TPI Global Climate Transition Centre
Research and Data at **LSE**

LSE Global School of Sustainability

State of the Corporate Transition 2025

Transition Pathway Initiative

The TPI Global Climate Transition Centre at LSE

The TPI Global Climate Transition 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. It is part of the Global School of Sustainability at the London School of Economics and Political Science (LSE). The TPI Centre 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 and other stakeholders assess company, bank and sovereign preparedness for the transition to a low-carbon economy and supporting efforts to address climate change. As of September 2025, 156 investors globally, representing approximately US$87 trillion[1] combined Assets Under Management and Advice, have pledged support for TPI.

The TPI Centre provides 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. They are public and free to use for non-commercial purposes and available at www.transitionpathwayinitiative.org.

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The views in this report are those of the authors and do not necessarily represent those of the host institution or funders. The authors declare no conflict of interest in preparing this report.

Research funding partners and acknowledgements

The authors gratefully acknowledge the organisations that provide funding for the TPI Centre, including Climate Arc, the LSEG Foundation, FTSE Russell (an LSEG Business) and TPI Ltd. TPI Ltd receives financial support from the following asset managers (its Research Funding Partners): Aberdeen, APG, BNP Paribas, Legal and General Investment Management, Neuberger Berman, PGIM and Robeco, as well as from selected asset owners. The TPI Centre thanks all these organisations for their ongoing support. The authors also thank Jake Barnett, David Russell and Rory Sullivan for their review comments on an earlier draft.

Editing and design management by Georgina Kyriacou.

This report was first published in September 2025 by the TPI Centre.
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Suggested citation: Amin A et al. (2025) *State of the Corporate Transition 2025*. London: TPI Global Climate Transition Centre, London School of Economics and Political Science.

[1] 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.

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Foreword

David Russell
Chair, Transition Pathway Initiative Ltd

This is the sixth *State of Transition* report to examine companies' climate performance that the Transition Pathway Initiative has published since its launch in 2017. From an initial 105 companies across three high-emitting sectors, the assessment now covers 2,000 companies across 24 sectors, representing approximately 75% of market capitalisation of publicly listed equities globally.

In those eight years, the world has undoubtedly become more complicated. Geopolitical risks have heightened, leading to governments prioritising domestic energy security over climate security. Political and ideological changes in some markets have also led to a reduced focus on climate change. That said, in some countries there have been big wins for political parties that are positive about addressing climate risk. In those markets, there is a clear recognition that both the transition and tackling the physical risks associated with the changing climate are crucial.

TPI goes from strength to strength despite the political headwinds. The last year has seen the TPI Centre double the number of companies assessed under its Management Quality (MQ) methodology. Transition assessments must now be more forward-looking, so in addition to the Level 5 MQ assessments introduced in 2023 (which incorporate questions on company capital allocation to support their transition), the TPI Centre is developing its Net Zero Standards to assess company transition plans for certain sectors.

It is important to focus on what companies *are doing*, not only what they *are saying*. In the future, investors will undoubtedly require deeper assessments of how companies are implementing their own transition plans, coupled with evidence of the effectiveness of those transition plans. To this end, this *State of Transition* report assesses the credibility of corporate transition planning: by linking MQ Level 5 scores with historic corporate emissions data and the decarbonisation levers available to companies, we have a clearer view of the reliability of companies' delivery of their transition ambitions or targets.

This report also shows how TPI corporate assessments can evolve and continue to provide investors with valuable insight into how companies are delivering the transition — or are likely to. Investors want information on company plans and targets for the transition, as these forward-looking data are essential for supporting stewardship and other investment activities. Ultimately, though, what matters are real-world outcomes: what have companies actually done to deliver their transition?

TPI will continue to provide a valuable open-access resource to investors as their focus evolves from simple decarbonisation of their portfolios to a more risk-focused approach of identifying which companies are transitioning and those that are not. After all, the transition required to deliver alignment with the Paris Agreement will not be achieved by simply decarbonising investment portfolios: it requires real change across entire economies. TPI research, data and analysis will continue to help investors support that change as it is in the best long-term financial interests of their beneficiaries and clients.

Summary: key findings

The TPI Centre *State of the Corporate Transition 2025* report assesses 2,000 of the world's highest-emitting public companies on their climate action. Having doubled the coverage of our company universe since last year's report, we now assess approximately three-quarters of total publicly listed equities worldwide by market capitalisation (US$87 trillion). The report presents updated data on the TPI Centre's two core frameworks for companies — Management Quality and Carbon Performance — while introducing new layers of analysis to assess the credibility of corporate transition plans.

3.0
Average Management Quality score on a scale from Level 0 to Level 5

2,000
Number of companies assessed on Management Quality in 24 sectors

+61%
Cumulative exceedance of 1.5°C emissions intensity pathways of TPI corporate universe

550+
Number of companies assessed on Carbon Performance in 12 sectors

Management Quality

The Management Quality framework assesses 2,000 companies' carbon management and governance practices, placing them on a scale from Level 0, 'Unaware', to Level 5, 'Transition planning and implementation'. The framework uses data provided by LSEG, TPI's data partner.

Level 3, 'Integrating into operational decision-making', remains the most common company Management Quality score. Level 3 companies acknowledge climate change as a significant issue, have a policy commitment to take action, have set an emissions reduction target and disclose their Scope 1 and 2 emissions. It is encouraging that most companies have taken these basic steps, but on many strategic practices and on transition planning and implementation, action remains limited.

Management Quality scores continue to improve, with 172 companies moving up at least one level from last year. Among the companies assessed in 2023 and 2024, progress is evident across nearly all indicators, particularly the disclosure of material Scope 3 emissions (up from 36% of companies to 49%) and climate scenario planning (up from 52% of companies to 64%). The only indicator showing no improvement is the alignment of future capital expenditure with decarbonisation goals. At the same time, the average Management Quality score across the corporate universe has decreased since last year from 3.1 to 3.0. This is due to the inclusion of 1,000 newly assessed companies, rather than a decline in performance among previously assessed companies.

Carbon Performance

Our Carbon Performance assessments have recorded a notable increase in long-term alignment; these track how the emissions pathways of large companies in high-emitting sectors align with the Paris Agreement temperature goals. This year's report covers more than 550 companies in 12 sectors. The share of companies aligned with the 1.5°C benchmark has more than tripled since our 2020 assessment cycle, from 9% to 30%, while the proportion of those not aligned with 1.5°C or Below 2°C benchmarks has fallen from 82% to 56%. These improvements are largely driven by companies already in the TPI corporate universe improving their performance over time, rather than by the addition of new, better performing companies.

However, a majority of companies are still not aligned with the Paris Agreement goals. The proportion that do not align with 1.5°C or Below 2°C in the long term (2050) is 56%, rising to around three-quarters of companies when assessed in the short (2027–28) and medium term (2035). These findings provide further evidence that, while long-term net zero targets have become common, companies continue to defer making substantial emissions reductions into the future, with few setting ambitious intermediate targets to match their long-term ambitions.

Assessed companies are collectively set to overshoot their 1.5°C emissions intensity budget by 61% and their 2°C budget by 13% between 2020 and 2050. Sector results vary widely: aluminium, oil & gas, and coal mining are the most misaligned, while shipping is the only sector undershooting its benchmark, driven by two large firms with relatively low emissions intensity. In the electricity sector, alignment falls sharply if measured against regional rather than global benchmarks due to the faster net zero timelines required in high-income countries. This hints at the importance of regionally differentiated analyses of emissions pathways.

Credibility

<10%

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

x5

Greater emissions intensity reductions achieved by the autos and electricity sectors (2020–2023) compared with steel and oil & gas

56%

Proportion of companies from eight high-emitting sectors relying on carbon capture and removal technologies as part of their transition strategy

A key theme of our 2025 report is the credibility of companies' climate commitments. Assessing credibility is complex; we conduct three complementary analyses to provide improved insight on the issue:

- **Management Quality Level 5** — these management/governance indicators specifically evaluate companies' transition planning and implementation.
- **Historical emissions intensity trends** — we shift from analysing future ambition to examining whether companies' recent emissions intensities have been falling in line with the Paris Agreement goals.
- **Decarbonisation levers** — we conduct a novel assessment of the technologies companies intend to use to decarbonise and how commercially feasible they are.

Management Quality Level 5

Almost all the 2,000 companies assessed on Management Quality show clear gaps in transition planning and implementation. Level 5 focuses on the quantification of transition plan actions and the alignment of capital expenditure with decarbonisation goals. No company assessed has achieved all Level 5 indicators, and no more than 10% score on any single Level 5 indicator, indicating a clear shortage of credible plans to substantiate long-term net zero ambitions.

Historical emissions intensity trends

Companies in eight high-emitting sectors for which we have historical benchmarks reduced their average emissions intensity between 2020 and 2023. In fact, in most sectors the average reduction rate was sufficient to align with Below 2°C, though not with 1.5°C. Between 2020 and 2023, the pace of emissions intensity reductions in critical sectors such as oil & gas, electricity, cement and steel was insufficient to meet the more stringent requirements of a 1.5°C scenario. The autos and electricity sectors achieved emissions intensity reductions nearly five times greater than steel and cement, reflecting differences in technological readiness and regulatory momentum. The oil & gas sector made the least progress, with only three companies achieving alignment with Below 2°C or 1.5°C.

Decarbonisation levers

Companies most often pair mature decarbonisation levers, such as building renewable generation capacity, with emerging technologies that could enable emissions reduction in the future but carry delivery risk. We analysed 72 companies across eight high-emitting sectors that make enough disclosure on planned decarbonisation levers for analysis. We find there is significant variation in transition readiness across sectors. Autos and electricity companies tend to focus on advanced, market-ready solutions, such as shifting sales to electric vehicles and expanding renewable generation. In contrast, airlines and cement companies often rely on technologies still at early stages of development. Disclosure of decarbonisation levers and their market readiness is critical to whether companies can deliver emissions reduction targets at the pace required by the Paris Agreement. Sectors with mature, proven options are already reducing emissions intensity faster, while those reliant on nascent technologies will need rapid scaling and significant investment to achieve their targets.

Conclusions on credibility

Taken together, these three analyses show that net zero ambitions are: (1) rarely supported by convincing transition planning and implementation and (2) would require emissions reductions beyond those that companies have recently achieved, even if this sample of large, publicly listed companies has reduced its emissions intensity quite significantly. In some cases, companies' plans also depend (3) on unproven technologies.

Supporting investors

Investors can make use of our data and methodologies to better understand companies' net zero claims. Although the analysis is performed at the aggregate level to demonstrate these methods, the evaluation of credibility should also be carried out at the company level. As the pace of required emissions reductions accelerates, credibility will increasingly depend on plans that are both ambitious and actionable.

1. Introduction

This is the *State of the Corporate Transition 2025* report from the TPI Global Climate Transition Centre (TPI Centre). It documents how the world's highest-emitting public companies have been progressing on the low-carbon transition since our 2024 report. The companies analysed here collectively represent US$87 trillion in market capitalisation (cap), approximately three-quarters of total publicly listed equities worldwide.[2]

Climate change is the world's biggest market failure, but progress on the low-carbon transition is facing strong headwinds. The political backlash against considering climate change — alongside other environmental, social and governance (ESG) factors — has weakened the momentum of mitigation efforts in some areas. However, the risks presented by climate change are undeniable, with extreme weather and climate events escalating globally. The recently updated 'Current Policies' scenario of the Network for Greening the Financial System (NGFS) projects a potential global GDP loss of 10% due to climate damages in the next 15 years. To mitigate physical climate risk, the financial sector, the 'real' economy and governments must take coordinated action to reduce emissions to net zero.

In the face of significant economic and financial risks from climate change, investors need rigorous and independent data on corporate climate action more than ever. The TPI Centre is uniquely positioned as a bridge between academia and financial markets to translate climate science and economics into decision-useful tools for investors.

Report scope

Using public disclosures, we assess companies on their Management Quality and Carbon Performance, two distinct but connected views of companies' progress on the low-carbon transition (see further p10): *Management Quality* focuses on governance processes while *Carbon Performance* focuses on benchmarking emissions pathways against international climate goals.

In addition to our broad assessment of progress, we pay special attention in this report to the *credibility* of corporate net zero commitments. We do this by bringing together three analyses. Transition plans have become a central focus for assessing corporate climate action, offering a clearer sense of net zero credibility. Therefore, firstly we present Management Quality data specifically on transition planning and implementation. Secondly, we explore whether companies' historical emissions have been falling in line with the goals of the Paris Agreement. This tests whether companies are already 'walking the talk'. Thirdly, we investigate the technological readiness of the decarbonisation levers that companies disclose they plan to rely on.

