

ARABESQUE S-RAY RESEARCH

Global Trends

In Corporate Emissions Disclosures

Are Companies Moving Fast Enough
in Reporting Greenhouse Gases?

Part Two

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Global Trends in Corporate Emissions Disclosures: Are Companies Moving Fast Enough in Reporting Greenhouse Gases?

A new analysis of data from the Temperature™ Score

This is the second part of our two-part article considering the trends and implications of corporate disclosures using data from the Arabesque S-Ray Temperature™ Score. In part one, we considered the question “How much are companies currently emitting?” by looking at recent trends in regional corporate disclosures of greenhouse gasses across Europe, Asia, and the US, and the impact of standardised reporting frameworks by considering the disclosure rates of TCFD supporters. Now we turn to our second question: “What does that mean for global temperature rise?”.

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In part one we established that, although slowing in some regions, emissions disclosures are generally rising. Here, we consider how we can use emissions data both to inform us about a company's current climate impact and to understand more about a company's climate action. Using the output from the Temperature™ Score, we find that while increased regulation on corporate transparency doesn't necessarily result in lower climate impact, it does provide a richer picture of corporate climate action. In turn, this allows for better corporate engagement and an improved understanding of corporate climate risk. However, in the US, where regulation is lagging, we find that typically only the best performing companies are willing to provide the level of disclosure required to assign a score. This clearly hinders attempts to establish a holistic picture of corporate climate action and risk, as we see in our analysis.

What does that mean for global temperature rise?

Given data on a company's emissions, we can calculate a company's contribution to global temperature rise. Scientists have established that there is a strong relationship between cumulative emissions and increases in global temperature, essentially defining the increase in global temperature rise for each additional tonne of CO₂ emitted¹⁵. This relationship has provided scientists with the ability to calculate carbon budgets for a given future temperature rise, and thus the basis for developing scenarios for the required emissions reductions to achieve a given temperature target.

The idea of carbon budgets has been utilised by those wishing to understand the future implications of certain emissions pathways, including the IEA (International Energy Agency). The IEA has developed a set of scenarios with emissions pathways that result in a global temperature rise of 1.5°C, 2°C and 2.7°C^{16,17}. Within each scenario, allowed emissions are portioned out between key, highly emitting sectors; Power, Industry and Transport, and a portion given to other transformations, buildings and Agriculture which we combine into an 'Other' sector. Within each scenario, the annual allowed emissions for each sector have been derived using modelled rates of technology shifts (such as switching to renewable energy) and changes in energy demand, therefore taking into account the different challenges ahead for each sector. Underlying all scenarios is the concept of an emissions intensity ratio (EIR), which quantifies the emissions that result per dollar of economic growth. A decoupling is required between emissions and economic growth, seen by a smaller EIR, where fewer emissions result per unit of economic growth.

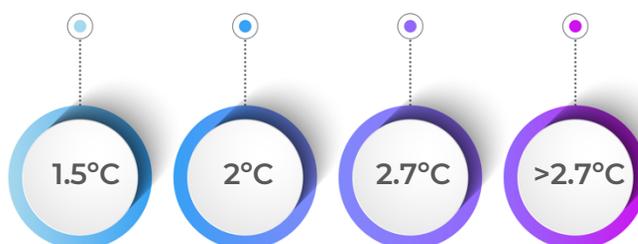
“Given data on a company's emissions, we can calculate a company's contribution to global temperature rise.”

The Temperature™ Score uses the IEA scenarios to establish the global temperature rise for a given company based on its current emissions. Since an individual company will have a small impact, the Temperature™ Score considers what the global temperature rise would be if all companies behaved like the company in question. This is done by calculating the company's EIR and comparing it to a set of benchmark EIRs that have been developed using the sector-specific scenarios from the IEA.

