

# NOW FOR NATURE THE DECADE OF DELIVERY

March 2022

In Partnership with

 OliverWyman

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## FOREWORD

**MAXFIELD WEISS**

EXECUTIVE DIRECTOR,  
CDP EUROPE

**We have a collective and imperative responsibility to put environmental protection at the heart of our global economic and societal recovery. In Europe, we are experiencing the impacts of climate change firsthand, as devastating storms, flooding, heat and wildfires cause destruction and death. To prevent the most catastrophic impacts, we must tackle the climate and nature crises in tandem. Half of global GDP relies on nature, and there will be no net-zero unless we are stewards of our global water resources, let our forests thrive, and ensure biodiversity recovers.**



**Our environmental emergency is more than 1.5°C. It is about building a truly sustainable economy and society. A transition that is just, equitable, and inclusive. That's why it's now for nature.**

We need to think big: redesign and truly transform our economies to rapidly reduce emissions, increase the resilience of infrastructure and communities, and protect global nature. This is our chance to reimagine where we want to go as a society, and lots of the case studies in this report from leading companies show this taking place.

In August 2021, the IPCC scientists released their starkest warning yet, that we are at imminent risk of hitting 1.5 degrees in the near term. The only way to prevent exceeding this threshold is by urgently stepping up our efforts, and pursuing the most ambitious path.

It is encouraging that against this backdrop, CDP reported a huge 35 percent increase in disclosures in 2021. More than 13,000 companies, including 2,400 in Europe worth 74 percent of European market value, disclosed their environmental data through CDP.

Last year's COP26 summit took place in the shadow of the IPCC report's warnings and underlined the need for a step change if we are to have any chance of reaching 1.5°C.



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# FOREWORD

As this report shows, European corporates are rapidly increasing their ambition on climate and driving global growth in science-based targets. But with still fewer than 1 in 5 European companies now on a 1.5°C pathway, there is no doubt that ambition must spread more widely across the economy if we are to ensure long-term financial and planetary stability. This report makes it starkly clear that we have leaders, and we have laggards, with a small cohort of companies being responsible for most of the positive change in our economy.

Our environmental emergency is more than 1.5°C. It is about building a truly sustainable economy and society, for people and planet. Driving a transition that is just, equitable, and inclusive. And that's why it must be now for nature.

This is about systemic transformation through concrete actions. Phasing out all fossil fuels and low-carbon technologies, but simultaneously completely ending deforestation, protecting our ecosystems and biodiversity, and compelling all economic actors to exist within our planetary boundaries and contribute with a net positive impact.

Our analysis shows we're far off and companies are letting their wider environmental impacts go unrecognized. Business risks on water and on forests are not getting the same attention as climate, both in the real economy and our financial system. Just 5 percent of companies that should do actually have robust targets to cut their emissions, their water withdrawals, and get to zero-deforestation. This must change fast and companies' impacts on nature embedded fundamentally into their strategies.

Progress is possible when everyone has the tools they need and are working together. The challenge ahead of us is huge, but I am confident. The European Green Deal is moving into implementation; the European Climate Pact is mobilizing citizens and communities to drive concrete actions to build a greener continent. Arguably this transformation will mean investing a relatively low percentage of our GDP the right way. The pandemic has shown that we can respond when we need to. The decade of delivery is now well underway; we need to accelerate the rate of change.

CDP will continue to play a transformational role in driving environmental disclosure and action from businesses, financial institutions, local governments, and policymakers in Europe. In our new 2021–2025 strategy, accelerating the rate of change, we've set out how we're responding to the interlinked crises of climate change and an irreversible loss of nature and habitats. This report shows strong progress being made, but we need to do more and do it faster. The Earth's future is in our hands. Humanity's future is in our hands.

## THE TIME IS NOW – IT'S NOW FOR NATURE.

On behalf of CDP Europe, I'd like to extend our thanks to the brilliant Oliver Wyman team for their collaboration again on this report, and, in particular to the team leading the analysis and the wider group providing input and expertise into the process.





# EXECUTIVE SUMMARY

European companies have an enormous environmental footprint extending far beyond Europe's borders. The emissions created by companies' value chains are about six times more than their "direct" operational emissions, and their supply chains reach deep into countries with high rates of deforestation and water stress.

Companies' impacts on climate and nature are inextricably linked — and need to be addressed in collaboration with suppliers and other stakeholders along the value chain. Drawing from CDP's 2021 climate change, forests, and water security questionnaires, this report looks at how far Europe's companies are turning lofty goals into concrete actions. While it identifies areas of real progress, the report finds that in each case, leadership is concentrated among a minority of companies and that very few companies are leading on all their impact areas.

## Climate: accelerating ambition has yet to translate into accelerating action

The number of European companies with approved science-based targets (SBTs) grew by 85 percent last year, as Europe contributed over half of all global SBTs set in 2021 by companies disclosing to CDP. Around 34 percent of European Scope 1 and 2 emissions reported to CDP are now covered by SBTs, which are also becoming more ambitious as more companies align targets with 1.5°C. So far, only 16 percent of European companies have set 1.5°C aligned targets, but if all companies publicly committed through the SBTi set such targets, annual reductions would be equivalent to 300 to 450 MN tonnes CO<sub>2</sub>e — equivalent to France and Netherlands combined.<sup>1</sup>

However, accelerating ambition has yet to translate into accelerating emissions reductions. COVID-19 clouds the picture on reported emissions, but after adjusting for the impacts on economic activity, there is no clear evidence of a step change in reducing emissions.

## Building momentum in financial services and the focus on delivery

2021 saw rapid growth in financial sector commitments under the banner of the Glasgow Financial Alliance for Net Zero (GFANZ), established ahead of COP26. In banking, for example, GFANZ members now represent 87 percent of the balance sheet of the top 50 banks in Europe.

All GFANZ members have committed to report and set targets for reducing their portfolio emissions, and there is evidence they are now taking steps. The share of European financial institutions disclosing portfolio emissions increased by 50 percent compared to 2020 — to 44 percent — and levels of engagement with portfolio companies are increasing as well: almost a third encourage, or plan to encourage, their portfolio companies to set an SBT, contributing to the acceleration in ambition.

## Nature as a blind spot

Nature is rising up the corporate agenda but does not yet see the same levels of activity and attention as climate. As a share of revenues, reported climate risks are on average 10 times larger than water risks and 5 times larger than forest risks.

Some of the largest nature-related risks are found in supply chains, where companies have high exposures to deforestation or water scarcity but low levels of engagement with their suppliers. Less than a quarter of companies with supply chains in high deforestation-risk countries have a best practice zero-deforestation commitment — and typically less than half of those sourcing soy, palm oil, beef, and cocoa have comprehensive traceability systems in place. On water security, only 27 percent of companies engage more than half of their suppliers in countries with high water stress.

Among companies responding to all CDP questionnaires — climate change, forests, and water security — just 1 in 20 have a science-based target, a target for water withdrawals and a best practice forests-related commitment that includes zero-deforestation.

As expectations from regulators, markets, and societies increase, companies with significant nature blind spots face greater risks.

## The opportunity of broader leadership: halving emissions

A recurring pattern is that leadership in reducing impacts has been confined to a small number of companies. This is generally the case whether looking at action on climate, forests, or water security and is especially true for value chain engagement.

This presents a significant opportunity for a step change in action if trailing companies are willing to catch up with the leaders. Nowhere is this opportunity starker than in the case of operational emissions, where leading companies outperform peers by significant margins. The best companies have emissions intensities as much as 60-80 percent below their sector average.

This gap is a 400-megatonne opportunity. Were all companies to match the progress of their sector leaders, it would reduce European companies' operational emissions by 40–50 percent — roughly equivalent to the UK and Ireland's annual emissions combined.

## General information about this report

**Timing of the report:** This report uses information from the 2021 CDP climate change, forests, and water security questionnaires.

**Companies included in the analysis:** This report covers data from 1,228 companies disclosing through CDP to the CDP climate change questionnaire in 2021, 267 of companies disclosing on water security, and 148<sup>2</sup> companies on forests. The report sample includes all investor-requested companies in addition to self-selected companies.<sup>3</sup> All companies are headquartered in one of the EU member states, the European Free Trade Association countries, or the United Kingdom of Great Britain and Northern Ireland. The European companies disclosing to CDP represent approximately 74 percent of the total European market capitalization. See [here](#) for a full list of companies.



# FROM AMBITION TO ACTION







# 24%

**of European companies disclosing to CDP now have approved science-based targets**

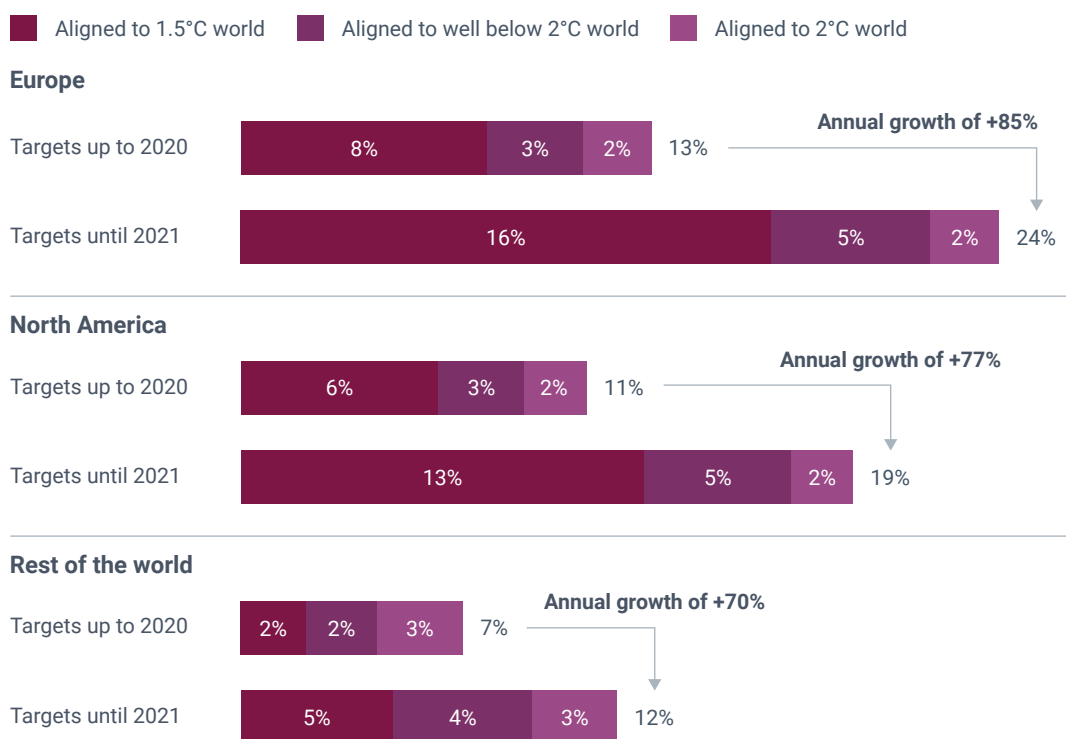
## Increasing ambition

Europe's companies are leading the world on the road to 1.5°C. There is a rapid growth in the number of companies committing to set science-based targets, as well as a ratcheting up of ambition by those setting targets as more of them aim for the 1.5°C goal.

Among companies disclosing to CDP in 2021, the number of European companies that have set a science-based target (SBT) for their emissions grew 85 percent from the year before. Meanwhile, the growth in companies joining the SBTi grew 148 percent. These growth rates were faster than that of North America or the rest of the world, despite a higher starting point. (See Exhibit 1 and Exhibit 2.)

### Exhibit 1: The number of companies setting science-based targets is growing rapidly

% of companies reporting to CDP with SBTs by region, 2020–2021



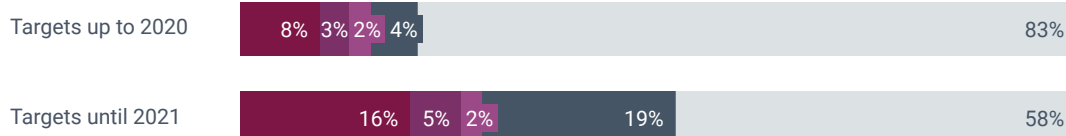
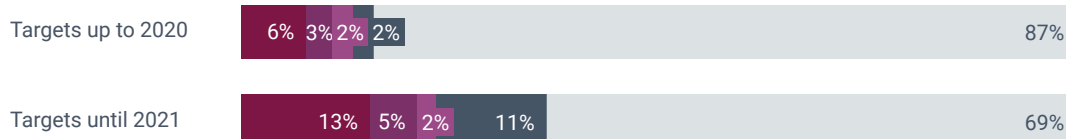
Note: This research is based on SBTi data for the firms included in the global CDP data sample (3,365 companies).

Source: Oliver Wyman analysis; CDP data; SBTi data (status as of 7<sup>th</sup> Feb. 2022)

**Exhibit 2: The number of companies setting and committing to SBTs is growing rapidly**

% of companies reporting to CDP with SBTs by region, 2020–2021

■ 1.5°C aligned   
 ■ Well-below 2°C aligned   
 ■ 2°C aligned  
■ SBTi-committed companies   
 ■ Not part of SBTi

**Europe****North America****Rest of the world**

Note: This research is based on SBTi data for the firms included in the global CDP data sample (3,365 companies).

Source: Oliver Wyman analysis; CDP data; SBTi data (status as of 7<sup>th</sup> Feb. 2022)

**SBTi AND 1.5°C**

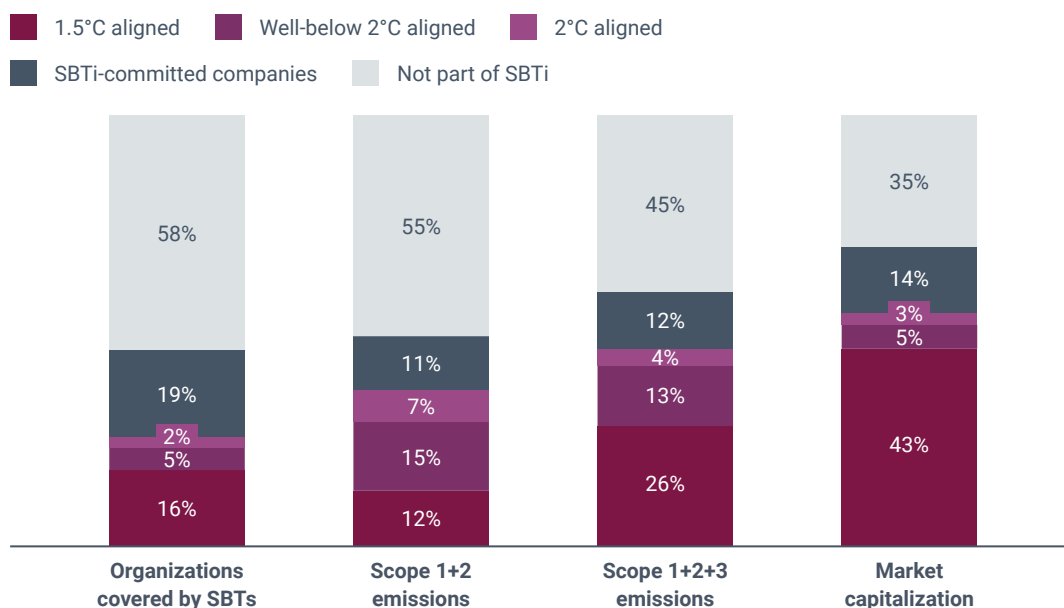
To assess emissions reduction targets, CDP uses metrics developed by the Science Based Targets initiative (SBTi), a collaboration between CDP, the United Nations Global Compact, the World Resources Institute, and WWF. Reflecting the urgent scientific need to align the economy with 1.5°C, the SBTi [announced](#) it would only accept 1.5°C targets from June 2022.

