Ready or not:
Are companies prepared for the TCFD recommendations?

A geographical analysis of CDP 2017 responses

Foreword

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The TCFD is very clear: this is not about reinventing the wheel, it is about enhanced disclosure, not more disclosure. Investors hold a critical role in shaping this dialogue, and time is running out.

When the Financial Stability Board (FSB) originally set up the Task Force on Climate-related Financial Disclosures (TCFD) in 2015, the idea that a group of experts on mainstream finance considered climate change a systemic threat for our financial markets took many by surprise. Fewer than three years later, there are encouraging signs of progress and investors, corporates and policy makers increasingly recognize the potential material impacts of climate-related risks and opportunities.

However, as our research paper shows, **a declared ownership of these issues is not currently consistently followed by concrete steps**. Therefore, urgent action is required across all sectors and industries to keep global warming under two degrees.

To this effect, we have seen in the past few months a flurry of activity. Investors, led by Blackrock, Vanguard, Aviva or State Street to name but a few, have stepped up calls to their portfolio holdings to improve the quality of their disclosure and over 200 investors and companies have signed a statement in support of the TCFD. In December 2017, the Climate Action 100+ initiative, a coalition of investors with over $28tn in assets under management, was launched to strengthen climate-related financial disclosures.

This global drive by institutional investors for more consistent, timely, forward-looking, transparent and comparable climate-related information underlines the relevance of this information to understanding how companies will create value in the long-term. Companies must understand that **disclosing climate-related information is in companies' self-interest**. As the FSB notes, this is a financial issue, not just a sustainability one. Investors and lenders, in particular those exposed to carbon-intensive sectors, need to understand the short and long-term risks and opportunities in order to understand how to preserve and/or redeploy their capital.

Enhanced disclosure, not more disclosure, is needed to drive markets

It is a fallacy to say that investors have not historically been interested in climate-related data: they have. However, their decision-making processes have been constrained by the existing climate-related disclosure from investee corporations. Enhancing such disclosures will improve information flows and facilitate the effective integration of these matters by institutional investors. The TCFD is very clear: this is not about reinventing the wheel, it is about **enhanced disclosure, not more disclosure**.

Investors hold a critical role in shaping this dialogue. Not only should they engage with their portfolio and actively encourage disclosure, they have a subsequent role in sending a message to the market through adapting their portfolios and investment strategies (including active ownership). Investors should encourage companies to adapt their risk management processes, for example by developing carbon pricing corridors and ensuring they conduct robust scenario analyses to determine the financial sustainability of their portfolio in the short and long-term. At the same time, investors will drive the market by, for instance, aligning the short-term horizons common in the investment world with the longer-term horizons of many beneficiaries, such as pension holders and savers: only companies that can demonstrate long-term value and resilience against climate risk will meet those criteria.

The role of regulation

However, while the investor pressure is strengthening, its message is far from unanimous and **mandatory regulation on climate-related disclosures** is required to correct this potential market failure. Our research clearly shows the geographical variations in preparedness for the TCFD recommendations, and regulation is one of the drivers you can see mapped out in the report's data.

In Europe, a stream of regulation, such as the EU Non-Financial Reporting Directive, or Article 173 of the French Energy Transition Law, has pushed the agenda forward over the last decade, making European companies the most mature in disclosing material climate-related matters. We expect that, if correctly implemented, the recently published EU High-Level Expert Group on Sustainable Finance report will push this lead further.

In the US, where the perception of litigation risks is heightened, disclosure lags significantly. Meanwhile, in China, where a roadmap to 2020[4] for climate-related disclosure was recently launched, companies clearly state their intent to act in the next couple of years, if they are not already doing so.

However, **regulatory changes don't need to be cumbersome** and regulators should be creative in making small adaptations to current legislation to drive change. For example, significant progress could be rapidly reached by amending the definition of fiduciary duties, by reviewing investment stewardship codes, or by adapting securities regulations.

The options are many, the stakes are high, but time is running out. We are more than ever at a crunch point between systemically embedding a market failure or embracing a major opportunity to innovate and grow. We call on all organizations to review their processes, analyze future scenarios, develop action plans and embed climate-related matters in their strategies to create a climate-resilient financial system.

Contents

In 2015, the Financial Stability Board (FSB), chaired by Mark Carney —at the request of G20 leaders— launched its Task Force on Climate-Related Financial Disclosures (TCFD or Task Force). The Task Force, which is chaired by Michael Bloomberg, published their final recommendations for effective disclosure of climate-related financial risks in June 2017. This joint CDSB and CDP research assesses the level of preparedness of companies to disclose material climate-related information according to the TCFD recommendations. It focuses on the companies' reporting practices and management processes for climate-related matters, and whether there are any significant geographical or sectorial variations.

This study looks at the disclosures from 1,681 companies across 14 countries and 11 sectors to the CDP Questionnaire in 2017, which were made around the time of the launch of the final TCFD recommendations in June 2017.

Table 1: Number of companies by sector and country covered in this report[1]

GICS Sector	Australia	Brazil	Canada	China	France	Germany	India	Indonesia	Japan	Poland	S. Korea	Turkey	UK	USA	Sector total
Consumer Discretionary	6	6	12	3	20	14	8		59	1	11	12	45	75	272
Consumer Staples	4	7	6	2	8	3	2		25	1	5	5	17	54	139
Energy	5	3	24	1	3		2	1	4				10	17	70
Financials	17	9	17	5	8	8	7		22		9	10	35	50	197
Healthcare	2	1		1	5	5	3		17				8	44	86
Industrials	7	6	16	6	22	24	4		70		16	10	65	90	336
Information Technology	1	2	5	5	8	8	6		40		7	1	13	80	176
Materials	17	8	25	3	5	10	14	1	55	2	7	7	23	43	220
Real Estate	11		5	1	8	4	1		8				15	18	71
Telecommunication Services	1	2	3	2	1	2	1		4		3	2	6	7	34
Utilities	4	13	5		4	6	3		7	1	4	3	6	23	79
Other												1			1
Country total	**75**	**57**	**118**	**29**	**92**	**84**	**51**	**2**	**311**	**5**	**62**	**51**	**243**	**501**	**1,681**

1. Due to the small sample sizes for Indonesia (2) and Poland (5), these countries are included in the overall analysis but not the country-by-country analysis.

The analysis shows that **there continues to be a noticeable gap between identifying and owning climate-related risks and opportunities, and acting strategically to tackle them**. While a majority of companies recognize in one form or another the physical and transition risks and opportunities that climate change will lead to, there are clear differences in the way they are integrating them in their wider governance and risk management processes.

Implementing the recommendations will not only help companies become more resilient to the physical and transitional risks associated with climate change, but companies that assess and understand climate-related risks and opportunities will be able to make better decisions for their future business, and support the fair and orderly market transition to a low-carbon economy. Improved financial disclosures and better-quality reporting of the financial risks and opportunities that climate change creates will support companies' relationships with their investors, stakeholders and the wider public.

Companies are yet to translate regulated disclosure into strategic actions

While there are some noticeable differences between countries and sectors, the research identified some common gaps for companies to embed climate change into their strategies.

- Companies are considering the financial risks and opportunities that climate change creates in the short term (3 out of 4 companies disclose at least one climate-related risk with a timeframe of fewer than six years), but do not currently disclose an alignment with the long-term public and private action that is required to meet the Paris Agreement goals (5 out of 10 companies disclose physical and transition risks with timeframes of more than six years). As such, investors – and in particular institutional investors with longer time horizons, will obtain an incomplete picture of the potential future performance and resilience of their portfolio holdings.

- While oversight of climate-related matters lies with board members in 9 out of 10 companies, direct consequences for progress against climate-related targets does not follow suit: only 1 in 10 boards has monetary or non-monetary incentives linked to progress against climate-related targets, with companies in Canada (2%) and the USA (4%) having the fewest.

- Setting an internal price on carbon is recommended by the TCFD as a management tool for organizations to assess climate-related risks and opportunities in line with its strategy and risk management processes. While carbon pricing is in its infancy, it is quickly becoming a widely-used tool, with 21% of companies currently using carbon pricing and an additional 16% saying they will do so in the next two years.

Climate-related disclosures continue to vary significantly by geography

- Companies in France, the UK and Germany are the most prepared to disclose information across three of the four thematic areas highlighted by the TCFD (Governance, Risk Management, and Metrics and Targets).

- More than 8 out of 10 companies already disclose the financial impacts from the physical and transition risks of climate change, with companies in South Korea and India having the highest rate.

- As recommended by the TCFD, 9 in 10 companies already disclose their Scope 1 and/or 2 emissions, and 8 out of 10 disclose at least one Scope 3 category. Chinese companies disclose the least in all categories (6 out of 10 for Scope 1 and 2 emissions, 3 out of 10 for Scope 3 emissions)[2].

- New supra-national and jurisdictional regulations are improving corporate climate disclosures and their integration into internal governance and risk management processes. However, they are also potentially widening the global gap between leaders and laggards. The research shows how companies in countries covered by higher (and most regularly updated) amounts of regulation, such as the EU Non-Financial Reporting Directive[3], have the most oversight of climate-related matters (9 out of 10 companies have board oversight). Geographies with higher perceived risk of litigation linked to disclosure, such as North America, lag behind (where only 7 in 10 do).

- New markets are emerging for climate disclosure, with China one of the markets to look out for in 2018. Among a plethora of recent green finance announcements, representatives from the China Securities Regulatory Commission and China Green Finance Committee have been discussing a new mandatory environmental disclosure regulation roadmap to 2020[4]. An awareness of this upcoming mandatory reporting requirement is already seen in their 2017 responses: while Chinese companies currently lag in their disclosure across all 4 thematic TCFD areas, they already highlight a number of areas (such as the integration of carbon pricing in their risk management processes) which are anticipated to occur in the next few years.

2. Definitions for Scope 1, 2 and 3 emissions can be found in the Glossary

3. European Parliament & Council (2014), Directive 2014/95/EU Of The European Parliament And Of The Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups. [Online] Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095

4. http://www.financialnews.com.cn/jigou/ssgs/201802/t20180209_133113.html (Link in Mandarin)

Introduction

Overview of the Task Force on Climate-Related Financial Disclosures (TCFD)

The Task Force on Climate-Related Financial Disclosures (TCFD or Task Force) was set up in 2015 by the Financial Stability Board (FSB). The Task Force included users and preparers of disclosures from a wide range of backgrounds. Its remit was to help companies better understand what financial markets need from disclosure in order to measure and manage climate risks. In keeping with this mission, in June 2017, the TCFD finalised a set of recommendations for voluntary company financial disclosures that clarifies what may constitute material and relevant climate-related risks, establishes principles for effective disclosure, proposes key disclosures across four thematic areas and provides both general and sector-specific guidance to support implementation[5].

The TCFD recommendations are designed to solicit consistent, decision-useful, forward-looking information on the material financial impacts of climate-related risks and opportunities, including those related to the global transition to a lower-carbon economy. They are adoptable by all organizations with public debt or equity in G20 jurisdictions for use in mainstream financial filings.

The TCFD identified four core elements of climate-related financial disclosures, related to the following thematic areas:

1. **Governance:** The organization's governance around climate-related risks and opportunities.

2. **Strategy:** The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

3. **Risk Management:** The processes used by the organization to identify, assess, and manage climate-related risks.

4. **Metrics & Targets:** The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

These four core areas are supported by recommended disclosures (including scenario analysis) and guidance (both general and sector-specific). The recommendations, disclosures, and guidance all rest on a set of underlying principles intended to facilitate high-quality, decision-useful disclosures even as the market's understanding of, and approach to, climate-related impacts evolves over time.

Figure 1: Core elements of recommended climate-related financial disclosures (TCFD, 2017)

Governance
The organization's governance around climate-related risks and opportunities.

Strategy
The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

Risk Management
The processes used by the organization to identify, assess, and manage climate-related risks.

Metrics & Targets
The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

5. TCFD, "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures" (June 2017), available at: https://www.fsb-tcfd.org/publications/final-recommendationsreport/

Governance

TCFD recommendation:

Disclose the organization's governance around climate-related risks and opportunities.

Recommended disclosures:

a) *Describe the board's oversight of climate-related risks and opportunities.*

b) *Describe management's role in addressing and managing climate-related risks and opportunities.*

Key findings

- There is a disconnect between where the responsibility sits for overseeing climate-related risks and opportunities and the responsibility for managing them. While 82% of companies have board-level oversight of climate-related risks and opportunities, only 12% provide monetary and non-monetary incentives to board members for the management of climate change matters.

- European companies show significantly higher levels of board oversight. Only 68% of companies in Canada and the USA have board-level oversight, compared to 95% of companies in France, Germany and the UK, which may be a reflection of longstanding regulatory developments in Europe.

- CDP responses show that incentives to manage climate change continue, perhaps predictably, to be most provided to members of the sustainability department and are not integrated into wider business departments.