The report covers 2,000 public companies in 24 sectors, double the number of companies covered in our 2024 report. Since the publication of our inaugural *State of Transition Report* in 2018, the scope of our company coverage has expanded significantly (see Figure 1.1). Company selection is designed to include the largest holdings in investor portfolios, focusing on firms with the largest carbon footprints. In many of the highest-emitting sectors, which are the TPI corporate 'core' sectors, coverage is close to 100% of sectoral market cap (see Table 1.1).[3] The data presented in the report were published on the TPI Centre corporate tool between May 2024 and April 2025.

This report is part of the TPI Centre's flagship trilogy of annual reports, with the second two to follow:[4]

I. *State of the Corporate Transition 2025*
II. *State of the Banking Transition 2025*
III. *State of the Sovereign Transition 2025*

[2] The market capitalisation values are from the FTSE All-World Index as of May 2025.
[3] In other non-core sectors, company selection is based on a combination of both market cap and Scope 1 and 2 emissions. See Table 1.1 for the list of core and non-core sectors.
[4] Until 2023 we published a single 'TPI State of Transition' report.

Table 1.1. Companies covered in the report, by sector

	No. of companies assessed on Management Quality	Market cap (share of total sector)	No. of companies assessed on Carbon Performance
Energy			
Electricity utilities	148	96%	105
Oil & gas	125	97%	53
Coal mining	47	97%	42
Oil & gas distribution	23	89%	Not assessed
Transport			
Airlines	39	98%	39
Autos	38	96%	37
Shipping	33	79%	31
Industrials/materials			
Other industrials	382	Not applicable	Not assessed
Chemicals	135	87%	Not assessed
Steel	74	91%	49
Cement	70	96%	55
Paper	35	100%	35
Aluminium	26	100%	31
Diversified mining	30	96%	20
Consumer goods and services			
Consumer services	469	Not applicable	Not assessed
Food producers	80	82%	57
Consumer goods	246	Not applicable	Not assessed

Notes: The TPI corporate core sectors, for which we have a Carbon Performance methodology, are shaded in light blue. Although the chemicals sector is not currently assessed under Carbon Performance, a methodology discussion paper was recently published that will allow the assessment of chemicals companies to begin in the near future. We have updated how we calculate market coverage since last year. To facilitate the company expansion, the classification of companies in non-core sectors has been aligned with FTSE Russell Industry Classification Benchmark (ICB). A new approach to mapping companies to their relevant sectors has been applied to ensure that multi-sector companies are correctly assigned. Six companies are assessed against the aluminium Carbon Performance methodology as a secondary sector assessment. These companies are captured under the Carbon Performance total for aluminium but not under the Management Quality total, explaining the larger number for Carbon Performance.

The TPI Centre's methodologies for assessing publicly listed companies

Together, Management Quality and Carbon Performance are intended to offer a relatively comprehensive, backward- and forward-looking view of companies' progress on the low-carbon transition. They offer complementary insights and are less than perfectly correlated. Looking at a company's score on only one of the two frameworks can lead to false conclusions about its progress.

Management Quality rates how deeply climate considerations are embedded in a company's governance. It assesses board oversight, disclosure, target-setting, risk management, lobbying and capital allocation using 23 binary indicators arranged from Level 0 ('Unaware') to Level 5 ('Transition planning and implementation') (Figure 2.1 shows all five levels). The latest version of the framework tracks policies and targets while also testing whether a company's published transition plan is realistic, fully costed and accountable, providing investors with an intuitive snapshot of its preparedness for the low-carbon economy.

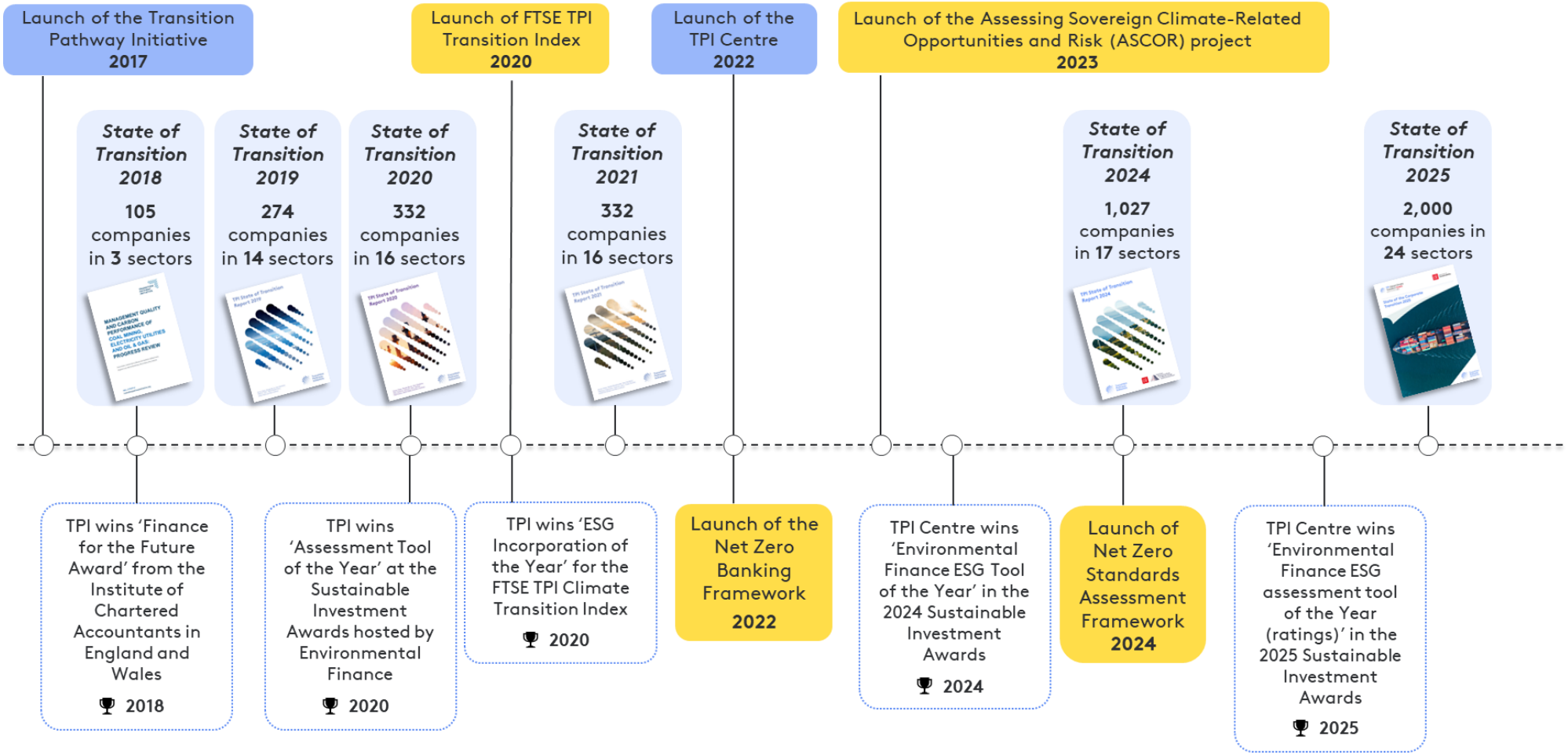
Carbon Performance constructs backward- and forward-looking emissions pathways for companies and compares them with low-carbon, sector-specific benchmark scenarios, including National Pledges, Below 2°C and 1.5°C. The latter two benchmarks are consistent with the Paris Agreement, which committed signatory countries to "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C". However, this range is important: climate models project robust differences in physical risk between 1.5°C and 2°C, including in terms of the frequency and intensity of heat waves, flooding and drought.[5] Investors can compare companies in high-emitting sectors both against each other and against these sector-specific benchmarks.

Seven principles have informed the design of our 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.

[5] See the Intergovernmental Panel on Climate Change's (IPCC) 'Headline statements' from its *Special Report on Global Warming of 1.5°C*.

Figure 1.1. Development of TPI and the TPI Centre



2. Management Quality

The TPI Centre assesses the Management Quality (MQ) of companies across 23 binary indicators of climate governance, including board oversight, disclosure, target-setting, risk management, lobbying and capital allocation. This year's report analyses the MQ of 2,000 companies which have been assessed by LSEG, TPI's data partner.

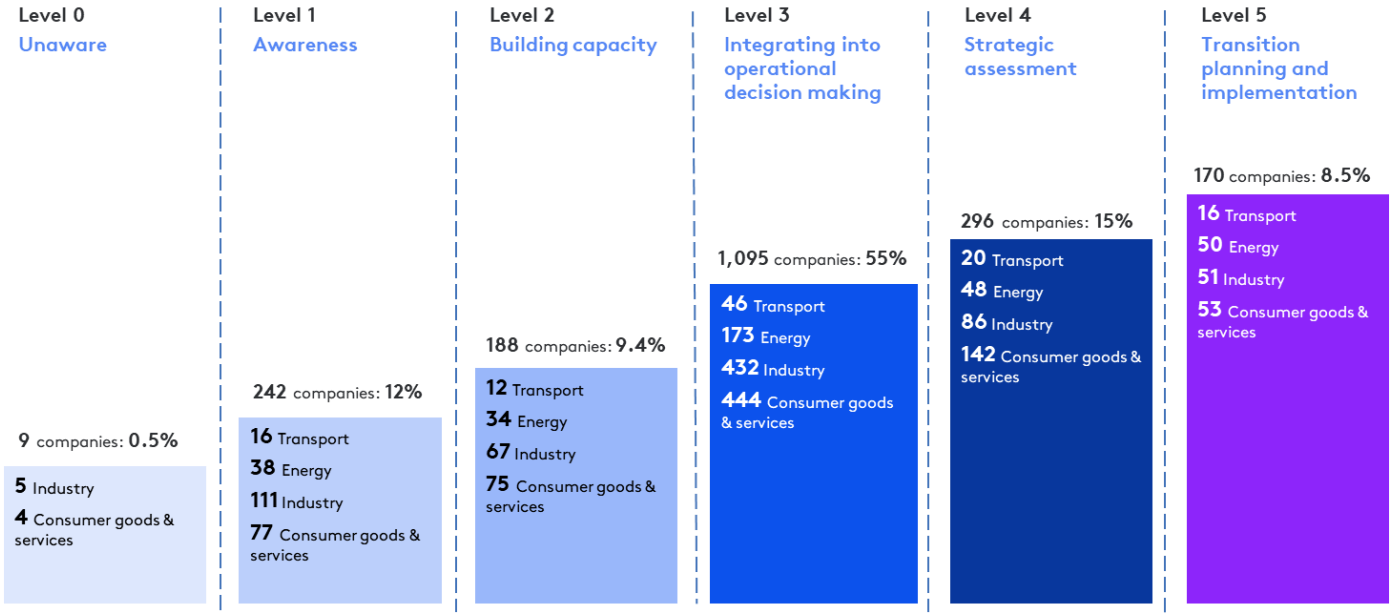
2.1. Assessing corporate climate governance

Companies are scored and placed on a staircase building from Level 0 ('Unaware') to Level 5 ('Transition planning and implementation'). The scoring approach requires a company to achieve every indicator on a given level before it can progress to the next. Since the *State of Transition 2024* report, 1,000 new companies have been added to the analysis, primarily in consumer goods and services, bringing the total assessed on MQ to 2,000 (see Figure 2.1).

The average MQ level of all companies in the TPI Centre's database is 3.0. This score means that companies are integrating climate change into operational decision-making (Level 3) but it leaves them well short of making a strategic assessment of climate risks (Level 4), and transition planning and implementation (Level 5).