**EUROPEAN CLIMATE PACT**

Within the framework of the European Green Deal, the European Climate Pact is a European Commission initiative bringing citizens, companies, and local authorities together to achieve a climate neutral Europe. European stakeholders join the European Climate Pact by making a pledge to concrete climate and environmental action in a way that can be measured and tracked. Joining the Pact lets companies and local authorities to share their transition journey with their peers and collaborate with other actors towards common targets. Reporting through CDP allows organizations to fully track progress against their sustainability strategy and showcase their growing climate and environmental leadership on the [European Climate Pact](#) website.

The companies that have set an SBT account for 34 percent of the Scope 1 and 2 emissions of the 1,228 companies disclosing to CDP in Europe. A majority of companies by market capitalization are now SBT-approved (51 percent). European corporations represent more than half the new commitments made globally last year. (See Exhibit 3.)

**Exhibit 3: The number of companies setting and committing to SBTs cover a significant share of companies, emissions, and market capitalization**



Note: This research is based on SBTi data for the firms included in the global CDP data sample (1,228 companies).

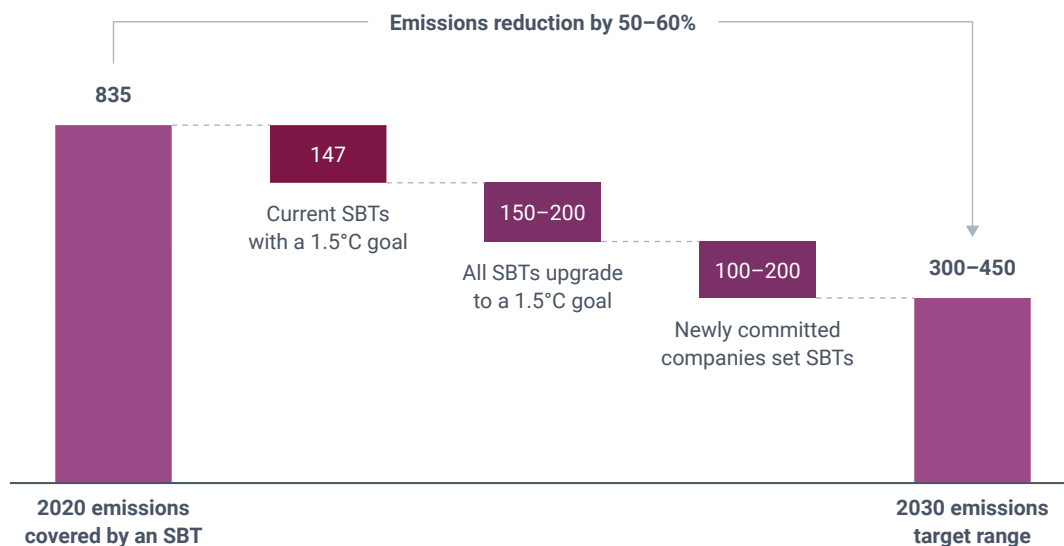
Source: Oliver Wyman analysis; CDP data; SBTi data (status as of 7<sup>th</sup> Feb. 2022)



**300–450 MtCO<sub>2</sub>e**  
Emissions equivalent to France and the Netherlands annually will be cut by companies part of the SBTi.

As momentum has grown around net-zero, the ambition level of targets that are being set has also increased. Around 80 percent of the newly committed targets are now 1.5°C aligned. The level of reduction targeted varies across sectors, but on average it was around 50 percent for Scope 1 and 2 emissions reduction. Going forward, all SBTs will only be approved in line with 1.5°C, and corporates can begin to have their science-based net-zero targets approved by the SBTi.<sup>4</sup> Using the reduction targets by those companies in each sector who have already set 1.5°C targets as a guide, we estimate that additional reductions across those committed to the Science Based Targets initiative (SBTi) are in the range of 300 MN–450 MN tonnes CO<sub>2</sub>e, equivalent to the France and Netherlands' combined annual emissions. (See Exhibit 4.)



**Exhibit 4: Projected emissions reductions of European companies part of the SBTi**Scope 1 and 2 emissions of companies with SBTs, MN tonnes CO<sub>2</sub>e, current year

Note: This analysis is based on SBTi data for the firms included in the global CDP data sample (3,365 companies). For companies that have multiple SBT targets in the SBTi data, the one with the lowest temperature alignment is taken into consideration. This analysis takes all SBTs into account with a target date set on or before 2030.

Source: Oliver Wyman analysis; CDP data; SBTi data (status as of 7<sup>th</sup> Feb. 2022)

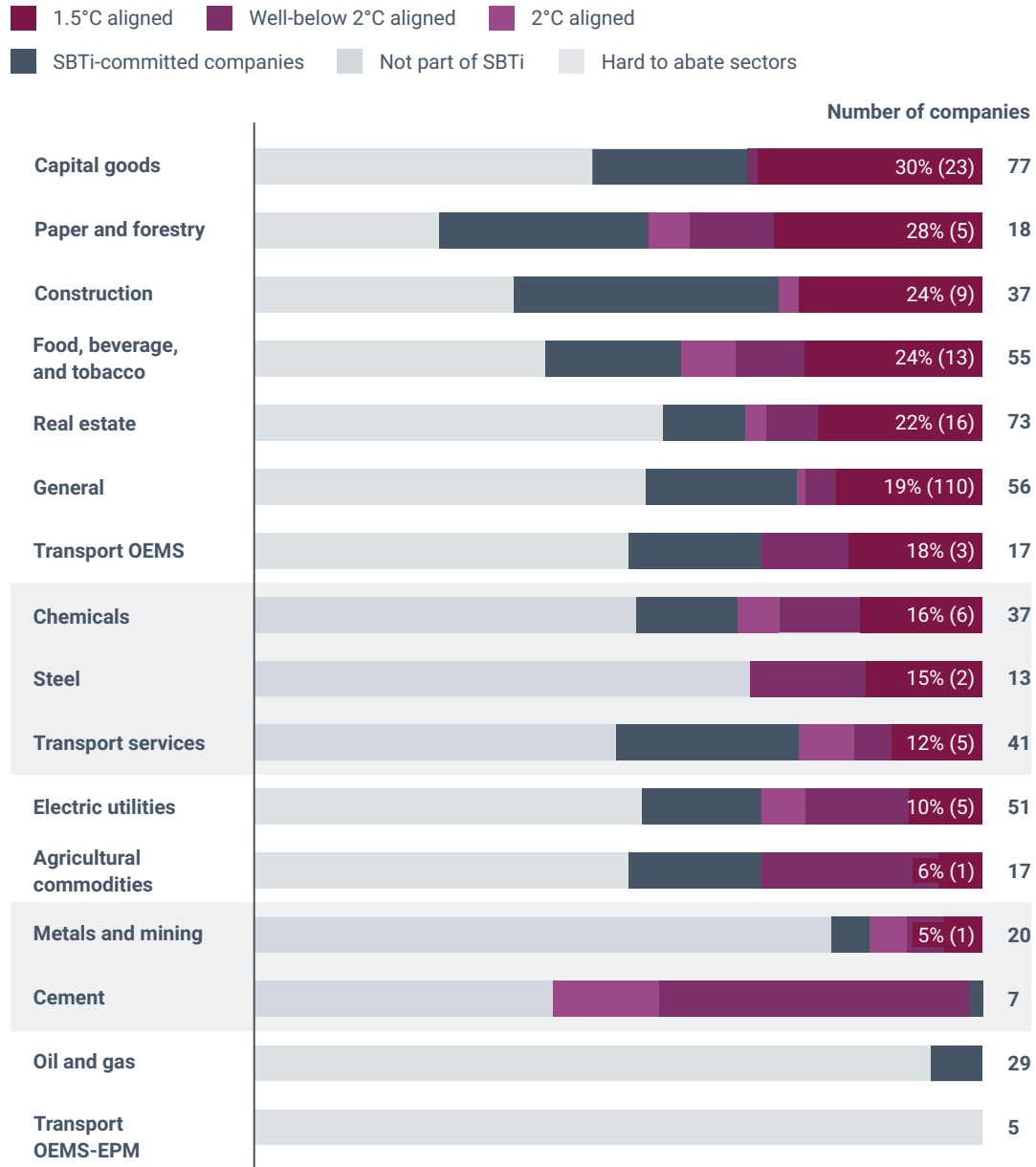
**Still a big gap to bridge**

Despite this progress, Europe remains significantly off track. Some 84 percent of European companies have yet to set a 1.5°C-aligned SBT, and 77 percent have yet to set an SBT of any kind. (See Exhibit 3.) Getting Europe on track will require a further broadening of the movement.

A growing focus from policymakers and finance providers on hard-to-abate sectors, where alignment to 1.5°C is lagging, creates a further opportunity to raise the ambition. In sectors such as steel, cement, and transport services, decarbonizing at a rate consistent with a 1.5°C-aligned pathway will depend on the commercialization of breakthrough technologies such as green hydrogen and CCUS. This increases the challenge and contributes to comparatively low levels of ambition in these sectors. For example, companies in hard-to-abate sectors are around 25 percent less likely to have a 1.5°C SBT; in some sectors, such as cement, no company reported a 1.5°C SBT.<sup>5</sup> (See Exhibit 5.)

### Exhibit 5: Adoption of 1.5°C-aligned SBTs is lower in hard-to-abate and fossil fuel-dependent sectors

# and % of companies, 2021



Source: Oliver Wyman analysis; SBTi data (status as of 7<sup>th</sup> Feb. 2022)



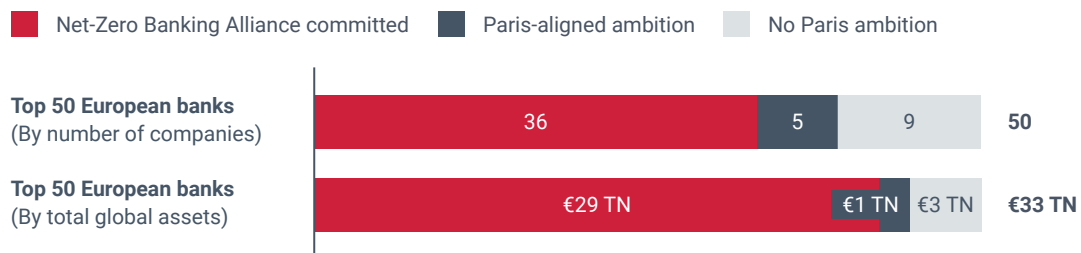
### Building momentum in the European financial sector

Perhaps the most important driver of future ambition among European corporates is the increasing ambition to align financial capital to net-zero and 1.5°C. This will create incentives for companies in the real economy to follow suit — as the stock of financial capital needing to align to 1.5°C grows, companies with 1.5°C SBTs can expect to access capital on more favorable terms.

In the run up to COP26, the Glasgow Financial Alliance for Net Zero (GFANZ) brought together a broad coalition of financial institutions committed to setting concrete targets to sharply reduce the emissions associated with the activities they finance. In banking, for instance, 36 of the top 50 European banks are now members of the Net-Zero Banking Alliance (NZBA), part of GFANZ. Since many of the largest banks have signed up, NZBA members now account for 87 percent of the global assets of the top 50 banks in Europe. This commits them to set net-zero-aligned targets for nine high-emission sectors over a two-year period, as well as to disclose the overall emissions that they are financing. (See Exhibit 6.)

#### Exhibit 6: Almost all major European banks are committed to material climate action

# of companies, € TN of total global assets by climate commitment, 2021



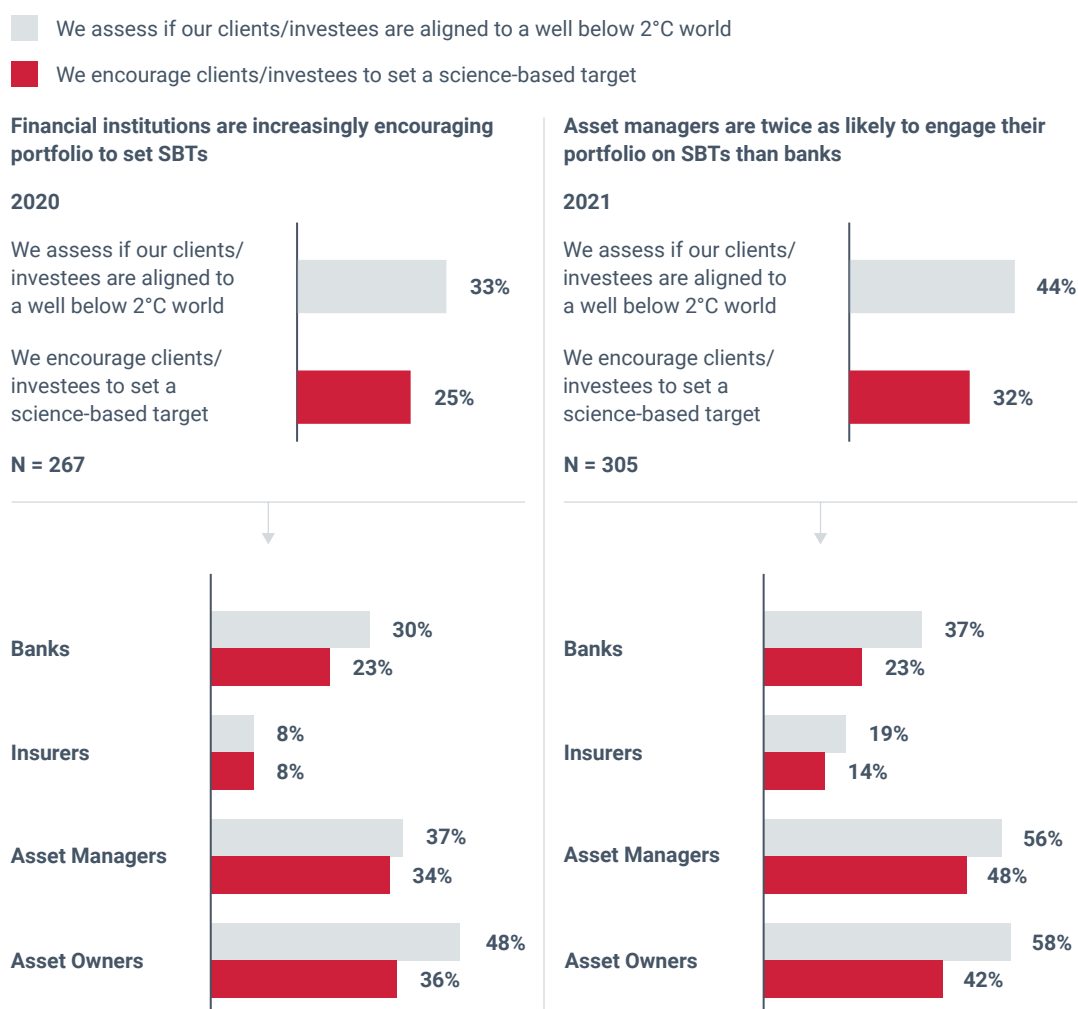
Source: Oliver Wyman analysis; Capital IQ; NZBA; The Principles for Responsible Banking



For financial institutions to meet these targets, they must work with their clients to help them drive emissions reductions and reshape their businesses, and shift their portfolios towards companies that are making the greatest reductions in emissions. Growing numbers of financial institutions are doing just that. Almost a third of European financial services companies are encouraging, or planning to encourage, their portfolio companies to set an SBT, for example through the CDP [Science-Based Targets Campaign](#) (see INFO-BOX (i)). Roughly 44 percent of financial institutions are now assessing if their clients are aligned to a well below 2°C world. Investors are applying the most pressure, followed by banks and then insurers. (See Exhibit 7.)

