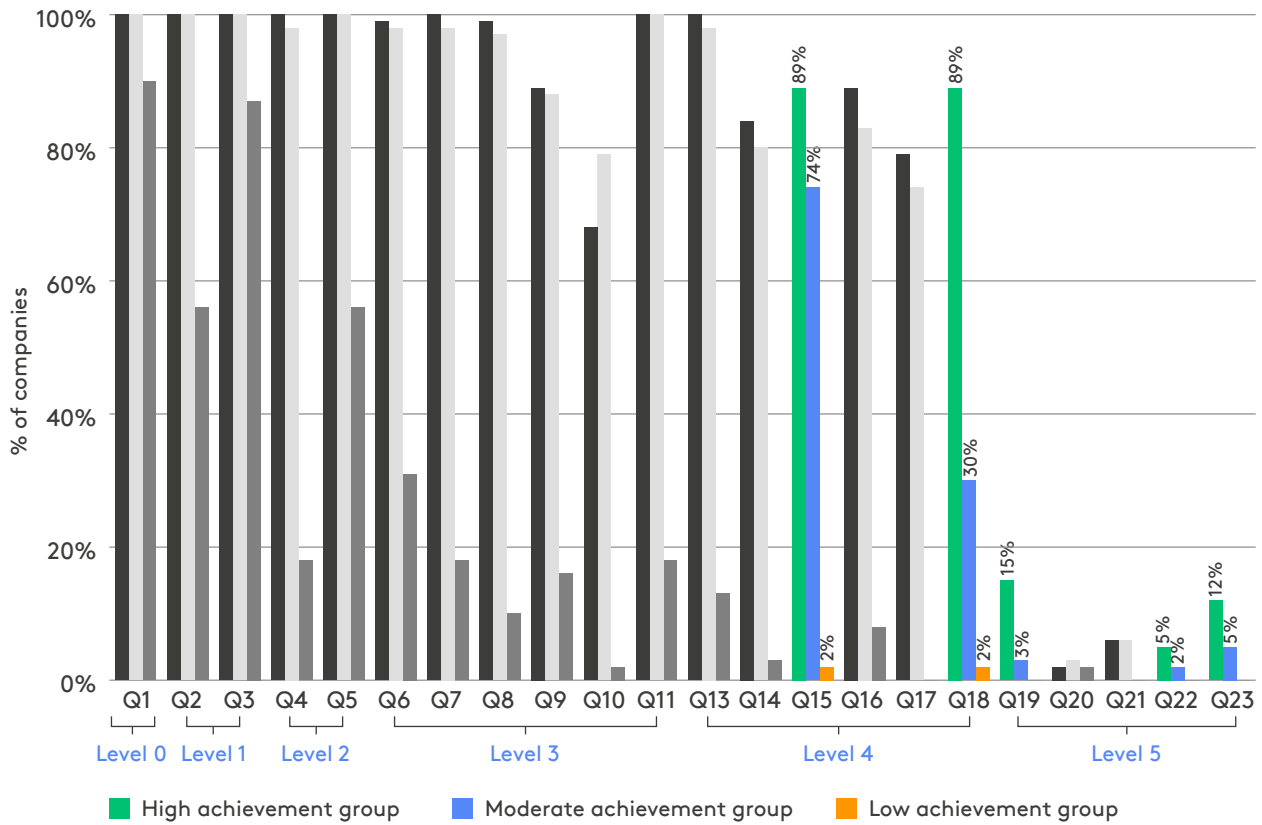


Figure 3.5. Management Quality results by indicators that show the greatest difference between the high and moderate achievement groups



Note: The greyed-out bars represent indicators where the difference in the proportion of companies scoring 'Yes' between the high and moderate achievement groups was insignificant.



4. Regional insights and challenges

We tested whether the region in which companies operate is associated with Management Quality scores and Carbon Performance alignment in Section 2.3. This section explores geographical patterns in Management Quality and Carbon Performance in more detail. Our aim is to respond to growing calls for investors to explore regional challenges when assessing corporate climate action. The insights discussed are exploratory and set a foundation for further research.

Factors external to a company can affect its climate action. One important external factor is the regulatory environment in which companies operate, in terms of both environmental and financial regulation. Other external factors include the availability of resources and technologies, industry composition, stakeholder pressure and corporate governance norms. Many of these factors are related to the level of economic development of the country where a given company is located.

4.1. Geographical variation in corporate climate action¹⁸

On Management Quality:

- **European, Japanese and Australasian** companies on average score higher than those in other regions.
- **Europe** is the region with the highest proportion of companies on Levels 4 or 5 (46%).
- In **Japan**, 24% of companies are on Level 4 or 5.
- In **Europe and Japan**, fewer than 5% of companies fall below Level 3.
- In **Australasia**, 31% of companies are on Levels 4 or 5 and a more significant share (23%) is below Level 3.
- In **North America**, 24% of companies are at Level 4 or 5, but only 10% sit below Level 3.
- In **China**, 70% of companies are below Level 3.
- In **Asia excluding Japan and China**, only 15% of companies are on Level 4 or 5 and 33% are below Level 3.

This observed pattern is statistically significant when controlling for company size and sector: being headquartered in Europe has a positive impact on achieving Level 4 or above, while being headquartered in China or other Asian countries (excluding Japan) has a negative impact (see also Section 2.3).

