

# The road to net zero: the role of transition plans and forward-looking indicators in portfolio management

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## Rationale

This article offers a general description of the road towards an economy with zero net emissions (net zero), stressing the importance of this process in portfolio management. To this end, it reviews several of the initiatives currently under way, and details the aspects needed to prepare a transition plan and how key metrics in this context are constructed.

## Takeaways

- The transition towards climate neutrality or net-zero goals affects every sector of the economy, including, on the finance side, investment and asset management. Collectively, individual goals will enable the ultimate global goal to be met. This will call for detailed planning, as well as the implementation of strategies integrating climate and environmental risk management.
- The process of setting goals and designing transition plans is currently at the stage of development and adoption by the investment and portfolio management sector, as well as by financial institutions and other firms.
- The availability of reliable, comparable data is one of the main challenges in this area. This is the key ingredient for defining and setting goals, and also for designing forward-looking metrics to track the progress made in achieving them.

## Keywords

Climate change, net zero, transition plan, metrics, investment, sustainable finance.

## JEL classification

G11, G20, Q50.

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## THE ROAD TO NET ZERO: THE ROLE OF TRANSITION PLANS AND FORWARD-LOOKING INDICATORS IN PORTFOLIO MANAGEMENT

### Introduction

Climate change has implications for firms, the stability of the financial system and economic development. If negative repercussions are to be avoided, a decarbonisation pathway must be designed to enable “net zero” to be achieved by 2050. In the words of the United Nations, reaching zero net emissions means “cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance”.<sup>1</sup>

Unveiled by the European Commission in 2019, the European Green Deal set the goal of making Europe the first climate-neutral continent by 2050.<sup>2</sup> Also, with the European Climate Law, the Commission set an intermediate target of reducing net greenhouse gas (GHG) emissions by at least 55% by 2030, compared to 1990 levels.<sup>3</sup>

The transition process and the achievement of these long-term goals affects every sector of the economy, as well, on the finance side, as investment and asset management. Collectively, individual goals will enable the ultimate global goal to be met. This will call for detailed planning (on the part of financial and non-financial corporations), setting out strategies that cover both climate and environmental risk management and sustainability factors, thereby making short, medium and long-term business models more resilient.

In this context, drawing up transition plans is one way of setting decarbonisation goals, and of designing the process to meet them. The Task Force on Climate Financial Disclosures (TCFD)<sup>4</sup> included the preparation of transition plans among its voluntary recommendations on the disclosure of climate-related risks and opportunities. Similarly, both the European Financial Reporting Advisory Group (EFRAG) and the International Sustainability Standards Board (ISSB) have proposed that such plans form part of the disclosure standards they are preparing.

Transition plans are currently at the development stage in the corporate and financial sectors. According to a report from the Carbon Disclosure Project (CDP),<sup>5</sup> over 4,000 firms (of the 18,600 analysed) had a climate transition plan last year. However, when drawing up their plans, only 81 (i.e. 0.4%) included all of the CDP’s 21 indicators.

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1 <https://www.un.org/en/climatechange/net-zero-coalition>.

2 [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en).

3 [https://climate.ec.europa.eu/eu-action/european-climate-law\\_en](https://climate.ec.europa.eu/eu-action/european-climate-law_en).

4 The TCFD was set up in late 2015 by the Financial Stability Board (FSB), at the request of the G20, and is made up of representatives from the private sector. It was charged with drawing up a set of voluntary recommendations for the comparable disclosure of information on climate change-related financial risks and opportunities. Specifically, these recommendations refer to four areas: i) governance, ii) strategy, iii) risk management, and iv) metrics and targets.

5 CDP (2023).

As more countries, firms and financial institutions publicly commit to achieving climate goals, forward-looking metrics become increasingly important. These metrics are a useful means of ensuring that the goals and pathways set are credible and comparable. Various methodologies are currently being developed by data providers and institutions (both public and private). Nonetheless, compared with backward-looking metrics, this is an area that calls for greater expertise.

## Initiatives for achieving net zero in portfolio management

Recent years have seen the launch of a range of initiatives in the financial system to coordinate and combine efforts to fast-track the transition towards carbon neutrality. In particular, sustainability and sustainable and responsible investment (SRI) strategies have become increasingly commonplace in portfolio management.