**Exhibit 7: Asset Managers play a vanguard role on climate engagement being twice as likely to engage their portfolio on SBT-alignment than banks and four times more than insurers**

% of financial institutions, 2020–2021



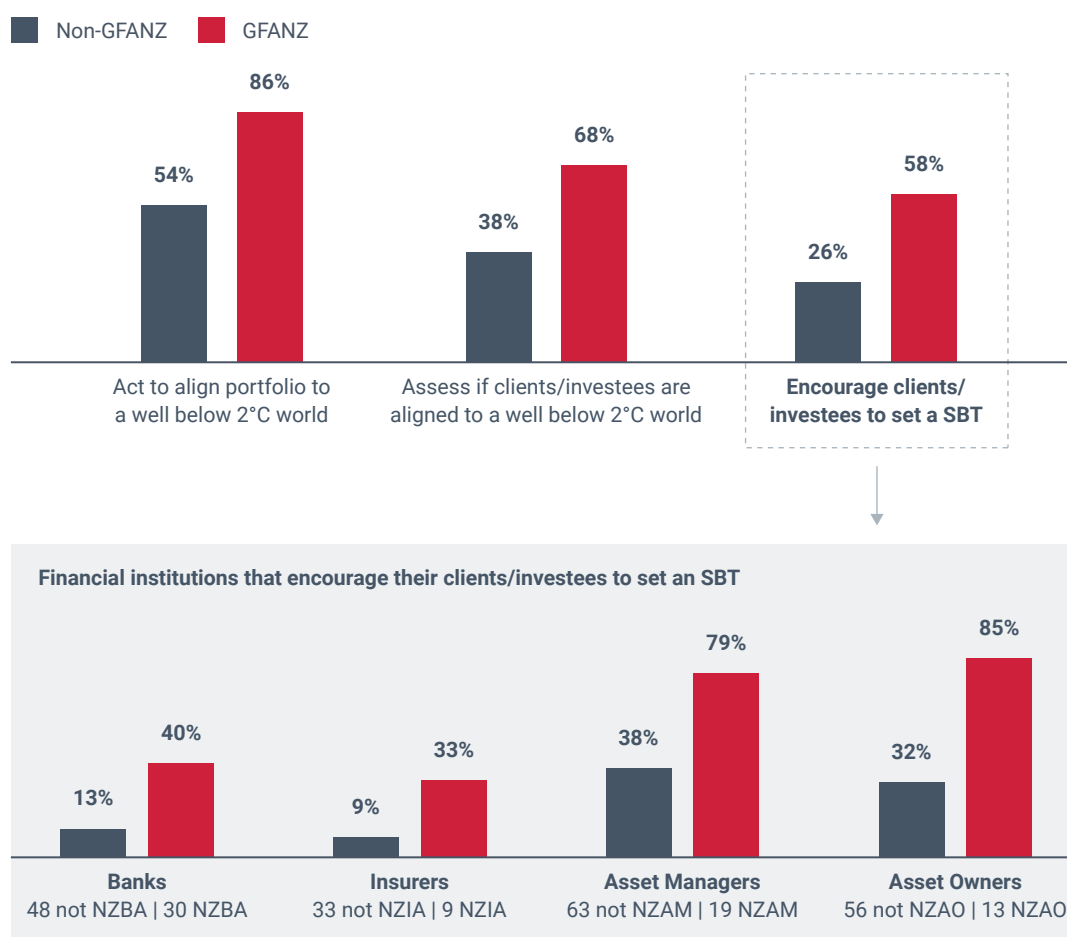
Source: Oliver Wyman analysis; CDP data; CDP SBT Campaign data

Financial institutions that have joined GFANZ reported the highest levels of client engagement. For instance, banks part of the Net-Zero Banking Alliance (NZBA) are three times more likely to encourage their clients to set SBTs than banks that have not joined. Insurers that subsequently signed up to the Net-Zero Insurance Alliance (NZIA) were nearly four times more likely than their peers to engage clients on this topic. (See Exhibit 8.)

#### Exhibit 8: GFANZ-committed institutions are more than 2x as likely to encourage their portfolio to set SBTs

% of financial institutions taking actions, 2021

GFANZ: Glasgow Financial Alliance for Net Zero

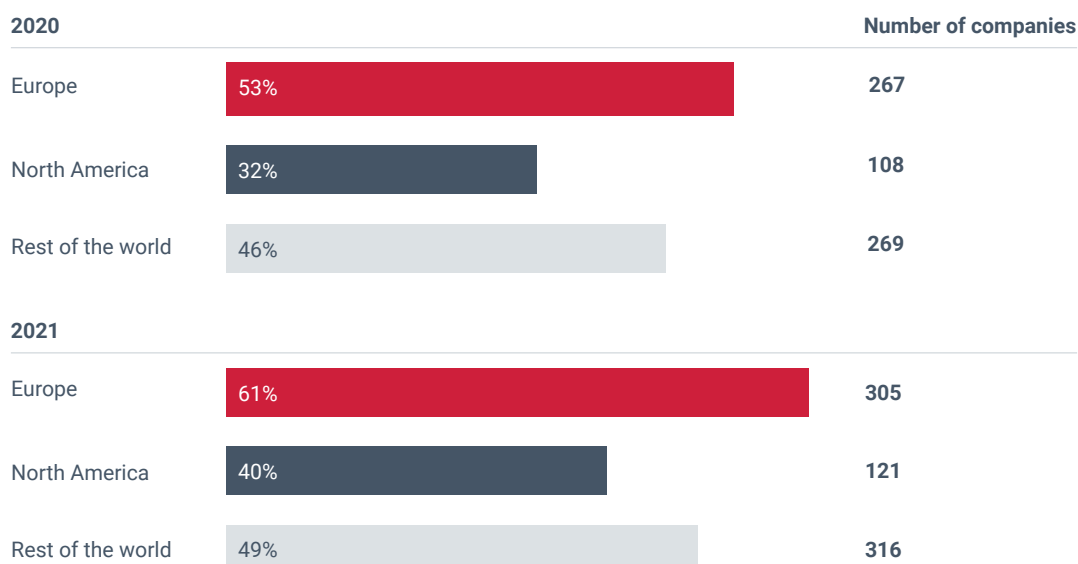


Source: Oliver Wyman analysis; CDP data

On this issue again Europe is leading the way. Some 61 percent of European financial institutions reported to be taking action to align their portfolios with the Paris Agreement compared to 40 percent in North America. Significantly, however, GFANZ is global, and many of the largest global financial institutions active in financing European companies are also members. (See Exhibit 9.)

#### Exhibit 9: European financial institutions are leading the world on aligning their portfolios to Paris Agreement

% of financial institutions that are taking actions to align their portfolio to a well below 2°C world, 2020–2021



Source: Oliver Wyman analysis; CDP data

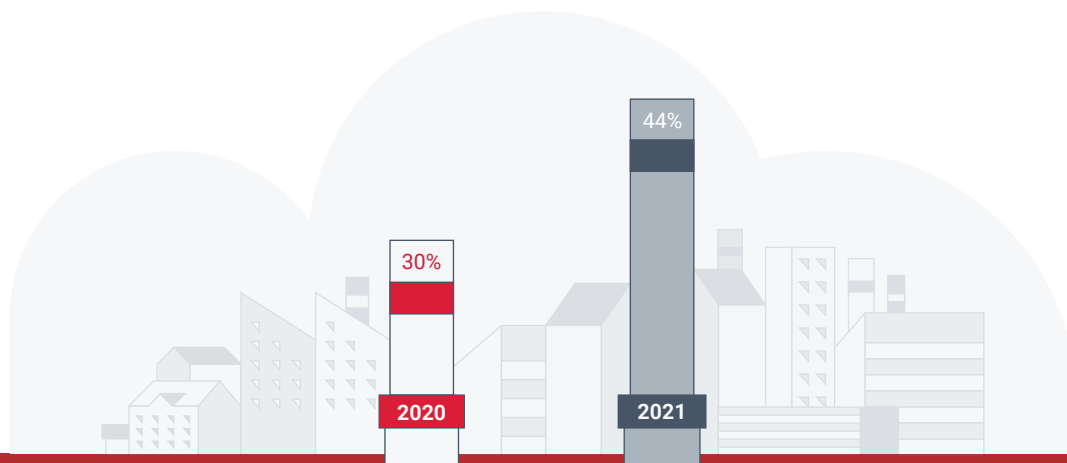
**only 27%**  
of disclosing financial institutions disclosed emissions for at least 50 percent of their portfolio

Importantly, financial institutions' own performance in meeting their targets will be based on the emissions associated with their portfolio and its alignment with the 1.5°C limit on warming. Fundamental to this is disclosing financed emissions fully. There has been a notable uptick in financial institutions reporting their financed emissions, from 30 percent in 2020 to 44 percent in 2021. (See Exhibit 10.) However, only 27 percent of disclosing financial institutions disclosed emissions for at least 50 percent of their portfolio. Financed-emissions reporting must increase further as the net-zero commitments of financial institutions require this disclosure.



**Exhibit 10: Disclosure of 'financed emissions' by the European financial sector has grown by almost 50%**

% of financial institutions reporting financed emissions, 2020–2021



Source: Oliver Wyman analysis; CDP data

Financial institutions will be keen to partner with companies to support them through the transition, and not simply to divest from companies. However, as they consider new investments and financing, they will be more focused both on companies' current emissions and the credibility and rigor of plans to drive them down. For example, La Banque Postale, the only European bank to have set a 1.5°C science-based target, is accelerating its net-zero commitment to 2040 (see case study on La Banque Postale).

**INFO-BOX i: CDP SBT CAMPAIGN**

The [CDP Science-Based Targets Campaign](#) is an annual capital market engagement campaign coordinated by CDP which, in 2021, brought together 220 global financial institutions with \$29 trillion in assets to request 1,600+ high-impact companies to set 1.5°C targets through the SBTi. The companies are directly engaged through a joint letter sent by CDP to corporate CEOs. Some 56 percent of companies that set targets during the previous campaign (2020–2021) [reported to CDP](#) that the engagement had a direct impact on their decision to set an SBT, demonstrating the collective engagement power of global finance. About 17 percent of European financial services companies responding to CDP were signatories to the campaign in 2021.

Financial institutions can register [here](#) for the 2022 campaign.

## CASE STUDY

### LA BANQUE POSTALE

Established in 2006, La Banque Postale is among Europe's largest but youngest banks, and has some of the world's most ambitious environmental targets. In 2021, it became the only European bank with an approved science-based target (SBT), covering 85 percent of its portfolio. A founding member of the Net-Zero Banking Alliance, La Banque Postale is accelerating its net-zero commitment to 2040, and it will exit coal, oil, and gas by 2030, unless a company has a scientifically credible plan to exit the sector.

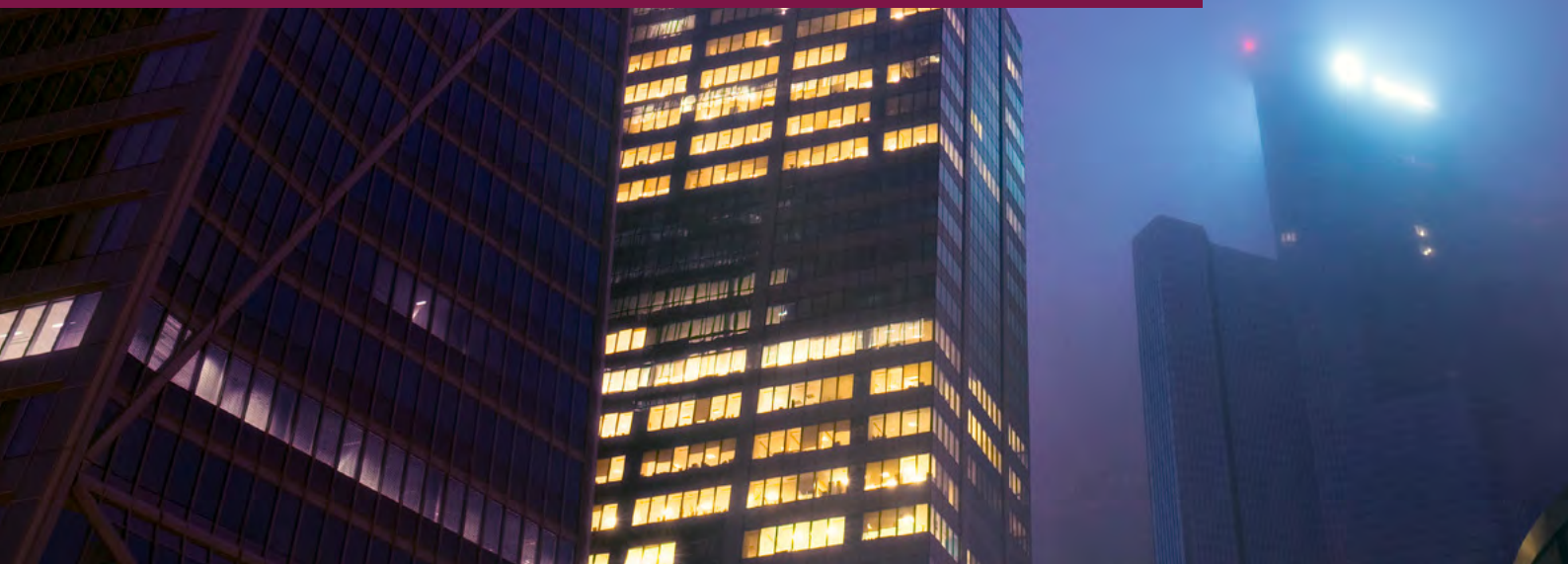
With comparatively low exposure to high-emitting sectors, the targets may seem less complicated to reach than for more heavily exposed banks. But they are not without challenge.