On Carbon Performance:

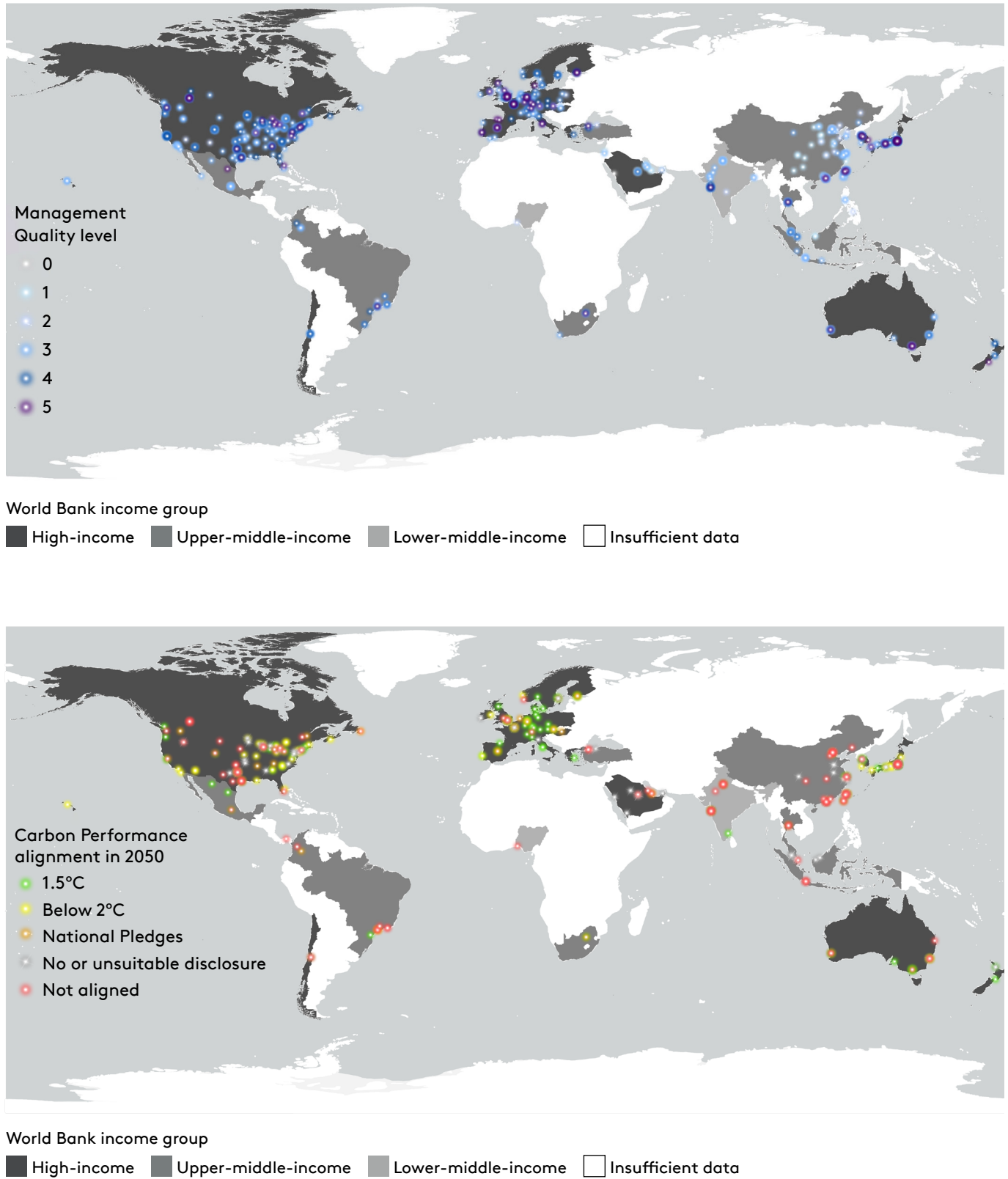
- **European, Australasian and Japanese** companies see the greatest alignment with 1.5°C or Below 2°C in 2050 at 66%, 64% and 56% respectively.
- **North American** companies follow with the next largest share aligned with 1.5°C or Below 2°C (49%), but an almost equal share is either not aligned with any benchmark or lacks suitable disclosure (48%).
- In **China**, most companies (82%) are either not aligned or lack suitable disclosure; for those headquartered in other Asian countries this figure is 70%.
- In **Latin America**, 50% of companies are not aligned or lack disclosure, though nearly one-third (28%) align with 1.5°C or Below 2°C.

Controlling for company size and sector, we find that being headquartered in Europe, Australasia or North America has a positive impact on aligning with 1.5°C or Below 2°C, while being headquartered in China has a negative impact (see also Section 2.3).

Figure 4.1 maps the geographical distribution of companies by their Management Quality scores and Carbon Performance in 2050. Companies are assigned to the countries in which they are headquartered, and countries are categorised using World Bank income groups.

¹⁸ The sample size of companies assessed on Management Quality differs by region as follows: Africa (9), Australasia (38), Latin America (41), China (85), Japan (131), Other Asia (176), Europe (183) and North America (347). The sample size of companies assessed on Carbon Performance differs by region as follows: Africa (3), Latin America (18), Australasia (22), China (38), Japan (51), Europe (77), Other Asia (80) and North America (105). As such, the descriptive statistics presented in this section are most robust for Asia, Europe and North America.

Figure 4.1. Geographical distribution of companies by Management Quality level (top) and Carbon Performance in 2050 (bottom)



Note: The number of companies assessed on Management Quality differs from the number assessed on Carbon Performance (see Table 1.1).

Categorising countries by income group reveals a clear pattern (see Figures 4.2 and 4.3) with statistically significant variation:¹⁹

- Companies headquartered in high-income countries have systematically better Management Quality and Carbon Performance than companies in middle-income countries.²⁰
- On Management Quality only 12% of companies in middle-income countries are on Levels 4 or 5, compared with 30% in high-income countries. Nearly half (45%) of companies in middle-income countries are below Level 3, compared with only 11% in high-income countries.
- On Carbon Performance 18% of companies in middle-income countries align with 1.5°C or Below 2°C, compared with over half (52%) of those in high-income countries.

- Disclosure is also better in high-income countries.

Note that specific carbon management practices (i.e. Management Quality indicators) appear to be more significant hurdles for companies in middle-income countries.²¹ These include nominating a board member with responsibility for climate change (Q6), disclosing Scope 3 emissions (Q8), having a process to manage climate-related risks (Q11), setting a long-term quantitative emissions target (Q13), incorporating climate performance into executive remuneration (Q14) and undertaking climate scenario planning (Q16). Like companies in high-income countries, very few companies in middle-income countries satisfy any Level 5 indicator.