[15] [Rogelj, J., D. Shindell, K. Jiang, S. Ffita, P. Forster, V. Ginzburg, C. Handa, H. Kheshgi, S. Kobayashi, E. Kriegler, L. Mundaca, R. Séférian, and M.V.Vilariño, 2018: Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press

The company is given a score of 1.5°C, 2°C, 2.7°C or >2.7°C using its EIR compared to the benchmark in 2030 (the near-term score) and 2050 (the far-term score). Companies that do not report their scope 1 and scope 2 emissions both separately and publicly are given an incomplete-disclosure score of 3°C. This represents a business as usual case, assuming currently planned country-level policies are put in place and followed¹⁸.

The company is given a score of 1.5°C, 2°C, 2.7°C or >2.7°C using its EIR compared to the benchmark in 2030 (the near-term score) and 2050 (the far-term score).



Universe composition

Before discussing the analysis from the score, we need to consider how the universe composition could impact the score's output. Since the scores are provided using sector-specific benchmarks, we first consider how our regions of interest, Asia, Europe and the USA compare in relation to the proportion of companies in each IEA sector (Figure 5a overleaf). We find a similar breakdown of companies in each IEA sector for Europe and the USA, with around 90% of companies being approximately split between "Industry" and "Other", while there is a skew towards the "Industry" sector in Asia. The size of companies is also a factor to consider. Larger companies may be more likely to report emissions due to having more capacity to do so, or because they fall under the regulatory disclosure requirements in their region. This would impact the regional picture of the temperature score as fewer companies would receive the incomplete disclosure score of 3°C. Here, we do find some differences as the USA has more companies falling within the large market-cap group (56%) compared to Europe (35%) and Asia (32%) (Figure 5b overleaf). However, the mean market cap is the same order of magnitude across regions (USA: 45 billion USD, Europe: 17 billion USD, Asia: 15 billion USD). Based on these findings, we are comfortable that the regions being compared consist of a fairly similar set of companies.

[16] IEA ETP 2017: <https://www.iea.org/etp2017/>

[17] The 2°C and 2.7°C scenario refer to global temperature rise at the end of century compared to pre-industrial times. The 1.5°C scenario results in global temperature rise above 1.5°C by 2100, but the established pathway is consistent with that required to get to 1.5°C up to the middle of the century¹⁵

[18] https://arabesque.com/docs/sray/marketing/temperature/Temperature_Score_Methodology.pdf

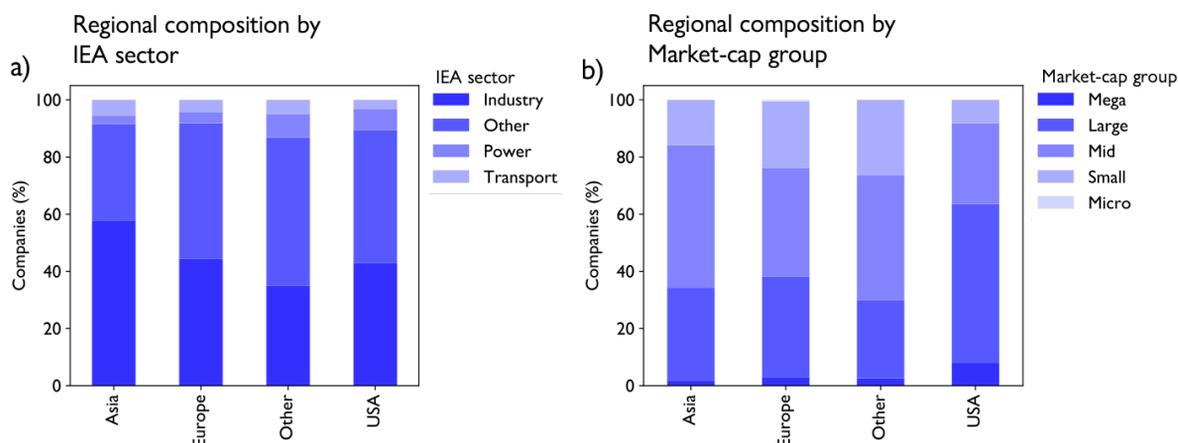


Figure 5: Regional company composition broken down by a) IEA sector and b) Market cap group.