The bank aims to halve its residential mortgage emissions by 2030. To succeed, the bank will need much better data, for example energy consumption on the impacts of home-improvement loans.

La Banque Postale is forfeiting commercial opportunities in fossil-fuel sectors, partly as it believes these assets will become stranded and partly to allow greater focus on companies and projects that drive the transition to a net-zero economy.

To reach its goals, La Banque Postale is reliant on a corporate-debt market that is currently moving too slowly. More companies with credible targets are needed to enable La Banque Postale to improve the temperature trajectory of its corporate-loan book from 3.1°C to 2.1°C by 2025. To reach its goals and to operationalize actions and policies, the bank will need to raise its business expertise internally on climate and broader ESG issues.

At the heart of the strategy to translate ambition into action is an impact weighting factor, which will assess how far deals align with its targets. Launching with a POC in the first part of 2022, this tool will assess both the project and the counterparty. It will be used to greenlight all decisions and track the impact of its business beyond the financial return, including the bank's impact on the SDGs. Criteria will cover a broad environmental scope, including whether clients have science-based targets, biodiversity, and water metrics — as well as social impacts such as human rights and local impacts such as jobs creation.



# 1.5%

**European corporate emissions (Scopes 1 and 2) declined at an average annual rate of just 1.5 percent between 2017–2019**

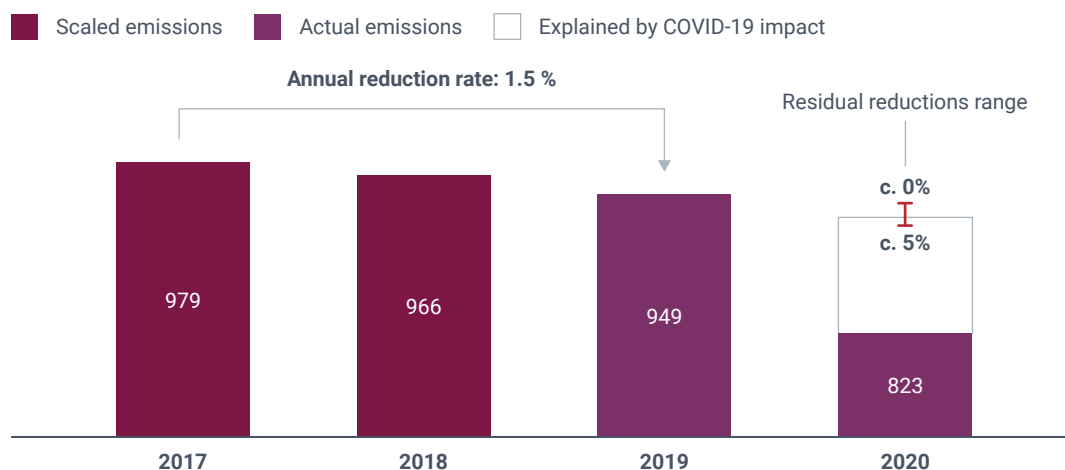
## Focusing on delivery

Shifting the focus from pledged emissions reductions to delivered emissions reductions paints a more concerning picture. Near-term reductions are critical if ambitious emissions targets are to remain within reach, but CDP data reveals that European companies have not been reducing their emissions at the rate needed. From 2017 to 2019, European corporate emissions (Scopes 1 and 2) declined at an average annual rate of 1.5 percent, well below the cross-sector reduction range (4.2–6.0 percent) required in SBTi 1.5°C-aligned scenarios.

This picture changed dramatically in 2020, when emissions collapsed by 13 percent. However, this can be explained by the sharp contraction in economic activity brought about by the COVID-19 pandemic. Much of the pandemic's impact on sectoral emissions can be attributed to some combination of three related factors: reduced travel, reduced industrial output, and reduced power demand. We estimate that in combination and across all sectors, these shifts in economic activity can explain from 70–97 percent of 2020's emissions reductions, although the picture varies significantly from sector to sector (see assumptions in INFO-BOX (ii) and the Appendix). This suggests that underlying emissions reductions were somewhere in the range of 0 to 5 percent and it is reasonable to assume a continuation of historical trend rather than a step change in delivery. This finding is corroborated by analysis from the Global Carbon Project, which estimated that Europe's economywide emissions rebounded by 7.6 percent in 2021 after falling 10 percent in 2020 – implying an underlying trend of around 1.5 percent per annum (Global Carbon Project, 2021).<sup>6</sup> (See Exhibit 11.)

### Exhibit 11: Underlying emissions reductions are in line with the historical trend

MN tonnes CO<sub>2</sub>e, 2017–2020



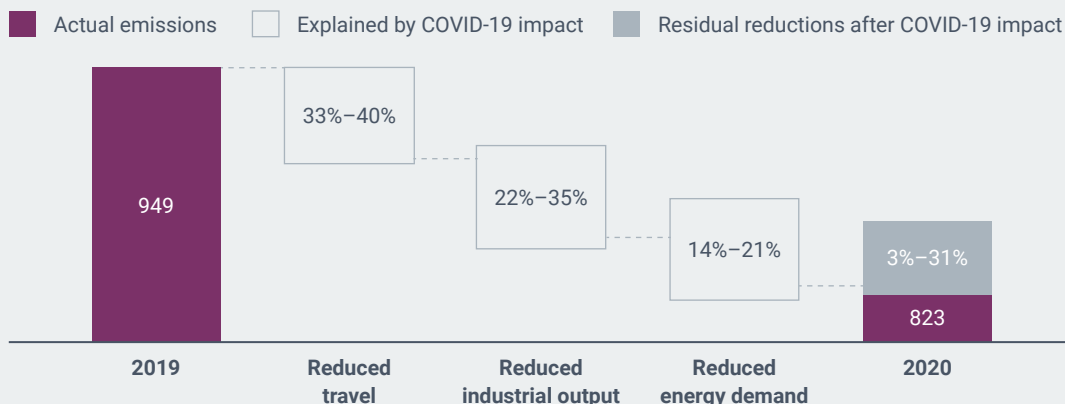
Source: Oliver Wyman analysis; CDP data

## INFO-BOX ii: UNDERSTANDING THE IMPACT OF THE COVID-19 PANDEMIC ON CORPORATE EMISSIONS

The COVID-19 pandemic caused significant economic disruption through reducing travel movements, industrial output, and energy demand. A large part of the 2020 emissions reductions can be attributed to this contraction of economic activity. Sector-level demand proxies (such as the number of European flights) are used to obtain an estimate on COVID-19's impact on economic activity to explain which part of the observed emission reductions can be attributed to reduced demand rather than underlying emission reductions.

### Exhibit 12: Reductions in travel, industrial output and power demand can explain nearly all reported emissions reductions

MN tonnes CO<sub>2</sub>e, % total CO<sub>2</sub>e reduction, 2019–2020



Source: Oliver Wyman analysis; CDP data

#### Reduced travel

Parts of Europe's transportation services sector were hit significantly by reduced travel. For instance, the number of total flights decreased by over 60 percent during 2020, with airlines more than halving their emissions compared to the prior year (EUROCONTROL).<sup>7</sup> The transportation services sector accounted for slightly over 10 percent of total emissions reported to CDP in 2019. Therefore, around a third to up to 40 percent of 2020 emission reductions can be explained by a reduction in travel movement.

#### Reduced industrial output

Carbon emissions fell across almost every sector in 2020, as observed in the CDP data. Reduced industrial output explains most of the emissions reductions for a number of sectors (such as capital goods, steel, metals and mining), though the exact impact varies from sector to sector. For instance, a fall in European steel production volumes of more than 12 percent can fully explain the 5 percent decline in reported emissions (Eurofer, 2021).<sup>8</sup> In contrast, a 3–4 percent reduction in food and beverage production (FoodDrinkEurope)<sup>9</sup> can only partially explain the 7 percent reduction in reported emissions. Looking across sectors, we estimate that the reduction in industrial output explains around one-fifth to one-third of total emission reductions.

#### Reduced power demand

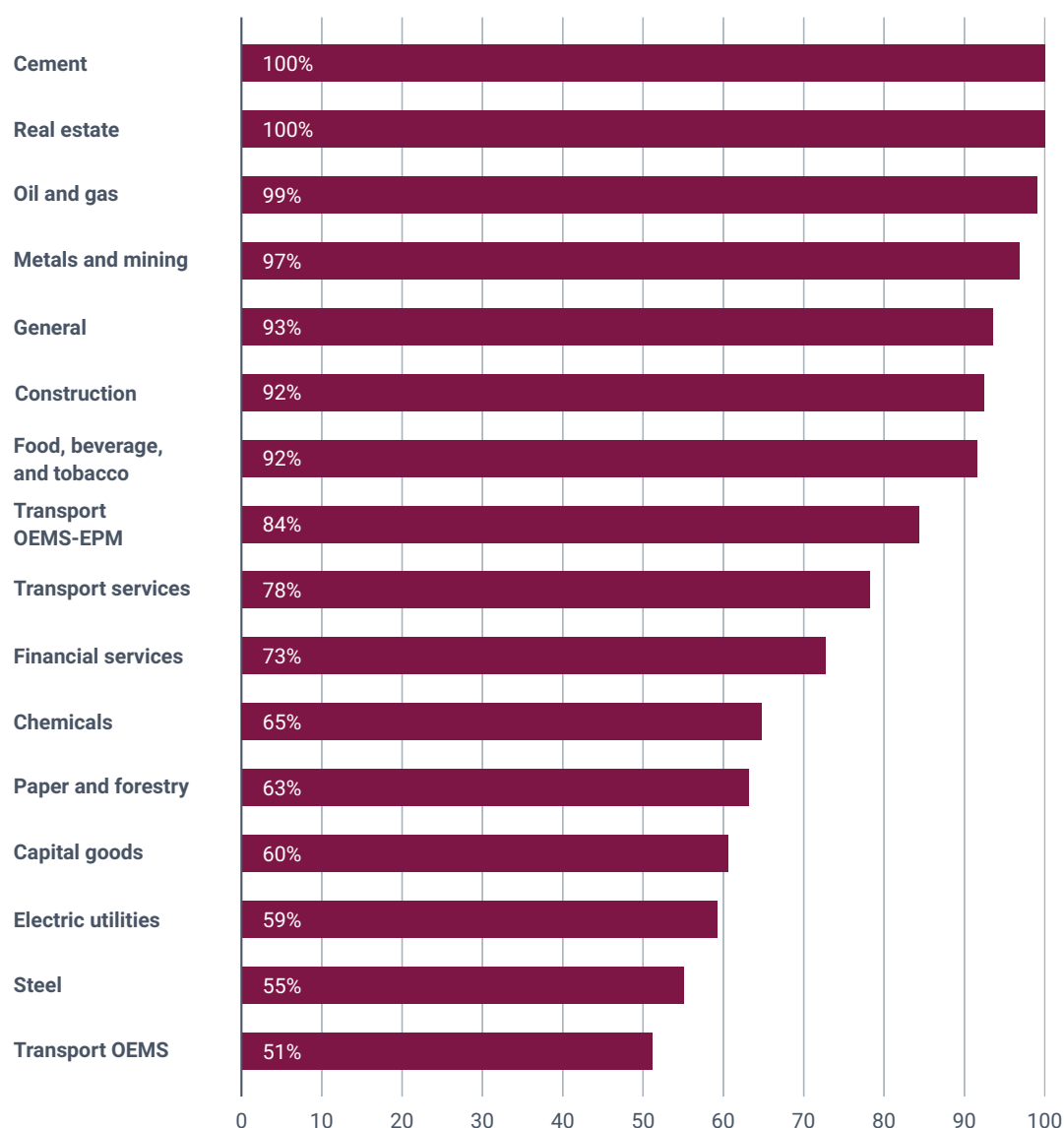
Across Europe, electricity demand fell around 3.5 percent in 2020 (IEA, 2021).<sup>10</sup> However, the cut in power sector emissions was greater because most of the reduction in generation was borne by fossil-fuel generators (Eurostat, 2021)<sup>11</sup> because their high operating costs relative to renewables meant they were curtailed first. This "merit order effect" was compounded by continued increases in renewable capacity, resulting in a significant tilt in generation towards renewables. After accounting for the effective shift in generation mix and the reduction in demand, we estimate the effects of the pandemic on power can explain around 15 percent to one-fifth of reported emissions reductions.

# THE TOP 10%

**of companies, in every sector,  
were responsible for more than  
half of the emissions reductions**

The disruption of the pandemic makes it hard to say with certainty which sectors achieved the strongest underlying emissions reductions. However, the effects of the pandemic are likely to have been more unevenly felt within sectors, where we see that most sectoral emissions reductions were typically driven by a small number of companies. In every sector, the top 10 percent of companies were responsible for more than half of the emissions reductions, and in some sectors their share was much more. (See Exhibit 13.)

**Exhibit 13: The top 10 percent of companies drove the majority of emissions reductions in all sectors**  
% of total sector emissions reduction from top 10% of companies, Scope 1 and 2, 2021



Note: Actual emission figures are based on all respondents reporting operational emission figures (Scope 1 and 2) over 2020 and 2021 (543 companies; 44 percent of total respondents).

Source: Oliver Wyman analysis; CDP data



## FEATURED CASE STUDY

### L'ORÉAL



Very early on, L'Oréal became aware of the urgent need to address the challenges arising from the global environmental crisis. As an industrial company, we decided that tackling the environmental impact of our plants and distribution centres was a necessary first step to begin our transformation.

Since 2005, we have reduced CO<sub>2</sub> emissions from our industrial sites by 81 percent — exceeding our initial target of -60 percent by 2020 (while our production volume increased by 29 percent over the same period). To achieve this, we implemented a three-pillar strategy: We reduced our energy requirements by improving energy efficiency across all our facilities (buildings, equipment, etc.), increased local renewable energy use wherever possible, and achieved the targets set for our sites without carbon offsetting projects.

Now, with our new sustainability program, L'Oréal for the Future, we want to build on these accomplishments and aim for a more radical transformation, designed to reflect the scale of the global challenges and ensure that our activities are respectful of the planet's boundaries.

On climate change, our overarching objective is to align to the 1.5°C scenario, reducing our greenhouse gas emissions of all Scopes by 50 percent per finished product (25 percent in absolute terms) by 2030, and reaching net zero emissions in 2050. To achieve this, we have set numerical targets for every aspect of our activities, which not only includes our production and distribution facilities, but also the raw material supply chain and the indirect impacts associated with the use of our products by the end-consumer.

- First, we will pursue the extensive work carried out on our sites, which will all achieve carbon neutrality by 2025 (not just industrial sites but also laboratories and administrative buildings).