Figure 4.2. Management Quality level in high-income v. middle-income countries

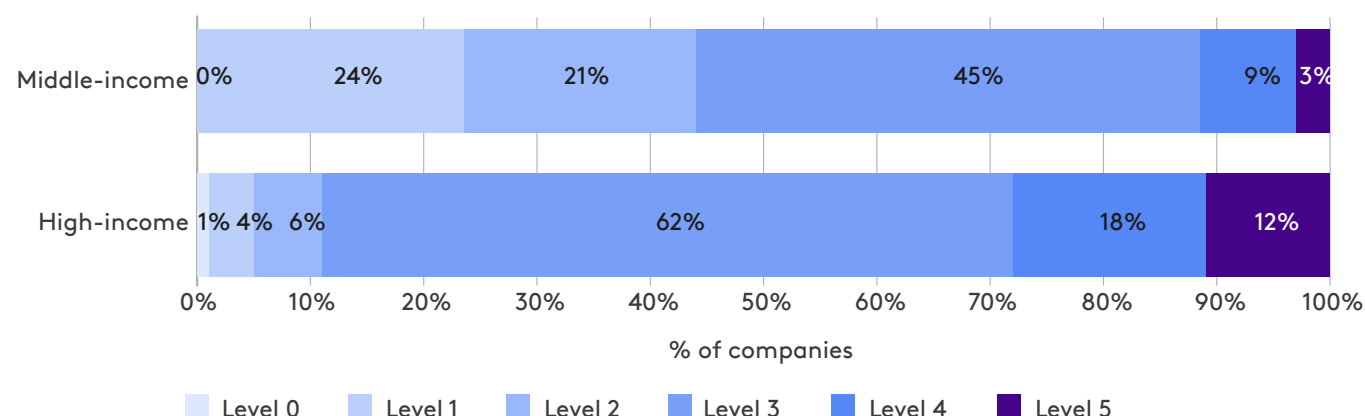
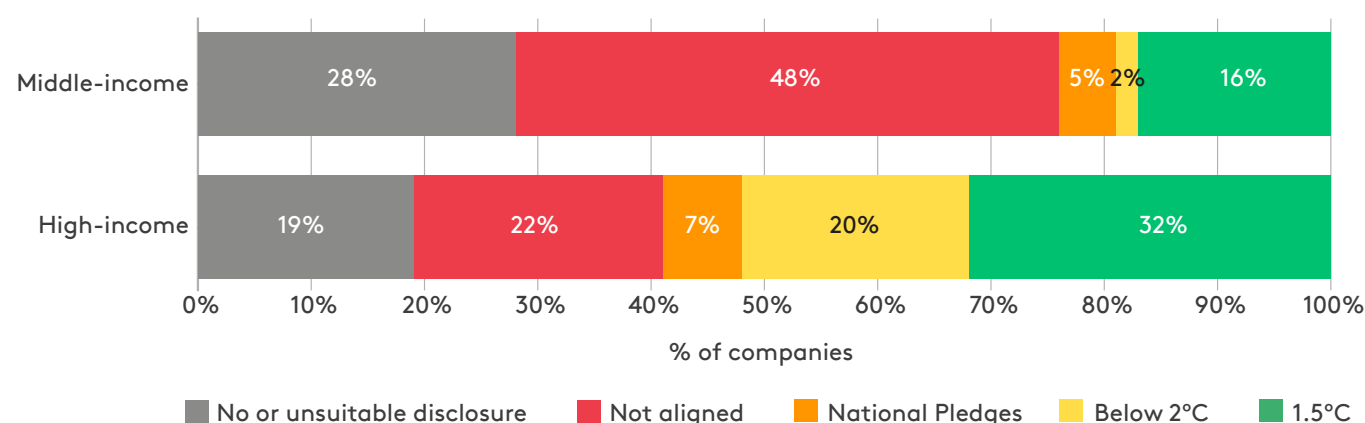


Figure 4.3. Carbon Performance alignment in 2050 in high-income v. middle-income countries



¹⁹ These differences are statistically significant using odds ratios and Chi-Square tests of association.

²⁰ The sample sizes for Management Quality are 799 companies headquartered in high-income countries and 211 in middle-income countries. For Carbon Performance, 298 companies are headquartered in high-income countries and 96 in middle-income countries.

²¹ Comparing the share of companies meeting a given indicator in middle-income countries with the share of companies meeting that same indicator in high-income countries, we identify the indicators that reveal the largest gaps (see Appendix 3).

4.2. Potential explanations for geographical patterns in corporate climate action

The regional and income-based patterns explored above may be explained by differences in regulation, availability of resources, industry composition, stakeholder pressure and corporate governance norms. In particular, the regulatory environment in host countries is likely to influence how well companies manage climate-related risks and opportunities. Access to resources and technology is also relevant: emerging markets and developing countries face higher costs of capital and competing funding needs for economic development, which can potentially deprioritise costly decarbonisation efforts. Middle- and low-income countries generally have low historical emissions but more emissions-intensive assets and industries today.

Corporate governance models often differ between developed and emerging markets, so it has been argued that best practice in corporate responsibility should be grounded in an understanding of local conditions (Shaik and Kalvakolanu, 2010). The Western model is generally characterised by dispersed ownership, while the forms of corporate

governance in emerging markets tend to vary more: companies may have concentrated ownership, family ownership or be state-owned enterprises. This has implications for the types of stakeholder pressure companies may face. It is important to recognise that many of these factors may be less relevant when analysing multinational corporations whose business operations span many countries and regions.

Taking a deep dive into the potential role of regulation, we identify national policies that are associated with corporate climate action. We combined TPI's data from the Assessing Sovereign Climate-Related Opportunities and Risks (ASCOR) tool with our corporate data to explore this relationship. The [ASCOR tool](#) assesses how countries are managing the low-carbon transition and the impacts of climate change, including through an evaluation of national target-setting, mitigation and adaptation policies, and climate finance disclosure. We focus our analysis on seven specific ASCOR indicators that could be expected to affect corporate climate action. Using odds ratios and Chi-Square tests of association, we find that there is a positive and statistically significant relationship between many of these national policies and the Management Quality or Carbon Performance scores of companies (see Table 4.1).

Table 4.1. Do national climate policies have a significant association with improved Management Quality or Carbon Performance?