The TCFD recommends that organizations should disclose information in their mainstream filings which demonstrate the board's oversight of climate-related risks and opportunities, as well as management's role in assessing and managing them. This information will provide an indication of how embedded these issues are within senior governance and decision-making processes.

Our analysis shows that there is a disconnect between where the responsibility sits for overseeing climate-related risks and opportunities and the responsibility for managing them. There remains a significant gap between oversight and consequences.

Indeed, while **82% of companies have board-level oversight of climate-related risks and opportunities, only 12% provide monetary and non-monetary incentives to board members for the management of climate change issues** within the organization.

The information on board oversight and management's role in assessing and managing climate change issues is crucial to investors and other stakeholders as it provides an indication of whether these issues receive appropriate attention and, consequently, can be used to build an understanding of the potential future performance and resilience of their portfolio holdings.

If incentives are viewed as a proxy for how seriously an issue is being treated, companies should turn 'oversight' into 'action', for example by making monetary and non-monetary incentives at board-level more widespread. Indeed, the TCFD lists remuneration as a key issue to be considered and an area or further work. Where climate-related risks are material, they recommend that companies should consider describing whether and how related performance metrics are incorporated into remuneration policies.

European companies lead the way on board oversight of climate change

North American companies are lagging behind European countries. On average, **only 68% companies in Canada and the USA have board-level oversight, compared to over 90% of companies in France, Germany and the UK** (*Figure 2*).

The gap between North American and European companies widens further when looking at the number of companies providing monetary or non-monetary incentives to the board: while 1 in 4 European companies do so, only 1 in 25 in North America do (*Figure 3*).

Figure 2: Percentage of companies by country with board-level oversight of climate change issues

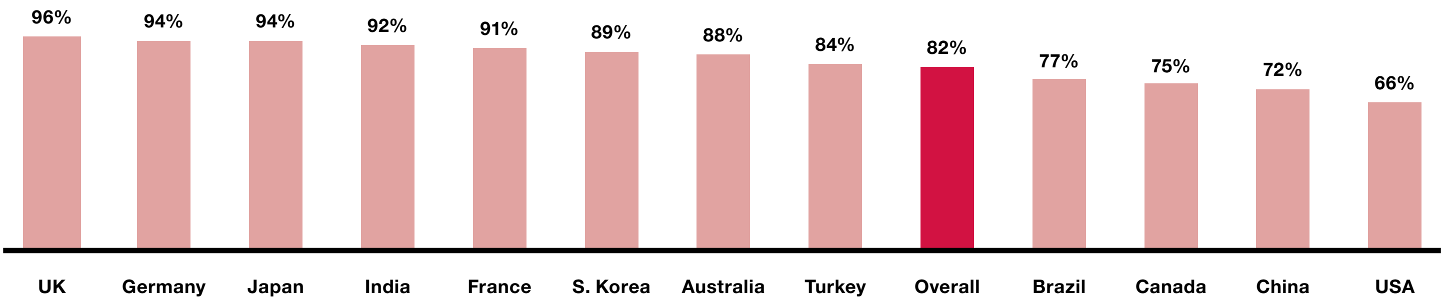
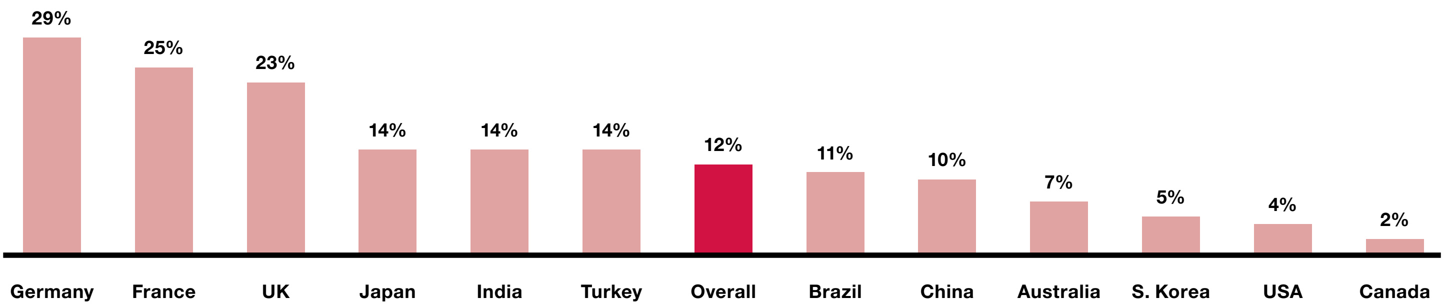


Figure 3: Percentage of companies by country providing incentives to the board for the management of climate change issues



Looking at sectorial approaches to managing and overseeing climate change matters, similar patterns are consistent between North American and European companies.

A driver for this different approach to overseeing climate risks and opportunities may be the difference in regulatory environments facing companies both sides of the Atlantic. In the EU, there have been frequent regulatory drivers for the disclosure of climate-related information for over a decade. For example, the EU Non-Financial Reporting Directive[3], which requires companies to disclose information about policies, risks and outcomes related to environmental issues, has driven the attention of companies' boards to climate risks in Europe. In the UK, the Financial Reporting Council is in the process of revising their Corporate Governance Code for UK listed companies, is drafting Governance Principles and is planning to do the same in 2019 with the Stewardship Code for institutional investors and asset managers. In addition, in January 2018, the European Commission's High-Level Expert Group (HLEG) on Sustainable Finance released its final report with eight key recommendations, including the need to upgrade disclosure rules to make climate change risks and opportunities fully transparent, as well as clarifying investor duties, reforming companies' governance and leadership, and extending the time horizon of risk monitoring. In the US, however, despite the US Securities and Exchanges Commission (SEC)'s guidance on climate risk reporting published in 2010[6,7], progress has been slower, in part due to its particular regulatory environment, and in part due to the perceived fear of litigation risks linked to disclosure.

Figure 4: Percentage of companies by sector and country with board-level oversight of climate change

	Canada	USA	France	Germany	United Kingdom
Overall	75%	66%	91%	94%	96%
Utilities	80%	87%	100%	100%	100%
Telecom.	100%	86%	100%	100%	100%
Real Estate	40%	72%	100%	100%	100%
Materials	80%	84%	80%	100%	91%
IT	0%	49%	75%	88%	85%
Industrials	69%	64%	91%	83%	98%
Healthcare		68%	80%	100%	100%
Financials	82%	64%	100%	100%	91%
Energy	88%	65%	100%		100%
Cons. Staples	83%	74%	88%	100%	100%
Cons. Dis.	75%	61%	95%	100%	96%

No companies   < 50%   51-65%   66-89%   90% and above

6. Securities And Exchange Commission (2010), "Commission Guidance Regarding Disclosure Related to Climate Change". [PDF]. Available at http://www.sec.gov/rules/interp/2010/33-9106.pdf

7. Ceres (2014), Cool Response: The SEC & Corporate Climate Change Reporting. [PDF; requires registration]. Available at: https://www.ceres.org/resources/reports/cool-response-sec-corporate-climate-change-reporting

From a sectorial perspective, the IT sector lags on both oversight and action. While the energy sector has only an average level of board oversight of climate-related risks and opportunities (*Figure 5*), it has a low number of companies (6%) reporting monetary and non-monetary incentives linked to climate-related matters (*Figure 6*). This is noteworthy in view of the sector's particular exposure to climate-related impacts on core strategies.

Raising attention beyond the sustainability departments

An underlying principle of the TCFD recommendations is that understanding and managing climate change should be integrated in group-wide business decisions and cannot be the sole responsibility of a siloed individual or group within an organization, such as the sustainability team.

As climate and environmental matters impact heavily on various financial aspects of a business, these should be embedded in wider organizational functions, such as the risk and finance teams, as well as at the highest management levels.

Furthermore, ensuring that climate-related issues are given appropriate attention may require going beyond 'board-level oversight and accountability'. Audit and risk committees should review and oversee climate-related matters, as they would for any other business risk.

Currently, our analysis of CDP responses show that incentives to manage climate change continue, perhaps predictably, to be most provided to members of the sustainability department[8].

Figure 5: Percentage of companies by sector with board-level oversight of climate change issues

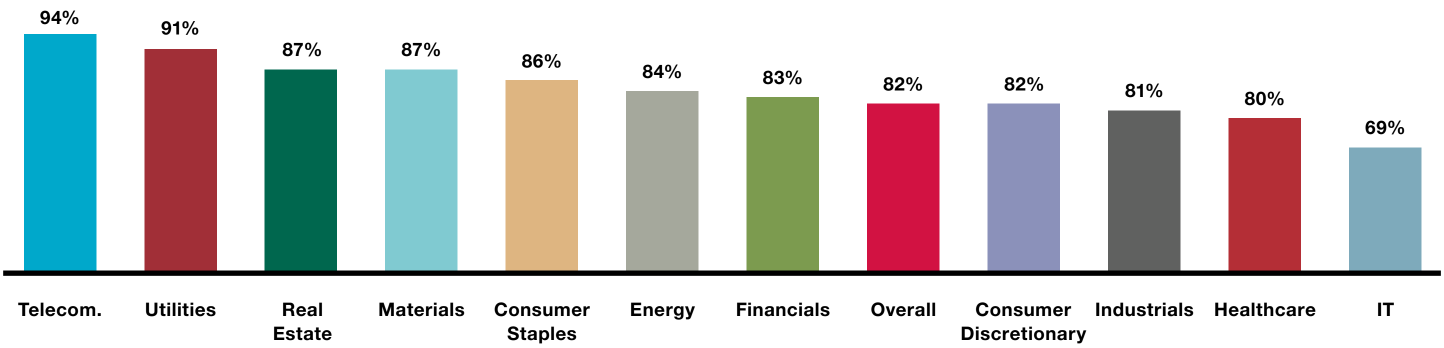
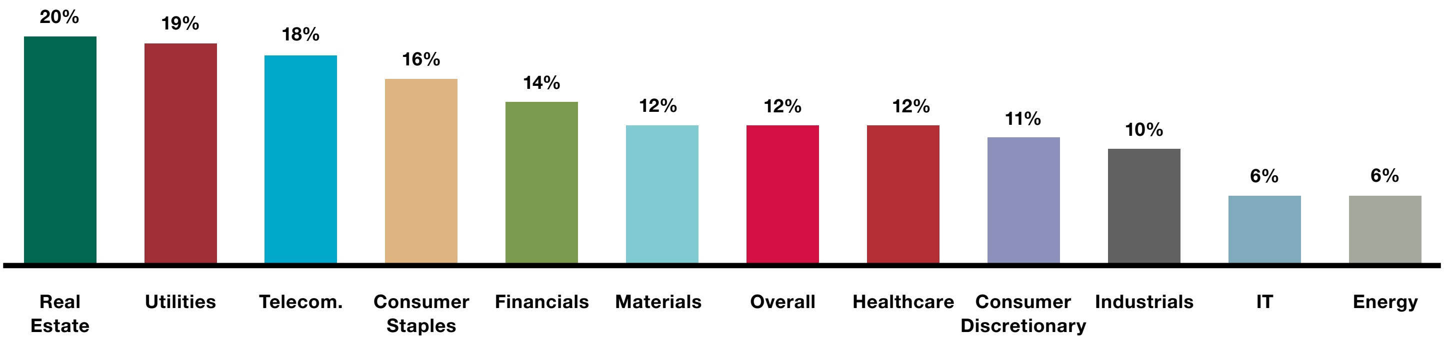


Figure 6: Percentage of companies in sector providing incentives to the board for the management of climate-related issues



8. Our qualitative analysis shows that 33% of companies refer to sustainability departments - or variations thereof - in their response to question 1.2a – C1. of the CDP questionnaire in describing the beneficiaries of climate-related incentives. The next most common responses are Facility Managers, Business Unit Managers, Energy Managers and EHS Managers.

Strategy

TCFD recommendation:

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.

Recommended disclosures:

a) *Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.*

b) *Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.*

c) *Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.*

Key findings

- The majority of actions taken on economic opportunities remain opportunistic, rather than strategic, and full integration into company-wide strategies and governance processes remains incomplete.
- While companies report integration of climate-related risks and opportunities into company-wide processes, board reviews occur irregularly. The low frequency of the updates may impact their ability to make significant decisions to their strategy based on climate-related information.
- One of the key policy risks related to climate that companies identify is the development of carbon taxes or cap-and-trade schemes, though only 45% of companies highlight them as risks. While 76% of UK companies and 61% of French and Turkish companies identify fuel or carbon taxes as a policy risk driver, only 21% of Chinese and 27% of Australian and German companies do so.
- Companies are mostly considering risks in the short term, with only one third of companies looking at risks and opportunities more than six years in the future.

The TCFD highlights how disclosing information about a company's strategic response to climate-related risks and opportunities is critical to helping investors understand its potential future performance and its resilience to climate-related matters.