With a view to incorporating environmental, social and governance (ESG) factors within portfolio management, many institutional investors and asset managers and owners have signed up to the Principles for Responsible Investment (PRI). This initiative was founded in 2006 under the United Nations Environment Programme Finance Initiative (UNEP Fi). The number of signatories to the PRI has grown markedly in recent years, standing at 5,381 worldwide in June 2023.<sup>6</sup>

The Principles for Responsible Investment rest on six pillars:<sup>7</sup>

- incorporating ESG issues into investment analysis and decision-making processes;
- being active owners and incorporating ESG issues into ownership policies and practices;
- seeking appropriate disclosure on ESG issues by the entities in which investments are made;
- promoting acceptance and implementation of the Principles within the investment industry;
- working together to enhance effectiveness in implementing the Principles;
- reporting on activities and progress towards implementing the Principles.

The PRI's aims include working with other market participants to ensure their products and services are aligned with the sustainability needs of their investor clients, and supporting initiatives contributing to the alignment of portfolios towards net zero or climate neutrality by 2050.

Further initiatives have been launched in recent years. Examples include the Paris Aligned Investment Initiative (PAII) set up in May 2019 by the Institutional Investors Group on Climate

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<sup>6</sup> <https://www.unpri.org/signatories/signatory-resources/quarterly-signatory-update>.

<sup>7</sup> <https://www.unpri.org/about-us/what-are-the-principles-for-responsible-investment>.

Change, a European organisation home to investors working together to combat climate change. It became a global initiative in 2021 after partnering with networks of like-minded investors in Asia, North America and Australasia. Its aims include laying the foundations so that investors can commit to achieving zero net global emissions by 2050 or earlier, in line with the Paris Agreement, while promoting the adoption of science-based measures to help meet this goal.

2019 saw the creation of the United Nations-convened Net-Zero Asset Owner Alliance (NZAO), made up of 86 asset owners (at June 2023). This alliance aims to achieve carbon neutrality in their portfolios by 2050, through a series of interim targets<sup>8</sup> which include reductions of 22%-32% by 2025 and of 40%-60% by 2030.

Subsequently, the Net-Zero Asset Managers Initiative (NZAM) was formed in 2020,<sup>9</sup> with over 300 signatories (at June 2023) undertaking to support investing aligned with net zero emissions by 2050, setting decarbonisation goals for 2030 that take account of Scope 1 and 2 emissions and, to the extent possible, Scope 3 emissions.<sup>10</sup> The TCFD recommendations on disclosures (including climate action plans) will be applied.

These last two initiatives form part of the Glasgow Financial Alliance for Net Zero (GFANZ), which brings together the financial system's leading initiatives for accelerating the transition towards carbon neutrality by 2050. GFANZ was launched in 2021 during COP26. It is headed jointly by Michael Bloomberg and Mark Carney and gathers together a range of initiatives centred on asset managers (the Net-Zero Asset Owner Alliance, the Net-Zero Asset Managers Initiative and Paris Aligned Asset Owners), alongside other similar banking and insurance-oriented initiatives.

All of these initiatives are committed to supporting investment aligned with net zero emissions by 2050, by setting interim portfolio decarbonisation targets for 2030. The design and implementation of transition plans setting out interim goals is key in this process.

The importance of meeting the net-zero target is also on the mind of central banks, within the framework of the Network for Greening the Financial System (NGFS),<sup>11</sup> as borne out by the creation in 2022 of a work stream on this subject. Work is currently under way in the following main areas:

- i) the integration of sustainable and responsible investment principles within own-portfolio management;<sup>12</sup>

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8 <https://www.unepfi.org/news/themes/climate-change/new-protocol-binds-net-zero-asset-owner-alliance-to-halve-portfolio-emissions-by-2030/>.

9 <https://www.netzeroassetmanagers.org/>.

10 Greenhouse gas emissions are divided into three categories for businesses and organisations – Scope 1, Scope 2 and Scope 3. Scope 3 emissions are usually the hardest to measure and tackle, as they cover those produced by customers using the company's products. Scope 1: "direct" emissions, i.e. those that a company causes in its operations. For example, running machinery to make products or driving vehicles. Scope 2: "indirect" emissions created by the production of the energy that an organisation buys. Scope 3: indirect emissions not produced by the company itself, but which differ from Scope 2 in that they originate from a company's activities and derive from sources that it neither owns nor controls.

11 [https://www.ngfs.net/sites/default/files/worksteam\\_net\\_zero\\_for\\_central\\_banks\\_mandate.pdf](https://www.ngfs.net/sites/default/files/worksteam_net_zero_for_central_banks_mandate.pdf).