National climate policy assessed in the ASCOR tool	Management Quality	Carbon Performance
The country has set a net zero CO ₂ target	Yes	No
The country has a framework climate law	No	No
The country has a carbon pricing system	Yes	Yes
The country's carbon pricing system(s) covers at least 50% of national greenhouse gas emissions	Yes	Yes
The carbon price is at least at the floor of a global carbon price corridor aligned with the Paris Agreement (i.e. US\$74 per tonne CO ₂ equivalent)	Yes	Yes
The country has a multi-sector climate strategy	Yes	Yes
The country has mandated climate-related disclosure	Yes	Yes

Note: The table identifies results that are statistically significant with at least 95% confidence. In this analysis, we calculate odds ratios, which provide the direction of association between an ASCOR policy indicator and Management Quality or Carbon Performance score. Odds ratios are calculated for each ASCOR policy by grouping companies based on their Management Quality or Carbon Performance scores and are also based on whether they are headquartered in a country that has implemented the ASCOR policy in question. For Management Quality, companies are grouped based on whether they are on Level 4 or above. For Carbon Performance, they are grouped based on whether they align with 1.5°C or Below 2°C in 2050. The statistical significance of the relationship is measured using a Chi-Square test of association. Sample sizes in these tests range from 319 to 1,010 companies.



At the strategic level, national net zero targets and multi-sector climate strategies are associated with improved corporate climate action. Setting national targets and policies to decarbonise high-emitting sectors is likely to create regulatory transition risks for companies, which they may manage by undertaking the practices required to score well on Management Quality and Carbon Performance. National multi-sector climate strategies accepted in the ASCOR methodology set both quantified sectoral emissions targets and related sectoral regulations across high-emitting sectors. Such plans, alongside economy-wide net zero targets, set out a strategic direction for domestic climate action and provide a signal to companies that reducing greenhouse gas emissions will become part of operating a successful business in the relevant jurisdiction.

At the more operational level, carbon pricing systems and mandatory climate disclosure laws are also associated with improved corporate climate action. Carbon pricing is among the most direct examples of a regulatory source of transition risk: companies that mitigate emissions faster will face lower costs under a carbon tax or cap-and-trade system. However, merely having a carbon price in place may not be sufficient to drive meaningful corporate action: carbon pricing systems that cover a large share of national emissions and set a high price will be more impactful in driving down emissions (World Bank, 2022). As such, these two features are assessed as separate ASCOR indicators, and both have significant associations with Management Quality and Carbon Performance scores. Mandatory climate disclosure laws establish rules for the disclosure of data that can directly feed into improved Management Quality and Carbon Performance.

4.3. How climate assessment tools can address regional challenges

If regional nuances are not addressed, investors may withdraw capital from high-emitting emerging markets and developing countries, as companies in these countries tend to perform worse on Management Quality and Carbon Performance. This risks perverse outcomes in terms of both the effectiveness of decarbonisation efforts and equity. Such countries need capital to decarbonise and offer significant opportunities: for example, immense renewable energy potential. The need to recognise national differences when evaluating climate action is enshrined in the United Nations Framework Convention on Climate Change (UNFCCC), which states that climate action should be undertaken in accordance with countries' "common but differentiated responsibilities and respective capabilities".

Specific measures might be taken to adjust corporate climate assessments to avoid constraining the financial flows needed for the low-carbon transition. To begin addressing regional nuances, it is helpful to understand the relationships between corporate climate performance, income level and government policy, as per the discussion initiated above. Below, we outline three specific suggestions on how to take this analysis forward.²²

Indicator exemptions

Companies that operate entirely or primarily in emerging markets could be exempted from the most ambitious qualitative climate governance indicators, or investors could support capacity-building on these measures. Management Quality indicators that could qualify for such exemptions could include those identified as significant hurdles for companies in middle-income countries: disclosing Scope 3 emissions (Q8), having a process to manage climate-related risks (Q11), and undertaking climate scenario planning (Q16).

It is important to note that some of these practices might be considered fundamentals of good corporate climate management in any jurisdiction, for example the disclosure of Scope 3 emissions. As such, instead of exemptions, investors and other stakeholders might also explore how they might provide dedicated capacity-building to support companies in emerging markets to implement the most challenging climate governance practices.

Regional benchmarks

In certain sectors such as electricity, disaggregated region-specific benchmarks can be used to assess Carbon Performance.