- We will innovate so that our consumers can reduce, by 2030, the greenhouse gas emissions resulting from the use of our products by 25 percent compared to 2016, on average and per finished product.

- By 2030, we will reduce by 50 percent on average and per finished product the greenhouse gas emissions linked to the transport of our products, compared to 2016.

- By 2030, our strategic suppliers will reduce their direct emissions (scopes 1 and 2), by 50 percent in absolute terms, compared to 2016.

At L'Oréal, we see sustainability as a "license to operate" and have understood that it will not be possible for companies to thrive in a society that is not inclusive or sustainable. This understanding is at the core of our transformation. We have made significant progress, but we won't rest on our laurels. With our new targets, we hope to be a catalyst of change in the beauty sector; engaging our suppliers and inspiring our customers to take action with us.

**Nicolas Hieronimus, Chief Executive Officer of L'Oréal**





In the wake of COP26 and the explosion of target setting that occurred during the build-up, attention is now turning to delivery. More ambitious targets demand more ambitious action if they are to be realized, and this will require leadership on emissions to broaden from select minorities in each sector to wider majorities. Companies will need to look beyond the low-hanging fruit in their direct operations to address “harder to reach” Scope 3 emissions, working with customers and suppliers along their value chains; similarly, financial institutions will need to do more than ask their portfolio companies to set SBTs — they will need to collaborate on achieving them.



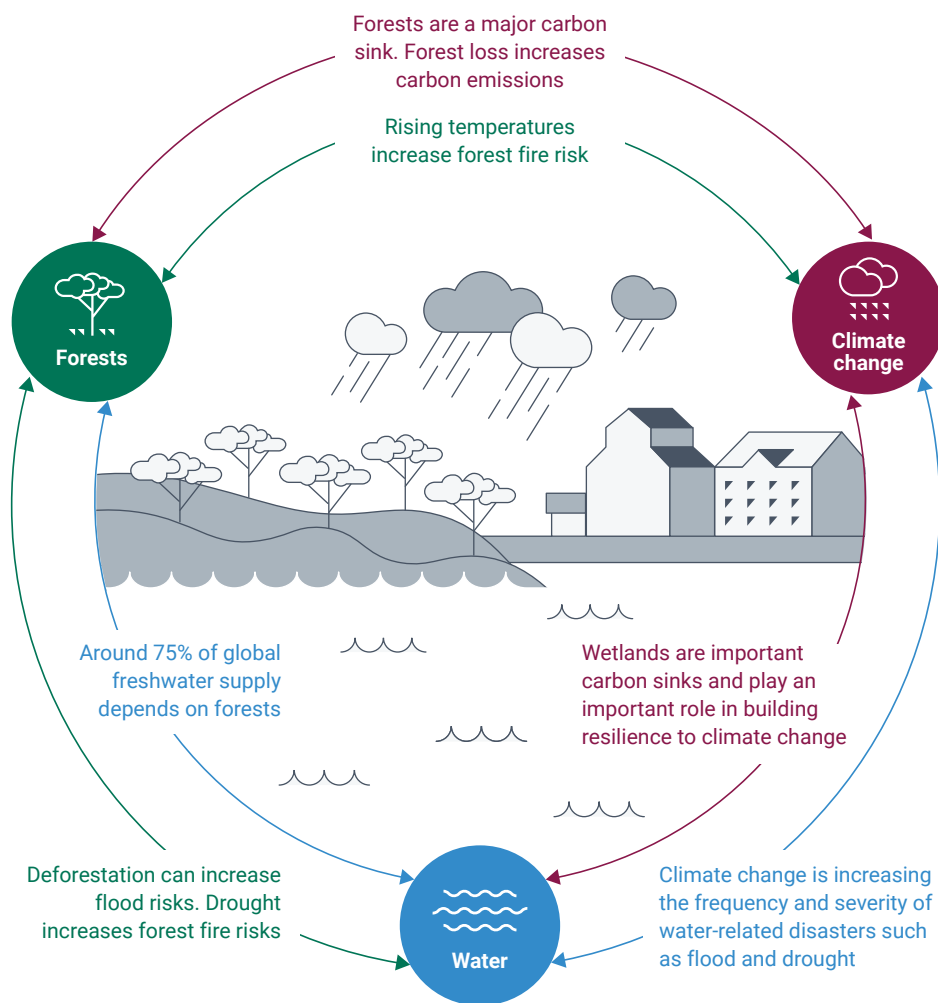


# **NATURE A NEW FRONT**



There's a growing focus on the topic of nature among business leaders and policymakers, and the important role natural systems must play in fighting climate change and building resilience. Nature was part of the agenda at COP26 for the first time, with a commitment from 137 governments to halt and reverse forest loss and land degradation by 2030. Indeed, 2021 saw the launch of the Taskforce on Nature-related Financial Disclosures (TNFD); 2022 will see the first companies begin to set SBTs for nature and the finalization of an international framework to stop nature loss at the Biodiversity COP in Kunming, China.

**Exhibit 14: Climate change, forests and water are interlinked**



Source: Oliver Wyman analysis; Science Direct: "Trees, forests and water: Cool insights for a hot world"; The Dasgupta Review; WWF; SIWI (2021): "Why water is crucial to climate mitigation"; Face the future (2019): "the contribution of forests to climate change mitigation"; USDA (2012): "Effects of Climatic Variability and Change on Forest Ecosystems: A Comprehensive Science Synthesis for the U.S. Forest Sector; David Ellison (2018): "Background study prepared for the thirteenth session of the United Nations Forum on Forests"

The attention, in part, reflects the important role natural systems play in capturing and sequestering carbon: The world will not reach net zero by 2050 unless we halt and reverse deforestation within the coming decade; similar action is required to protect soils, grasslands, and wetlands.

However, it also reflects a greater understanding of the role natural systems play in building resilience to the effects of rising temperatures. Even if the world is successful in limiting temperature increases to 1.5°C, climate change is already raising the stakes for water. Worldwide, the average number of flooding disasters has increased by more than 180 percent since 1980, and large swaths of Northern Europe are experiencing significant increases in extreme precipitation and river floods (Marsh McLennan, 2021).<sup>12</sup> Drought, and the specter of increasing water scarcity, is another symptom of climate change demanding urgent adaptation. (See Exhibit 14.)

As a result, issues relating to the environment accounted for half of the top 10 risks identified by the senior leaders of major corporations in the WEF Global Risks report in 2022, even as the economy continues to wrestle with the consequences of the pandemic, and a broad range of political risks. (See Exhibit 15.)

#### Exhibit 15: Environmental risks dominate the global risk register

1	<b>Environmental</b>	Climate action failure	6	<b>Societal</b>	Infection diseases
2	<b>Environmental</b>	Extreme weather	7	<b>Environmental</b>	Human environmental damage
3	<b>Environmental</b>	Biodiversity loss	8	<b>Environmental</b>	Natural resource crises
4	<b>Societal</b>	Social cohesion erosion	9	<b>Economic</b>	Debt crises
5	<b>Societal</b>	Livelihood crisis	10	<b>Geopolitical</b>	Goeconomic confrontation

Source: [UNEP, World Economic Forum Global Risks Perception Survey 2021–2022](#)

More broadly, a growing body of work suggests biodiversity loss and ecosystem collapse pose material risks to society, and companies will increasingly be expected to understand their impact on key natural systems, and work to ensure it is positive. Healthy nature is fundamental to human existence, because nature loss and environmental disasters disproportionately affect people in the tropics; a nature-positive economy is a prerequisite for ensuring the transformation of the global economy is just and acts as a lever to lift people out of poverty (World Social Report, 2020).<sup>13</sup>



# 5%

**of companies have robust targets for climate, forests and water**

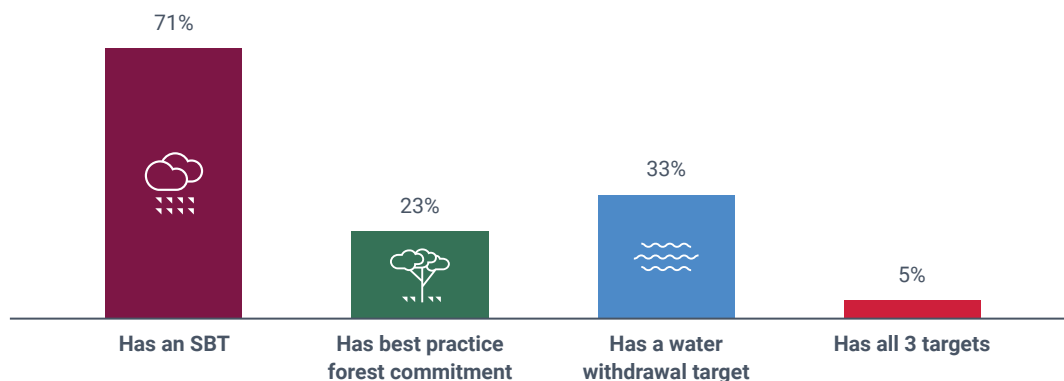


## Nature is a blind spot

In the short term, this widening agenda is likely to pose a challenge for many companies as nature tends to be a blind spot for many of them. For example, among companies responding to all three of CDP's climate, forests, and water security questionnaires, we see that while 71 percent<sup>14</sup> have set a SBT for their emissions, only a third have set a water withdrawal target and less than a quarter have set a best-practice forests-related commitment that includes a zero-deforestation commitment. Only 5 percent had all three. However, the data does suggest that companies that act on multiple environmental areas are more ambitious on climate: While only 24 percent of disclosing European companies have now set SBTs, the figure jumps to 71 percent for companies that are disclosing to all three questionnaires. (See Exhibit 16.)

**Exhibit 16: Only 5 percent of companies responding to CDP on climate change, forests, and water security surveys have set robust targets in all three areas**

% of companies with relevant targets, 2021



Note: The analysis is based on a sample of 83 companies, which includes the organizations that have answered all three CDP questionnaires.

Source: Oliver Wyman analysis; CDP data

## CDP'S NEW STRATEGY INCLUDING PLANETARY BOUNDARIES

In 2021, CDP launched its new strategy, "Accelerating the rate of change," which recognizes the urgent need to ensure companies, cities, states, and regions have concrete plans for delivering on their stated commitments and providing evidence of progress against those goals. CDP recognizes that accountability is critical to ensure we halve emissions, become nature positive by 2030, and achieve net-zero emissions and full nature recovery by 2050.

As part of this, CDP will expand its definition of the "E" in environmental, social, and governance (ESG), to cover planetary boundaries, including oceans, land use, biodiversity, food production, and waste. Through this expansion of its proven disclosure system, CDP is set to be the definitive mechanism to track the nature, extent, and speed of corporate, city, state, and regional action against their commitments and impact on the global environment.

## FEATURED CASE STUDY

### SYMRISE AG



Symrise assumes responsibility and places sustainability at the core of its business activities along its entire value chain. The Holzminden-based Group is particularly committed to protecting the climate, water, and forests and is one of the world's leading companies in these areas. It was the only company in Germany to receive a "Triple A," the top score from CDP, in 2021 — for the second time in a row. We are delighted about this success and see it as a motivation to continue to drive forward our sustainability activities.

We want to set standards for the protection of the climate, water, and forests, and to promote the preservation of biodiversity. Because we use many raw materials from nature, this effort is a cornerstone that ensures continued raw material availability for our products.

With a clearly defined action plan, we aim to have climate-positive operations starting in 2030. From that point forward, our business activities are expected to contribute to preventing or sequestering more greenhouse gas emissions from the atmosphere than we produce through our operating activities. To accomplish this, we want to increase the energy efficiency at our production sites. This allowed us to save more than 68,000 tons of CO<sub>2</sub> in 2020.

We have been purchasing all our external electricity worldwide from verifiably renewable sources since 2020. As an intermediate goal, by 2025 we also want to increase the eco-efficiency of greenhouse gas emissions by 63 percent compared to 2016.

And we integrate our most important suppliers into the Symrise climate strategy via the CDP Supply Chain Program. By now, 87 percent of our main suppliers have committed to their own climate targets and reduction measures on our initiative, meaning Symrise has far exceeded its Science Based Target (SBT) of 80 percent.

Symrise reports transparently about its climate protection measures and their preliminary results. At the same time, we do not lose sight of the risks and opportunities that can arise for us as a result of climate change. We follow the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), systematically identify the possible effects in our risk management, and include them in our strategic considerations and the financial planning. Our scenario analyses in the areas of climate change, water, and forests for the CDP reporting are consistent with the recommendations of the TCFD. In our Sustainability Record 2020, we also refer to the covered reporting requirements of the Sustainability Accounting Standards Board (SASB).

We have firmly embedded sustainability as an integral component of our business model and our corporate strategy. We strive for responsible usage and the preservation of natural resources and natural diversity — so consumers all over the world can also enjoy everyday things tomorrow.

**Bernhard Kott, Chief Sustainability Officer**





# €355 MN

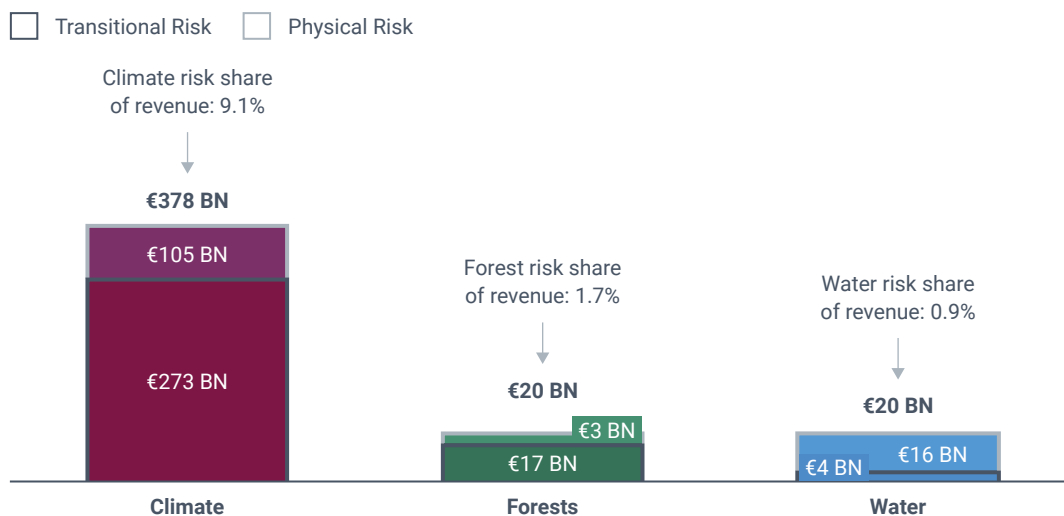
**The average climate-related financial risk reported**

Estimates by the World Economic Forum suggest that over half of global GDP is moderately or highly reliant on nature,<sup>15</sup> but companies currently lack the data, frameworks, and metrics to easily measure and manage their nature-related impacts and dependencies. The work of the TNFD, the Science Based Targets Network (SBTN), and the incoming European sustainability reporting standards (which will include biodiversity and ecosystems, water, and more) will help to address these gaps, but for now measurement and reporting of nature-related risks is immature in comparison to climate risk. This may contribute to some under-reporting of forest- and water-related risks. For example, the average climate risk reported to CDP was €355 million per company, with a share of revenue around 9 percent when excluding financial services, over five times the level of forest-related risks and 10 times the level of water-related risks. There's also strong evidence that physical climate risks are significantly under-reported by companies (see INFO-BOX (iii)), making this discrepancy even more stark.