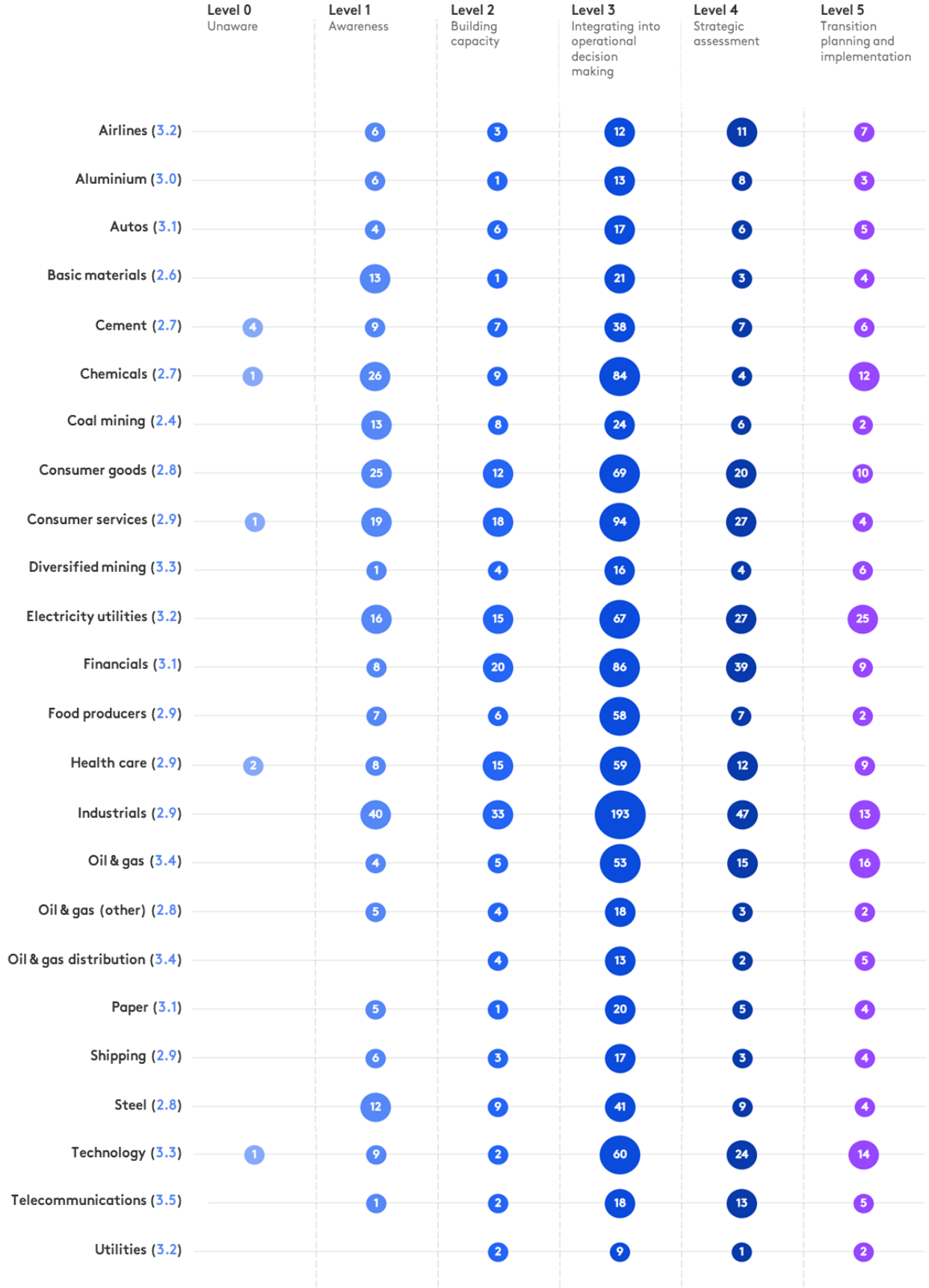
In total, 22% of companies are on Levels 0–2, which is unchanged from last year's analysis. These companies have failed to do one or more of the following: acknowledge climate change, establish a climate policy, disclose operational emissions or set an emissions target.

Figure 2.1. Management Quality level of all TPI corporates, on aggregate and by sector cluster[6]



[6] A 'cluster' groups companies by economic sectors that are related through similar activities.

Figure 2.2. Management Quality results by sector covering 2,000 companies



Note: The numbers in parentheses indicate the average MQ Level of companies in each sector. The numbers in each bubble indicate the number of companies at each MQ Level. 'Oil & gas (other)' includes companies in related sectors that do not fit into the main oil & gas sector category, such as oil equipment and services, oil refining and marketing, and renewable energy equipment.

There is significant variation in MQ scores across sectors (see Figure 2.2). To identify the drivers of MQ, we repeated the statistical analysis originally conducted in our 2024 report, regressing MQ scores simultaneously on sector, size and region.[7] When controlling for company size and region of headquarters, electricity utilities and airlines are statistically more likely to perform better (at Level 4 or above) on MQ, and consumer service companies are statistically more likely to perform worse.

Company size and region also affect MQ scores. When controlling for region and sector, companies with larger market cap are statistically more likely to achieve MQ Level 4 or above. Companies headquartered in Europe are statistically more likely to reach Level 4 or above, while those in Asia (excluding Japan) are less likely to reach Level 4 or above. These findings are largely consistent with the analysis in our 2024 report, though are based on a doubled sample size relative to that report's.

2.2. Indicator-by-indicator results

The high proportion of companies on Level 3 or above demonstrates that corporate recognition of climate change is now very common. Reaching Level 3 requires a company to achieve the first five indicators of the MQ staircase. More than 85% of companies in the TPI corporate universe acknowledge climate change, recognise it as a relevant business risk or opportunity, and have a policy commitment to act (see Figure 2.3). While there is some sectoral variation, more than 70% of companies in all sectors satisfy all these early-stage indicators.

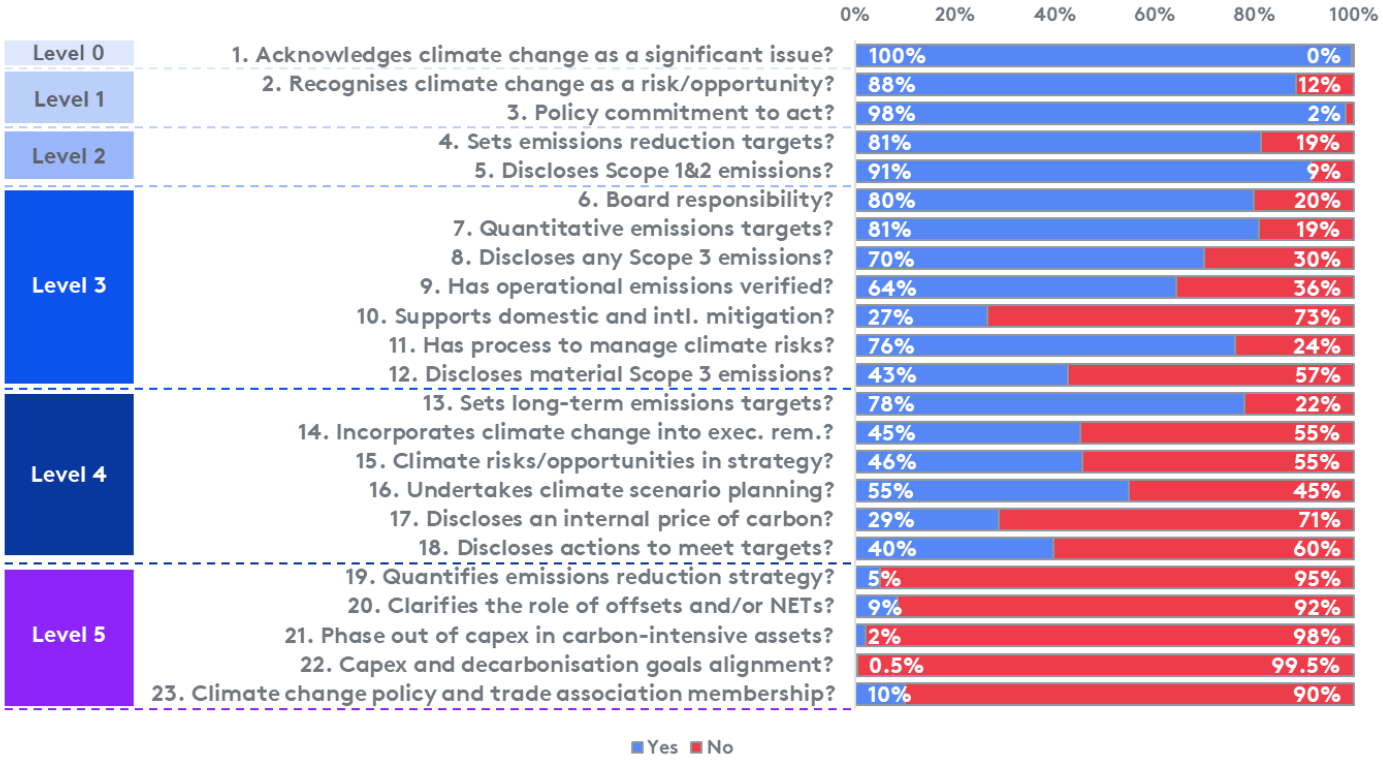
Emissions target-setting is commonplace, yet climate issues are still only partially embedded in strategic governance. Most companies (81%) now have a quantitative emissions target covering Scope 1, 2 and/or 3 (MQ [indicator] 7), and a similar share (78%) have a long-term emissions target (MQ13). However, companies perform worse on other Level 4 indicators, with only 45% incorporating climate into executive remuneration (MQ14) and a similar percentage incorporating climate risks or opportunities into their strategy (MQ15). Only 29% of companies disclose an internal carbon price (MQ17), which is the second lowest scoring indicator outside of Level 5, after the indicator on corporate policy engagement (MQ10).

Companies continue to struggle on the two indicators that evaluate their climate lobbying activities. These test whether companies support mitigation policies such as regulations, taxes and subsidies (MQ10) and whether they manage inconsistencies between their positions on climate issues and those of their trade associations (MQ23). Around a quarter (27%) of companies satisfy MQ10 and only 10% meet MQ23, suggesting that while companies are progressing on their own carbon management, few are aligning their climate ambitions with their policy advocacy. This is an important area for investor engagement, given the powerful — and often negative — influence of corporate lobbying on climate policymaking, from the fossil fuel sector to auto manufacturers.[8]

[7] To perform the MQ regression analysis, we employed an Ordered Probit model with robust standard errors. The analysis examines how different variables affect the likelihood of a company reaching MQ Level 4, showing how changes in one variable — relative to its reference category — can increase or decrease this probability. The reference categories used are coal mining for sector, medium market cap for company size, and Africa and Latin America for region. 13 companies were excluded due to the absence of market capitalisation data, resulting in a sample size of 1,987 companies. The model variables (sector, size and region) effects should be interpreted individually and relative to their reference category, assuming other variables are held constant.

[8] See InfluenceMap: *The Global Campaign Against Building Electrification* (February 2025) and *Transport Bulletin* (July 2025).

Figure 2.3. Management Quality results by indicator



Note: 'NETs' is short for negative emissions technologies (Management Quality Indicator 20).

Box 2.1. Assessing credibility through transition planning and implementation

In 2023, we raised the bar on Management Quality by introducing Level 5 to inform investors' shifting focus from ambition to action and to provide greater differentiation between high-performing companies. Level 5 tests companies on whether they have transition plans that include defined, quantified and financed actions to reach net zero. These indicators give greater insight into the rigour of companies' transition plans and whether they are credibly implementing them.

Fewer than 10% of companies reach Level 5 at present (see Figure 2.1). Companies on this level have strategically integrated climate change into their business. This means they have satisfied all indicators up to and including Level 4, but have not necessarily quantified their transition plan actions nor the alignment of their capital expenditure with decarbonisation goals. No company has achieved all Level 5 indicators and no more than 10% score on any single Level 5 indicator. Fewer than 1% of companies have committed to align capital expenditure with their decarbonisation goals (MQ22). This indicator is the lowest-scoring among all Level 5 indicators, despite being a crucial commitment given the need for companies to invest in new technologies and production routes to achieve net zero (see Section 4). Similarly, only 2% of companies have committed to phasing out capital expenditure from carbon-intensive assets or products (MQ19). Based on public disclosure, this indicates that companies are clear neither on how emissions reduction targets will be financed nor on how existing carbon-intensive assets will be retired. The strongest performance is on policy alignment with trade associations (MQ23), but even here only around 10% of companies report having such measures in place.

Relative to the results in our 2024 report, companies are now somewhat more likely to disclose their reliance on offsets to reach decarbonisation goals, but virtually none have committed to align capital expenditure with their decarbonisation goals. Nearly one in ten companies (9%) now satisfy MQ20, a meaningful increase from 3% last year. Disclosure about reliance on offsets is useful to investors given associated price and reputational risks (see Section 4). Sectors that expect to depend on offsets and negative emissions technologies to decarbonise generally score higher on this indicator, with companies in the airlines, autos and oil & gas sectors performing best.