Measuring and managing emissions

Considering the regions discussed in part one - Asia, Europe and the USA - we can see the benefit of disclosure. The overall picture from this regional score snapshot suggests that companies which are better at reporting their emissions are also better at managing them (Figure 6 overleaf). In Europe, which had the highest level of disclosure, we see that 55% of companies receive a near-term score of 2°C or 1.5°C, and 47% for the far-term score (Figure 6c). In Asia (Figure 6b) and the USA (Figure 6d) these figures are 48% dropping to 37%, and 43% dropping to 33%, respectively. The USA has the highest proportion of companies receiving the 3°C incomplete disclosure score (36%), despite having the highest percentage of large companies that would typically fall under increased disclosure regulations. In comparison, 33% of companies in Asia and 28% of companies in Europe get the 3°C score. This is unsurprising, given that we found that the USA had a decrease in emissions disclosure rates. However, this does highlight the scale of the challenge faced when we have missing information. Increased transparency is vital to fill this data gap.

Further exploring our question on what corporate emissions mean for global temperature rise, we now consider the change in a company's emissions over recent years. This can be analysed in the Temperature Score with the Trend indicator, calculated by evaluating whether a company's average emissions over the last three years are reducing in line with a 1.5°C, net zero pathway.

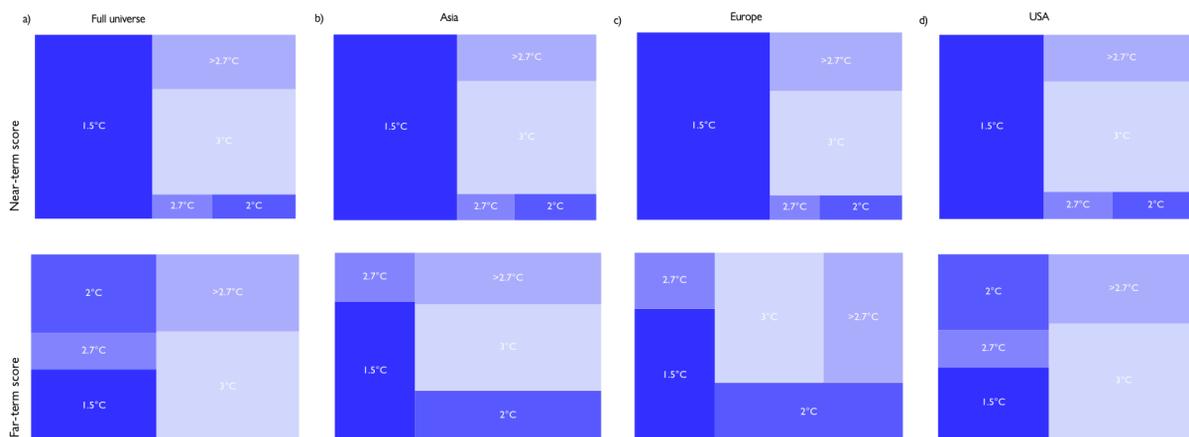


Figure 6: Near- and far-term temperature Scores for a) the full universe and for the three regions of interests: b) Asia, c) Europe and d) USA

Companies receive a ‘Yes’ if their emissions have reduced at or above the required rate, and a ‘No’ if they are not reducing sufficiently or increasing. Where the company has not provided three years of emissions data, it receives a score of ‘N/A’.

We once again see the impact of regulation in Europe and Asia (Figure 7 overleaf). Europe has the largest proportion of companies receiving a ‘No’ (Figure 7c), but had the biggest decrease in companies moving out of the ‘N/A’ category between 2018 and 2019, and Asia has the smallest proportion of companies with a ‘Yes’ for the Trend indicator (Figure 7b), but with the proportion almost doubling between 2018 to 2019.

“We find that in the USA it is only the better performing companies, in terms of climate action, that are voluntarily disclosing their emissions data.”