12 NGFS (2019, 2020).

- ii) central banks' own disclosure of climate-related and environmental risks and of their own and monetary policy portfolios;<sup>13</sup>
- iii) the greening of central banks' corporate operations.

In line with the other Eurosystem national central banks and the European Central Bank, the Banco de España sets out, in its report on the climate-related aspects of the Banco de España's non-monetary policy portfolios,<sup>14</sup> published in March 2023, its commitment to the goal of decarbonising its euro-denominated non-monetary portfolios and to achieving carbon-neutral portfolios by 2050. This process will be aligned with the Paris Agreement goals and the climate neutrality goals defined in the European Climate Law, which sets the target of reaching climate neutrality by 2050 for the European economy and society, keeping the increase in global temperature well below 2°C and striving to keep it at 1.5°C, in line with the Paris Agreement.

## The importance of transition plans for achieving net zero

The green finance workshop on the road to net zero in the asset management and financial sector staged by the Banco de España on 3 March 2023<sup>15</sup> highlighted the importance of drawing up transition plans, as one of the recommendations of the United Nations High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities.<sup>16</sup>

The workshop looked at how transition plans are currently being prepared and published in the asset management sector, albeit at an uneven pace. Plans are easier to prepare for certain asset classes, where more data is available and the methodology is more advanced. For other assets, however, such as sovereigns, new metrics are still being developed and the goal-setting process is at an earlier stage.

According to GFANZ (2022), a transition plan is a set of goals, actions and accountability mechanisms to align an organisation's business activities with a pathway to net-zero GHG emissions that delivers real-economy emissions reduction in line with achieving global net zero. The components of a transition plan, according to GFANZ (2022), comprise a series of actions at an organisation, encompassing both its objectives and priorities, and its implementation and client, industry and public sector engagement strategies, as well as the setting of metrics and targets and governance.

The availability (and publication) of data is key throughout this process. Indeed, disclosure requirements are currently being incorporated into transition plans under several frameworks.

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13 NGFS (2021).

14 Banco de España (2023). Dedicated entirely and exclusively to financial disclosures on climate-related aspects of the Banco de España's non-monetary policy portfolios, the first edition of this report, which is to be published annually, was released in 2023. It follows the recommendations of the TCFD regarding disclosure of the process for incorporating climate-related aspects in terms of: i) governance, ii) strategy, iii) risk management and iv) metrics and objectives.

15 Green Friday - The Road to Net Zero. Transition Plans and Forward-Looking Analysis: <https://www.bde.es/eventos/es/the-road-to-net-zero--transition-plans--amp%3B-foward-looking-analysis--.html>.

16 United Nations (2022).

At global level, in 2021 the TCFD added the publication of transition plans to its recommendations.<sup>17</sup> According to the TCFD, a transition plan is an aspect of an organisation's overall business strategy that lays out a set of targets and actions supporting its transition towards a low-carbon economy. The TCFD recommends disclosing forward-looking data in the section on metrics and objectives, i.e. objectives for future period results, covering short, medium and long-term time horizons. Forward-looking metrics may be based on methodologies such as scenario analysis, trend analysis, sensitivity analysis and simulations, as well as commitments and climate-related targets.

At international level, the ISSB was created to cater to the growing interest in ESG-related issues on the part of capital markets and to address fragmentation across reporting frameworks.<sup>18</sup> The ISSB is developing its own sustainability disclosure framework and, in June 2023, it launched two global sustainability disclosure standards<sup>19</sup> which complement each other. The first of these includes a series of disclosure requirements concerning firms' performance in terms of the sustainability-related risks and opportunities they face over the short, medium and long term. The second refers more specifically to climate-related aspects, including progress towards any climate-related targets firms have set, and any targets they are required to meet by law or regulation.<sup>20</sup>

At the green finance workshop on disclosure in the asset management sector staged by the Banco de España on 21 April 2023,<sup>21</sup> it was noted that the International Organization of Securities Commissions (IOSCO) had proposed several criteria for the draft ISSB standard. For example, the framework should: i) be global, consistent and comparable; ii) be compatible with existing accounting standards; iii) be interoperable; iv) meet investor needs; and v) enable information to be verified and audited.