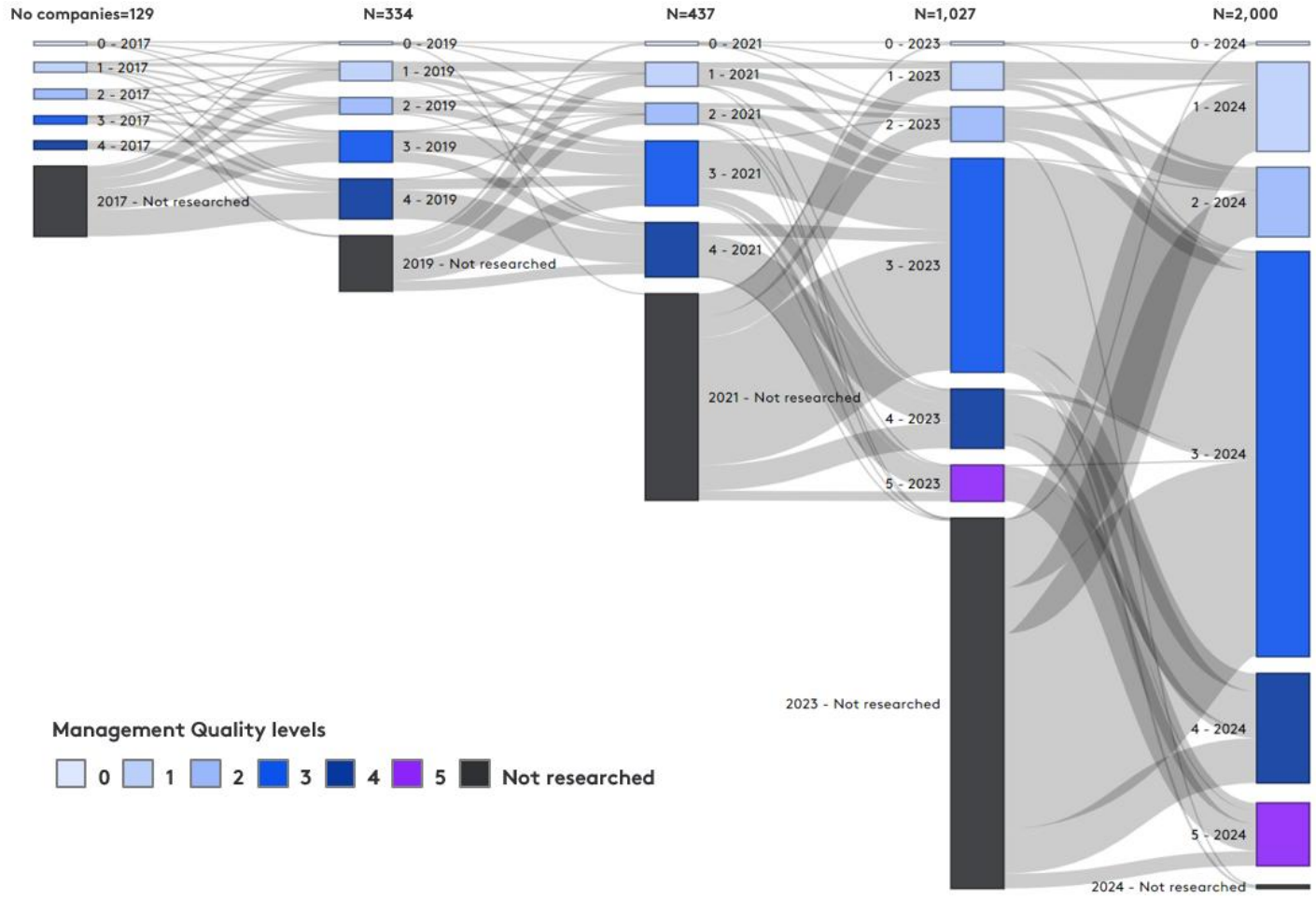
2.3. Trends in Management Quality

On aggregate, there has been continued progress on MQ since last year (see Figure 2.4). Although the average score across all companies of 3.0 is a slight decrease from 3.1 last year, this is due to newly assessed companies scoring lower, rather than a decline in the performance of existing companies. Of the 1,000 companies assessed both this year and last year, 172 have moved up at least one level and 48 have moved down. The most common upgrade, affecting 55 companies, is to Level 5. Oil & gas and electricity are the sectors with the highest number of companies making this shift.

Progress across levels reflects a broad improvement in scores against most indicators. For companies assessed both this year and last year, performance has improved across all indicators except the alignment of capital expenditures with decarbonisation goals (MQ22). Improvements have occurred on the disclosure of material Scope 3 emissions (MQ12) and climate scenario planning (MQ16), with 49% and 64% scoring on these indicators respectively, up from 36% and 52% last year.

The average score of new companies (2.7) is well below that of companies previously assessed (3.2). This difference is likely due to sector and company size, which as discussed above are both statistically significant predictors of MQ level. Of the 1,000 companies newly assessed this year, over 60% are in consumer goods & services, and industrials. These sectors score below the TPI corporate universe average. Additionally, many large-cap companies in consumer goods & services and industrials were added to the TPI corporate database in 2023. As such, by the end of 2024, most remaining additions in these sectors were small- and medium-cap companies.

Figure 2.4. Distribution of companies across Management Quality levels, 2017–2024



3. Carbon Performance

The TPI Centre's Carbon Performance (CP) assessments evaluate whether companies' emissions pathways are aligned with the Paris Agreement goals, taking a sector-specific approach. This year's report discusses the CP of 554 companies in 12 high-emitting sectors.

3.1. Assessing corporate alignment with the Paris Agreement

Alignment is assessed on three timeframes, the short (2027–28), medium (2035) and long (2050) term. [9, 10] All these horizons are important because global temperature change is primarily driven by cumulative CO_2 emissions: the whole emissions pathway matters. Sector-level CP alignment results and corresponding timeframes are provided in Appendix 1.

We use the following benchmarks:

- **National Pledges:** this benchmark reflects the global aggregate of countries' emissions reduction pledges made as of mid-2021.[11, 12]
- **Below 2°C and 1.5°C:** these two benchmarks reflect pathways to limit global warming to specified temperatures above pre-industrial levels and correspond to the overall goals of the Paris Agreement.[13]

In the long term, 43% of companies align with either Below 2°C or 1.5°C (see Figure 3.1). Among companies with suitable disclosure, most are either 1.5°C-aligned or are not aligned at all in the long term. This reflects the fact that many companies have set net zero targets for 2050, but that a larger proportion have either set no long-term target at all, or their targets have limited scope relative to the lifecycle emissions of their products.

Only 34% of assessed companies align with either Below 2°C or 1.5°C in the medium or short term. Short-term alignment largely reflects companies' starting points: that is, the emissions intensity of their current business models. Medium-term alignment is shaped by a combination of factors: existing emissions profiles, the ambition of long-term targets and sector-specific decarbonisation expectations as set out in the benchmarks. Aligning with the Paris Agreement goals requires steep reductions in the medium term, and fewer companies have committed to that level of ambition than have committed to net zero by 2050. As in previous years, this implies that companies are backloading decarbonisation efforts into the future. Postponing ambitious mitigation efforts can undermine the credibility of net zero ambitions.

[9] 524 out of 554 companies have a CP alignment; the remaining 30 companies have been excluded for not matching the assessment criteria of our sectoral methodologies.

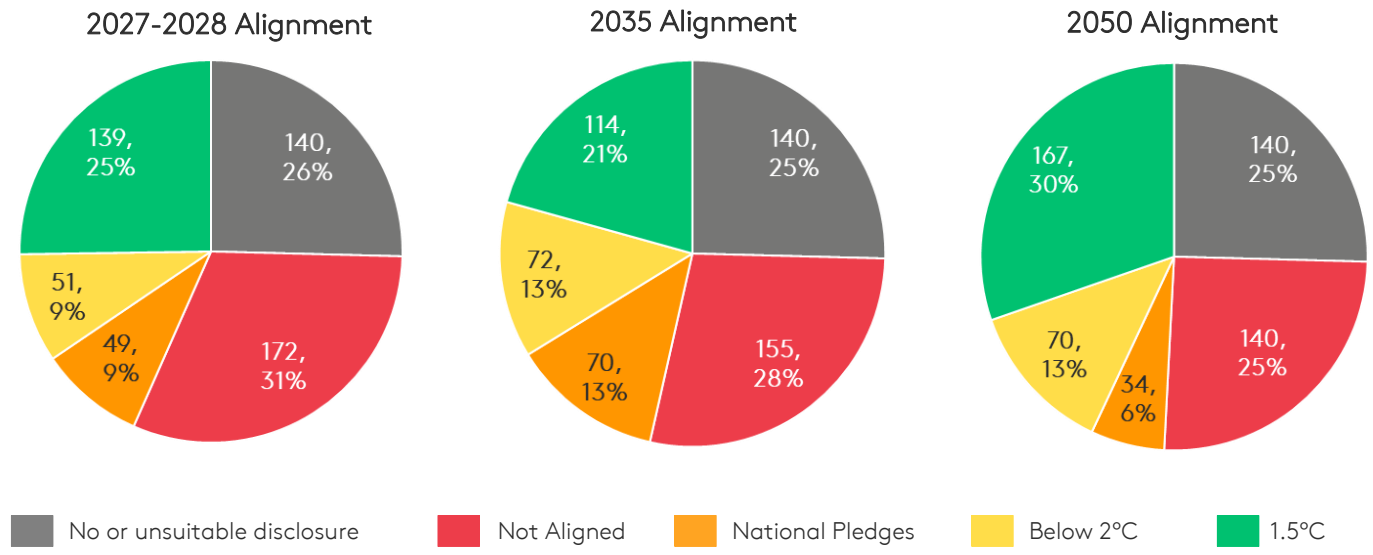
[10] We use the most recent assessment data available. In the latest cycle, where new data have been finalised, the short-term alignment year was updated from 2027 to 2028. This includes the airlines, autos, cement, paper and shipping sectors. For all other sectors and all Climate Action 100+ focus companies, short-term alignment is to 2027, based on the previous assessment cycle.

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

[12] The National Pledges scenario is not in line with the Paris Agreement temperature goals. This scenario gives a probability of 50% of holding the global temperature increase to 2.4°C by 2100.

[13] 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 reflects the availability of climate scenario data for these sectors.

Figure 3.1. Carbon Performance alignment among companies in the TPI corporate universe in the short, medium and long term (number and % of companies)



Note: The figure double-counts alignment for coal mining companies as they appear in two subsectors: thermal coal and metallurgical coal.

3.2. Trends in Carbon Performance

Since 2020, we have expanded the coverage of CP data from 292 to 554 companies. The expansion has also included the addition of new sectors such as food producers and coal mining, bringing the total number of sectors to 12.[14] Figure 3.2 shows trends in long-term alignment with climate benchmarks in the 2020, 2022 and 2024 assessment cycles. Note that the CP sector methodologies have also been updated since 2020 to reflect developments in low-carbon scenarios. This analysis reflects these updates.[15]

We observe an upward trend in long-term (2050) alignment with the Paris Agreement goals. In the 2020 assessment cycle, only 9% of assessed companies were aligned with a 1.5°C pathway. This proportion rose to 28% in 2022 and to 30% in the most recent cycle. Over the same period, the share of companies not aligned with any benchmark declined markedly, from 53% in 2020 to 29% in 2022 and 25% in 2024.