Business focus remains short-term

As part of the exercise of disclosing the impact of climate-related risks and opportunities, organizations must explain the time horizons over which they are considering them.

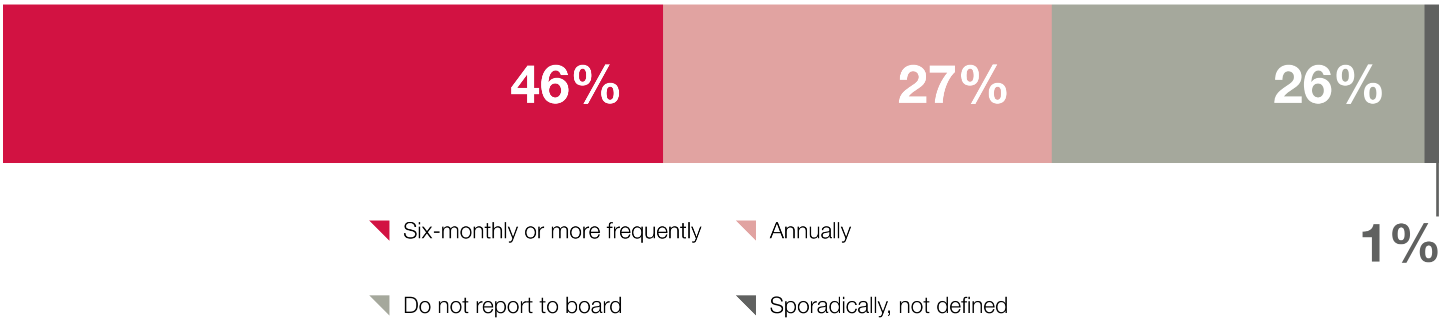
Although 92% of companies reported integrating climate change into their business strategies, companies are **mostly considering risks and opportunities in the short term**:

- Only 28% of companies consider at least one regulatory (transition) risk and 34% at least one physical risk, such as natural disasters and the wider effects of a changing climate to our environment, beyond six years.
- 75% consider these risks on timeframes of fewer than six years.

On the one hand, this is reasonable as many Enterprise Risk Management (ERM) processes don't currently focus on timeframes of more than a few years in the future. However, the results suggest that most companies may not yet consider such risks and opportunities beyond the tenure of the current management team and board, which risks meaning that they are not adequately embedded in long term strategies.

Critically, integrating climate-related risks into company-wide processes is a means to an end, not an output, and won't intrinsically lead to strategic actions. For instance, while **87% of companies report that climate-related risks and opportunities are integrated into company-wide processes** (though only 69% in China and 79% in Brazil), **only 46% of all companies reviewed report progress to the board more than once a year**. If 54% of companies only report climate-related progress once a year, this suggests that climate-related risks are yet to be recognized as a central risk or opportunity linked to the core business strategy and and are not fully integrated, as frequency of reporting may be seen as a proxy for appropriate attention. This also suggests that, despite 82% of companies' boards having oversight of climate-related risks and opportunities, the low frequency of the updates may impact their ability to make significant decisions to their strategy based on climate-related information.

Figure 7: Percentage of companies by frequency of reporting climate-related results to the board



This highlights the need for a shift in corporate culture to ensure that climate change is treated in the same way as other business risks and opportunities and is brought to the attention of well-informed and competent boards with the same timelines and rigour as other factors which affect financial performance. A lack of understanding and integration of climate-related issues within long-term strategies will make organizations less able to promptly respond to emerging climate-related risks and opportunities from the market. Risks from the low-carbon transition could potentially leave them with stranded assets, more difficult access to capital or higher costs for refinancing existing debt.

For example, research[9] has found that EU utilities could incur heavy losses by 2030 if policies demanding stricter air pollution limits and higher carbon prices are implemented. The consequences of this could mean losses to investors as well as government bailouts to utilities and taxpayer-funded asset retirement and decontamination costs. This could have negative impacts on national and global economies both within equity markets and from governments with higher debt burdens and interest payments as a consequence of bailouts.

Acting on policy risks and economic opportunities

The TCFD makes a clear distinction between physical and transitional risks, highlighting the importance for companies to be prepared for future policy shifts[10].

Categories of risks identified by the TCFD

"The Task Force divided climate-related risks into two major categories: (1) risks related to the transition to a lower-carbon economy and (2) risks related to the physical impacts of climate change.

a. Transition risks

Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed, and focus of these changes, transition risks may pose varying levels of financial and reputational risk to organizations.

b. Physical risks

Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns. Physical risks may have financial implications for organizations, such as direct damage to assets and indirect impacts from supply chain disruption. Organizations' financial performance may also be affected by changes in water availability, sourcing, and quality; food security; and extreme temperature changes affecting organizations' premises, operations, supply chain, transport needs, and employee safety."

9. https://www.carbontracker.org/reports/lignite-living-dead/

10. TCFD Final Recommendations, page 5 [https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf]

One of the key policy risks related to climate that companies identify is the development of carbon taxes or cap-and-trade schemes, though only 45% of companies highlight them as risks. While 76% of UK companies and 61% of French and Turkish companies identify fuel or carbon taxes as a policy risk driver, only 21% of Chinese and 27% of Australian and German companies do so.

To mitigate the risks of this type of regulatory development, it is common practice for companies to develop and apply an internal carbon price. However, currently, 79% of companies do not use an internal carbon price, with only a further 16% preparing to do so in the next two years.

While there are many examples of companies seizing the economic opportunities that the low-carbon economy will create, a majority of actions taken continue to appear to be reactive, shorter-term, opportunities rather than longer-term strategic decisions. For instance, two thirds of companies have reported providing low-carbon products or services that enable avoided emissions and 4 in 10 companies reported climate-related economic opportunities beyond six years. However, of the 720 companies investing in Research and Development (R&D), the majority (two thirds), invest less than 10% of their (R&D) budget in these low-carbon offerings.

This suggests that the majority of actions taken on economic opportunities remain opportunistic, rather than strategic, and product or service innovation is not fully aligned with the disclosure by 87% of companies that climate risks and opportunities are integrated into company-wide processes.

Figure 8: Percentage of companies by country providing low carbon products or services that enable avoided emissions

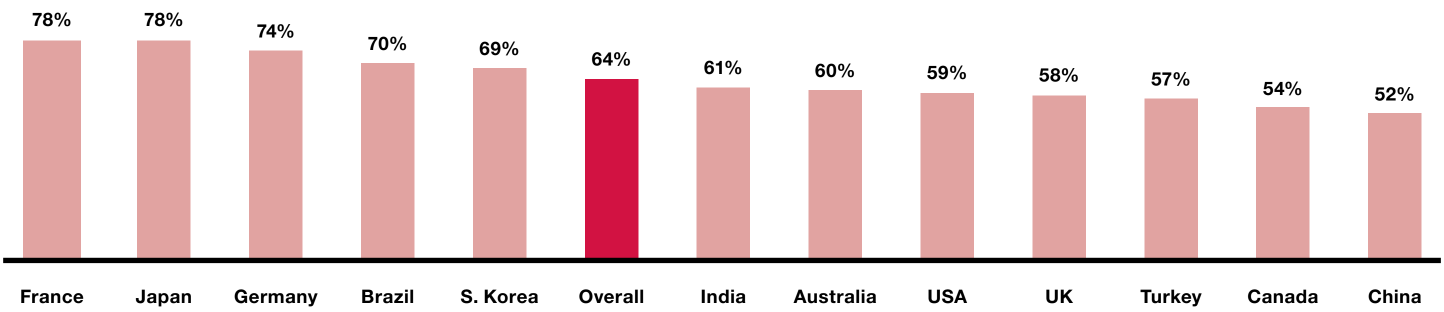
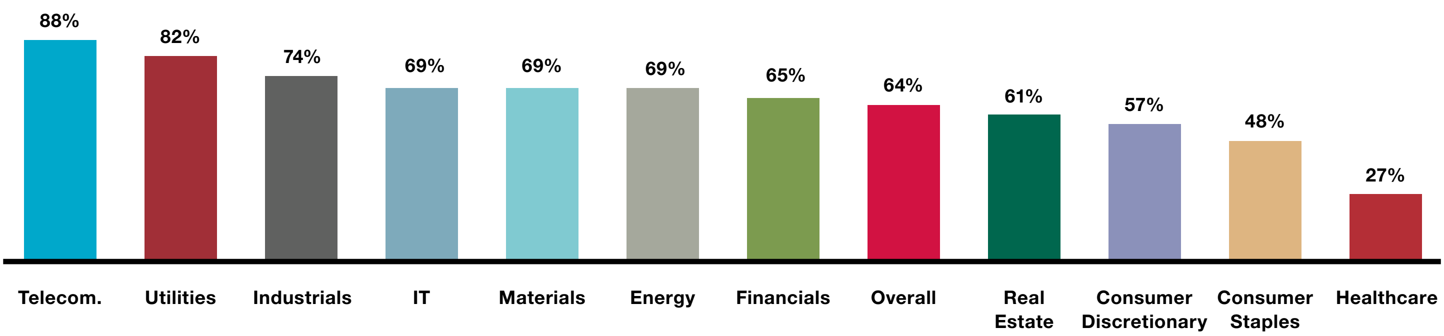


Figure 9: Percentage of companies by sector providing low carbon products or services that enable avoided emissions



The level, and type, of low carbon products and services provided varies strongly by sector. Almost 9 in 10 telecommunication companies provide such products and services while fewer than half of consumer staples or healthcare companies do so.

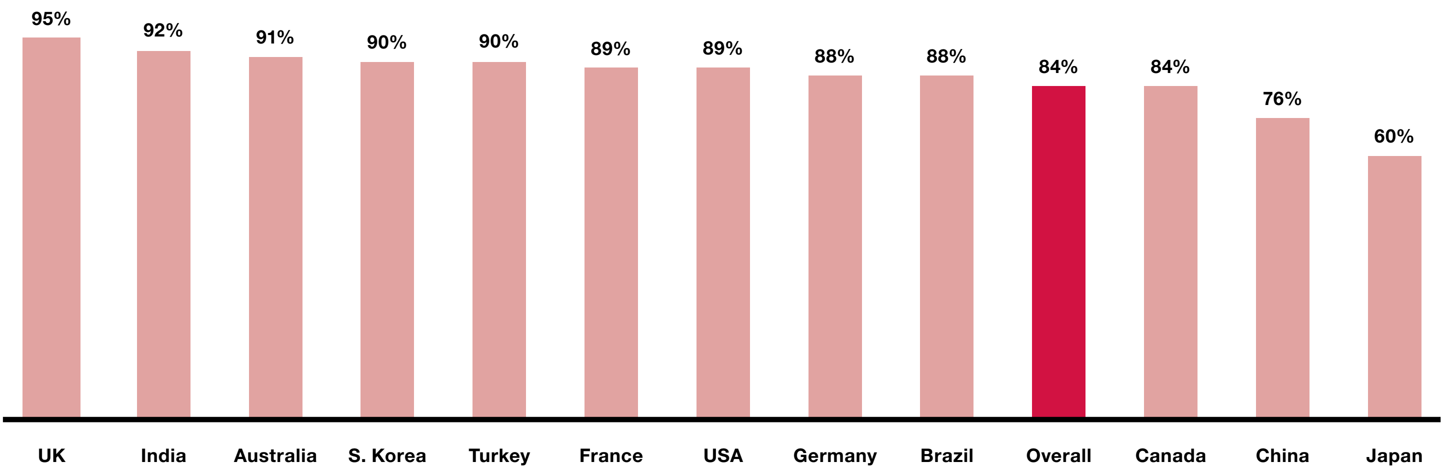
However, the definition of 'low carbon products or services' remains largely up to the companies themselves. For instance, 69% of the energy sector report providing low carbon products with examples of such disclosures including hydroelectric facilities, biofuels, wind and wave powered energy facilities or solar products. However, over a third of energy companies in fact offer natural gas products. While less carbon-intensive than many other fossil fuels, this will not be a long-term solution to meeting the Paris Agreement goals.

Defining material information

A commonly used process for companies to determine which information should be included in a financial report is through a materiality analysis. The TCFD encourages companies to use a similar process by including descriptions of how they determine what represents a material climate risk or opportunity for their business.

Currently, 84% of companies reported a process by which they prioritize the risks and opportunities they have identified, though only 18% of companies specifically reference '*materiality*' in their response[11], of which only 6% of Japanese and 7% of Chinese companies do. A lack of clarity on how decisions are made about which information is reported or excluded means that investors and wider stakeholders may struggle to understand the relevance, completeness and transparency of disclosures.

Figure 10: Percentage of companies by country that disclose how they prioritize risks and opportunities they have identified



11. Analysis of occurrence of word 'materiality' in responses to question 2.1c 'How do you prioritize the risks and opportunities identified'

Risk Management

Some investors, governments, NGOs, and consumers factor environmental considerations into their judgments about companies based on their ability to understand and respond to climate change

American Express

TCFD recommendation:

Disclose how the organization identifies, assesses and manages climate-related risks.