On the European front, under the new Corporate Sustainability Reporting Directive (CSRD), the 11,700 firms currently subject to the current Non-Financial Reporting Directive (NFRD) will increase to 49,000 once the CSRD has been fully implemented. Moreover, the firms subject to the CSRD will have to report on their plans to ensure that their business models and strategies are compatible with the transition towards a sustainable economy and the Paris Agreement goals. As technical adviser to the European Commission, EFRAG worked on draft standards for the sustainability disclosure requirements set out in the CSRD, known as the European Sustainability Reporting Standards (ESRS). In November 2022 it submitted an initial draft of the ESG-related requirements<sup>22</sup> and, in July 2023, following a consultation period, it was ultimately decided to adopt the ESRS,

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17 TCFD (2021a).

18 In July 2023 it was announced that the TCFD would be completing its work, which would be incorporated into the ISSB standards as from 2024, and that the status of such recommendations would be monitored. [IFRS - IFRS Foundation welcomes culmination of TCFD work and transfer of TCFD monitoring responsibilities to ISSB from 2024.](#)

19 <https://www.ifrs.org/news-and-events/news/2023/06/issb-issues-ifrs-s1-ifrs-s2/>.

20 <https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s2-climate-related-disclosures/>.

21 Green Friday - Climate and Sustainability Disclosure: Progress, Challenges & the Way Forward: [https://www.bde.es/eventos/es/climate\\_and\\_sustainability\\_disclosure.html](https://www.bde.es/eventos/es/climate_and_sustainability_disclosure.html).

22 See Martínez and Pérez Rodríguez (2023) for a comparison between ISSB and EFRAG.

which factor in a broad range of ESG-related aspects, including, in addition to climate change, issues such as biodiversity and human rights.

## The importance of having forward-looking metrics

In order to establish medium and long-term goals, forward-looking indicators must be developed. So far, most analysis has been performed using historical records, for instance, by examining how GHG emissions have evolved over time. But setting and meeting net-zero targets requires that different metrics, combining a forward-looking approach with long-term goals, be used.

One conclusion drawn from the March workshop mentioned above was that a transparent methodology is essential to establishing trust in a specific metric. Although some progress has been made recently, there is still more work to be done, by data providers, portfolio managers, firms and financial institutions and by standard-setters.

Knowing where firms, investors and other financial sector players stand on the road to net zero is important to be able to assess the risks and opportunities they face. Forward-looking metrics are new and are still evolving. There is a broad range of approaches, but until recently there had been no consensus as to how they relate to each other, which are the most robust and which constitute good practice.

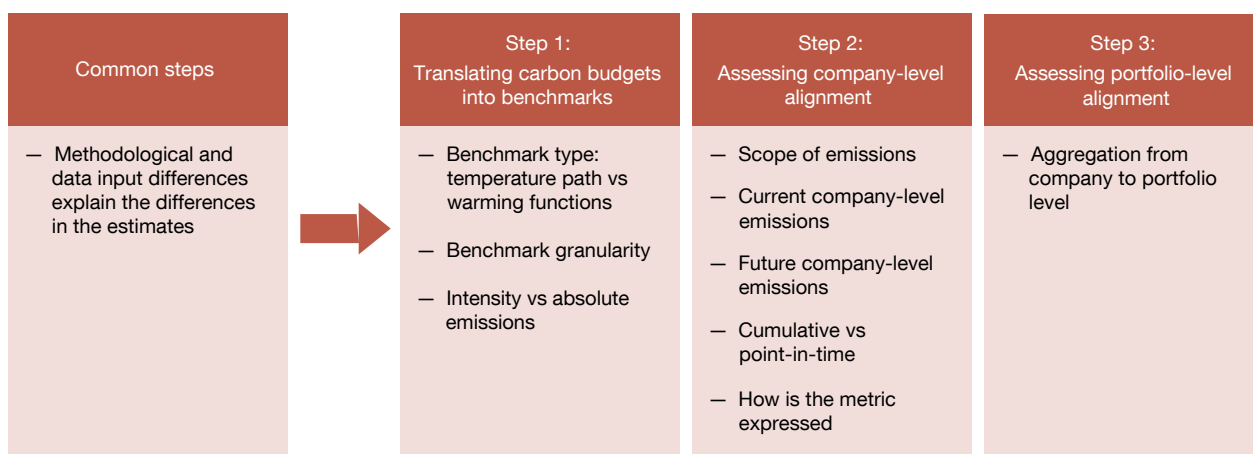
The importance of forward-looking metrics lies in what they can reveal, not only about the progress being made along the road to net zero, and the capital allocation process, but also about the commitments assumed by firms and institutions and about management of those commitments. In general, three approaches may be used to measure portfolio alignment:

- 1 the percentage of a portfolio with net-zero targets;
- 2 the deviation from a target or benchmark;
- 3 degree warming metrics (implied temperature rise (ITR)).