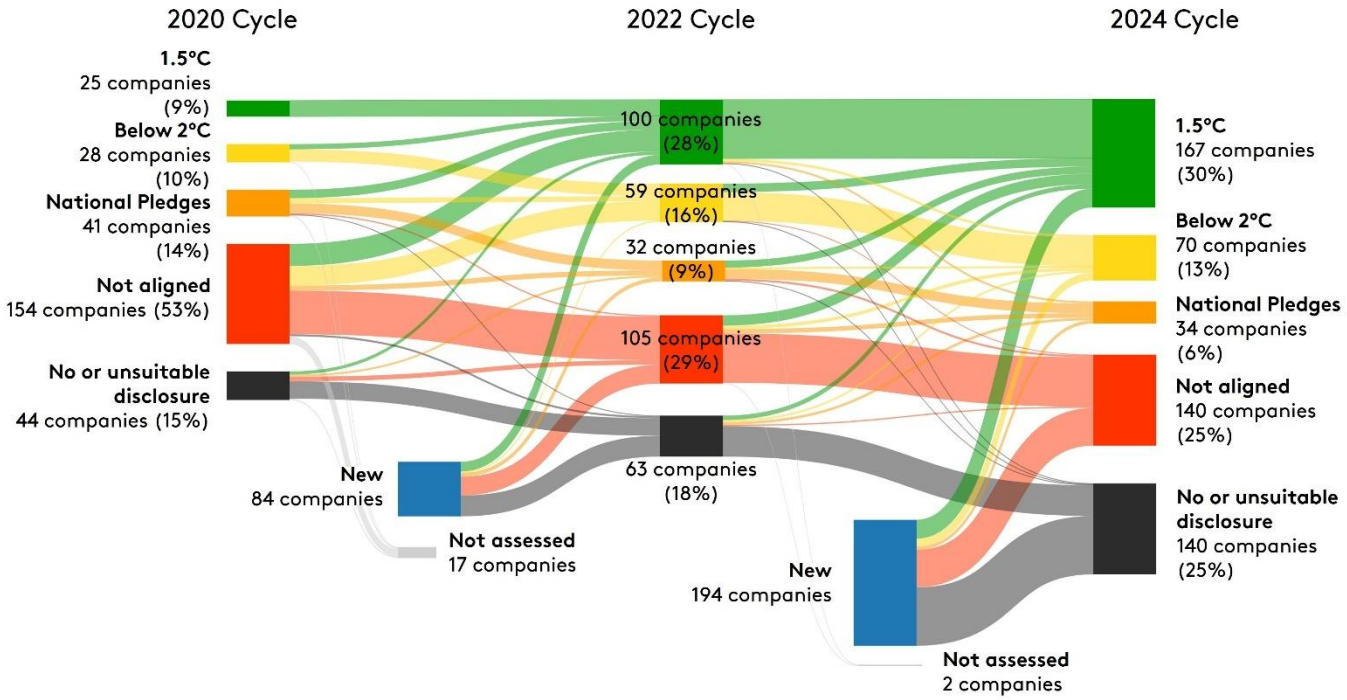
Across both time intervals, many more companies increased their climate ambitions than reduced them. Between 2020 and 2022, 90 companies improved their long-term alignment, representing 31% of the companies assessed in 2020. A further 57 companies improved their alignment between 2022 and 2024, equivalent to 16% of the companies assessed in 2022. Conversely, the proportion of companies whose long-term alignment worsened was only 2% and 4% over the two intervals, respectively.

As with Management Quality, companies newly added to the assessment cycle in 2024 tend to have worse CP than companies already assessed. This pattern is primarily explained by the two sectors added to the TPI corporate universe in 2024, food and coal mining. Few food producers publish suitable emissions/production data and few coal mining companies have set targets sufficient to align with any benchmark. The inclusion of food and coal mining companies has slightly reduced the overall percentage of Paris-aligned companies (i.e. aligned with Below 2°C or 1.5°C in 2050) from 44% in 2022 to 43% in 2024, despite the progress among existing companies described above.

[14] See the Carbon Performance assessment methodology notes for coal mining and food producer companies.

[15] To enable a consistent comparison, the 2020 and 2022 company alignments have been recalculated using the latest, 2024 benchmarks.

Figure 3.2. Change in Carbon Performance alignment among companies in the TPI corporate universe in 2050 from the assessment cycles in 2020, 2022 and 2024



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

3.3. Historical rates of emissions intensity reductions

Carbon Performance projects future emissions based on the ambition of companies' targets, but ambition alone does not guarantee delivery. One way of exploring whether companies' ambitions are credible is by comparing their historical emissions intensity trends — for 2020–2023 — against sectoral benchmarks.[16] This is, by definition, a backward-looking analysis: it does not assume that past rates of reduction will be sustained, and companies may well make accelerated progress in the years ahead. Nonetheless, historical performance provides an important indication of whether current actions are aligned with stated ambitions.

The analysis is based on the trend of the average company[17] in each sector. Historical performance is compared both with the benchmarks that were available in 2020 and with updated benchmarks, offering insights into past alignment as well as the increasing pace of emissions reductions now required over the rest of this decade.

Based on 2020 benchmarks, in most sectors the average company reduced its emissions intensity between 2020 and 2023 in line with a Below 2°C scenario (see Figure 3.3a). In four of the eight sectors assessed (aviation, shipping, autos and diversified mining), the average company even reduced its emissions intensity in line with a 1.5°C benchmark (see Figure 3.3b). However, in aviation, this was likely influenced by the COVID-19 pandemic, which caused a temporary fall in activity and a sharp decline in emissions intensity following a spike in 2020.

[16] Of the 554 companies assessed on Carbon Performance, 277 were included in this analysis. This subset reflects companies with complete emissions intensity pathways from 2020 to 2023 and for which historical sectoral benchmarks (projections from the year 2020) were available. The sample sizes by sector are as follows: airlines: 35; autos: 27; cement: 24, diversified mining: 18; electricity utilities: 81; oil & gas: 48; shipping: 16; steel: 28. Newly added sectors without historical benchmarks were excluded from this comparison.

[17] On an unweighted basis.

Figure 3.3a. Historical rates of emissions intensity reduction ('actual reduction') compared with required rates of reduction to align with previous and latest Below 2°C benchmarks

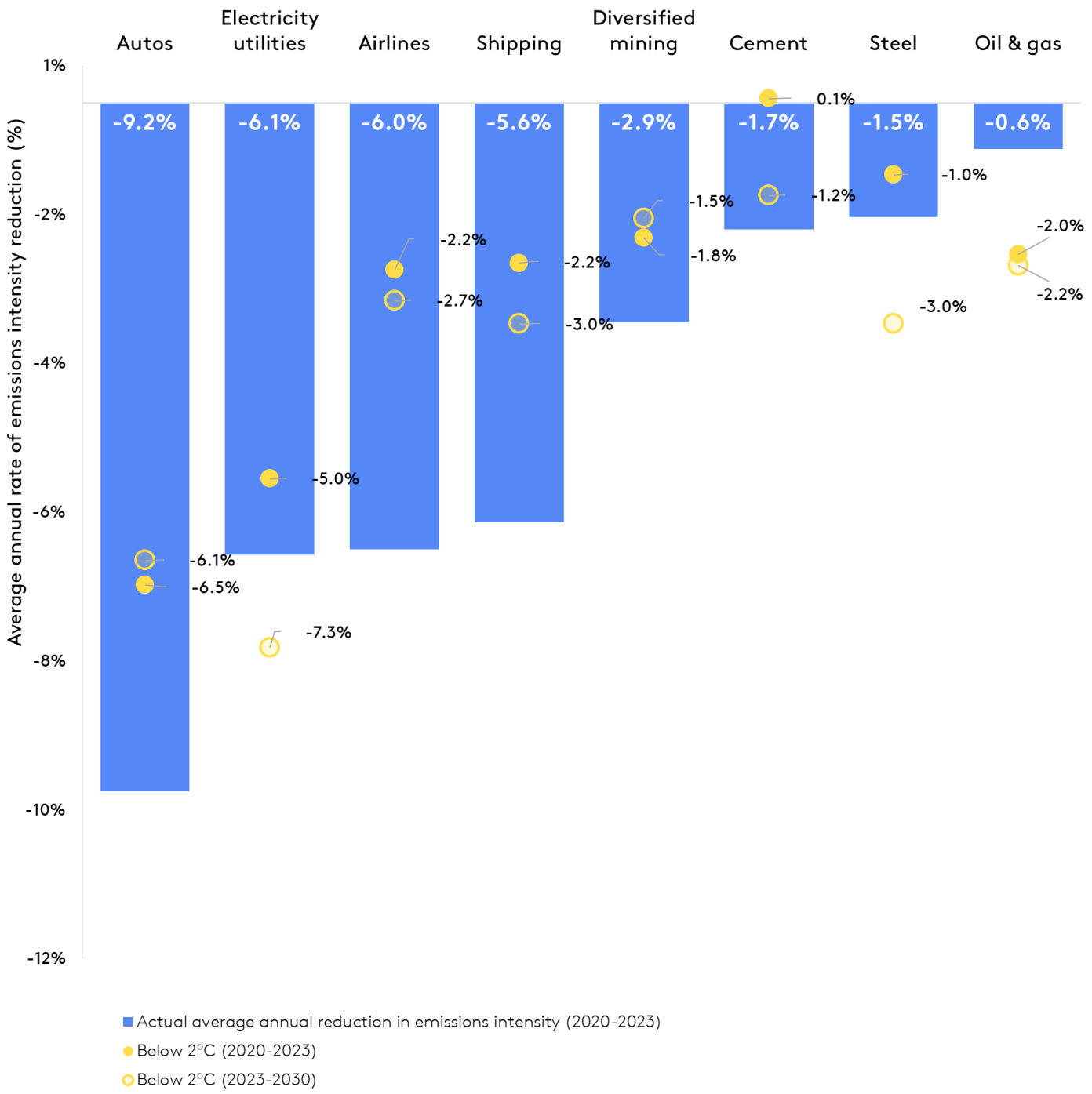
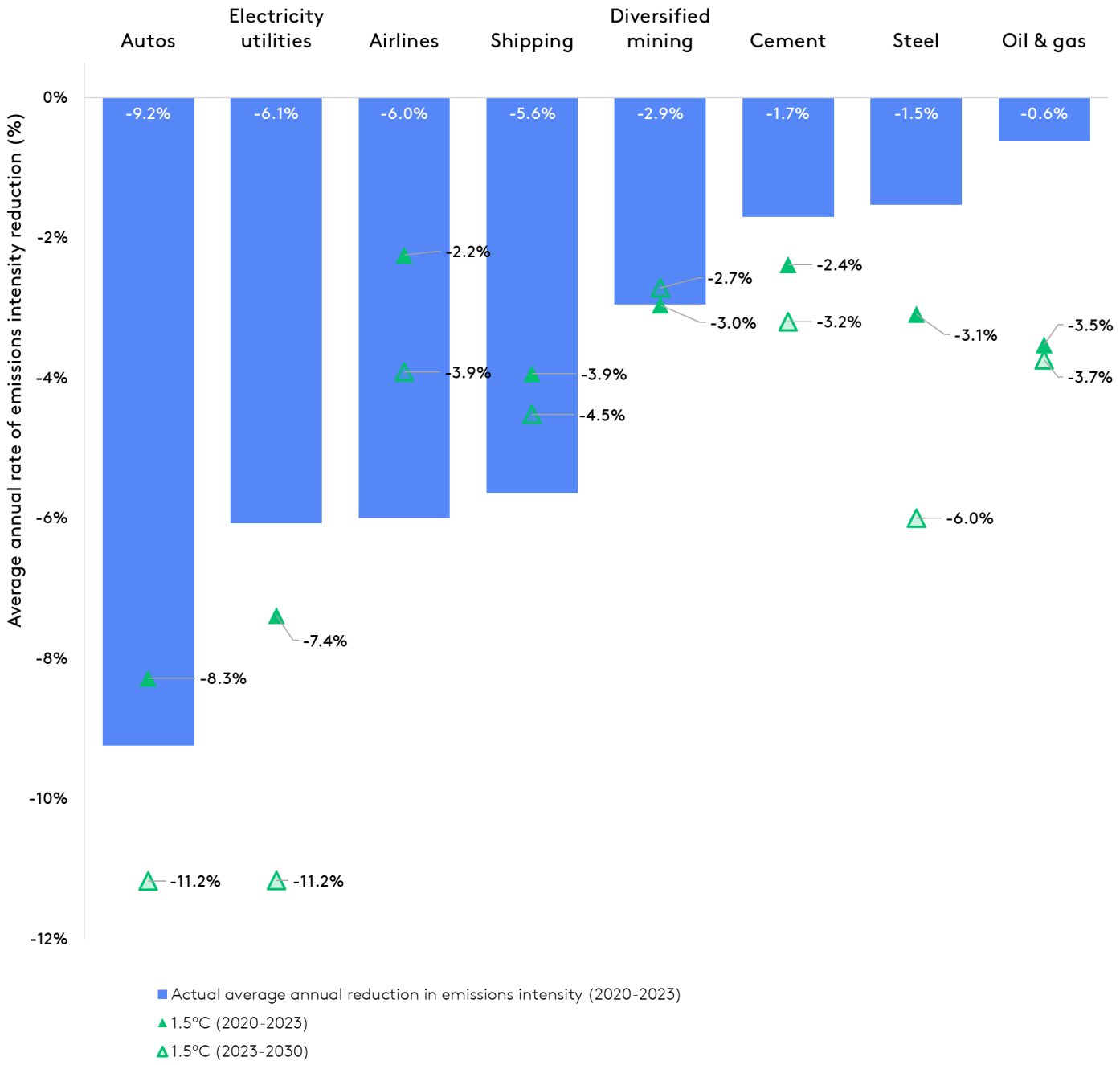


Figure 3.3b. Historical rates of emissions intensity reduction ('actual reduction') compared with required rates of reduction to align with previous and latest 1.5°C benchmarks



Note: The emissions intensity reductions shown in Figure 3.3a and 3.3b refer to the average company in each sector, based on a sample size explained in footnote 16.