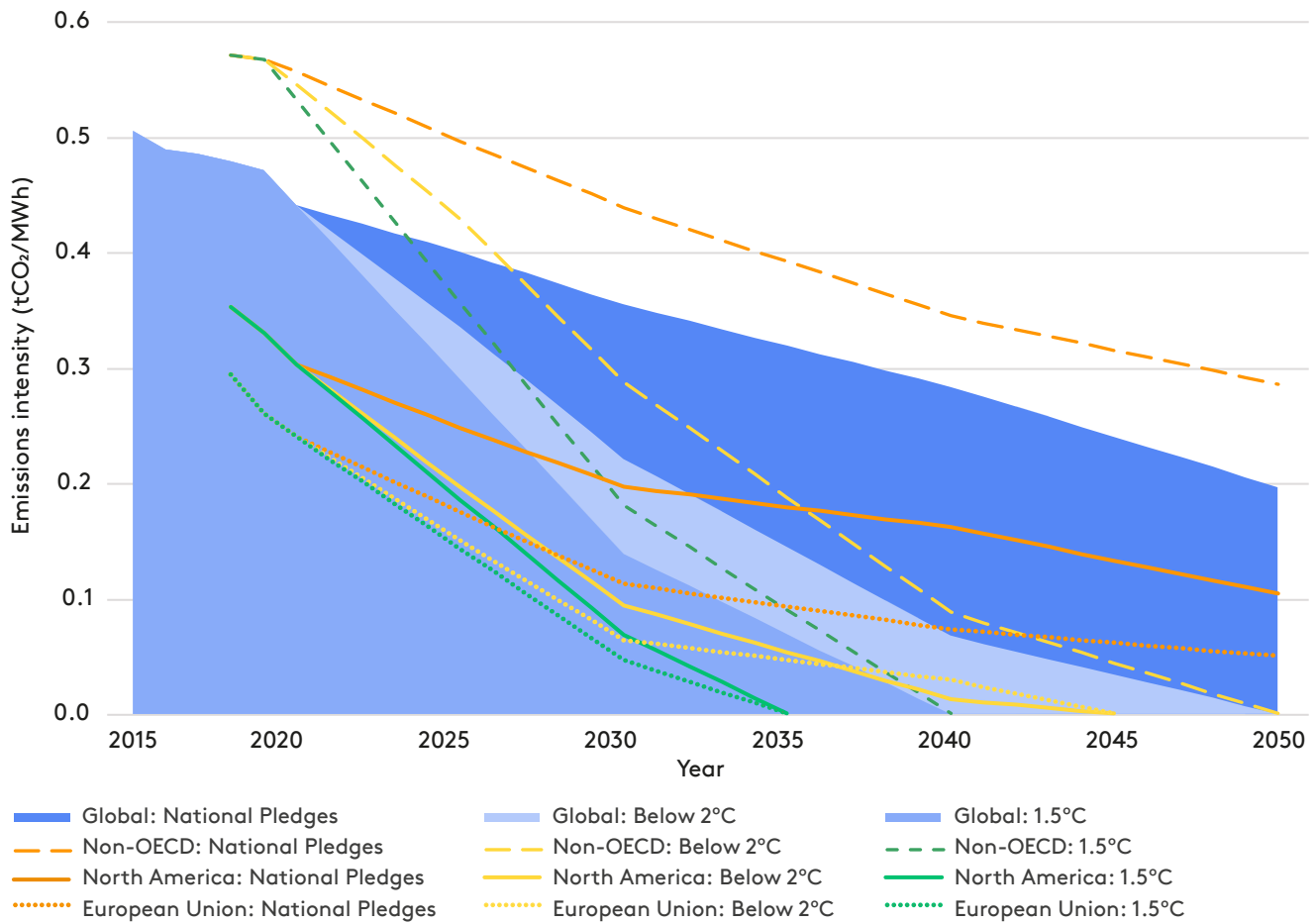
As electricity is not a commodity that is traded globally and utilities tend to operate locally, regional benchmarks are a viable tool for recognising the differing regional decarbonisation challenges of utilities. The TPI Centre has developed four separate regional benchmarks, for North America, the European Union, other OECD countries and non-OECD countries, using data from the IEA (see Figure 4.4). To align with 1.5°C, utilities in the first three groups must reach net zero by 2035, while those in non-OECD countries must reach net zero by 2040. Utilities are categorised by regional group based on where they generate at least 90% of their revenue.

Using regional benchmarks moderates the positive relationship between country income and Carbon Performance. Companies in high-income countries score worse against regional benchmarks (which are stricter) than against global benchmarks. Due to the small number of utilities assessed in middle-income non-OECD countries, there is no clear impact from using regional benchmarks on the alignment scores of these companies. The assessment universe includes only three utilities in upper-middle-income countries (China Resources Power, Malaysia's Tenaga Nasional, and Thailand's Gulf Energy Development) and one utility in a lower-middle-income country (India's NTPC).

"To begin addressing regional nuances, it is helpful to understand the relationships between corporate climate performance, country income level and government policy."

²² See further Scheer and Nuzzo (2024).

Figure 4.4. Regional Carbon Performance benchmarks for the electricity sector



Notes: The benchmark for other OECD countries is not shown as it overlaps very closely with the benchmark for North America.
tCO₂/MWh = tonnes of carbon dioxide per megawatt hour

It is important to recognise the limitations of regional benchmarks. Many companies in high-emitting sectors operate globally, making regional benchmarks unworkable. Few integrated assessment models provide regional or country-level data, limiting the feasibility of developing regional benchmarks in the first place. Models that do provide regional granularity often group countries of varying income levels and development histories into a single region, such as 'Middle East and Africa'. Regional benchmarks developed based on cost-optimising models, including those of the IEA, can also be misinterpreted. For example, in some 1.5°C scenarios compiled by the Intergovernmental Panel on Climate Change (IPCC), Latin America is expected to reach net zero as early as 2045, while Europe does so only in 2060. This results from the assumption inherent in cost-optimisation models that there is a harmonised global carbon price, which drives large international transfers to purchase cheap emissions abatement, in this case in areas with high reforestation potential. In the absence of a robust and reliable international

carbon market to deliver these financial transfers in practice, the resulting benchmarks may not align with equity principles that consider regional wealth and historical responsibility for climate change.

Integrated company–government analysis

Corporate entities can be analysed and evaluated within their individual policy contexts.

An integrated analytical approach could help investors better understand how companies are performing in relation to local policy conditions, thereby clarifying the regulation-driven transition risk they face. This topic represents a new research area for the TPI Centre that will be deepened over the coming years, leveraging our corporate Management Quality and Carbon Performance assessments, together with the country assessments in the ASCOR tool. With this emerging research area, the TPI Centre aims to enable investors to consider country circumstances and develop tailored, place-based engagement strategies.

5. Implications for investors

TPI is led and informed by investors. Therefore, this report would not be complete without reflecting on what implications our analysis holds for them.

When the first *TPI State of Transition Report* was published in 2018, most investors were only just beginning to make sense of net zero targets and very few were building net zero-aligned portfolios. Those that were tended to use activity- or carbon footprint-based exclusion lists. Since then, investor attitudes have changed and investment strategies have expanded beyond exclusions, with an increased focus on how companies are managing their transition.

Furthermore, while support for climate resolutions decreased during the latest corporate AGM and voting cycle, investor use of governance tools to address climate risks has undoubtedly increased and this seems to be the direction of travel. A shift has also occurred in how companies are managing their climate change exposure with the development of transition plans: these were virtually non-existent when TPI started its assessments.

Based on the results of this report, we have identified five main implications for investors:

1. TPI's core metrics should be treated as complementary: investors need to look at both Management Quality and Carbon Performance to better assess the progress that companies are making in transitioning to a low-carbon economy. They should view them as complementary as they cover different aspects of companies' decarbonisation efforts, although they are not always strongly correlated.