Considering how new this issue is, in 2020 the Portfolio Alignment Team (PAT), which is part of the COP26 Private Finance Hub led by Mark Carney, issued a report entitled “*Measuring Portfolio Alignment: Assessing the Position of Companies and Portfolios on the Path to Net Zero*”. This report contained a critical assessment of the strengths, advantages and drawbacks of the options available for measuring portfolio alignment with climate goals. It indicated that there is no single way to estimate these metrics, and identified a series of common steps, depicted here in Figure 1. It also stated that decisions made in this respect affect the outputs and that the methodological and data input differences explain the differences in the estimates obtained.

Figure 1

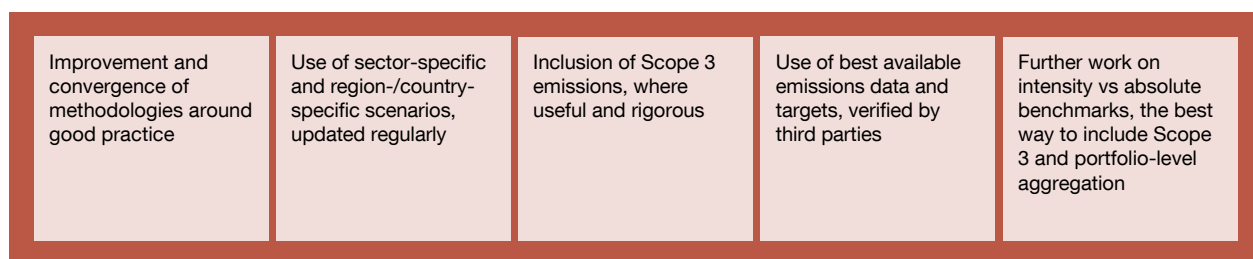
**Common steps and differences in the construction of forward-looking metrics**



SOURCE: Portfolio Alignment Team (2020).

Figure 2

**Recommendations in "Measuring Portfolio Alignment: Assessing the Position of Companies and Portfolios on the Path to Net Zero"**



SOURCE: Portfolio Alignment Team (2020).

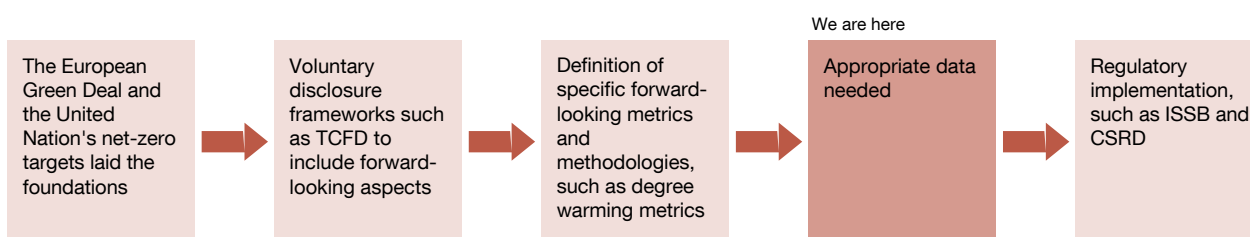
In view of these findings, the PAT issued a series of recommendations to enhance the comparability of forward-looking metrics, presented here in Figure 2.

Given the results obtained, the TCFD conducted a public consultation to gain a better understanding of the challenges that forward-looking metrics pose for financial institutions and their usefulness. The consultation<sup>23</sup> found that three-quarters of the respondents use some kind of forward-looking metrics, but with a wide range of approaches. The respondents agreed that, as things stand, using and disclosing forward-looking metrics poses multiple challenges. In particular, they raised concerns about the reliance on assumptions, deficient data and methodologies that are difficult to understand.

<sup>23</sup> TCFD (2021b).



Figure 3

**Work performed and the road ahead in the definition of transition plans and forward-looking metrics**

SOURCE: Banco de España.

## Conclusions

The process of setting goals and designing transition plans towards a carbon neutral economy is currently at the stage of development and gradual adoption by firms and financial institutions, notably including the investment and portfolio management sector. The availability of reliable and comparable climate data – especially more forward-looking data – is one of the main challenges in this area. These data are the key ingredient for defining and setting goals.