Between 2020 and 2023, the average company in the autos and electricity sectors reduced its emissions intensity at nearly five times the rate of its counterparts in cement or steel. Autos and electricity benefit from relatively clear, commercially mature decarbonisation options such as electrification and renewables deployment, which can reduce uncertainty and support competitive positioning. In contrast, heavy industrial sectors including steel and cement face more complex technological choices and fewer mature solutions. We explore the role of these 'decarbonisation levers' further in Section 4.

The oil & gas sector made the slowest progress in reducing its emissions intensity between 2020 and 2023. Emissions intensity reductions in this sector were the furthest away from Paris alignment. When assessed against the 2020 benchmarks, only Cenovus and APA Corporation achieved reductions in line with the 1.5°C benchmark and only TotalEnergies aligned with the Below 2°C benchmark.

Accelerated decarbonisation is required from all sectors because the most recently updated benchmarks require ever steeper emissions reductions, reflecting the world's shrinking carbon budget. In five of the eight sectors assessed, the average company must accelerate its rate of emissions intensity reduction beyond that achieved between 2020 and 2023 to be aligned with 1.5°C. In the remaining three sectors, the average company must accelerate its emissions intensity reduction to align with Below 2°C. As earlier gains from low-cost or efficiency-based measures are exhausted, meeting these rising expectations will require more transformative operational and technological shifts.

3.4. Cumulative Benchmark Divergence (CBD)

Cumulative Benchmark Divergence (CBD) uses the CP data to evaluate overall alignment with climate benchmarks over time. The metric is calculated by comparing the area under a company's emissions trajectory with the area under its corresponding benchmark pathway. This yields a single figure that reflects the extent of cumulative overshoot or undershoot relative to the benchmark.

- A **positive CBD** indicates the company is projected to emit more than the benchmark allows
- A **negative CBD** suggests that the company's cumulative emissions remain below the benchmark threshold.

We calculate CBD at the sector level for a total of 374 companies across 12 sectors.[18] To aggregate company CBD scores into a sector score, we weight each company's CBD by its share of the sector's overall revenue[19] as a proxy for company size and associated absolute emissions. Similarly, by weighting each sector's CBD by the sector's share of total revenue of the TPI corporate universe, we compute a single, overall CBD score for all assessed companies. This constitutes a change from last year's analysis, where we weighted company and sector CBD scores using market cap. Revenue better reflects the current scale of a company's operations. Revenue is also broken down by business segment to avoid giving too much weight to companies that operate across multiple sectors. Further detail on the use of market cap is provided in Appendix 2.

The CBD of companies in the TPI corporate universe is +61%, taking 1.5°C as the benchmark and measured between 2020 and 2050 (see Figure 3.4). The CBD falls to +13% when assessed against Below 2°C.[20] This indicates that companies plan to cumulatively emit more than is consistent with the Paris Agreement goals. On average, the most misaligned sector is aluminium, followed by coal mining and oil & gas.[21] Note that the sectoral CBD scores for aluminium and food are particularly affected by limited company disclosure, which means the assessed companies may not be representative of the broader sector. For aluminium, only 12 out of 31 companies meet the criteria for assessment. In the food sector, while

[18] 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.

[19] Gross revenue from business activities for the calendar year 2024 was used to normalise the CBDs.

[20] For the paper sector, we use the Below 2°C and 2°C benchmark as these are the most ambitious scenarios available for this sector.

[21] For the coal mining sector, CBD was calculated over the 2021–2050 period, as sectoral benchmarks only begin in 2021. As the coal mining sector is split into two subsectors, company-level CBDs were weighted based on the share of thermal and metallurgical coal production to produce a single CBD score for each company.

coverage has more than doubled since last year, just 11 out of 57 companies disclose enough data to be included.

The autos sector shows the largest shift in alignment when moving from the 1.5°C (+56%) to Below 2°C (-13%) benchmark. This reflects the sector's relatively clearer technology roadmap, hence higher expectations for emissions reductions under the 1.5°C benchmark. Strong recent emissions intensity reductions (see Figure 3.3a and b) and the setting of net zero targets by auto companies enable them to meet the slower decarbonisation pace required under Below 2°C. Across other sectors, the ranking of most and least misaligned sectors remains broadly consistent between the 1.5°C and Below 2°C benchmarks.

Shipping, with a CBD score of -11%, stands out as the only sector undershooting its 1.5°C benchmark. This is driven by two very large companies, AP Moller-Maersk and Hapag-Lloyd, which have ambitious net zero targets in 2040 and 2045, respectively.[22] Notably, Hapag-Lloyd already has an emissions intensity that is much lower than the sector average. These two companies outperform their sectoral benchmark and represent nearly 40% of the shipping sector's total revenue.

Under the Below 2°C benchmark, autos, electricity, diversified mining, airlines and cement also undershoot. This is because the Below 2°C benchmark does not require absolute net zero emissions, whereas many companies have set net zero by 2050 targets. These long-term targets allow them to meet the cumulative emissions budget for Below 2°C without delivering the steep early reductions needed under the 1.5°C benchmark.

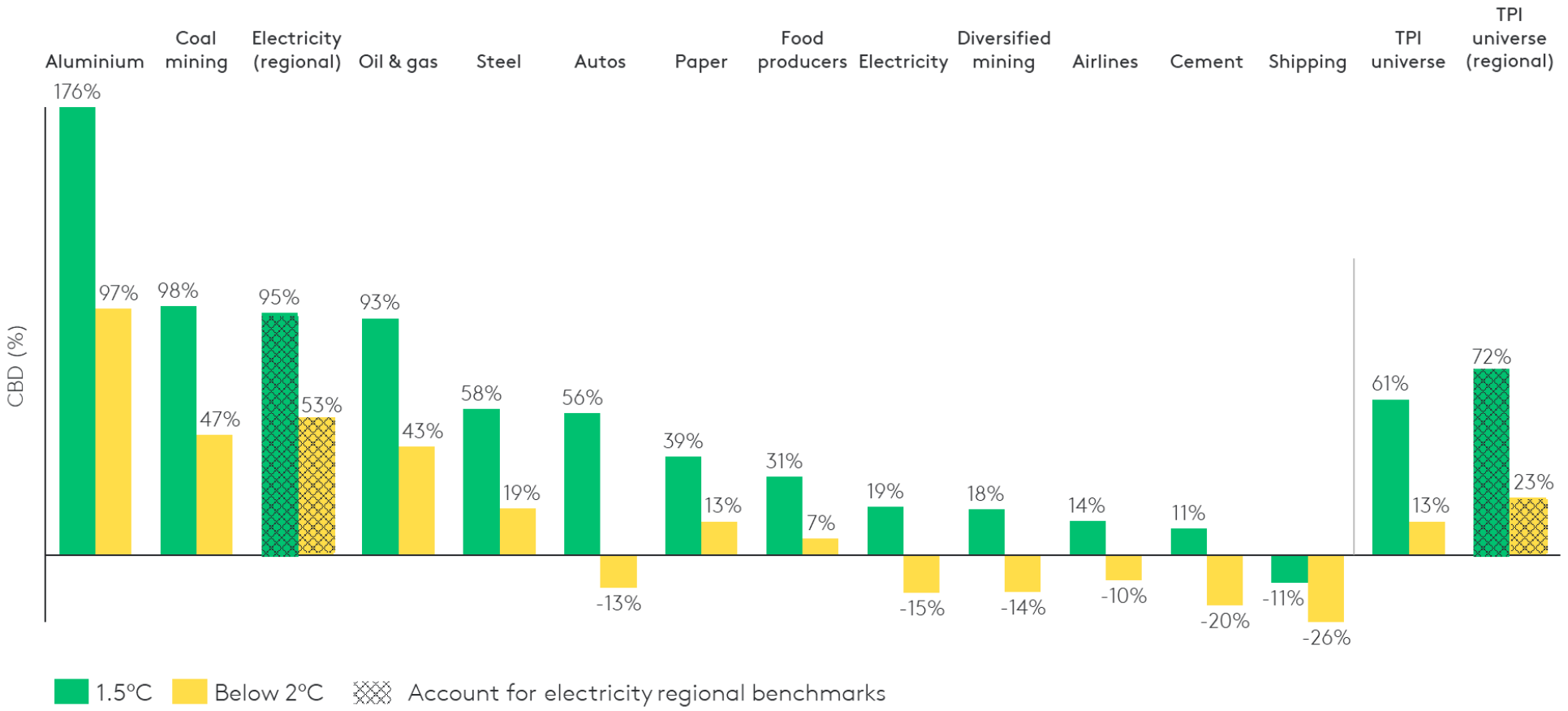
It should be noted that overshooting 1.5°C is expected to significantly increase the risks of extreme weather events, droughts and floods, as highlighted in the IPCC's Special Report on 1.5°C (2018).

When accounting for regional differences, the CBD of the electricity sector increases almost fivefold from 19% to 95% under 1.5°C, and from -15% to 53% under Below 2°C, because utilities in industrialised countries are further from alignment with their regional than global benchmarks. Our CP assessments typically rely on global emissions pathways due to limited availability of regional scenario data. In many sectors, multinational companies also complicate the use of regional benchmarks. However, electricity utilities tend to have a regional focus and sufficient modelling data are also available to reflect regional differences in this sector. We therefore recalculated CBD for the electricity sector based on four regional benchmarks: OECD,[23] non-OECD, Europe and North America. The steep increase in CBD (from 19% to 95%) reflects the more ambitious decarbonisation timelines required in developed regions. While non-OECD countries are expected to reach net zero by 2045, countries in Europe and North America are expected to do so by 2035. The higher CBD score suggests that utilities in developed countries have not set emissions reduction targets that align with their accelerated regional net zero timelines.

[22] Many of the largest global shipping companies are privately held and therefore fall outside the scope of the TPI Centre's assessment universe, which includes only publicly listed companies.

[23] Organisation for Economic Co-Operation and Development.

Figure 3.4. Cumulative Benchmark Divergence (CBD) by sector in the TPI corporate universe



4. Decarbonisation levers in transition planning

This section presents exploratory research on the decarbonisation levers companies disclose in different sectors, with a view to illuminating the credibility and feasibility of companies' targets further. Disclosure of decarbonisation levers can be an important component of corporate transition plans. Decarbonisation levers refer to the specific actions, technologies or operational changes a company intends to deploy to reduce its emissions in line with its climate targets.

The analysis focuses on a subset of 72 companies in the TPI corporate universe that provide sufficient detail to identify these levers.[24] Levers have been categorised into eight themes to allow comparison across sectors.

The data on company levers are overlayed with Technology Readiness Levels (TRLs) from the International Energy Agency (IEA). These provide insight into the development stage of each technology and associated delivery risk. We use three TRL ranges, with higher TRL scores indicating greater readiness:

- **TRL 5–6:** where large-scale prototypes are proven in relevant conditions but are not yet deployed
- **TRL 7–8:** where technologies are in a demonstration phase and are operating successfully in expected conditions
- **TRL 9–10:** where solutions are commercially available and widely deployable.

Figure 4.1 illustrates the distribution of decarbonisation levers disclosed by companies across sectors. The size of each bubble reflects the share of companies that reported using a given lever, while the colour indicates the average TRL of each lever.[25]

As a lever, carbon capture and removal technologies have the lowest readiness level, ranging from TRL 5 to 7 depending on the sector, while renewables are at the most advanced level. Process efficiency shows the greatest variance in TRL between sectors, as these measures are often tied to sector-specific operations. Biofuels and electrification display the least variation in readiness across sectors. Overall, in all sectors most companies disclose reliance on levers that are still only in the demonstration phase (TRL 7–8) and are not yet commercially mature or competitive.

Process efficiency (disclosed by 82% of companies) and measures incorporating renewables (79%) were the levers disclosed most frequently. Electrification (65%) ranked third, with all autos and diversified mining companies including it in their plans. Asset closure (24%) and adoption of biofuels (25%) were the least commonly disclosed; asset closure is largely driven by electricity companies planning to retire fossil-based power plants.