Recommended disclosures:

a) *Describe the organization's processes for identifying and assessing climate-related risks.*

b) *Describe the organization's processes for managing climate-related risks.*

c) *Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.*

Key findings

- Risk management processes remain short-term in their focus. Only 50% of companies' integrated or specific climate change risk management processes look further than six years into the future.
- Reputational risk management remains more focused on the impact customer changes will have than financing opportunities and investor priorities.
- The significant majority (9 out of 10) of companies are aware of the physical and transition risks of climate change, though geographical resilience to certain risks impacts perceived risk levels.

In order to evaluate an organization's overall risk profile and risk management activities, investors and other stakeholders need to understand how an organization identifies, assesses and manages climate risks as part of its overall risk management process.

A recent survey[12] of global CEOs by PwC highlighted that 31% of respondents were 'extremely concerned' by climate change. Our analysis supports this observation, though it also suggests that companies appear to be thinking about risks in a reactive, rather than strategic way, and focus on short-term impacts. Indeed, while the significant majority of companies (91%) are identifying climate-related risks, most of them focus on shorter term risks (only 52% report risks with timeframes of more than six years). This is supported by the fact that only 50% of companies' integrated or specific climate change risk management processes look further than six years into the future. Largely, this might be interpreted as a reflection of the perceived clarity of regulatory risks in the short-term relative to the uncertainty surrounding longer-term market trends as well as physical and/or regulatory risks. It should also be recognized that internal risk-management processes often focus on timeframes of a few years or less, whether related to climate or not.

Globally, there is a clear recognition that regulatory risks – classified by the TCFD as 'transition' risks, are material, with 88% of companies identifying them. South Korea (97%), the UK (94%) and India (94%) report regulatory risks the most, with the USA (83%), Australia (83%) and Germany (75%) the least, though an in-depth analysis of the German responses suggests this may be more of a reflection of their approach to responding to the CDP questionnaire than a broader lack of relevance and materiality of these risks. Even in the sector which reports the least concern for future climate regulation, the financials sector, 80% of companies still recognize these risks.

Figure 11: Percentage of companies by country identifying regulatory risks

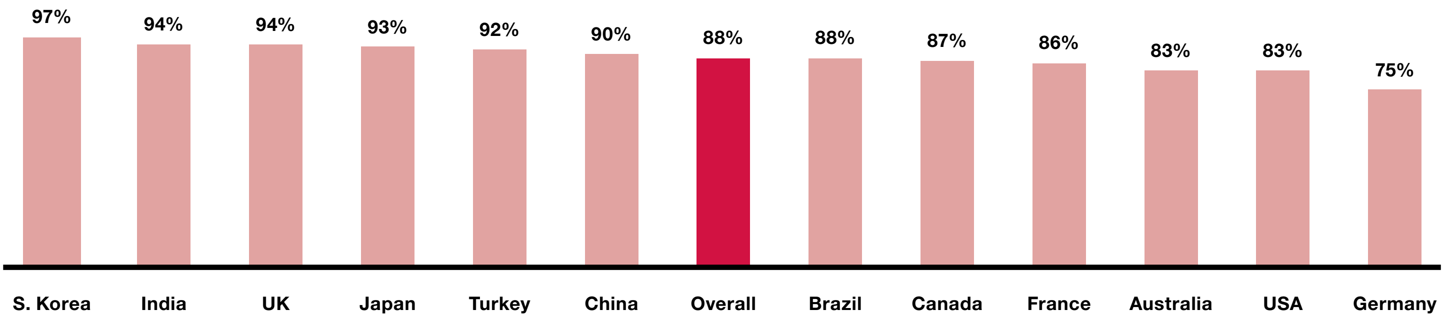
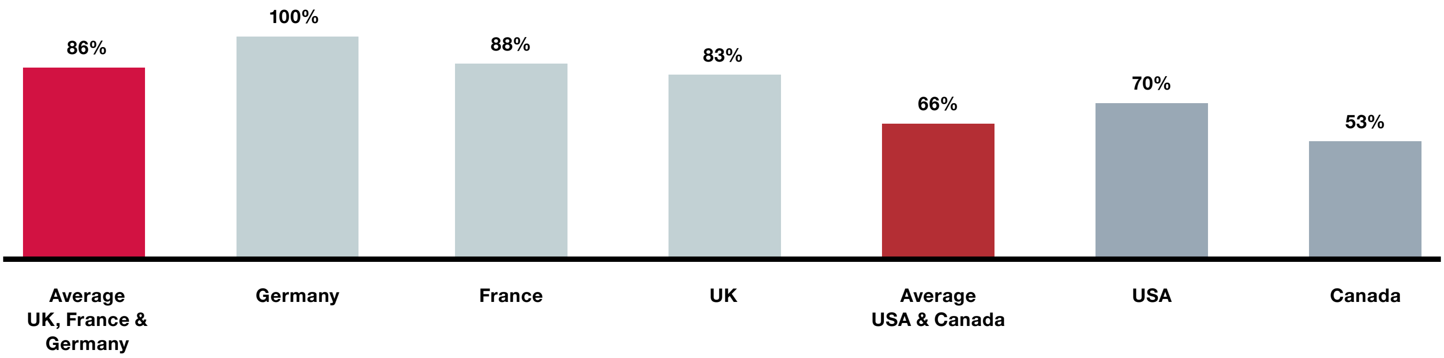


Figure 12: Percentage of financials companies identifying regulatory risks in Germany, France, UK, USA and Canada[13]



12. https://www.pwc.com/gx/en/ceo-survey/2018/pwc-ceo-survey-report-2018.pdf

13. Note: sample sizes are small (<10 for France, Germany and Canada)

Corporate ability to disclose ESG information, including information about matters associated with climate change, has an increasingly important influence on the investment decisions that investors make

Asahi Group

Global awareness of regulatory risks varies significantly

Despite the clear signals from initiatives such as the TCFD, Article 173, the UK's Green Finance Taskforce or the European Commission's High-Level Expert Group on Sustainable Finance, the awareness of regulatory risks is globally very varied: while 9 out of 10 companies in Europe recognize these risks, only two thirds in North America do (USA 70%, Canada 53%).

Physical risks are equally highly recognized by 83% of companies. However, the type of risk and projected impact vary significantly across the globe.

For instance, there is a clear difference between the percentage of companies (18%) in Asian countries (China, India, Japan, South Korea) reporting precipitation extremes as a major risk driver than in countries historically less exposed to these risks (39%) (Australia, Canada, France, Germany, UK, USA). This might suggest an awareness by these latter companies of weaker infrastructural resilience to these risks, as evidenced by some of the most recent natural disasters. For instance, Storm Harvey exposed the vulnerability of specific sectors to climate change in the US in 2017, with a third of the chemicals sector's production disrupted by the storm[14]. Despite this, only 23% of the materials sector (*Figure 14*) identifies tropical cyclones (including hurricanes and typhoons) as a physical climate risk.

Figure 13: Percentage of companies by country identifying physical risks

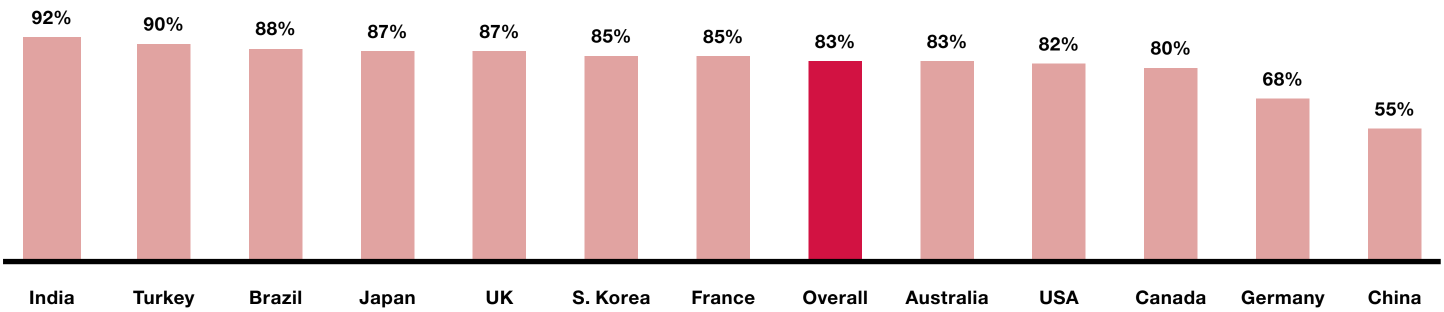
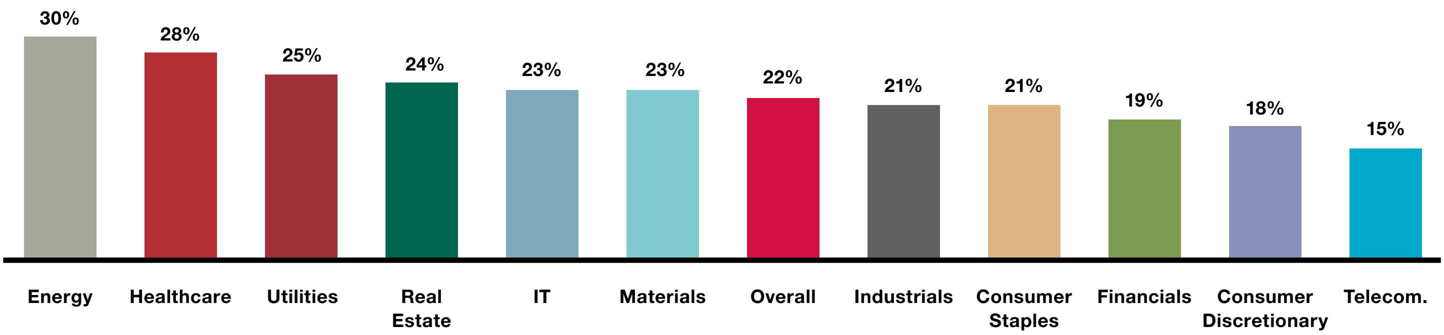


Figure 14: Percentage of sector identifying tropical cyclones as a key risk driver



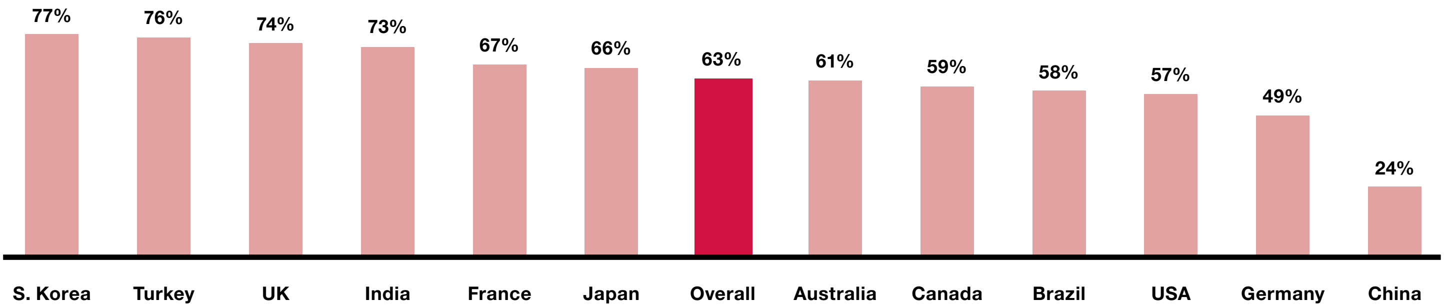
14. https://www.bloomberg.com/news/articles/2017-08-28/harvey-disrupts-more-than-one-third-of-u-s-chemical-production

Reputational risks remain focused on downstream stakeholders

Reputation and brand value are core to the strategy and long-term sustainability of most businesses and 63% of companies highlight that changes in customer behaviour and/or reputational issues linked to climate change pose a substantive risk. China is the country with the lowest reporting of this risk, with only 24% of companies disclosing changing customer behaviour and/or reputational issues as major risk drivers. At the opposite end, 77% of South Korean companies, 76% of Turkish and 74% of UK companies highlight these risks.

Investors are becoming increasingly vocal about their positions on carbon-intensive assets and wider management of climate-related matters in their portfolios, as evidenced by the likes of the Climate Action 100+ announcement in December 2017[15] or recent statements by Blackrock or Vanguard[16]. However, the reputational risk of reduced stock prices is only listed as a risk by 25% of companies (and only 6% of US and German companies and no Chinese companies). Climate-related reputational risk management appears to remain focused on reduced customer demand for products (52% of companies reviewed), rather than financing and funding sources.