In particular, as noted by the NGFS (2022), developing forward-looking metrics poses several challenges:

- forward-looking transition risk data often refer to data collected on commitments to climate goals, so increasing the collection of these data would also increase the development of forward-looking metrics;
- unlike historical data, forward-looking data and metrics are not easily observable, which makes it more difficult to access such data as they have to be prepared by third parties or data providers;
- the metrics needed to formulate credible transition plans are not always easy to understand, nor based on standardised methodologies.

In recent years, the forward-looking aspect has become more important. One sign of this has been the inclusion of the preparation of transition plans in the TCFD's recommendations, the development of methodologies by data providers and the identification of data gaps (see Figure 3). More recently, forward-looking requirements are being included in disclosure frameworks, along with the design and development of transition plans, although they are not yet fully integrated into legislation, nor fully adopted by financial sector players.

While global initiatives to improve climate data continue to make headway, the data sources and approaches currently available must be used (see Box 1). It is important to gain experience with

these data, and in particular to learn to work with climate data that are still imperfect but that will gradually improve as climate disclosure becomes more widespread.

## REFERENCES

- Banco de España. (2023). *Climate-related aspects of the Banco de España's non-monetary policy portfolios*. <https://repositorio.bde.es/handle/123456789/29827>
- CDP. (2023). *Are companies developing credible climate transition plans?* [https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/785/original/Climate\\_transition\\_plan\\_report\\_2022\\_%2810%29.pdf?1676456406](https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/785/original/Climate_transition_plan_report_2022_%2810%29.pdf?1676456406)
- GFANZ. (2022). *Financial Institution Net-zero Transition Plans*. <https://assets.bbhub.io/company/sites/63/2022/09/Recommendations-and-Guidance-on-Financial-Institution-Net-zero-Transition-Plans-November-2022.pdf>
- Martínez, Covadonga and Pablo Rodríguez Pérez. (2023). "Climate change, financial risks and reporting: distant horizons?". *Financial Stability Review – Banco de España*, 44. [https://www.bde.es/ff/webbe/GAP/Secciones/Publicaciones/InformesBoletinesRevistas/RevistaEstabilidadFinanciera/23/4\\_FSR44\\_Climatico.pdf](https://www.bde.es/ff/webbe/GAP/Secciones/Publicaciones/InformesBoletinesRevistas/RevistaEstabilidadFinanciera/23/4_FSR44_Climatico.pdf)
- NGFS. (2019). *A sustainable and responsible investment guide for central banks' portfolio management*. <https://www.ngfs.net/sites/default/files/medias/documents/ngfs-a-sustainable-and-responsible-investment-guide.pdf>
- NGFS. (2020). *Progress report on the implementation of sustainable and responsible investment practices in central banks' portfolio management*. [https://www.ngfs.net/sites/default/files/medias/documents/sri\\_progress\\_report\\_2020.pdf](https://www.ngfs.net/sites/default/files/medias/documents/sri_progress_report_2020.pdf)
- NGFS. (2021). *Guide on climate-related disclosure for central banks*. [https://www.ngfs.net/sites/default/files/medias/documents/guide\\_on\\_climate-related\\_disclosure\\_for\\_central\\_banks.pdf](https://www.ngfs.net/sites/default/files/medias/documents/guide_on_climate-related_disclosure_for_central_banks.pdf)
- NGFS. (2022). *Final report on bridging data gaps*. [https://www.ngfs.net/sites/default/files/medias/documents/final\\_report\\_on\\_bridging\\_data\\_gaps.pdf](https://www.ngfs.net/sites/default/files/medias/documents/final_report_on_bridging_data_gaps.pdf)
- Portfolio Alignment Team. (2020). *Measuring Portfolio Alignment: Assessing the position of companies and portfolios on the path to net zero*. <https://www.tcfhub.org/wp-content/uploads/2020/10/PAT-Report-20201109-Final.pdf>
- TCFD. (2021a). *Task Force on Climate-related Financial Disclosures. Guidance on Metrics, Targets, and Transition Plans*. [https://assets.bbhub.io/company/sites/60/2021/07/2021-Metrics\\_Targets\\_Guidance-1.pdf](https://assets.bbhub.io/company/sites/60/2021/07/2021-Metrics_Targets_Guidance-1.pdf)
- TCFD. (2021b). *Metrics, targets, and transition plans consultation. Summary of responses*. [https://assets.bbhub.io/company/sites/60/2021/10/October\\_2021\\_Metrics\\_Targets\\_and\\_Transition\\_Plans\\_Consultation\\_Summary\\_of\\_Responses.pdf](https://assets.bbhub.io/company/sites/60/2021/10/October_2021_Metrics_Targets_and_Transition_Plans_Consultation_Summary_of_Responses.pdf)
- United Nations. (2022). *Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions. Report from the United Nations' High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities*. [https://www.un.org/sites/un2.un.org/files/high-level\\_expert\\_group\\_n7b.pdf](https://www.un.org/sites/un2.un.org/files/high-level_expert_group_n7b.pdf)