There is significant variation in transition readiness across sectors. The airlines and cement sectors have the lowest levels of technology readiness, with disclosed technologies averaging TRLs of 6.2 and 7.4, respectively. In contrast, the automotive and electricity sectors show the highest level of readiness, with average TRLs of 9.3 and 9.1, respectively. Companies in the electricity sector commonly disclose commercially available technologies such as solar PV and wind energy — both at TRL 10. In contrast, companies in the

[24] Decarbonisation levers are assessed by the TPI Centre as part of the Climate Action 100+ (CA100+) Net Zero Company Disclosure Framework, which is why this analysis focuses on that subset of companies. The sample sizes of companies are as follows: airlines: 5; autos: 9; cement: 5; chemicals: 7; diversified mining: 7; electric utilities: 21; oil & gas: 12; steel: 6. The analysis is based on the most recent relevant company disclosures available up to 23 June 2025.

[25] Average TRL is calculated by identifying all IEA-classified technologies associated with a lever disclosed by a company. Where possible, a specific TRL is assigned based on the technology disclosed. If the company does not provide sufficient detail, we apply an average TRL based on relevant technologies within that domain.

airlines sector often disclose adoption of sustainable aviation fuel (SAF), a solution that remains in the demonstration phase (TRL 7). This reliance on lower-TRL technologies reflects the limited set of commercially feasible decarbonisation options currently available to airlines. Further analysis of company disclosures shows that the five airline companies attribute 40–60% of their emissions reductions to SAF.

Carbon capture and removal technologies feature prominently in company disclosures across sectors, though many of the disclosed solutions remain at an early stage of development. A total of 56% of companies reference carbon capture and removal technologies as part of their transition strategies. Cement producers often disclose CO_2 sequestration in concrete products (TRL 9), while some steel makers refer to capturing off-gas for fuel conversion (TRL 8). In hard-to-abate sectors where capturing emissions at source is more challenging, companies disclose less commercially mature technologies. For instance, oil & gas companies reference post-combustion carbon capture methods (TRL 7), while airlines and diversified mining companies tend to refer to negative emissions technologies such as direct air capture (TRL 6–7).

Relying heavily on carbon offsets, as seen in the airlines and diversified mining sectors, exposes companies to integrity and cost risks. Airlines and diversified mining companies demonstrate the greatest reliance on offsets as part of their decarbonisation strategies, indicating that they expect direct emissions abatement to be a challenge. A key risk posed by this approach lies in the use of low-quality offsets, which may not achieve actual or permanent emissions reductions. This can undermine the credibility of a company's net zero strategy and expose it to reputational scrutiny. In addition, net zero strategies that rely heavily on offsets may come with an associated price risk if many firms simultaneously expect to purchase cheap offsets (as discussed in our *State of Transition Report 2020*). If ongoing efforts to strengthen the integrity of carbon credits succeed, prices are likely to rise further.

Process efficiency features in transition plans across all sectors, but detail is often insufficient to assess technological readiness. A total of 82% of companies reference process efficiency as part of their transition strategies, yet only 54% of these companies provide enough specificity to identify underlying technologies and determine representative TRLs for at least one of their efficiency measures. This varies by sector: while electricity utilities reference efficiency measures such as 'improve electric transmission systems' and 'modernise electric grid', which have defined TRL values, airlines and autos reference high-level measures such as 'operations optimisation', 'efficient manufacturing', and 'sustainable procurement', which are more difficult to interpret in terms of technological readiness. Confidentiality may limit the disclosure of certain levers, but key disclosure frameworks (such as the European Sustainability Reporting Standards) increasingly expect clarity on the levers underpinning climate targets. This suggests that confidentiality, while relevant, is unlikely to be the primary reason for the lack of specificity in many disclosures.

Measures associated with renewables are the only decarbonisation lever at the market uptake stage (TRL 9–10) in every sector. While 79% of companies across sectors refer to renewables as a decarbonisation lever, the specific measures used vary significantly by sector. For oil & gas and electricity companies, measures involve plans to build renewable generation capacity, whereas companies in other sectors primarily focus on procuring electricity from renewable sources to reduce their Scope 2 emissions. This approach relies on the decarbonisation of power grids, with companies assuming that renewable capacity will scale up sufficiently to meet rising power demand.

Even where commercially mature technologies such as solar and wind are deployed, external dependencies (i.e. factors outside a company's direct control) may limit the implementation of transition plans:[26] these include grid-access permitting processes, energy security and national energy policies. These dynamics underline the importance of companies engaging constructively with policymakers and industry groups, as captured in the Management Quality framework's indicators on policy engagement and lobbying.

Overall, many companies combine proven solutions such as renewables with emerging technologies that could unlock deeper long-term decarbonisation but carry delivery risks. Business and policy pressures tend to push companies towards cost-competitive, mature technologies, as seen in the autos and electricity sectors. Scaling up

[26] For an overview see Rose et al. (2024) *A framework for assessing and managing dependencies in corporate transition plans*.

newer technologies will require significant investment in clean energy innovation and infrastructure development,[27] making alignment of future capital expenditure with long-term decarbonisation goals (MQ22) a critical factor in achieving targets. Therefore, the feasibility of future commitments hinges not only on ambition but also on how quickly less-ready technologies can be scaled up and become cost-competitive.

Figure 4.1. Decarbonisation levers disclosed in each sector, by percentage of companies referencing each lever and average Technology Readiness Level (TRL) of lever

Technology readiness level (TRL) key:

9-10 Market uptake | 7-8 Demonstration | 5-6 Large prototype | n/a

Companies with high reliance on technologies with low or high TRL values

Bubble size: % of companies referencing lever by sector

Note: 'n/a' refers to companies that did not provide enough information to identify underlying technologies and determine representative TRLs.

[27] See e.g. World Economic Forum (2023) for an outline of the IEA's estimates of the clean energy investments needed to limit warming to 1.5°C.

5. TPI data in practice

The TPI Centre's research and outputs are guided by investor needs. In this section we outline how our findings relate to their priorities.

Since the publication of TPI's first corporate assessments in 2018, the scope and depth of our research have grown significantly. In response to investor demand, our focus has evolved from assessing alignment with net zero targets to the implementation of transition plans and, importantly, their credibility. The shift in focus also acknowledges the growing maturity of the market — of both companies and investors — since TPI's inception. At that time, much of the evidence we seek from companies' public disclosures did not exist, and investors were not yet in a position to ask the kinds of question that are now central to evaluating transition credibility.

Important points for investors

When using the results of this report, investors should bear in mind the following:

Continued corporate universe expansion

The scaling-up of company coverage, in collaboration with LSEG, strengthens the TPI Centre's ability to inform investor strategies and broadens opportunities for engagement with companies across new sectors and regions. It facilitates the increased integration of our data into key investor practices and products, including the Net Zero Investment Framework, and is at the core of the FTSE TPI Climate Transition Index Series. The Management Quality and Carbon Performance scores translate complex data into metrics that feed into synthetic scoring used by investors in portfolio construction. These indicators are designed to serve as starting points for deeper conversations between investors and companies, helping to surface key issues and guide more informed engagement.

Holistic assessment of transition efforts

Using CP or MQ in isolation provides an incomplete picture of company transition efforts. CP assesses the ambition of emissions reduction targets, while MQ complements this evaluation by focusing on governance processes and encouraging transparency. Together, these metrics provide a comprehensive perspective that can support investors' engagement with corporates. For example, investors might prioritise engagement on indicators with poor MQ scores such as those on climate policy lobbying, given the powerful influence of many large companies on climate policymaking. This dialogue can be informed by whether the company's own emissions targets align with the Paris Agreement. Investors can ask how a company intends to ensure it can meet its targets through proactive pro-climate lobbying to address and resolve regulatory constraints.

Forward-looking company evaluation

As the time series of sector-specific benchmarks expands, it is now possible to assess the credibility of companies' past performance through historical emissions analysis (see Section 3.3). In parallel, the data support a forward-looking approach to transition finance by enabling constructive and nuanced engagement. This perspective provides the basis for meaningful dialogue around flexible transition pathways — so long as companies can justify deviations and remain broadly aligned with science-based benchmarks. The forward-looking analysis can help investors move away from efforts to decarbonise portfolios based purely on current operational emissions. Indeed, investment strategies focused solely on reducing financed emissions can be vulnerable to cosmetic portfolio adjustments, without contributing to real-world emissions reductions. In contrast, our detailed, transition-focused assessments equip investors with the insights needed to identify genuine progress, engage effectively with companies and hold them accountable for delivering on their climate goals.

Scrutiny of transition plan credibility

The increase in investor scrutiny of the credibility of corporate transition plans is relatively recent. MQ Level 5 already provides key information on the critical components of transition plans and their implementation. In addition to the backward-looking emissions intensity analysis, we explored the disclosures of selected companies on the decarbonisation levers they intend to use to meet

their emissions targets. This analytical approach offers practical insights into whether company targets are grounded in feasible, measurable and timely action. Investors can draw on these insights to inform their corporate engagement, for example asking companies to further explain how the levers they are proposing will deliver expected outcomes and what external dependencies might cause constraints.

Next steps and future research

We are continually expanding and refining our analysis to respond to advances in scientific knowledge and to address evolving market needs, ensuring it remains relevant and actionable for investors. Based on regular dialogue with our investor supporters and the broader transition finance ecosystem, we have identified three priority areas for our future research programme.[28]

1. Scaling-up assessment tools

We are continuing to expand the TPI MQ universe in response to investor need, with the objective of including around 10,000 companies with TPI's data partner LSEG. In parallel, we are scoping a scalable, 'smart' CP methodology designed to extend coverage beyond the core high-emitting sectors. If successfully tested, over time this approach may enable us to assess thousands of companies, significantly broadening the impact and application of our analysis, especially in financial products like indices.

2. Deepening transition plan analysis

To inform meaningful engagement, investors need an increasingly nuanced understanding of sector-specific transition efforts. The TPI Centre's award-winning Net Zero Standards assessments — which were initially piloted in the mining and oil & gas sectors — add a sector-specific layer of rigour to our evaluation of corporate transition plans. We hope to expand these assessments across new sectors, enhancing our ability to scrutinise key elements of transition plans such as capital allocation, the scope of emissions targets and the integration of climate strategy into core business planning.

3. Tailoring corporate assessments to specific regional and policy contexts

Consensus is growing in sustainable finance that it is crucial to consider the policy and development context in which companies operate when evaluating corporate climate performance. We are therefore exploring ways to tailor our corporate climate assessments to regional circumstances. This will be a key enabler for ramping up private climate finance in emerging markets, which may be disadvantaged by conventional assessment tools. This research will look into the dependencies of corporate transition plans on policy, explore regionalised sector-specific benchmarks where possible, and link the TPI Centre's corporate and sovereign assessment frameworks to investigate exposure to regulatory transition risk.

In support of these new activities, we will continue to build our outreach efforts, which have significantly expanded over the past year. Our aim is to enhance understanding and uptake of the TPI Centre's tools, resources and analysis: not only among investors but also across investee companies and policymakers. By deepening engagement with these key stakeholders, we seek to promote more informed decision-making, greater alignment on transition expectations, and more effective use of our data in driving real-world outcomes.

At a time of increasing transition headwinds and weakening corporate commitments, rigorous and transparent analysis is more critical than ever. Investors need clear, evidence-based tools to separate genuine strategic alignment from superficial claims. Identifying companies that have embedded the transition into their core business planning is essential, as these are the firms most likely to be resilient and competitively positioned in a low-carbon future.