This divergence may be justified by climate risks being of fundamentally greater magnitude. But as the methodologies for assessing nature-related risks mature, the impacts from ecosystem degradation begin to mount, and the regulatory responses to protect nature increase, estimates of forest- and water-related risks are likely to rise. (See Exhibit 17.)

## Exhibit 17: Companies report climate risks many times greater than forest and water risks

€ BN of reported risk of real economy companies by risk type, share of revenue (%), 2021



Source: Oliver Wyman analysis; CDP data; Capital IQ



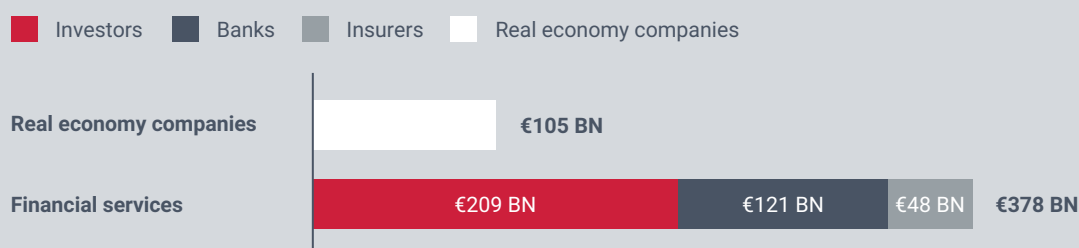
### INFO-BOX iii: ARE COMPANIES UNDER-REPORTING PHYSICAL CLIMATE RISKS?

Financial services companies reported almost four times more physical risks than their counterparts in the real economy: €378 billion compared to €105 billion from real-economy companies. These numbers are not directly comparable, and part of this gap can be explained by the fact that European financial institutions exposures are not limited to European companies.

Nevertheless, the discrepancy is indicative of the more advanced approaches being taken to physical risk quantification among financial institutions. It also raises the question: How can companies in the real economy properly manage their physical risk exposures if they cannot yet measure them accurately? (See Exhibit 18.)

#### Exhibit 18: Financial sector estimates of physical risks are several times larger than real economy sectors combined

€ BN of reported risk by sector, 2021



Source: Oliver Wyman analysis; CDP data



## FEATURED CASE STUDY

### BEIERSDORF AG



With climate change advancing, humanity is facing one of the greatest threats ever. That's why we need to speed up the transformation towards a climate-neutral economy and society. We need to act now.

Since 2020, our Sustainability Agenda CARE BEYOND SKIN has been an integral part of our corporate strategy C.A.R.E.+. We are driving the transformation of skin care along the whole value chain – from innovative, sustainable product design to the sourcing of sustainable ingredients and the efficient production in our factories to the end of our products' lifecycles.

We have set ourselves one of the most ambitious climate targets within our industry: aiming to reduce greenhouse gas emissions across scope 1, 2 and 3 by 30 percent in absolute terms until 2025 (vs. 2018). It has been approved by the Science Based Targets initiative (STBi) to be in-line with scientists' recommendation to limit global warming to 1.5 degrees.

Our ambitious climate target is our key priority and all our environmental focus areas contribute to this important topic. We are constantly working towards the transformation of our skin care products and have made significant progress in 2021: we reached the important milestone of launching our first climate-neutralized products for our global skin care brand NIVEA and we introduced the first aerosol cans made from 100 percent recycled aluminum for NIVEA deodorant and male shaving products. These and other advances have contributed significantly to the reduction of our emissions on product level.

Another important aspect of transforming our products towards sustainability is the area of sustainable land use. We have set ourselves the target to source our key renewable raw materials from sustainable sources by 2025. As an important milestone, we have already achieved to source 100 percent of our palm (kernel) based ingredients responsibly since the end of 2020. In addition, we are engaging in local projects through which we aim to enable local palm oil grower communities to implement sustainable agricultural practices across entire landscapes while protecting native biodiversity.

Increasing scarcity makes responsible use of water a highly important topic for us. With the global "Sustainability in Manufacturing" initiative, we are working intensively to integrate innovative ideas for water management into our production processes. This involves both reducing water losses as well as increasing water reuse.

At Beiersdorf, we care beyond skin – and we know that the time to act is now.

**Jean-François Pascal, Vice President Corporate Sustainability**





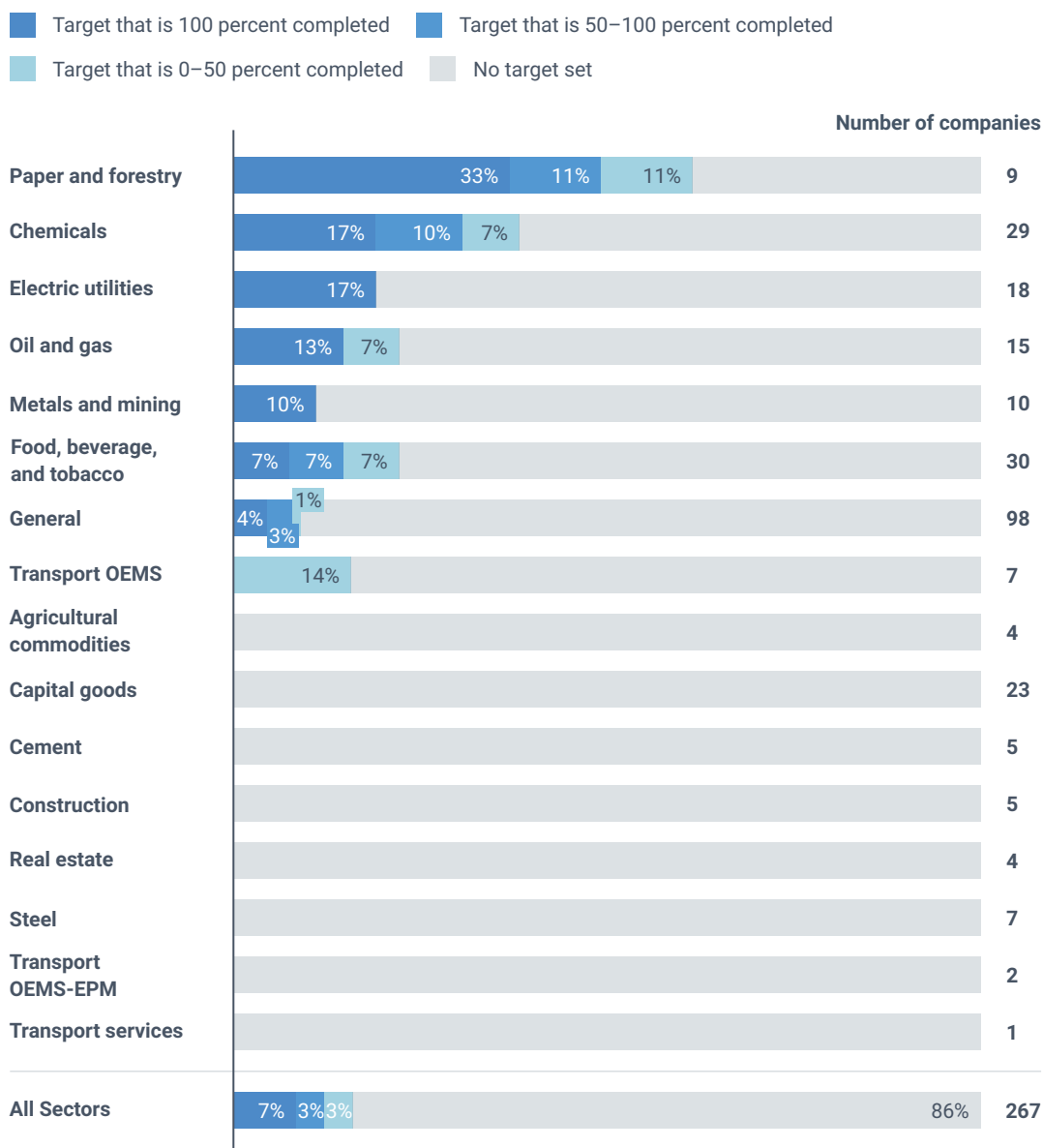


## Water security

Turning to water security, while 77 percent of all companies disclosed that they either reduced or maintained their water withdrawal volume, a number of blind spots stand out. No company in the construction sector — a significant user and polluter of water — reported having a water target of any kind; nor did companies in the agricultural commodities or capital goods sectors report having a target to limit water pollution. (See Exhibit 19 and Exhibit 20.)

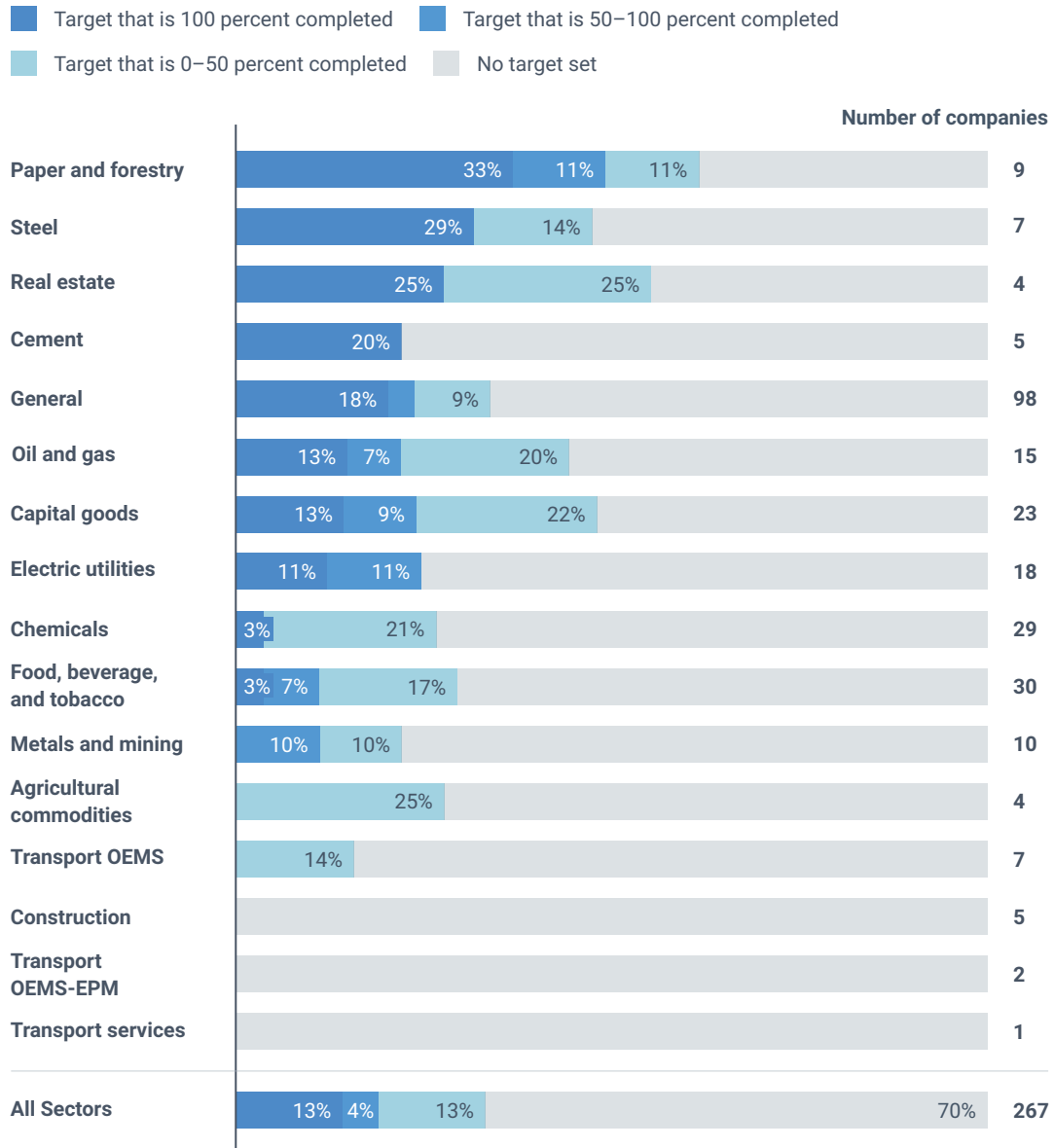
### Exhibit 19: Very few companies have a target to limit water pollution

# and % companies, 2021



Source: Oliver Wyman analysis; CDP data

**Exhibit 20: Only 30 percent of companies have a target to limit water withdrawals**  
 # and % of companies, 2021






















Source: Oliver Wyman analysis; CDP data

European companies, such as food, beverage, and tobacco companies, often own and operate facilities in countries with high levels of water stress. In many of these areas, companies are monitoring their water use and taking steps to reduce withdrawals. For example, 30 companies have facilities in Mexico, and all of them are monitoring water use at over 75 percent of their sites, and 83 percent report reducing their withdrawals. The picture is less reassuring in Pakistan, which has higher water stress than Mexico but where rates of monitoring are considerably lower, and a quarter of companies reported increasing their withdrawals. (See Exhibit 21.)

Heineken provides an example of a food and beverage company pursuing a comprehensive strategy to manage water-related risks (see Heineken case study).

**Exhibit 21: Overview of key water-related actions in water-stressed countries**

	Mexico	Chile	Spain	Turkey	Pakistan	India	High BWS countries	All countries
Companies that <b>have a water facility</b> in the country	30	11	25	8	6	29	66	140
Companies <b>monitor water withdrawals</b> at more than 75% of facilities								
Companies that <b>engages with more than half of their suppliers</b>								
Companies with overall <b>water withdrawals reduced or stayed the same</b>								
Total BWS (Baseline Water Stress 1 = Not stressed; 5 = Very high stress)	3.9	4.0	3.7	3.6	4.1	4.1		

Note: High BWS is defined as countries with BWS above 3.5

Source: Oliver Wyman analysis; CDP data; WRI Aqueduct

## CASE STUDY

### HEINEKEN

As a global brewing company, Heineken is dependent on natural resources for its production activities. That makes it essential to address nature-related challenges, and water scarcity as one of the top priorities.

Heineken began efforts to optimize its internal use of water back in 1990. In 2019, it launched its water strategy, Towards Healthy Watersheds, which moves away from traditional water metric and takes a holistic approach and recognizes the need to address water use, water quality, water recycling, and water balancing — that is, having a positive impact on water resources, by replenishing at least as much water at the watershed as is used in production.