**DATA ON THE ROAD TO NET ZERO**

A series of initiatives are currently under way to help make available the data needed to facilitate progress towards net zero. While global initiatives to improve climate data continue to make headway, the data sources and approaches available at present must be used.

The data currently available come from public sources and private data providers. The public data sources include, for instance, the IMF Climate Change Indicators Dashboard.<sup>1</sup> The physical and transition risk and the forward-looking risk indicators include, for example, indicators of countries' degree of preparedness for a low carbon emissions transition. The results show that, in general, the European nations have lower exposure and greater resilience to a low carbon transition than, for instance, the African nations (see Chart 1). However, the IMF itself admits that high-quality statistical data are still lacking and that it intends to work with the data currently available.

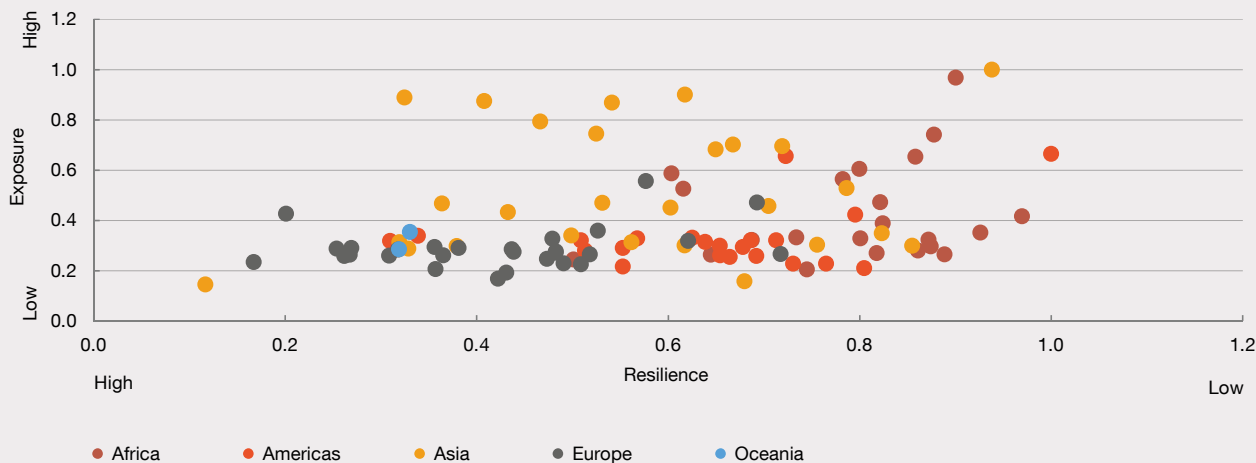
Private data providers, such as MSCI, S&P or Bloomberg, provide more detailed firm-level data. From an investment standpoint, it makes sense to track listed companies'

progress towards their net-zero targets. As mentioned in the main body of the article, several data providers have developed indicators on the implied temperature rise. For instance, drawing on the MSCI's Net-Zero Tracker data,<sup>2</sup> Chart 2 illustrates how certain sectors and regions have evolved over time and shows that, broadly speaking, developed economies are more aligned with the net-zero target than their emerging market counterparts. Over time, all regions are moving towards their net-zero targets for 2050, although so far none are aligned with the 1.5°C increase.

Chart 3 depicts a range of industries that are respectively less (Chart 3.a) and more (Chart 3.b) aligned with the 1.5°C target. As shown, in recent years all the industries have moved towards the net-zero target but many still have a long road ahead.

As with other climate data, the results are likely to vary depending on the data source used. Hence the importance of gaining experience with these data and of learning to work with imperfect climate data until more accurate data become available.