While overall Management Quality scores are improving (20% of companies assessed in both 2022 and 2023 moved up at least one level), emissions reduction targets are generally limited to the long term. Short- and medium-term targets are also important: if decarbonisation efforts are delayed or emissions trajectories overshoot the benchmarks, the transition may become unmanageable and disorderly and will fail to limit warming in line with the Paris Agreement targets. The results of our new analysis of Cumulative Benchmark Divergence – which show that companies assessed by the TPI Centre on Carbon Performance are collectively set to overshoot their emissions intensity pathways by 61% – are a reminder of how large that climate action gap still is.

2. The expanded TPI universe enlarges the opportunity at hand, enabling investors to evaluate a broader segment of their portfolios and enhance the resources available to them for implementing strategies such as index investing. This adds to TPI's input into the Disclosure Benchmark of Climate Action 100+ and the usefulness of its outputs to the implementation of target-setting frameworks (such as the Net Zero Investment Framework from the Institutional Investors Group on Climate Change) which have enhanced further the applicability of TPI resources. As a result, TPI is becoming an increasingly recognised and authoritative provider of net zero frameworks and entity assessments.



“The TPI tool can be used to inform constructive conversations between investors and companies.”

3. The new Level 5 of the Management Quality framework shifts the focus to transition plans. This means that investors now have the opportunity to make a closer examination of companies’ concrete plans for translating net zero ambitions into actionable steps. Such scrutiny should encourage companies to start quantifying essential elements of their climate strategies, such as capex and transparency on their usage of carbon offsets. In turn, better understanding of how near-term costs translate into long-term benefits could bolster investor confidence towards issuers showing credible plans, enhancing asset pricing, depending on how companies are managing transition risks and opportunities, thus allocating capital towards those that do it best. Unfortunately, however, credible transition planning and implementation remain limited, as our results indicate (with fewer than 5% of companies scoring on any individual Level 5 indicator).

4. External factors should be factored into analysis. When investors assess the credibility of corporate climate targets, they also require a better understanding of the feasibility of companies’ supporting plans and governance. Corporate climate action may depend on the availability of cost-effective technology solutions. Country-level operational settings, including national policies and corporate governance norms, also differ. To take account of these

factors, investors may need to improve their skillsets and knowledge of local climate policies to enhance their investment analysis and engagement activities, especially when assessing entities operating in emerging markets and developing countries. In the absence of regional benchmarks and improved modelling data, by cross-referencing the TPI corporate tool and the ASCOR sovereign tool investors can start to improve their understanding of how companies are performing in relation to the local regulatory conditions in which they operate. The TPI Centre intends to continue to explore this theme.

5. The report’s findings provide new insights for engagement. The TPI tool goes beyond tracking and can be used to inform constructive conversations between investors and companies, in which investors need to ask themselves how willing they are to support an issuer transition, at what cost and over what time horizon. At the same time, as companies strive to meet net zero targets and clarify their transition plans, they must openly communicate to investors what external dependencies and strategic trade-offs they face and how they will address these to align with the Paris Agreement goals. The need for such transparency should be seized also as an opportunity to address systemic challenges collaboratively with industry associations and policymakers. The report’s results should deepen the level of engagement discussions.



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Appendix 1.

TPI Management Quality indicators

LEVEL 0: UNAWARE OF (OR NOT ACKNOWLEDGING) CLIMATE CHANGE AS A BUSINESS ISSUE

Question 1	Does the company acknowledge climate change as a significant issue for the business? (If the company does not acknowledge climate change as a significant issue for the business, it is placed on Level 0)
Notes	Companies are assessed as Yes if they: • Recognise climate change as a relevant risk and/or opportunity for the business (Q2); or • Have a policy or an equivalent statement committing them to take action on climate change (Q3); or • Have set greenhouse gas emission reduction targets (Q4); or • Have published information on their operational greenhouse gas emissions (Q5).

LEVEL 1: ACKNOWLEDGING CLIMATE CHANGE AS A BUSINESS ISSUE

Question 2	Does the company recognise climate change as a relevant risk and/or opportunity for the business?
Notes	Companies are assessed as Yes if they demonstrate recognition of climate change as a relevant risk and/or opportunity to the business, or if they have incorporated at least two of the following, more advanced management practices, namely they: • Have a process to manage climate-related risks (Q11); • Have set long-term quantitative targets for reducing their greenhouse gas emissions (Q13); • Incorporate climate change performance into remuneration for senior executives (Q14); • Incorporate climate change risks and opportunities in their strategy (Q15); • Undertake climate scenario planning (Q16); • Disclose an internal price of carbon (Q17); • Ensure consistency between their climate change policies and the positions taken by trade associations of which they are members (Q23).
Question 3	Does the company have a policy (or equivalent) commitment to action on climate change?
Notes	Companies are assessed as Yes if they have a published policy or commitment statement on climate change that commits them to addressing the issue, or to reducing or avoiding their impact on climate change (e.g. to reduce emissions or improve their energy efficiency).

LEVEL 2: BUILDING CAPACITY

Question 4	Has the company set greenhouse gas emission reduction targets?
Notes	Companies are assessed as Yes if they have greenhouse gas emissions reduction targets. These targets may cover Scopes 1, 2 and/or 3, and they may be quantified or unquantified. This question is less demanding than Questions 7 and 14, which require companies to have set quantified targets and for those quantified targets to be long-term, respectively. Companies that are assessed as Yes on Question 7, or Yes on Questions 7 and 13, are automatically assessed as Yes on Question 4.
Question 5	Has the company published information on its operational (Scope 1 and 2) greenhouse gas emissions?
Notes	Companies are assessed as Yes if they report on their Scope 1 and 2, or their Scope 1, 2 and 3 emissions. Companies that only report Scope 1 emissions are assessed as No.