Figure 15: Percentage of companies identifying reputation and/or changing consumer behaviour as a risk



> **Some of our clients have indicated that they only wish to conduct business with corporations that have climate change strategies in place. Therefore, if AAM do not pursue a proactive climate change strategy, it could result in the loss of clients in the long-term.**
>
> **Aberdeen Asset Management**

15. https://www.top1000funds.com/news/2017/12/19/investors-launch-climate-action-100/

16. https://www.ft.com/content/48ad5476-a6aa-11e7-ab55-27219df83c97

Metrics & Targets

TCFD recommendation:

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Recommended disclosures:

a) *Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.*

b) *Disclose Scope 1, Scope 2, and if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.*

c) *Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.*

Key findings

- The impact of setting targets has been limited: only 68% of companies reported a decrease in their emissions since 2016 linked specifically to emissions reduction initiatives, and 36% of companies reported an increase in their emissions.
- 95% of companies disclose Scope 1 and/or Scope 2 greenhouse gas (GHG) emissions. Only 78% of companies disclose at least one Scope 3 category, despite its significant impact in overall carbon footprints. Chinese companies disclose all three scopes the least.
- The use of carbon pricing remains low: only 21% of companies currently use one, though an additional 16% anticipate using it by 2019. The US reports the least anticipated or current use of carbon pricing.

Disclosure of Scope 3 emissions continues to lag

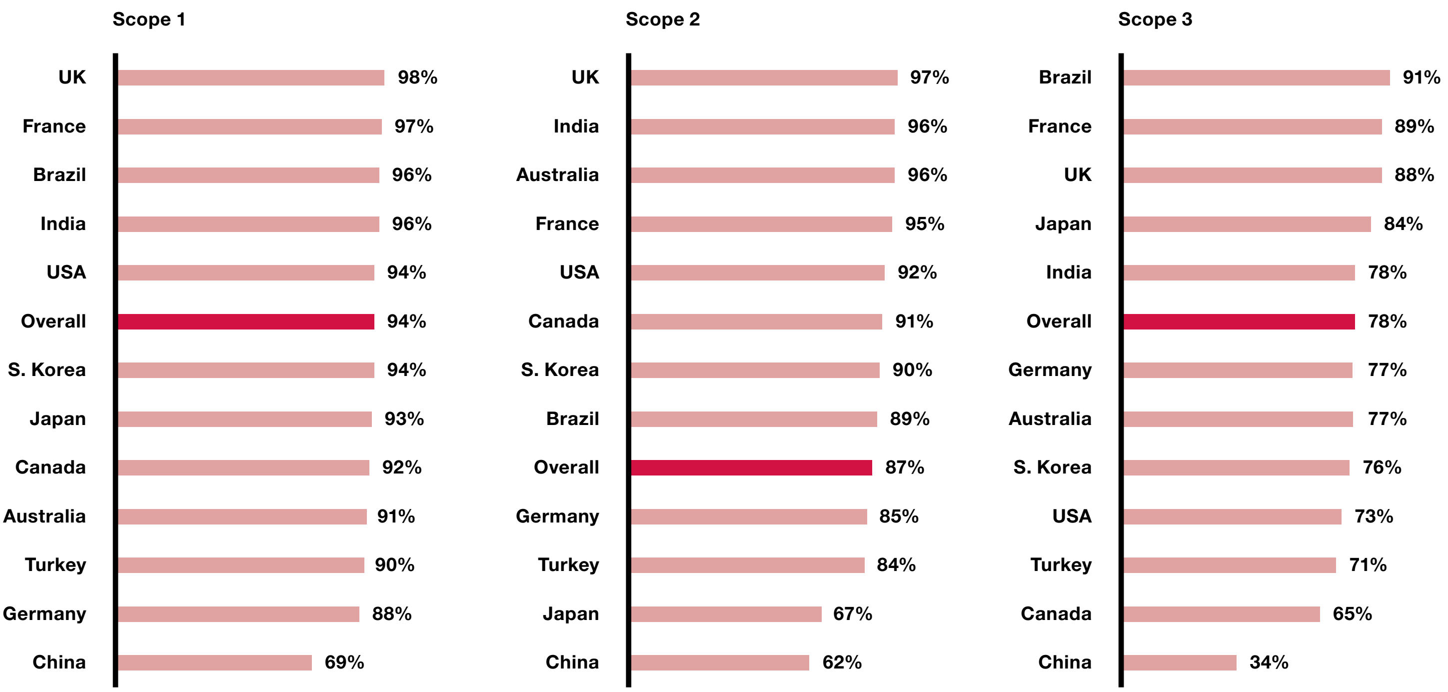
The TCFD places significant emphasis on disclosing material metrics and targets to assess and manage relevant climate-related risks and opportunities. These help investors and other stakeholders make better decisions about an organization's future by comparing their performance and exposure to risks and opportunities against their peers.

Overall, the majority of companies are measuring and disclosing Scope 1 and Scope 2 emissions (95% at least one), in line with the TCFD recommendations. However, it is notable that 13% of companies are yet to disclose their Scope 2 emissions and over a third of Japanese and Chinese companies do not report them.

Scope 3 reporting is less mature, with only 78% of companies reporting at least one of the 15 Scope 3 categories. Here too, there are noticeable variations in reporting: 85% of French, German and British companies report Scope 3 emissions against 65% of Canadian companies, 71% of American companies, and only 34% of Chinese companies. Scope 3 emissions are an important part of an organization's footprint and, where relevant, should be calculated and reported. A recent CDP report showed that emissions located in the supply chain are on average four times as high as those arising from direct operations[17].

One critical aspect of Scope 3 emissions reporting is to assess the relevance of each category and report against it. Here, we note that companies in the financial sector show a discrepancy, which may partly be justified by the current lack of a standardised global methodology, between acknowledging the relevance of Scope 3 emissions linked to investments (47% of companies) and reporting them (11%). However, the fact that over 50% of financial companies do not currently recognize the relevance of scope 3 emissions from investments means that significant progress in the industry remains required.

Figure 16: Percentage of companies in each sector disclosing Scope 1, 2 and at least one Scope 3 emissions



17. https://www.cdp.net/en/research/global-reports/global-supply-chain-report-2018

Additionally, there are noticeable geographical variations: while only 8% of US financial companies disclose Scope 3 emissions from investments, 38% of companies in France do so. The progress in France may be related to the fact that France adopted in 2016 the only legislation currently in existence (Article 173-VI) which requires asset owners and investment managers to disclose climate-related financial risks and report on how ESG criteria are considered in their investment decisions[18].

The use of carbon pricing as a tool remains low

In the future, carbon taxes or similar schemes are likely to be used as a mechanism to regulate global emissions. In order to help understand and quantify potential climate risk impacts, the TCFD recommends, where relevant, disclosing internal carbon prices.

Globally, 21% of companies currently report using an internal carbon price. Companies in Canada (34%) and France (32%) currently use carbon pricing the most while companies in China (10%) and the US (15%) use it the least.

An additional 16% of companies anticipate using carbon pricing in the next two years, with significant geographical variations, and many potential mid-range countries becoming leaders in the future. For instance, twice as many (39%) Indian companies

Figure 17: Percentage of financials companies disclosing Scope 3 emissions from at least one category and Scope 3 emissions from investments

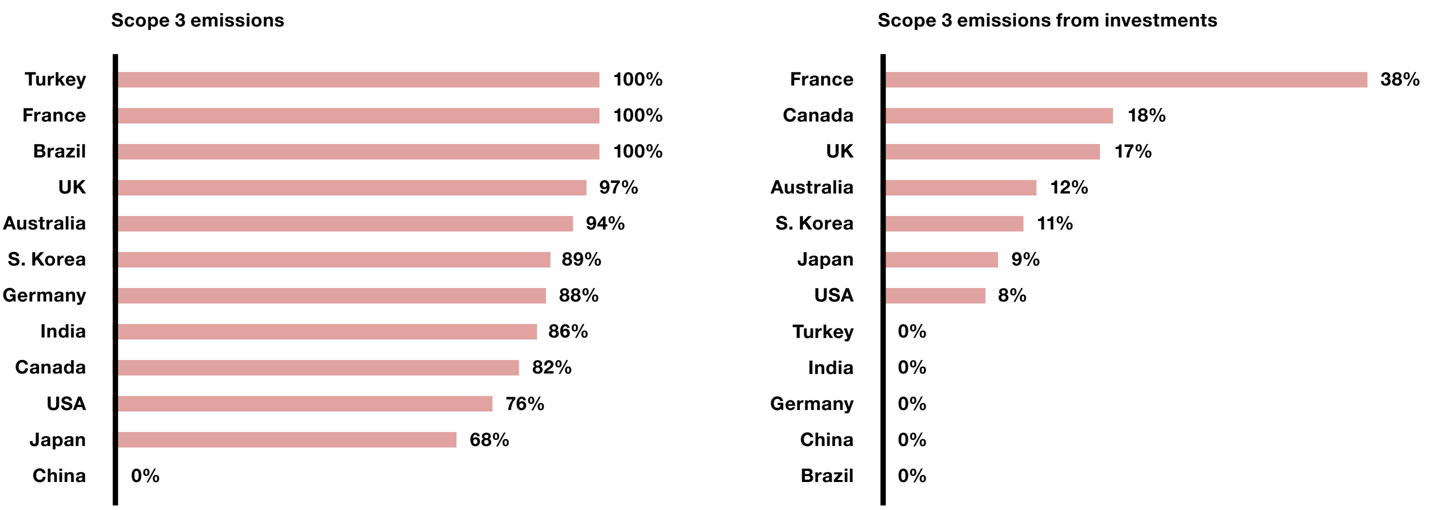
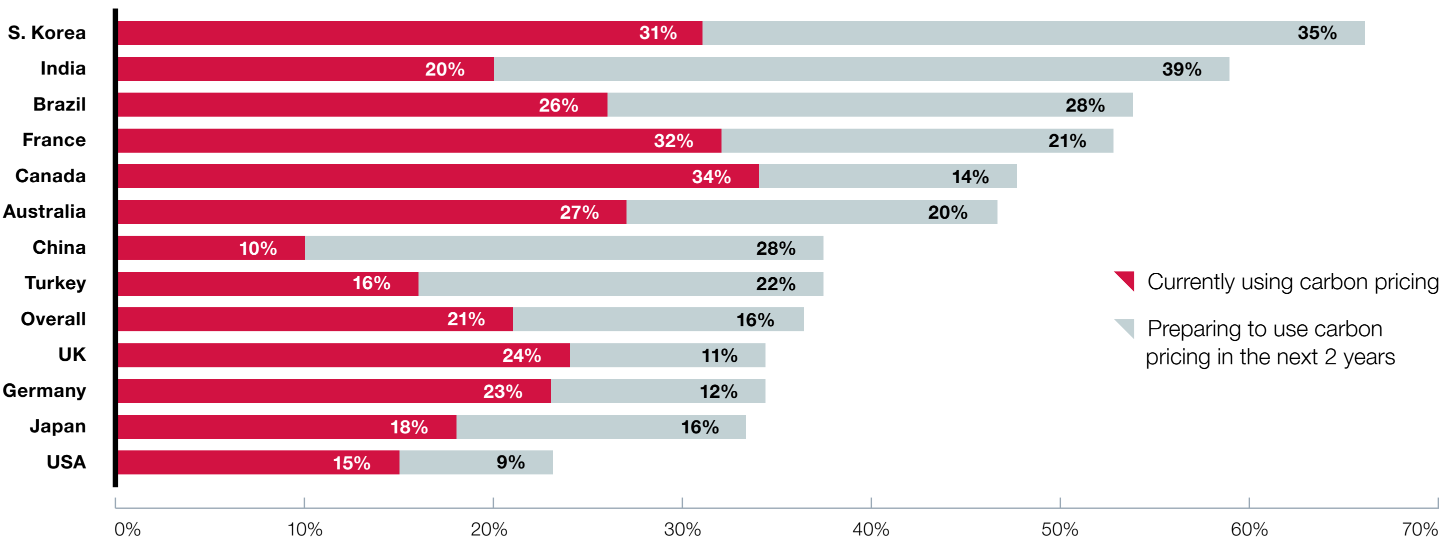


Figure 18: Percentage of companies by country using carbon pricing



18. https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000031044385&dateTexte=20161020