Meanwhile we find that in the USA it is only the better performing companies, in terms of climate action, that are voluntarily disclosing their emissions data. Figure 7d shows that it has the largest proportion of companies with a ‘Yes’ compared to a ‘No’, but also the largest proportion of companies which cannot be scored due to a lack of sufficient amounts of historical data. This is problematic because it’s the emissions of those companies that are potentially performing poorly on climate action which matter the most. Thus, the final step in this analysis considers the interaction between the temperature scores and the Trend indicator.

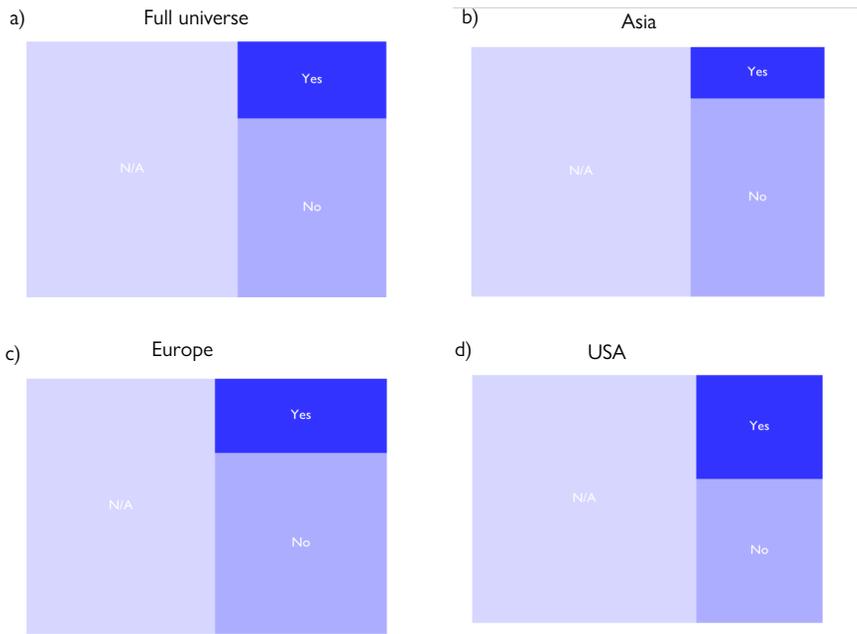


Figure 7: Proportion of companies receiving each status score in the 'Trend' indicator for a) the full universe and for the three regions of interests: b) Asia, c) Europe and d) USA

Figure 8 shows the temperature scores for each trend status. First, considering the best performing companies in terms of their temperature score we find that overall, more companies with a 1.5°C near-term temperature score have a 'Yes' for their trend indicator compared with those receiving higher temperature scores. These companies are therefore not only currently having less climate impact, but are also making reductions to their emissions so that their contribution to temperature rise will be even lower overall. This pattern is seen in the USA (Figure 8d) and Europe (Figure 8c), while in Asia (Figure 8b) there are more companies with a 2°C score and a 'Yes' compared to 1.5°C. A more mixed picture is seen for the far-term scores.