LEVEL 3: INTEGRATING INTO OPERATIONAL DECISION-MAKING

Question 6	Has the company nominated a board member or board committee with explicit responsibility for oversight of the climate change policy?
Notes	Companies are assessed as Yes if they provide evidence of clear board or board committee oversight of climate change, or if they have a named individual/ position responsible for climate change at board level.
Question 7	Has the company set quantitative targets for reducing its greenhouse gas emissions?
Notes	Companies are assessed as Yes if they have set quantified targets to reduce greenhouse emissions in relative or absolute terms (Scopes 1, 2 and/or 3). This question is more demanding than Question 4, as companies must have set quantitative targets to reduce emissions. This question differs from Question 13, which asks whether companies have set quantified targets for reducing greenhouse gases over the long term (i.e. targets that are more than 5 years in duration). Companies that are assessed as Yes on Question 13 are automatically assessed as Yes on this question.
Question 8	Does the company report on Scope 3 emissions?
Notes	Companies are assessed as Yes if they report on Scope 3 emissions separately, either in total or in one or more categories, or if they provide a total for Scope 1, 2 and 3 emissions.
Question 9	Has the company had its operational (Scope 1 and/or 2) greenhouse gas emissions data verified?
Notes	Companies are assessed as Yes if their operational greenhouse gas emissions have been independently verified by a third party, or if they state the international assurance standard they have used and the level of assurance.
Question 10	Does the company support domestic and international efforts to mitigate climate change?
Notes	Companies are assessed as Yes if they demonstrate support for mitigating climate change through membership of business associations that are supportive, and if they have a clear company position on public policy and regulation.

Question 11	Does the company have a process to manage climate-related risks?
Notes	Companies are assessed as Yes if they have integrated climate change into multi-disciplinary company-wide risk management, or if they have a specific climate-related risk management process.
Question 12 (applicable to some sectors only)	Does the company disclose materially important Scope 3 emissions?
Notes	Scope 3 emissions are diverse and many companies only disclose in a sub-set of categories. In some sectors, particular categories of Scope 3 emissions are materially important, in the sense of being a large share of lifecycle emissions. In these sectors, we require companies to specifically disclose emissions in the relevant category or categories: For automobile manufacturing, coal mining, oil & gas production, and oil & gas distribution companies we require disclosure of Scope 3 emissions from use of sold products. For food producers we require disclosure of Scope 3 emissions from purchased goods and services. For diversified miners we require disclosure of Scope 3 emissions from the processing of sold products. For chemicals companies we require disclosure of Scope 3 emissions from purchased goods and services and the use of sold products.

LEVEL 4: STRATEGIC ASSESSMENT

Question 13	Has the company set long-term quantitative targets for reducing its greenhouse gas emissions?
Notes	Companies are assessed as Yes if they have set quantified, long-term targets (i.e. more than 5 Years in duration) to reduce greenhouse emissions in relative or absolute terms (Scopes 1, 2 and/or 3). This question is more demanding than Question 7, as the targets must not only be quantitative, they must also be long-term.
Question 14	Does the company's remuneration for senior executives incorporate climate change performance?
Notes	Companies are assessed as Yes if executive remuneration incorporates climate change performance.
Question 15	Does the company incorporate climate change risks and opportunities in their strategy?
Notes	Companies are assessed as Yes if they detail how they incorporate climate change risks and opportunities in their strategy (mitigation, new products, R&D, etc.), and if they disclose the impact of climate change risks and opportunities on financial planning (OpEx, CapEx, M&A, debt).
Question 16	Does the company undertake climate scenario planning?
Notes	Companies are assessed as Yes if they mention the 2 degrees scenario in relation to business planning or confirm they have conducted climate related scenario analysis, and if they describe the business impact of one or more climate scenario analysis.

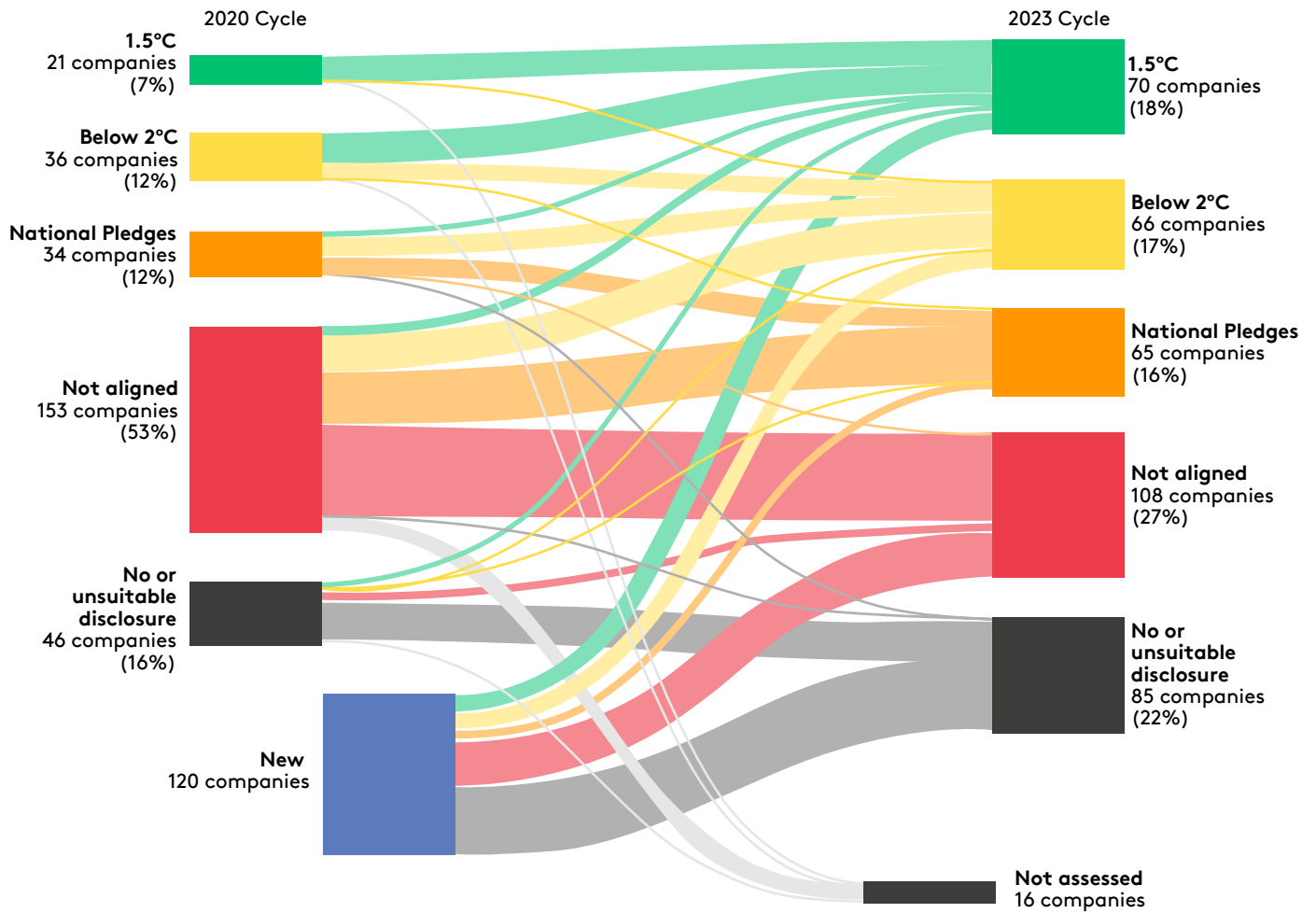
Question 17	Does the company disclose an internal price of carbon?
Notes	Companies are assessed as Yes if they have and disclose their internal carbon price.
Question 18	Does the company disclose the actions planned to meet its emissions reduction targets?
Notes	Companies are assessed as Yes if they disclose the set of actions they intend to take to achieve their greenhouse gas reduction targets, including Scope 3 emissions where applicable.