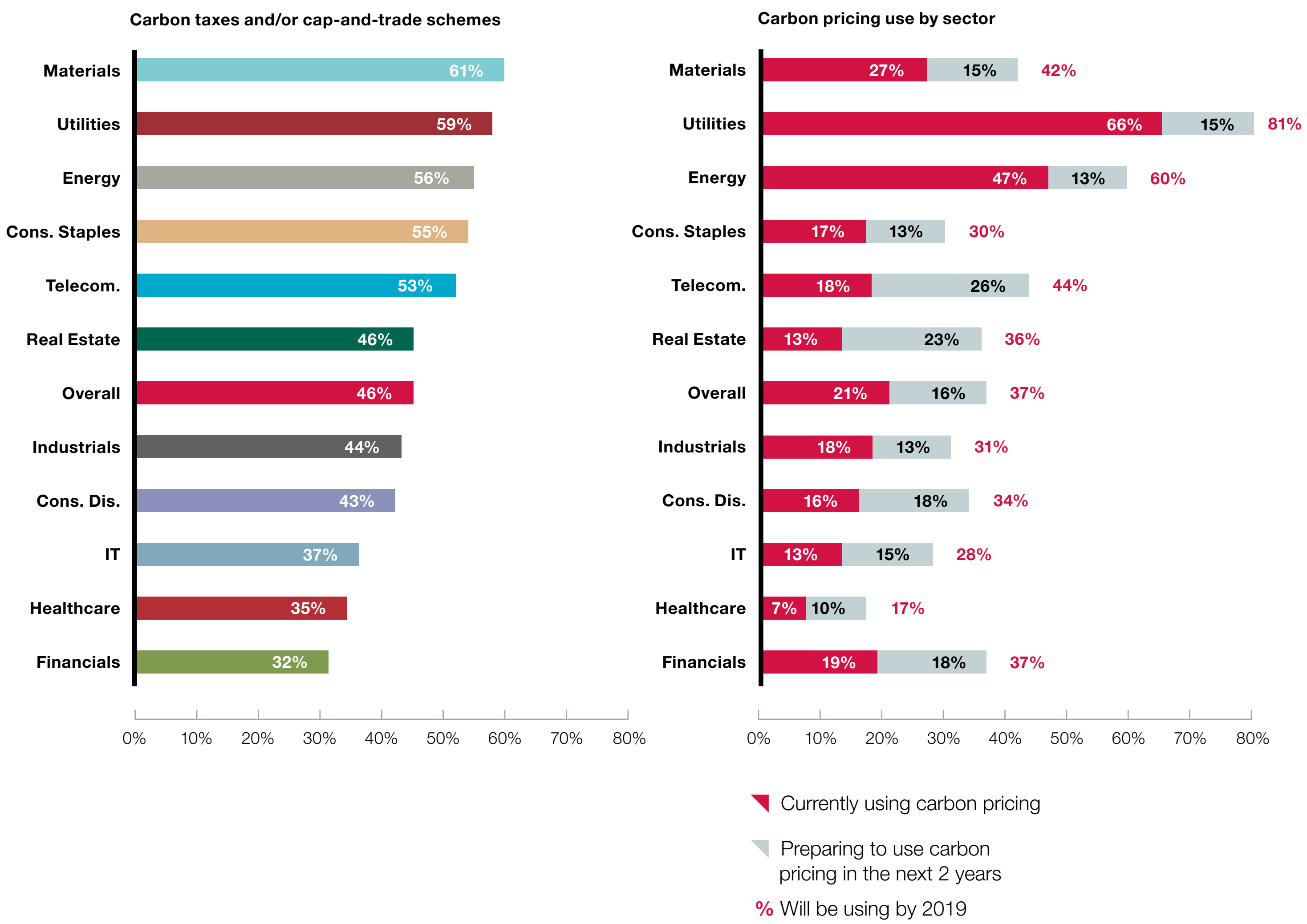
anticipate using carbon pricing in the next two years than currently do (20%), which would mean that 59% of Indian companies will be using carbon pricing by 2019.

The US shows the least anticipated adoption of carbon pricing, with only 24% of companies using carbon pricing by 2019 (15% currently do, 9% anticipate doing so).

Meanwhile, an additional 28% of Chinese companies anticipate using carbon pricing (bringing total numbers up to 38%). This underlines the increasing awareness of, and response to, climate-related matters in China, and as a reflection of the upcoming Chinese carbon trading scheme[19]. In addition, the Chinese market is expected to continue to deliver more progress in the near future: representatives from the China Securities Regulatory Commission and the Green Finance Committee described a new mandatory environmental disclosure regulation roadmap which will eventually require all listed companies to disclose environmental information by 2020[4].

Additionally, as highlighted in *Figure 19*, there is a clear gap between sectorial awareness of the risk linked to carbon taxes and/or cap-and-trade schemes and the number of companies that will be using an internal carbon price in the next two years.

Figure 19: Percentage of companies identifying carbon taxes and/or cap-and-trade schemes as a key risk driver and percentage of companies using an internal carbon price



19. https://www.ft.com/content/cd549b9a-e088-11e7-a8a4-0a1e63a52f9c

Targets fall short of action needed

In order to manage emissions, it is expected that companies should set targets and report publicly against them. Currently, 80% of companies publicly disclose an absolute and/or intensity emissions target, with Japan and South Korea having the most (94% and 90%) and China and Australia the least (62% and 57%).

In addition, while the disclosure of Scope 1 and Scope 2 emissions are important metrics, they only convey a limited amount of the scope of climate-related risks and opportunities and broader metrics should be used. To this extent, 78% of companies disclosed a range of performance metrics used by their organizations to assess climate-related risks and opportunities in line with their strategy and risk management processes though, perhaps unexpectedly, only 14% of energy companies reported energy reduction targets as an incentivized performance metric.

Overall, the energy sector has lower levels of targets than other sectors, and lower than might be expected in view of their exposure to climate-related risks and opportunities. Fewer than 30% of companies have an absolute target for emissions reductions and only 10% have a renewable energy target. The responses of companies in this sector to climate-related matters appear to currently be driven by external parameters, with less than 10% stating that they would include such targets if mandated by law.

The impact of targets and initiatives remains limited

Currently, more than 90% of companies state that they have emissions reduction initiatives in the reporting year. However, it is unclear how much of an impact these emissions reduction initiatives are making: only 68% of companies reported a decrease in their emissions in the previous year linked specifically to these initiatives.

In addition, 36% of companies reported an overall increase in their Scope 1 and Scope 2 emissions in the past year with only 56% noting a decrease. The contrast between the number of initiatives and actual impact further illustrates the gap between ‘oversight’ and ‘strategic impact’.

Figure 20: Percentage of companies with an emissions reduction or renewable energy consumption or production target

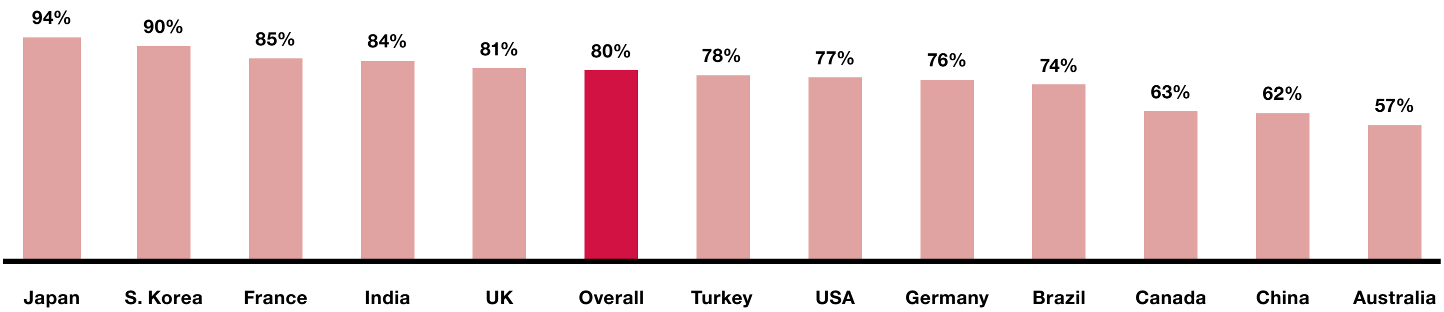
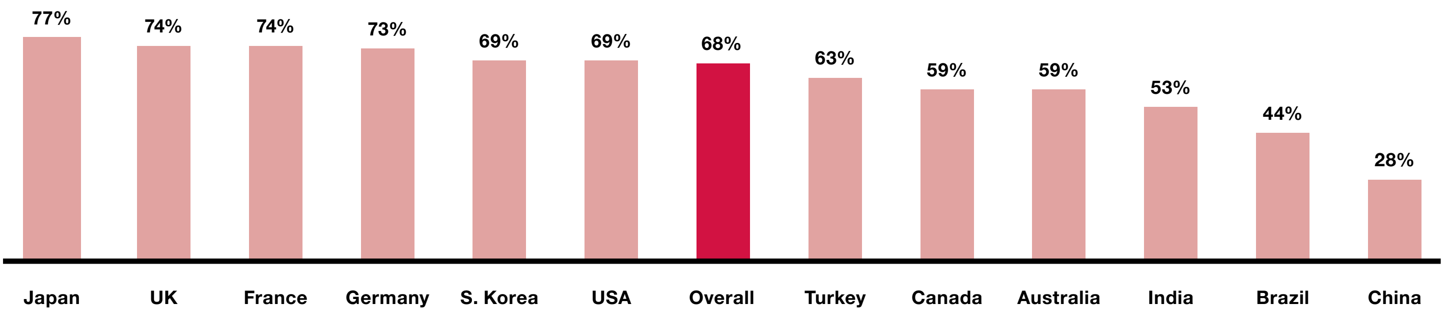
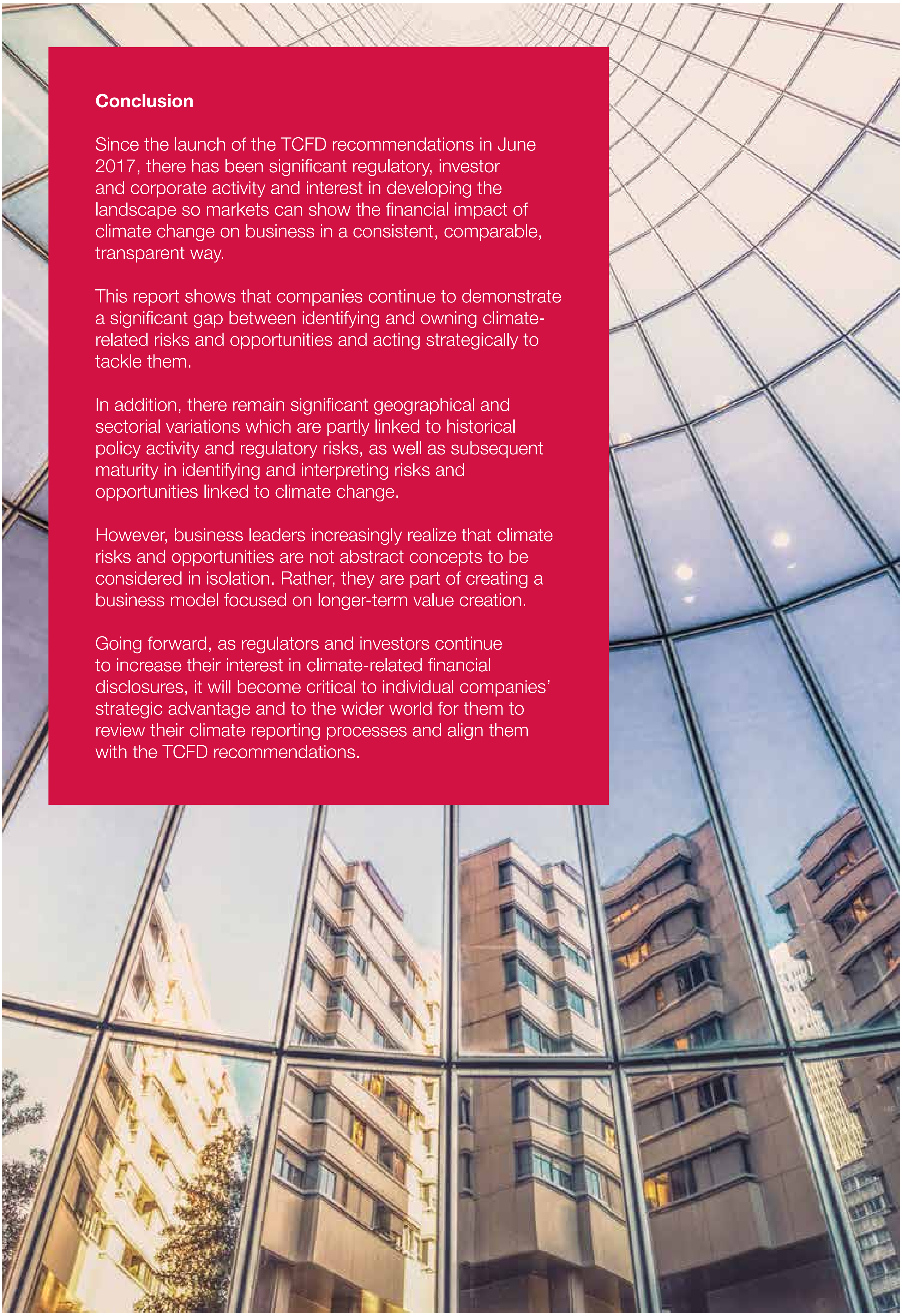


Figure 21: Percentage of companies by country reporting a decrease in emissions arising from emissions reduction activities





Conclusion

Since the launch of the TCFD recommendations in June 2017, there has been significant regulatory, investor and corporate activity and interest in developing the landscape so markets can show the financial impact of climate change on business in a consistent, comparable, transparent way.