Heineken has set out four commitments for 2030. One is to reduce water intake by using water more efficiently: no more than 2.9 hectoliters of water per hectoliter of beer produced at all sites — and just 2.6 hectoliters of water at facilities in water-stressed areas. Another target is to treat all the wastewater it produces. In water-stressed area, it aims to maximize reuse and recycling of treated wastewater and fully balance the water used in production.

Solutions for reaching these targets combine internal and external efforts. Beyond the breweries wall, it can be nature-based solution, such as reforestation and wetland restoration projects, or infrastructure improvement to help farmers to adopt sustainable agriculture practices and upgrading water pipelines to avoid leakage. Multistakeholder action is crucial, and Heineken works with NGOs, local governments, local communities, and other companies. This collaboration enables the company to pool know-how and resources and to find solutions that are sustainable in the long run and tailored to local social and environmental needs.

One water positive project set up by Heineken is in Monterrey, Mexico, where one of its breweries is located. The area suffers from water stress due to changing climate, deforestation, and unplanned developments. The reforestation of 1,380 hectares of land since 2015 helped reduce run-off and minimized the flow of sediment and pollutants to water bodies. It improved the natural hydrologic functions and biodiversity. The result was an increase of 1.57 million cubic meters a year in the amount of water replenished at the watershed. The figure was verified using the World Resources Institute Volumetric Water Benefit Accounting method. Implementation was possible thanks to multi-stakeholder collaboration through the Monterrey Metropolitan Water and Air Fund, a collective fund invested in by 40 partners, including state agencies, businesses, NGOs, civil society organizations, and universities. These parties delivered financing, local expertise, and political support, and the project continues on site.







## Forests

From producers to processors, traders, manufacturers, and retailers, forest risks are a critical issue for companies involved in agricultural or timber-related supply chains. Through their supply chains, European companies are estimated to be responsible for 16 percent of global tropical deforestation (WWF, 2021),<sup>16</sup> and the European Commission has recently proposed regulation to ban the import of commodities — soy, beef, palm oil, timber, cocoa, and coffee — that cannot be proven “deforestation free” (European Commission, 2021).<sup>17</sup> Of the companies reporting to CDP, three-quarters source at least one of these commodities from countries with high deforestation risk. Less than a quarter of companies with supply chains originating in high deforestation-risk countries such as Brazil and Indonesia have a best-practice forests commitment that includes zero-deforestation. (See Exhibit 22.)

**Exhibit 22: Overview of key forests-related activities in deforestation-risk countries**

	Brazil	India	Indonesia	Australia	Paraguay	All high-risk countries	All countries
Companies <b>having a forest risk</b> commodity in the country	83	39	73	31	22	111	148
Most common forest-risk commodities from the country	 63%	 69%	 73%	 65%	 68%	 57%	 72%
 Timber products	 37%	 33%	 34%	 42%	 23%	 49%	 45%
 Palm oil	 18%	 28%	 14%			 31%	 32%
 Cattle products	 17%	 18%				 23%	 28%
 Soy products							
 Rubber							
Companies with a <b>best-practice forests commitment</b> that includes zero-deforestation	 27%	 23%	 19%	 35%	 27%	 23%	 20%
Companies with <b>&gt;90% third party certification</b> for at least one of the forest-risk commodity	 59%	 33%	 64%	 48%	 27%	 61%	 61%
Companies with <b>&gt;90% traceability</b> for at least one of forest-risk commodities	 73%	 56%	 60%	 58%	 45%	 68%	 66%
Deforestation (1000 ha/year)	1696	668	650	417	279		

Source: Oliver Wyman analysis; CDP data; [Forest and Agriculture Organization of the United Nations \(FAO\)](#)

## CASE STUDY

### CARREFOUR

For Carrefour Group, one of the largest retailers in the world, forests-related risks are serious. It is one of the main risks it discloses for the French duty of care law, which obliges the retailer to manage its supply chain impacts. In 2021, almost 30 percent of the risk alerts linked to supply chains and addressed within the Carrefour Group's governance bodies are related to forests. It stresses that the Group's stakeholders already expect consumer goods — not to contribute to deforestation.

Carrefour's approach is based on engaging with its suppliers and industry peers to drive real change throughout the market.

***"We challenge our suppliers and upstream actors to evolve their policies, comply with our targets, and find solutions together,"*** explains Pauline Fabre, CSR manager. The company engages positively, encouraging competition and rewarding best practices in the market for each commodity. And in the event of a breach of the Group purchasing rules, a product or supplier restriction of sourcing can apply. They end or restrict purchases of non-compliant goods - as in the case of JBS Brazilian beef products, which were removed from Carrefour Belgium shelves after links to deforestation were discovered.

Collective engagement is key. Through its consumer goods forum, Carrefour challenges traders collectively to raise standards throughout the industry and across the entire supply chain. An overarching goal is to incentivize traders to implement sustainability with a supply-wide approach, to make deforestation and conversion-free commodities the norm.

The company also initiated the French Soy Manifesto, backed by other retailers, the French government, industrials, and NGOs, which aims for zero-deforestation and conversion of soy imports to France. A UK version was launched at COP26 and discussions to expand to Germany and Spain are ongoing. A similar Manifesto for Cocoa has been launched in 2021.

Carrefour Brazil has introduced 100 percent traceable, "deforestation-free" beef to its Interlagos hypermarket outlet in São Paulo, in what the retailer says is a first for Brazil. As part of its goal to guarantee that beef sold in stores meets the criteria set out in its deforestation policy, Carrefour uses a satellite geo-referencing platform, which references data from thousands of farm suppliers.

Carrefour is taking landscape approaches, such as in Jurueña Valley in Mato Grosso, Brazil's leading beef producing state. The project supports over 450 calf suppliers and farmers and will preserve 60 percent of the indigenous forest. Working closely with local jurisdictions has been a "game changer," the company says, and a leading example for achieving 100 percent traceability and zero-deforestation beef. Veal from Mato Grosso is traced at all stages of its life, at trader level until the shelves of Carrefour Brazil, where a QR code on the label informs consumers of the product's journey.

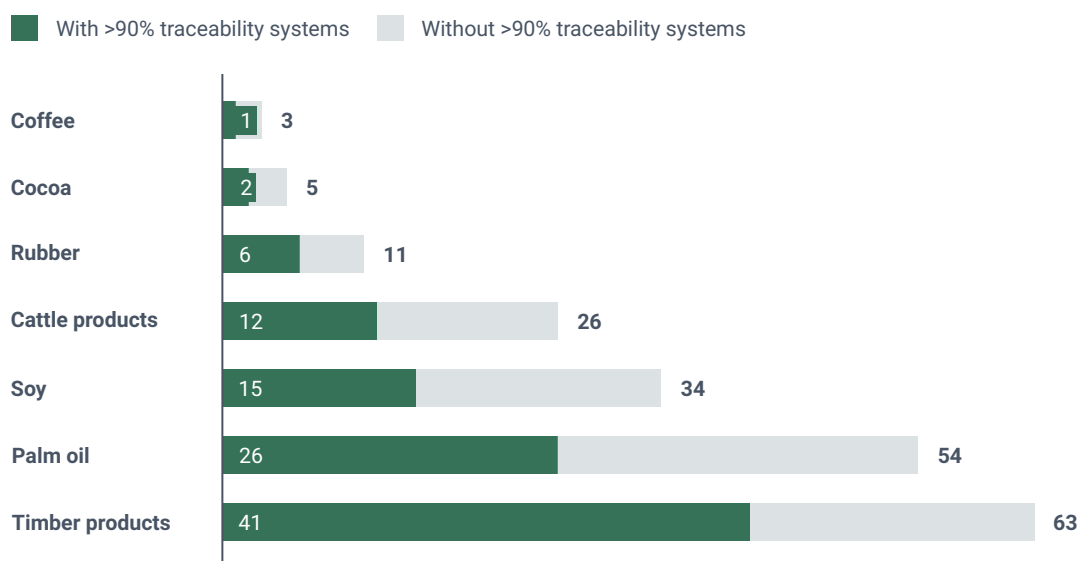
***"Tangible solutions from landscape projects can always be replicable," says Fabre. "But this can only work with the involvement of both regional and local governments."***



Companies have significant blind spots, in particular, commodity supply chains that will need to be addressed to meet anticipated EU traceability requirements. For example, less than 40 percent of companies involved in coffee and cocoa supply chains from high deforestation-risk countries have comprehensive (more than 90 percent coverage in terms of volume of commodities) traceability systems. The share increases only slightly for cattle products, soy, and palm oil and remains below half for all commodities other than timber products and rubber. (See Exhibit 23.)

**Exhibit 23: Typically less than half of companies sourcing commodities from high deforestation risk countries have comprehensive traceability systems**

% of companies with >90% traceability systems for forest-risk commodities across countries with high deforestation risk, 2021



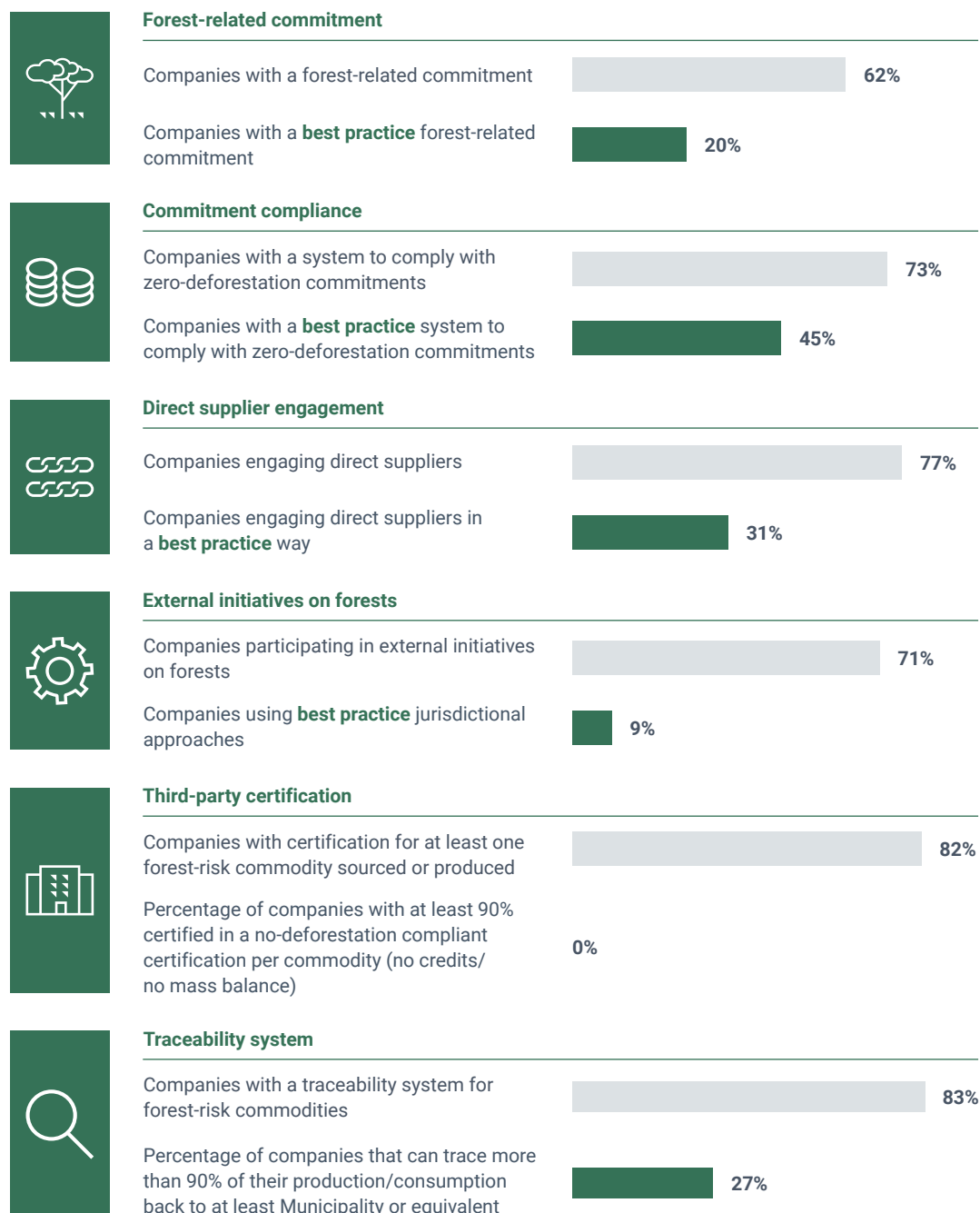
Source: Oliver Wyman analysis; CDP data

Leading companies, such as Carrefour, exposed to forest-related risks are engaging on multiple fronts to address deforestation — using certification schemes, actively engaging with their suppliers, and working with policymakers in pursuit of effective regulation (see Carrefour case study).

For this report, CDP Europe used six key performance indicators (KPIs) to illustrate companies' practices on deforestation.<sup>18</sup> (See Exhibit 24.) Progress on these differs markedly and shows that there is much room for companies to elevate their current forests actions to match best practice that is informed by science. For example, while 73 percent of companies have a system in place to comply with zero deforestation commitments, only 45 percent have a system that is regarded as best practice. Performance gaps are widest for third-party certification and participation in external initiatives, where few, if any, companies have best practices.

**Exhibit 24: Compared forests actions with best practice forests actions**

% of companies, 2021



Source: Oliver Wyman analysis, CDP data

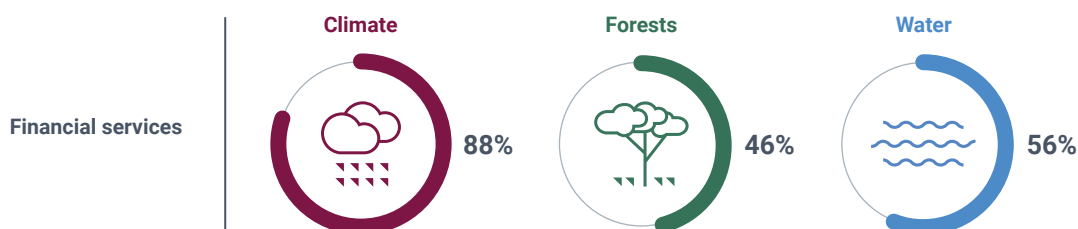


## The role of financial services

Financial services firms have a critical role in protecting nature, but many have yet to grasp this. While 88 percent of financial institutions disclosing to CDP assess their climate risks, only 46 percent assess forest-related risks and 56 percent assess water-related risks. (See Exhibit 25.)