LEVEL 5: TRANSITION PLANNING AND IMPLEMENTATION

Question 19	Does the company quantify the key elements of its emissions reduction strategy and the proportional impact of each action in achieving its targets?
Notes	Companies are assessed as Yes if they quantify key elements of their emission reduction strategy, including Scope 3 emissions where applicable, and if they disclose the quantified contribution of each action in terms of the approximate proportion of the overall greenhouse gas target that the action will account for.
Question 20	Does the company's transition plan clarify the role that will be played by offsets and/or negative emissions technologies?
Notes	Companies are assessed as Yes if they clarify the role and type of offsets/negative emission technologies used in their transition plans to meet medium- and long-term targets.
Question 21	Does the company commit to phasing out capital expenditure in carbon intensive assets or products?
Notes	Companies are assessed as Yes if they explicitly commit to a time-bound phase-out of investments in carbon intensive assets or products (as opposed to a commitment which only covers the draw-down of existing assets).
Question 22	Does the company align future capital expenditures with its long-term decarbonisation goals and disclose how the alignment is determined?
Notes	Companies are assessed as Yes if they commit to align all future capital expenditures with their long-term greenhouse gas targets or with the Paris Agreement's objective of limiting global warming to 1.5° Celsius. The company must also disclose the methodology used to align its future CapEx with its decarbonisation goals.
Question 23	Does the company ensure consistency between its climate change policy and the positions taken by trade associations of which it is a member?
Notes	Companies are assessed as Yes if they have a stated policy or commitment to ensure consistency between their climate change policy and the position taken by the trade associations of which they are members, and for responding appropriately in those instances where the trade association position is significantly weaker than or contradicts that of the company.

Appendix 2. Carbon Performance – medium-term alignment

Figure A2. Change in Carbon Performance alignment in 2035 between the 2020 (left) and 2023 (right) assessment cycles



Appendix 3.

Gap in Management Quality achievement between companies headquartered in high- and middle-income countries

Table A3.1. Gap in achievement between companies headquartered in high- and middle-income countries for each Management Quality indicator

Indicator	Indicator text	Share of companies in high-income countries scoring 'Yes'	Share of companies in middle-income countries scoring 'Yes'	Gap between companies in high- and middle-income countries
1	Does the company acknowledge climate change as a significant issue for the business?	99.0%	99.5%	0.5%
2	Does the company recognise climate change as a relevant risk and/or opportunity for the business?	96.2%	76.2%	-20.1%
3	Does the company have a policy (or equivalent) commitment to action on climate change?	98.2%	99.5%	1.3%
4	Has the company set greenhouse gas emission reduction targets?	90.9%	60.0%	-30.9%
5	Has the company published information on its operational (Scope 1 and 2) greenhouse gas emissions?	95.6%	78.1%	-17.5%
6	Has the company nominated a board member or board committee with explicit responsibility for oversight of the climate change policy?	90.0%	56.7%	-33.3%
7	Has the company set quantitative targets for reducing its greenhouse gas emissions?	90.5%	59.5%	-31.0%
8	Does the company report on Scope 3 emissions?	80.6%	44.3%	-36.3%
9	Has the company had its operational (Scope 1 and/or 2) greenhouse gas emissions data verified?	70.2%	48.6%	-21.6%

Indicator	Indicator text	Share of companies in high-income countries scoring 'Yes'	Share of companies in middle-income countries scoring 'Yes'	Gap between companies in high- and middle-income countries
10	Does the company support domestic and international efforts to mitigate climate change?	38.0%	17.6%	-20.4%
11	Does the company have a process to manage climate-related risks?	88.4%	54.3%	-34.1%
12	Does the company disclose materially important Scope 3 emissions?	14.5%	7.6%	-6.9%
13	Has the company set long-term quantitative targets for reducing its greenhouse gas emissions?	88.6%	54.3%	-34.3%
14	Does the company's remuneration for senior executives incorporate climate change performance?	55.7%	24.8%	-30.9%
15	Does the company incorporate climate change risks and opportunities in their strategy?	53.9%	23.8%	-30.1%
16	Does the company undertake climate scenario planning?	59.6%	23.3%	-36.2%
17	Does the company disclose an internal price of carbon?	41.4%	19.5%	-21.9%
18	Does the company disclose the actions planned to meet its emissions reduction targets?	51.6%	23.3%	-28.2%
19	Does the company quantify the key elements of its emissions reduction strategy and the proportional impact of each action in achieving its targets?	5.8%	1.9%	-3.9%
20	Does the company's transition plan clarify the role that will be played by offsets and/or negative emissions technologies?	2.4%	1.4%	-0.9%
21	Does the company commit to phasing out capital expenditure in carbon intensive assets or products?	2.4%	0.5%	-1.9%
22	Does the company align future capital expenditures with its long-term decarbonisation goals and disclose how the alignment is determined?	1.0%	0.0%	-1.0%
23	Does the company ensure consistency between its climate change policy and the positions taken by trade associations of which it is a member?	3.0%	1.0%	-2.1%

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