This report shows that companies continue to demonstrate a significant gap between identifying and owning climate-related risks and opportunities and acting strategically to tackle them.

In addition, there remain significant geographical and sectorial variations which are partly linked to historical policy activity and regulatory risks, as well as subsequent maturity in identifying and interpreting risks and opportunities linked to climate change.

However, business leaders increasingly realize that climate risks and opportunities are not abstract concepts to be considered in isolation. Rather, they are part of creating a business model focused on longer-term value creation.

Going forward, as regulators and investors continue to increase their interest in climate-related financial disclosures, it will become critical to individual companies' strategic advantage and to the wider world for them to review their climate reporting processes and align them with the TCFD recommendations.

Glossary

Abbreviation	Meaning
EHS	Environmental Health & Safety
ERM	Enterprise Risk Management
ESG	Environmental, Social and Governance
EU	European Union
FSB	Financial Stability Board
G20	Group of 20 Forum
IT	Information Technology
SEC	US Securities and Exchanges Commission
TCFD	Task Force on Climate-Related Financial Disclosures

Key term	Definition
Scope 1 emissions	All direct emissions i.e. from sources that are owned or controlled by the reporting entity[20].
Scope 2 emissions	Indirect emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity[20], e.g. purchased electricity, heat and steam[21].
Scope 3 emissions	Other indirect emissions resulting from activities not covered in Scope 2, and divided into 15 categories: purchased goods and services, capital goods, fuel- and energy-related activities, upstream transportation and distribution, waste generated in operations, business travel, employee commuting, upstream leased assets, downstream transportation and distribution, processing of sold products, use of sold products, end-of-life treatment of sold products, downstream leased assets, franchises, and investments[22].
Carbon price[23]	Internal carbon pricing has emerged as a powerful approach to assessing and managing carbon-related risks and opportunities that may arise from the transition to a low-carbon economy. For many companies, the most significant consequences of these risks will emerge over time, and their magnitude is uncertain. Assigning a monetary value to the cost of carbon emissions helps companies monitor and adapt their strategies and financial planning to real-time and potential future shifts in the external market.

20. GHG Protocol http://www.ghgprotocol.org/calculationg-tools-faq

21. Carbon Trust https://www.carbontrust.com/resources/faqs/services/scope-3-indirect-carbon-emissions/

22. GHG Protocol Scope 3 Technical Guidance http://www.ghgprotocol.org/scope-3-technical-calculation-guidance

23. CDP Putting a price on carbon report http://goo.gl/fVhr5h

Appendix I: Methodology

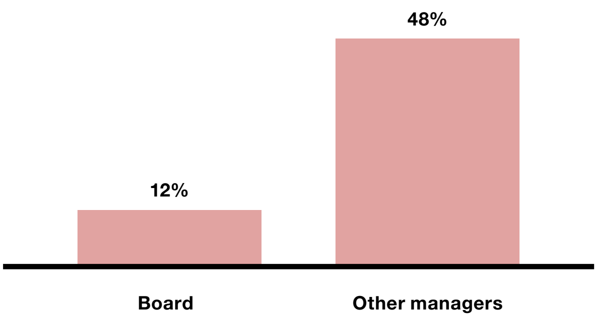
This joint CDSB-CDP study looks at the disclosures from 1,681 companies across 14 countries and 11 sectors in the CDP Questionnaire in 2017, which were made around the time of the launch of the final TCFD recommendations in June 2017. The study used the mapping of TCFD recommendations to CDP questions as defined by the TCFD in the Final Report Annex[24]. Where a CDP question or sub-question has been mapped to more than one TCFD recommendation, the most relevant CDP sub-question was selected for analysis. This selection was informed by the 'Guidance for All Sectors' in the Final Recommendations Report. Where more than one CDP question or sub-question has been mapped to a TCFD recommendation, the analysis included and combined all relevant CDP questions or sub-questions.

The study involved analyzing the responses and calculating the percentage of companies that responded to each relevant CDP question or sub-question as a proportion of the entire sample, the country, the sector, and the sector within each country. Where relevant, percentages of subsets of companies were also analyzed, and these subset sizes have been noted clearly in the report. As the TCFD recommendations recommend companies to 'disclose' and 'describe', this study analyzed simply whether companies disclosed and described, but did not evaluate or assess the quality of disclosures and descriptions provided.

24. https://www.fsb-tcfd.org/wp-content/uploads/2017/12/FINAL-TCFD-Annex-Amended-121517.pdf

Governance

Figure 22: Percentage of companies providing incentives to the board and 'other managers' for the management of climate-related issues within the organization



Strategy

Figure 23: Percentage of companies disclosing whether climate change is integrated into the organization's business strategy

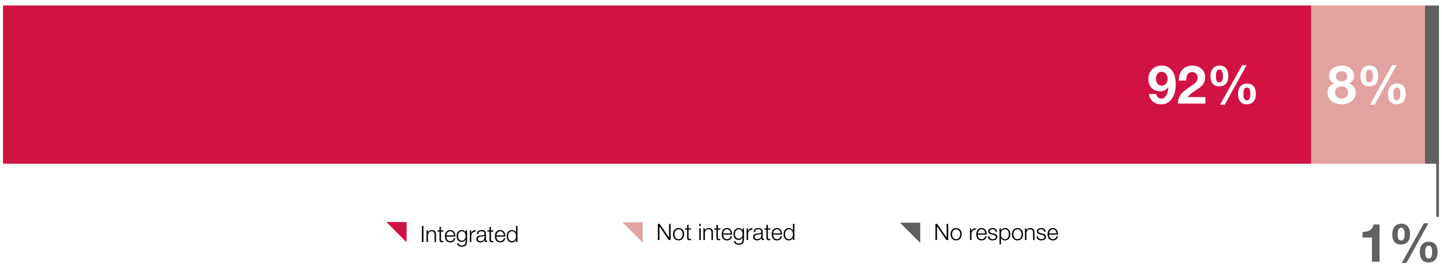


Figure 24: Percentage of companies by level of integration of climate risks and opportunities into company risk management processes

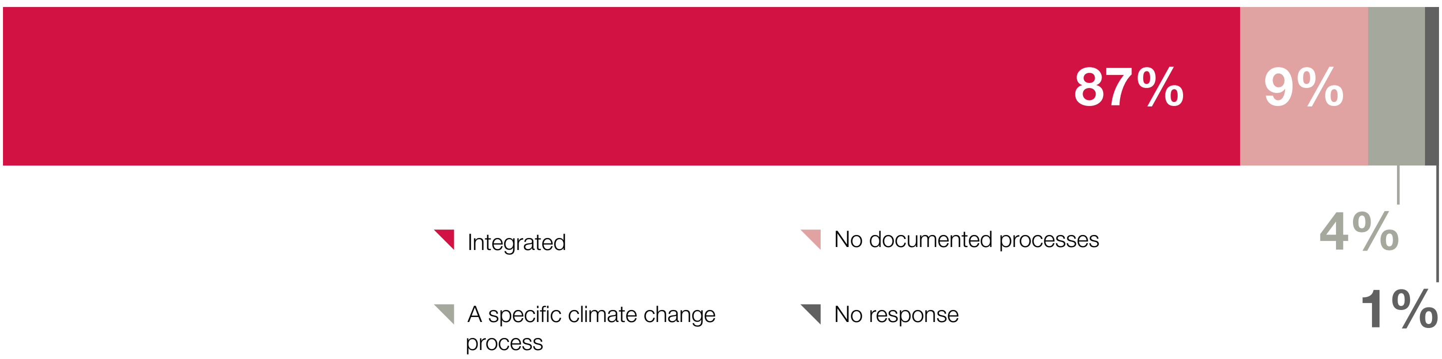


Figure 25: Percentage of companies with low carbon products or services that enable a third party to avoid GHG emissions

Figure 26: Percentage of companies investing R&D into low carbon/avoided emissions products or services

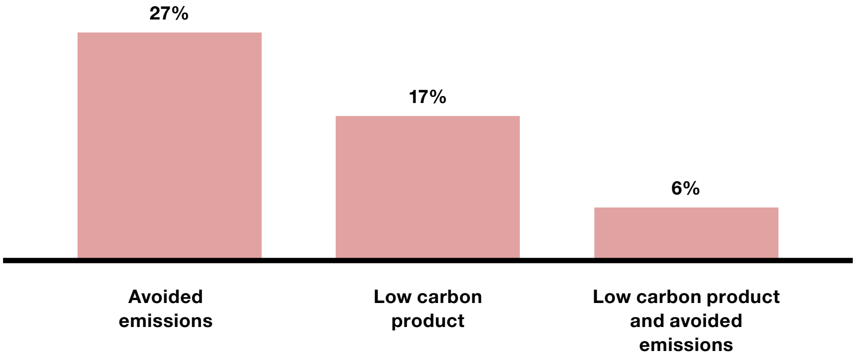
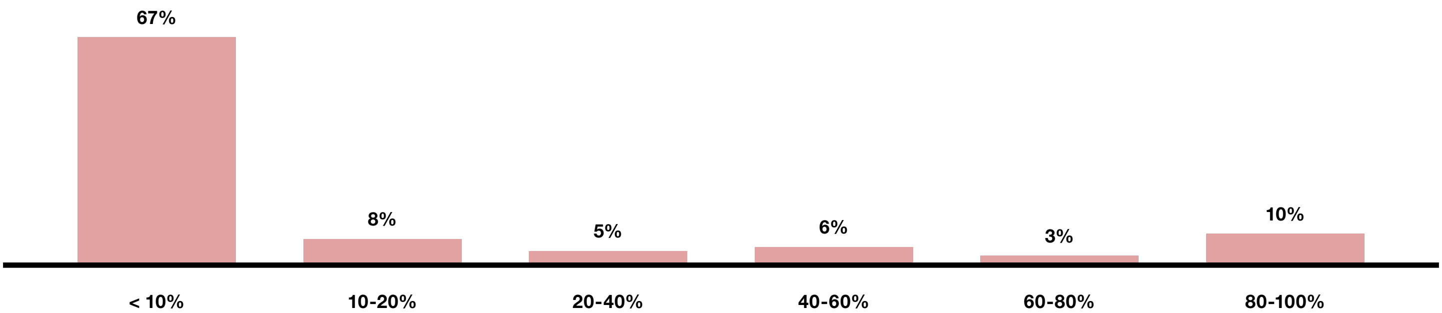


Figure 27: Percentage of the 720 companies investing R&D in low carbon products or services by percentage of total R&D



Risk Management

Figure 28: Percentage of companies identifying risks by risk type and percentage considering risks beyond six years

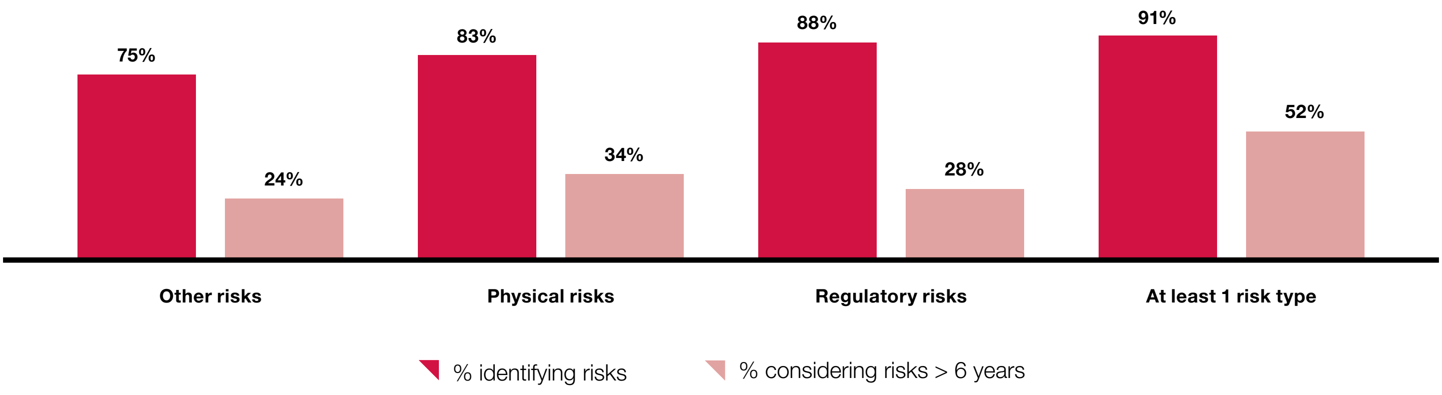


Figure 29: Percentage of companies that have an integrated or a specific risk management process by time horizon