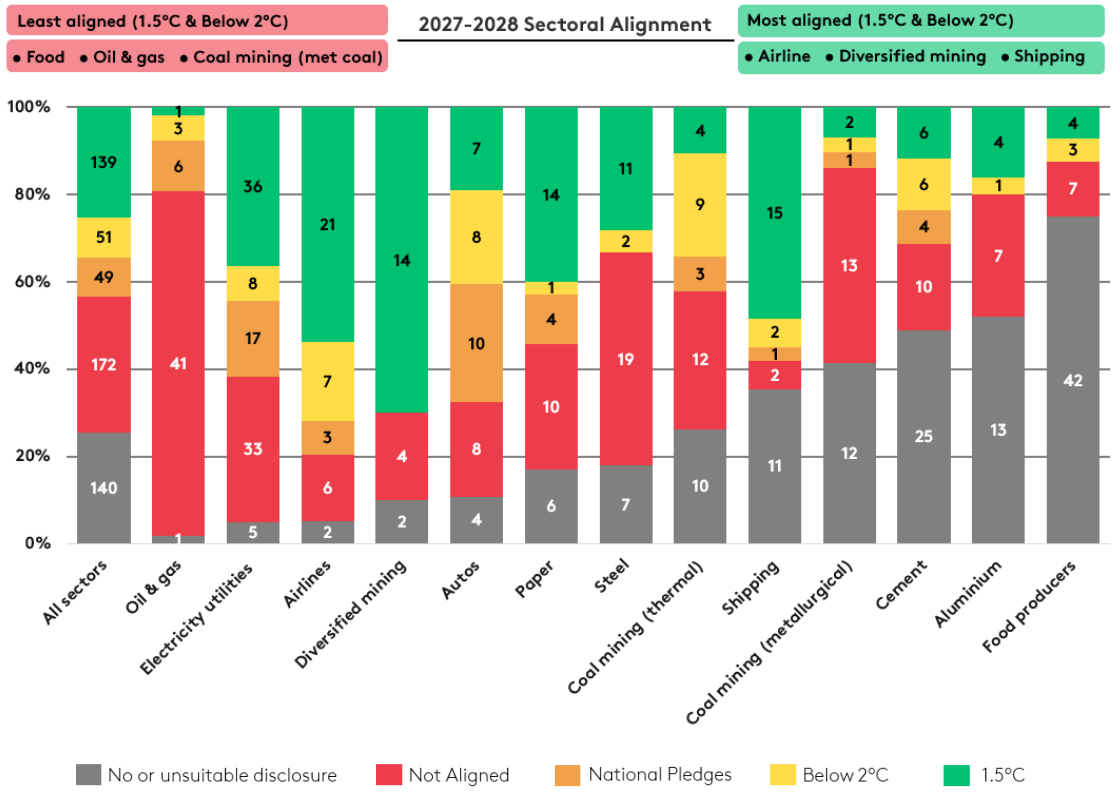
Even with high-quality data and robust analytical tools, the effectiveness of transition analysis depends on how it is used in practice. Without clear differentiation in the cost of capital and company valuation based on climate performance, the signals sent by rigorous assessments risk being ignored. For transition plans to drive real change, markets must reward companies that integrate climate considerations into their strategy — and reflect the risks faced by those that do not.

[28] Subject to funding.

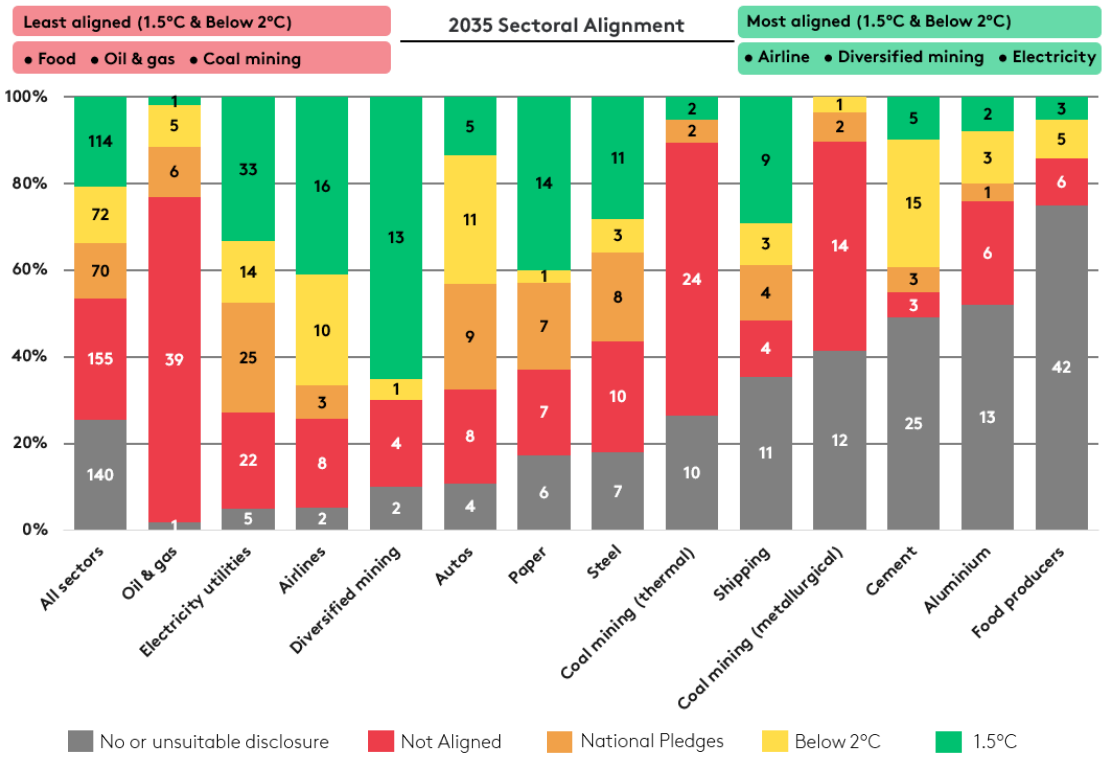
Appendix 1. Carbon Performance alignment by timeframe and sector

Figure A1. Carbon Performance alignment with the Paris Agreement benchmarks in the short, medium and long term by sector (percentage and number of companies)

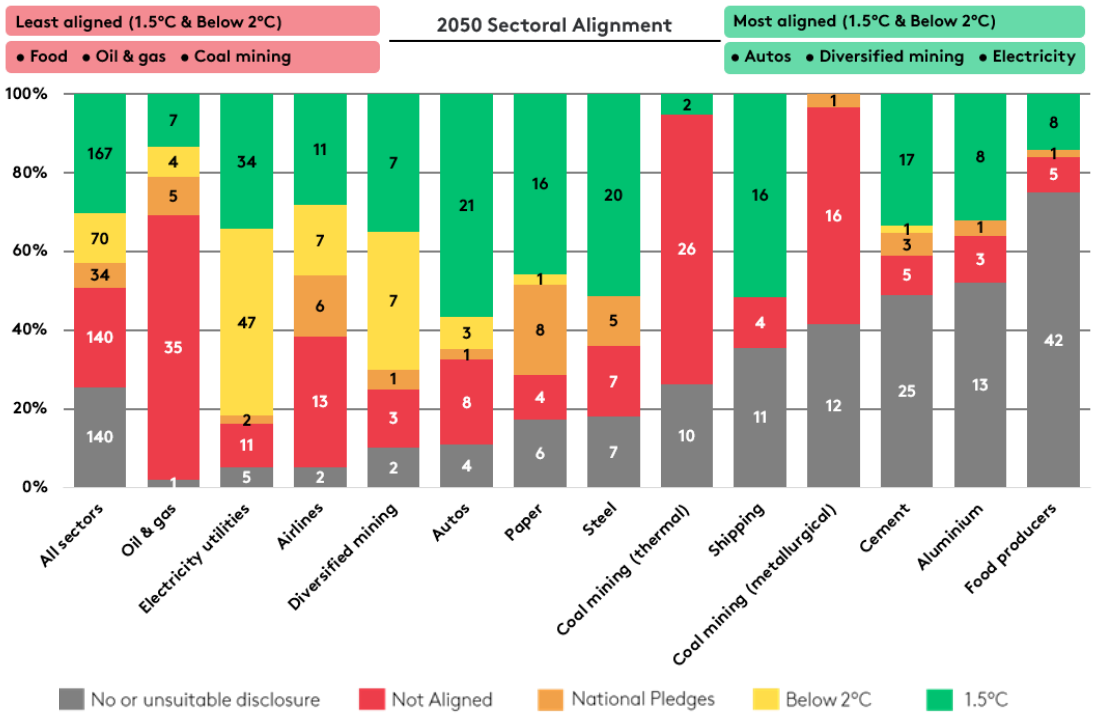
a) Short term



b) Medium term



c) Long term



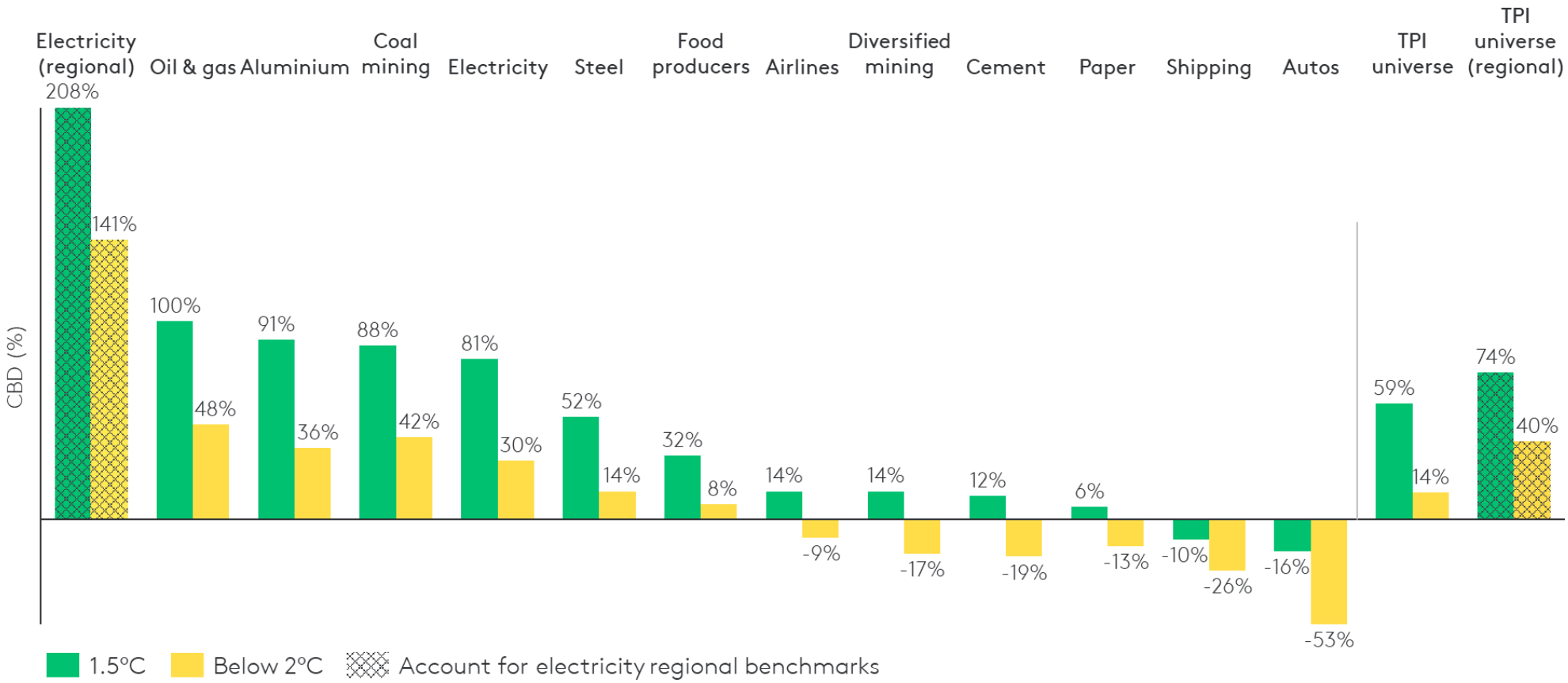
Appendix 2. Cumulative benchmark divergence (CBD) by market cap

Section 3.4 explained how this year's analysis uses revenue to weight company CBD scores, replacing the market cap weighting used in last year's report. Revenue weighting better reflects the current operational scale of companies and allows us to more accurately weight dual-sector companies.

When using market cap to aggregate company CBDs, the overall CBD of the TPI corporate universe is +59%, taking 1.5°C as the benchmark and measured between 2020 and 2050 (see Figure A2). The CBD falls to +14% when assessed against Below 2°C. While these results are broadly consistent with those derived from revenue-based weighting, significant differences emerge at the sector level. For example, in the autos sector, the CBD drops sharply from +56% to -16% under the 1.5°C benchmark when weighted by market cap. This shift reflects the high valuations of electric vehicle producers, such as Tesla, which hold the largest market cap in the sector despite having smaller revenue shares. Similarly, the aluminium sector drops from +176% (the most misaligned sector under revenue weighting) to +91% (the third most misaligned under market cap). This shift occurs because the market cap method assigns greater weight to diversified companies with high overall valuations, even when aluminium represents only a small portion of their operations. Some sectors, such as oil & gas and airlines, show little variation between revenue and market cap weighting. This reflects market expectations that a sector will continue to play a significant role during the transition, regardless of the weighting method, which indicates that company size and market expectations for these sectors are broadly consistent with their current operational scale.

On aggregate, companies remain misaligned with the goals of the Paris Agreement across both revenue- and market cap-weighted CBDs. Revenue weighting reflects the current operational scale of companies, while market-cap weighting incorporates expectations about future performance. These approaches produce broadly consistent results overall, but differences at the sector level highlight where market expectations diverge from present-day operations.

Figure A2. Cumulative Benchmark Divergence (CBD) by sector in the TPI corporate universe, using market capitalisation to weight companies



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