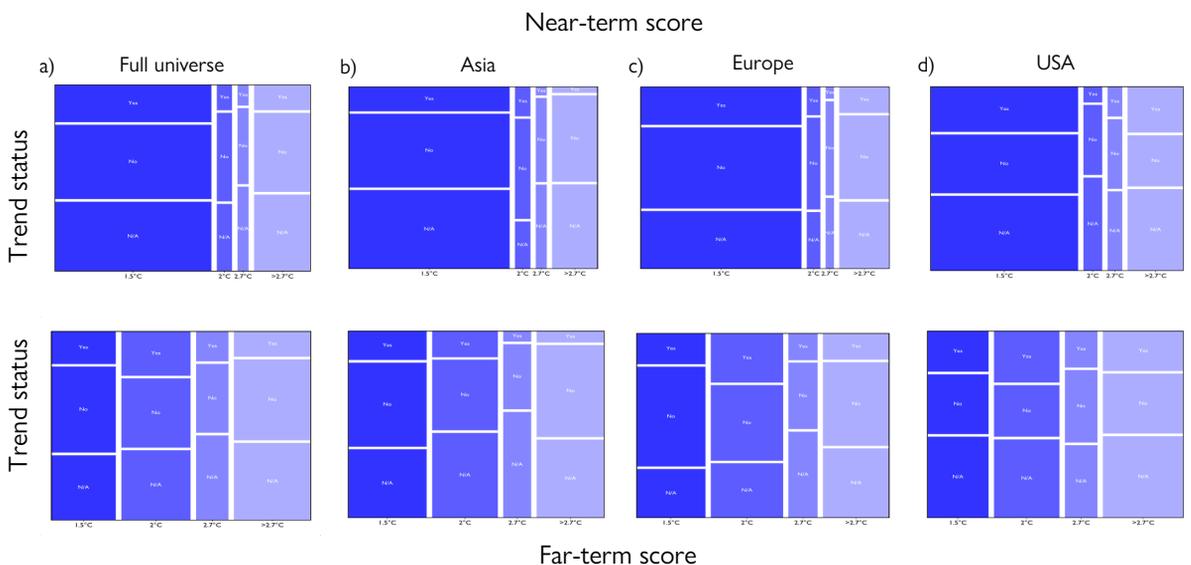


Figure 8: Proportion of companies within each score category with each trend indicator for a) the full universe and for the three regions of interests: b) Asia, c) Europe and d) USA

While it is good to analyse the climate leaders, what is most important for climate action is to consider those companies in the higher scoring categories. Here we find a worrying picture, where the 'No' and 'N/A' portion of the $>2.7^{\circ}\text{C}$ scores make up nearly 90% of the near-term and far-term scores. In Europe and Asia, we can see the effects of increased disclosure requirements, where the 'N/A' portion in the higher scores is fairly small. Additionally, in Asia, we find a 'No' trend indicator for almost half of the companies with a $>2.7^{\circ}\text{C}$. Conversely, in the USA companies with a $>2.7^{\circ}\text{C}$ near-term or far-term temperature score more typically have a 'Yes' or an 'N/A' for their trend indicator than those with a 2.7°C score.

These regional results again indicate that those companies in the USA that are doing better in terms of climate action are more likely to report their emissions, while those doing poorly are less transparent. In Europe and Asia on the other hand, we can get a broader picture of how companies are performing on emissions. Although we see that too few companies are making the reductions necessary to keep global temperature rise to well below 2°C , we are at least able to properly track progress and targets.

Over time, the proportion of companies that cannot be scored with either the Temperature™ Score or under the trend indicator looks to be decreasing, but this is contingent on the continued transparent disclosure of data in a consistent and timely manner. As a result of increased emissions disclosures in Europe, almost half of the companies in our universe now have sufficient historical records to allow for this type of analysis to be performed, while in Asia the proportion of companies reporting is rapidly increasing and will soon allow a similarly detailed picture to be developed.

By bringing the different aspects of the Temperature™ Score together, we can more fully understand a company's climate impact and climate action. This interaction between the snapshot provided by the temperature scores, and the changing behaviour implied by the Trend indicator, shows that many companies are on the journey towards a low-carbon future. It is promising to see the large proportion of companies that are currently high emitters but are starting to make the significant and sustained reductions in emissions that are required to get us onto a net-zero pathway. However, it is also clear that more urgent action needs to be taken.

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Conclusion

While there is still some way to go before we can answer the question “How much are companies currently emitting?” for all companies, we are in a good position to start. The Temperature™ Score shows the power of investor engagement and the value of transparency. While data disclosure doesn't necessarily mean that a company will have a lower climate impact, it does mean that this data can be scrutinised, and that investors and other stakeholders can engage with companies on their exposure to and management of climate-related risks. Over time, this should lead to lower global emissions as the increase in consistent, comparable and complete data means that climate-related risks and opportunities can be more fully priced into the market.



Get in Touch

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