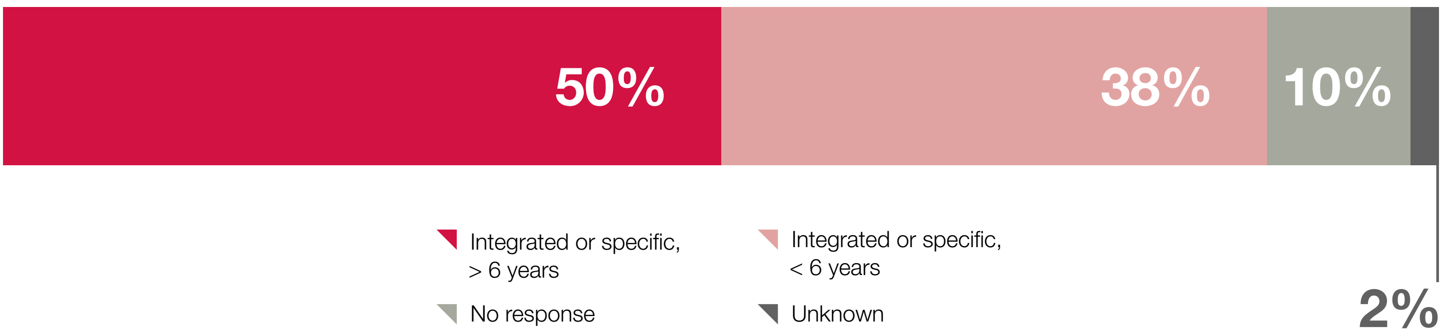


Figure 30: Percentage of companies in groups of countries identifying 'change in precipitation extremes' as a major physical climate risk driver

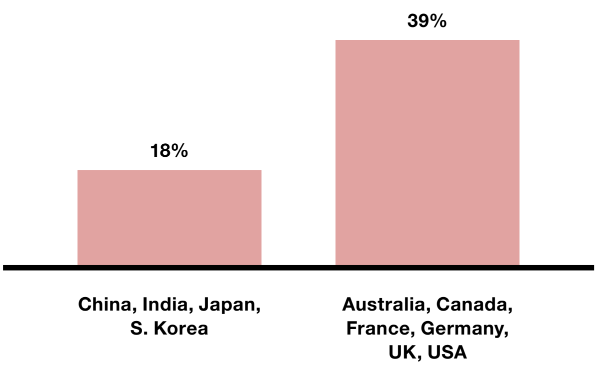


Figure 31: Percentage of companies in group of countries identifying 'tropical cyclones (typhoons and hurricanes)' as a major physical climate risk driver

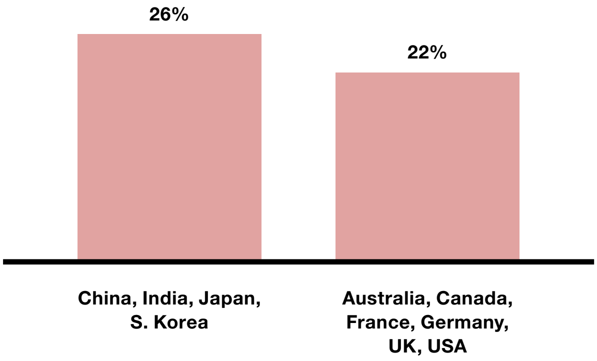
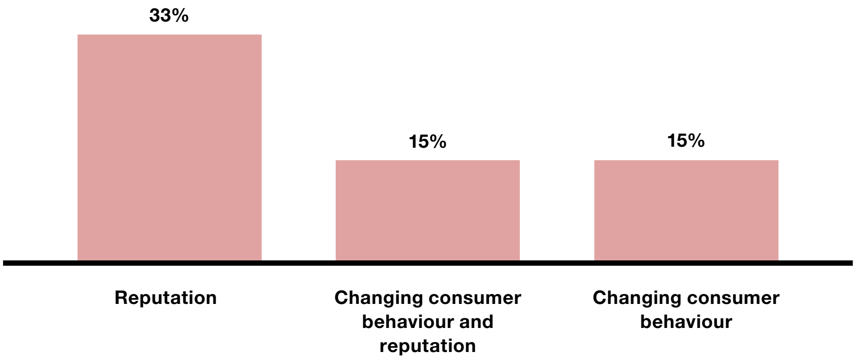


Figure 32: Percentage of companies identifying reputation and changing consumer behaviour as risk drivers



Metrics & Targets

Figure 33: Percentage of companies by type of emissions reduction or renewable energy production or consumption target

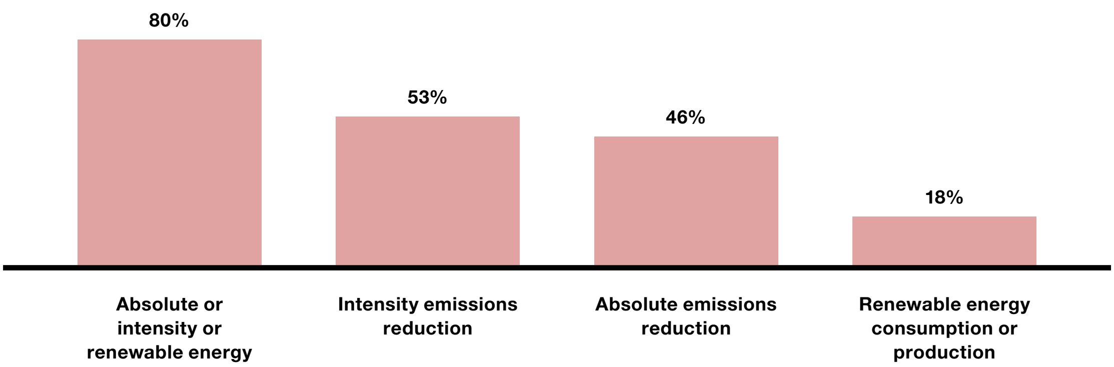


Figure 34: Percentage of energy sector by type of emissions reduction or renewable energy target

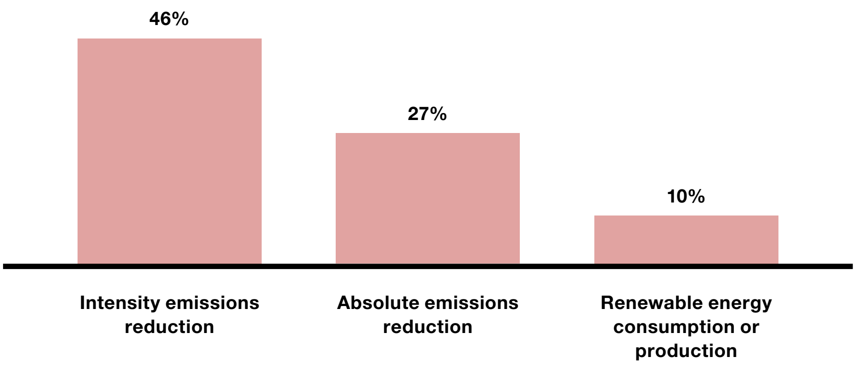


Figure 35: Percentage of companies that have emissions reduction initiatives

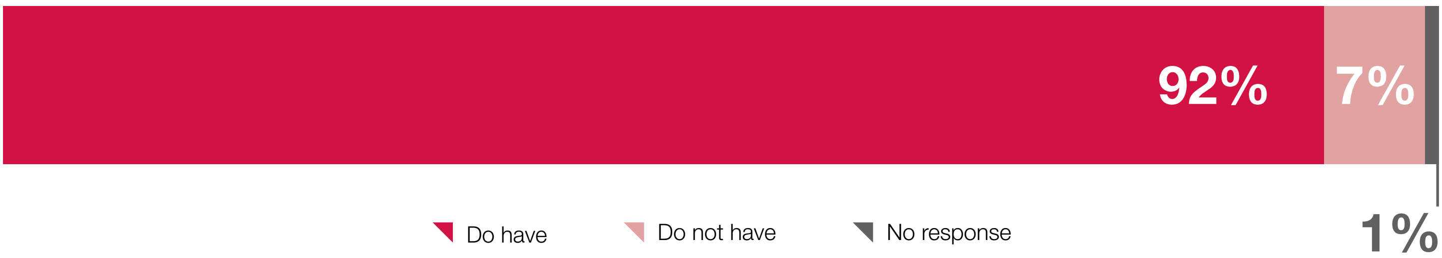
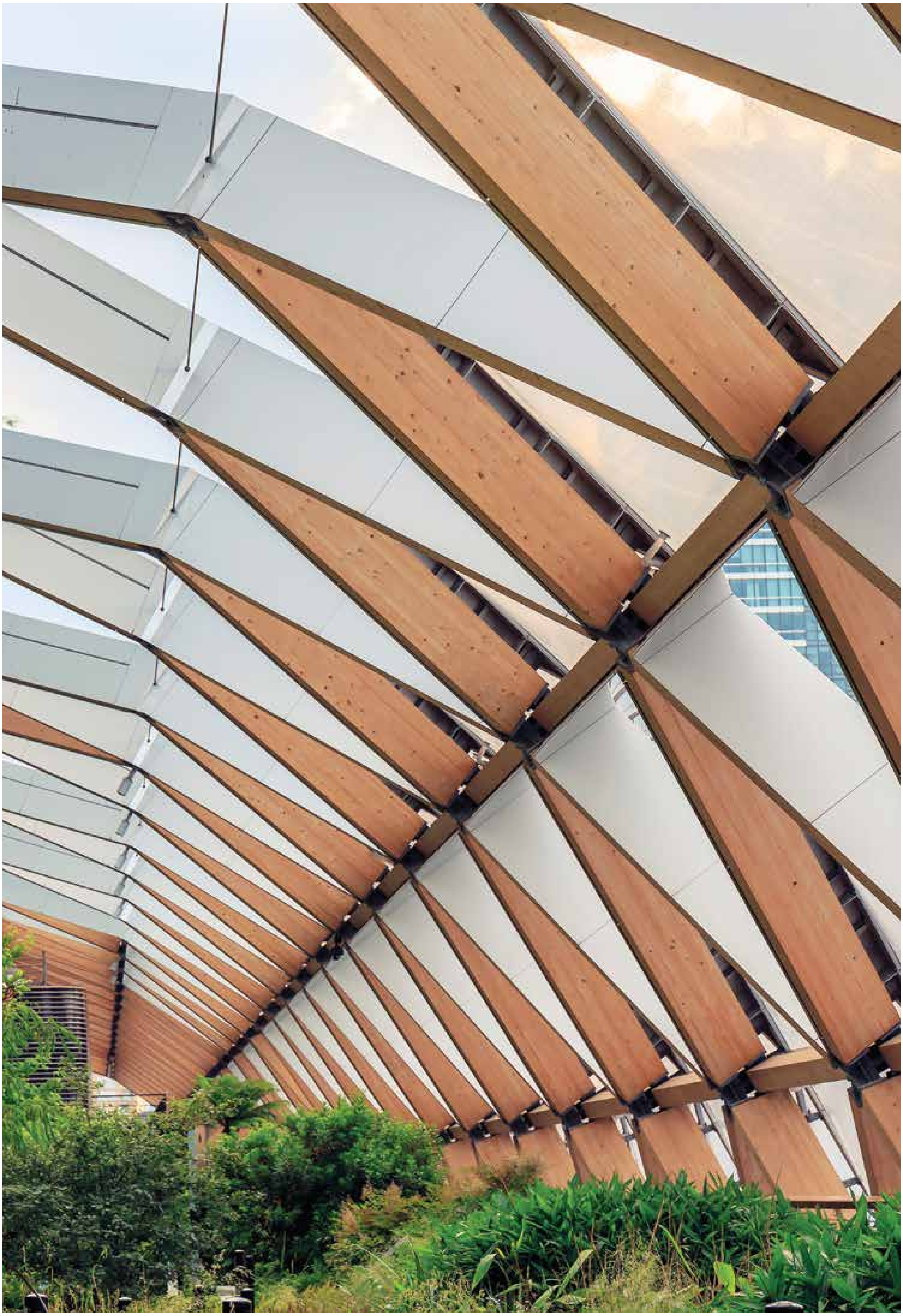


Figure 36: Percentage of companies reporting change in emissions linked to emissions reduction initiatives



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CDP (formerly the Carbon Disclosure Project) operates the only global climate disclosure platform for more than 6,000 companies on behalf of more than 800 institutional investors. From 2018, corporate climate disclosures made through the CDP platform will generate all the information required for a TCFD-compliant disclosure.

The Climate Disclosure Standards Board (CDSB) is a consortium of nine international business and environmental organisations and a leader in the field of mainstream reporting. We offer companies a framework for reporting climate change and environmental information with the same rigour as financial information. This helps them provide investors and wider stakeholders with decision-useful information via mainstream filings. Collectively, we aim to contribute to more sustainable economic, social and environmental systems.

Together, CDP and CDSB have the global reporting infrastructure, technical expertise and extensive experience to assist policymakers and regulators in evaluating existing national reporting requirements, and in drafting new rules.

Get in touch

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To find out more about our work, please visit:
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