Chart 1  
Preparation for transition to low carbon emissions



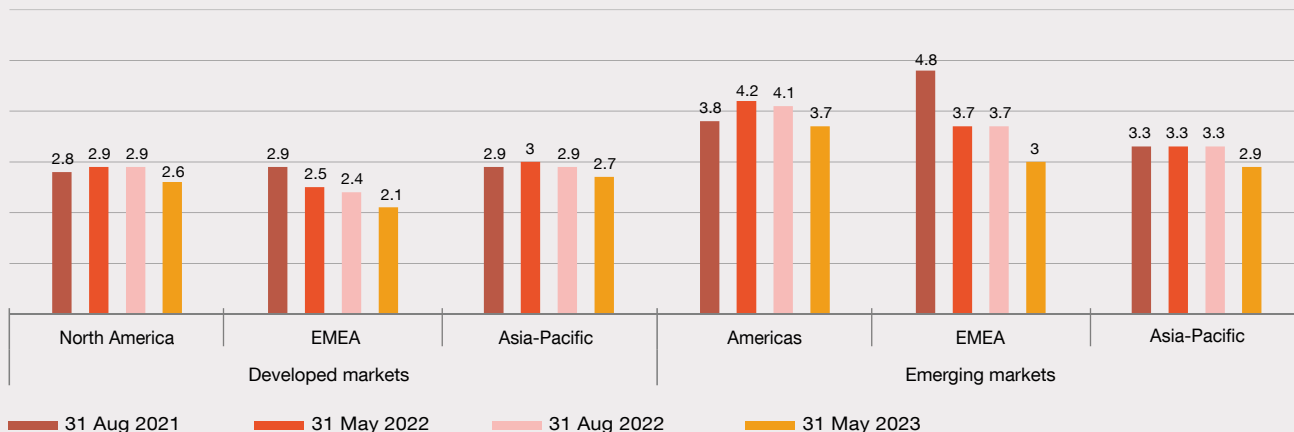
SOURCE: IMF Climate Change Indicator Dashboard.

1 Climate Change Indicators Dashboard (imf.org).  
2 The MSCI Net-Zero Tracker.

Box 1

**DATA ON THE ROAD TO NET ZERO** (cont'd)

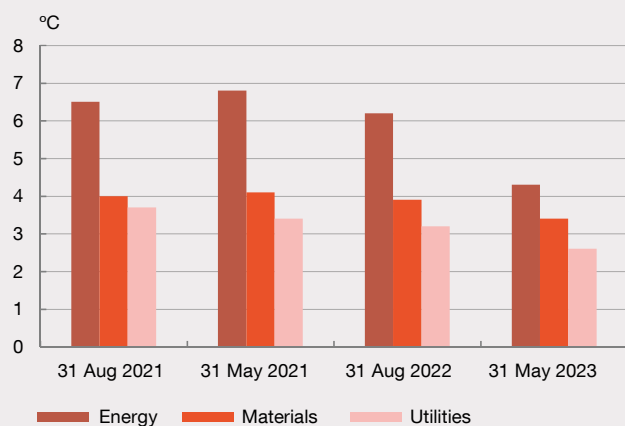
Chart 2  
Implied temperature rise by region



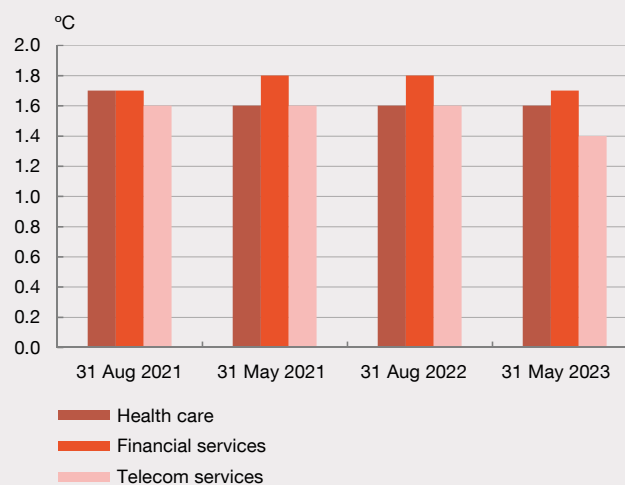
SOURCE: MSCI Net Zero Tracker.

Chart 3  
Implied temperature rise by industry

3.a Selected industries less aligned with 1.5°C target



3.b Selected industries close to 1.5°C target



SOURCE: MSCI Net-Zero Tracker.

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