### Exhibit 25: Financial institutions are significantly more likely to assess climate risks in their portfolio than forest or water risks

% of financial institutions, 2021



Source: Oliver Wyman analysis; CDP data



# Just 20%

of companies have a best-practice forests commitment that includes zero-deforestation

Eliminating deforestation-related activities require financing and investment, and the role of financial institutions in halting deforestation has attracted increasing attention. In response, leading financial institutions are putting in frameworks to manage forest-related risks. At COP26, more than 30 financial institutions representing \$8.7 trillion in assets under management committed to eliminating agricultural commodity-driven deforestation risks in their investment and lending portfolios by 2025 (UNFCCC, 2021).<sup>19</sup> For example, AXA, one of the signatories, has put in place a deforestation policy that includes screening criteria for its investment and underwriting activities and engagement strategies to encourage adoption of best practices among its portfolio companies (see AXA case study).

While some institutions are leading the way on this issue, approaches across financial institutions vary widely. As they look to develop transition plans to deliver on their net-zero commitments, there will be a growing expectation for financial institutions to have clear and rigorous policies in place on this issue (GFANZ, 2021).<sup>20</sup>

## CASE STUDY

### AXA

AXA has long recognized the role of biodiversity in maintaining stability across human, economic, and environmental systems. Their activities in support of nature began over a decade ago, with the creation of a dedicated ESG impact investment team. AXA placed nature at the forefront of their corporate agenda in 2018 by joining the Act4Nature alliance. Since then, AXA has focused on identifying nature-related risks, supporting nature-positive projects, and driving industry leadership through stakeholder engagement and cross-industry initiatives. In 2021, AXA signed the Finance for Biodiversity (F4B) initiative.

**Support for nature-positive projects:** AXA launched a dedicated climate and biodiversity impact investing fund in 2019, managed by AXA investment managers. The fund invests in nature-positive projects and is focused on active ownership, including taking board seats and verifying the delivery of nature-related targets. In 2020, AXA pledged to double the fund size to \$350 million. Separately, in October 2021, AXA Group Investments committed €1 billion to support forestry-management projects in developed markets and €500 million to back afforestation, restoration, and prevent deforestation projects in emerging markets, cementing its support for nature-based solutions.

**Preventing biodiversity loss:** As part of its Act4Nature pledge in 2018, AXA announced it would investigate the impact of biodiversity loss on society and how it could act as an insurer and investor in protecting nature. This assessment resulted in the October 2021 launch of two policies aimed at protecting nature. Through these policies AXA commits to end the key drivers of commodity-related deforestation and ecosystem degradation and to support the preservation of natural World Heritage Sites through its portfolio activities.

**Promoting systems change:** AXA has joined several cross-industry initiatives over the past couple of years to help drive nature-positive action across the industry. It believes that a key next step is the development of cross-industry standards and metrics to measure impacts and dependencies on nature. For example, the Taskforce on Nature-related Financial Disclosures will provide a platform to support the development of such standards.





A high-angle, first-person perspective shot looking down at a person's feet. The person is wearing bright yellow rubber boots and dark trousers. They are standing on a surface completely covered with a dense, tangled mass of clear, crinkled plastic film or debris. The plastic is translucent, showing various folds and creases, and the overall color palette is dominated by the blue-tinted clear plastic and the yellow of the boots. A solid red rectangular box is superimposed over the middle of the image, containing white text.

# **DRIVING CHANGE ACROSS THE VALUE CHAIN**



**Scope 3 emissions make up**

**86%**

**of emissions reported to CDP  
– 6x all operational emissions**

Businesses' largest impacts on climate and nature typically occur upstream and downstream of their core operations. As already shown, European companies' supply chains are major contributors to deforestation, and their Scope 3 emissions make up 86 percent of all emissions reported to CDP — around six times Scopes 1 and 2 combined. Critically, these supply chains often reach into the emerging markets and developing countries where action is most needed to drive down emissions and build resilience against environmental impacts. And as many corporates are already re-evaluating their supply chains in the light of the disruptions of the past few years, they have an opportunity to put sustainability at the core of their approach.

**Scope 3: in scope?**

Where companies should focus their effort to address Scope 3 emissions depends on the nature of their value chain. For example, in raw material-dependent sectors such as agricultural commodities or food, beverage, and tobacco, upstream emissions can account for upwards of three-quarters of value chain emissions. In sectors where emissions are driven by the use of products, such as transport OEMs (manufacturers) or extractive industries, downstream emissions can account for 90 percent or more of the total. (See Exhibit 26.)

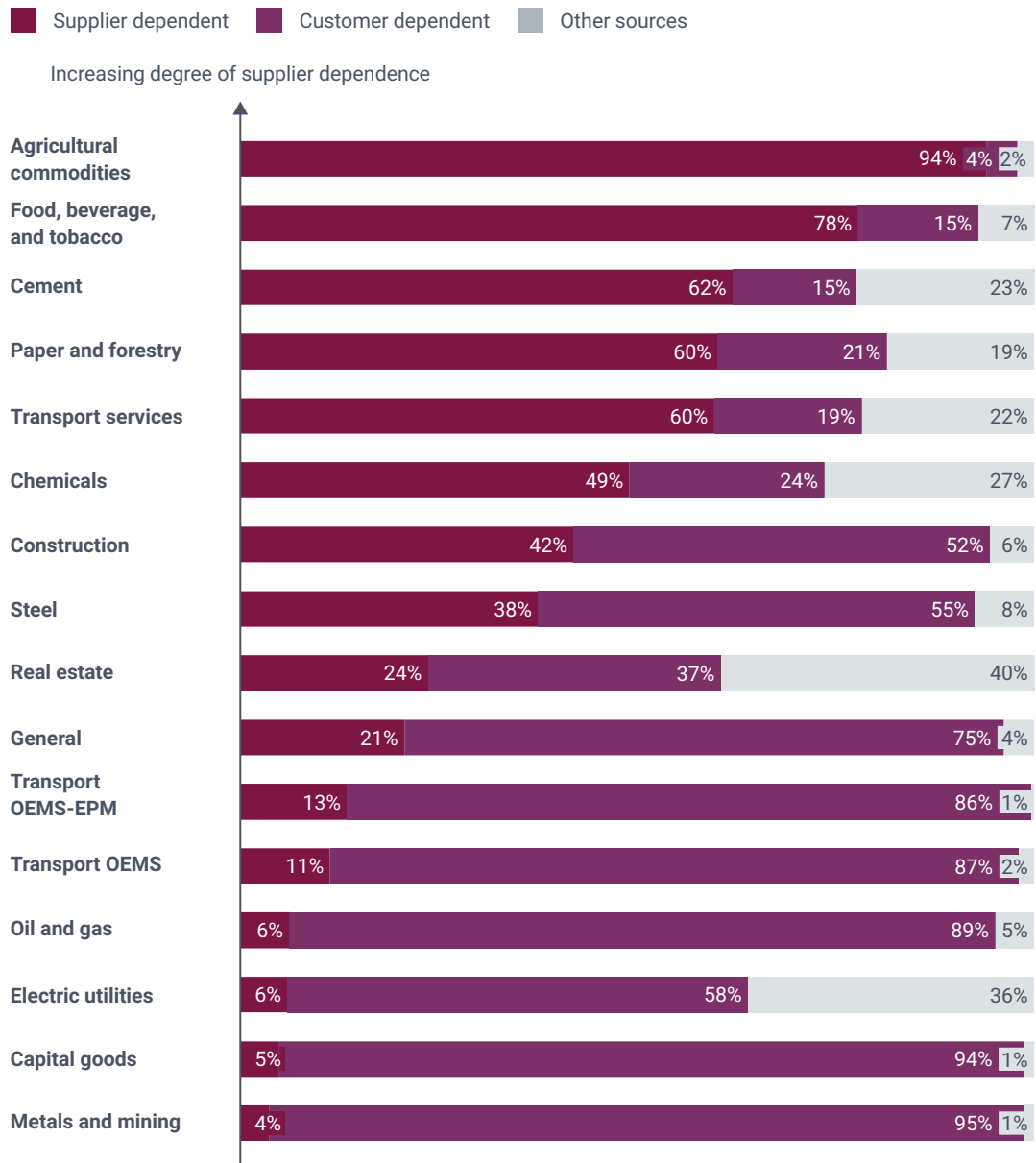
**53%**

**of European companies disclose  
their most important Scope  
3 emissions**

For the first time, a majority of European companies are now disclosing emissions data for their most important Scope 3 categories, such as purchased goods and services or use of sold products. This is likely linked to the increasing rate of science-based target setting, which requires companies to make a robust inventory of their value chain emissions. However, despite their critical importance, still only 53 percent of companies report their key Scope 3 categories. This lack of measurement suggests that many companies are in effect not managing their full impact. Increasing pressure from financial institutions for companies to disclose Scope 3 emissions will make this position increasingly untenable, particularly as financial institutions themselves need to use corporate Scope 3 data for their own inventories and targets. The metrics and targets that financial institutions are using to assess their portfolio emissions include the most important Scope 3 emissions in each sector. This may in turn explain the significant and near universal rise in the share of companies disclosing their key Scope 3 categories compared to the previous year. (See Exhibit 27 and Exhibit 28.)



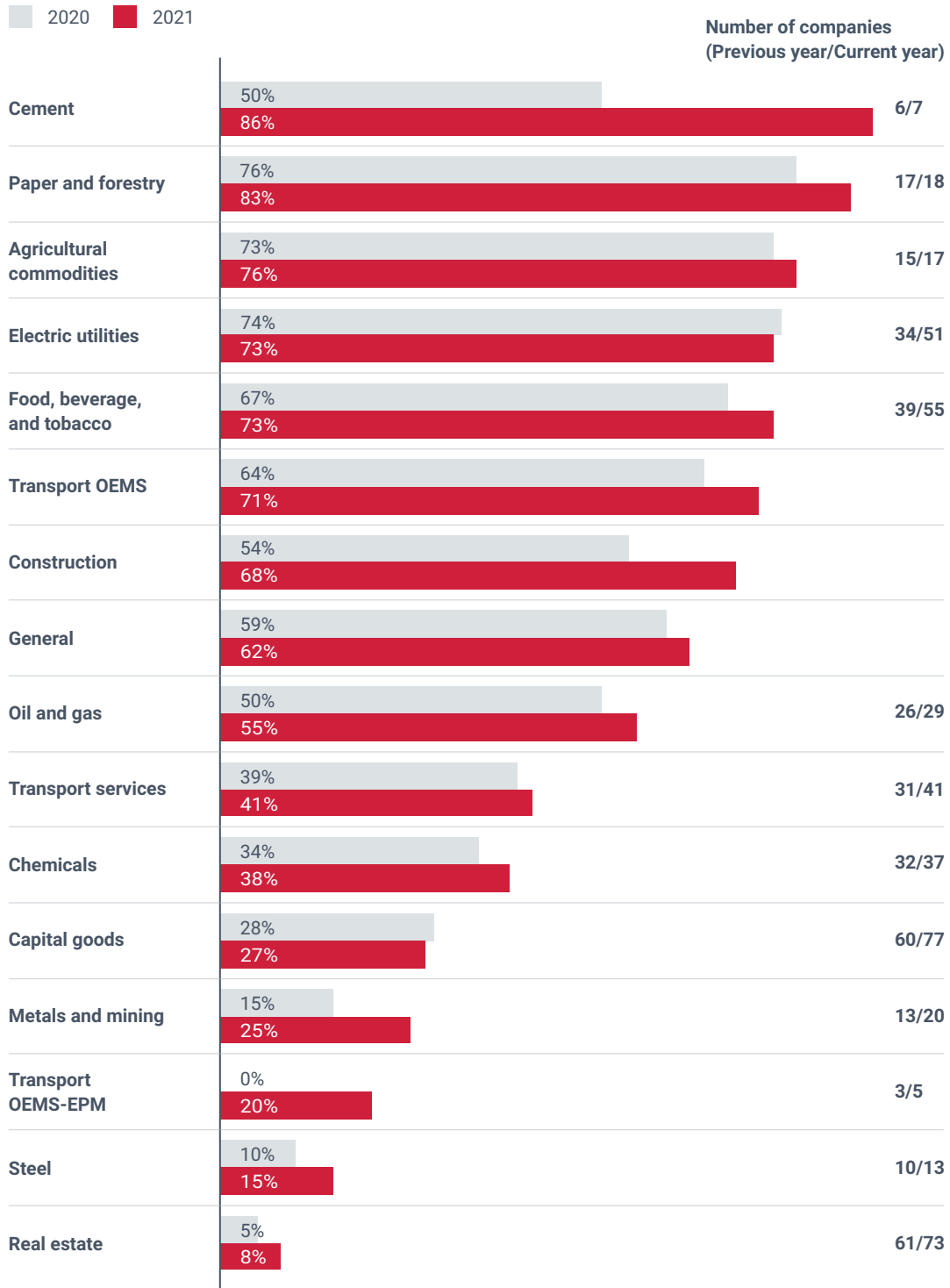
**Exhibit 26: The balance of upstream and downstream Scope 3 emissions varies by sector**  
 MN tonnes CO<sub>2</sub>e (Scope 3), % of total Scope 3 CO<sub>2</sub>e by sector, 2021



Source: Oliver Wyman analysis; CDP data

**Exhibit 27: Disclosure of key Scope 3 categories improved across nearly all sectors**

% of companies disclosing CO<sub>2</sub>e (key Scope 3 categories) by sector, 2020 vs. 2021



Source: Oliver Wyman analysis; CDP data

## CASE STUDY

### METSÄ BOARD

Metsä Board is a producer of fresh-fiber paperboards and has forests at the heart of its operations. The company is based in Finland, 75 percent of which is covered by forests, the highest forest percentage in Europe. Some 90 percent of Finland's forests are certified. All the wood Metsä Board uses is traceable, so the company knows where and how it was grown and harvested.

As wood is the key raw-material for Metsä Board, sustainable forest management in the long term is of major importance for the company. To ensure responsible forest management, Metsä Board sourced 83% of its wood from PEFC™ and/or FSC® certified forests in 2021, with the rest coming from forest areas fulfilling the requirements of FSC/PEFC Controlled Wood standard. The company aims to increase the share of certified wood used to at least 90 percent by end of 2030. The actions towards this goal are promoting forest certification in all its wood sourcing regions, assisting Finnish forest owners to obtain forest certification for their forest areas, and further replacing controlled wood volumes with certified wood in its wood sourcing.

Metsä Board is part of Metsä Group, which is owned by a cooperative of 100,000 private Finnish forest owners, who are committed to best practices to cultivate and manage their forests sustainably. To make the most of harvested wood, Metsä uses each part of the wood harvested to the most valuable end-use: logs for sawn timber and other construction industry products, thinner parts of the trees that are not suitable for construction are used for pulp and bioproducts, and bark, tops, and branches for renewable energy generation to replace use of fossil energy.

Some of Metsä's actions to prevent deforestation are also mandated by the Finnish forest law. In Metsä's wood-sourcing areas, regeneration after harvesting is obligatory. The company also supports Finnish forest owners by supplying and helping them in planting more than 30 million seedlings every year.

To maintain biodiversity, Metsä implements numerous sustainability measures: Metsä Group's ecological sustainability program and nature management plan aim to increase the carbon sinks of forests, safeguard biodiversity, and develop the protection of waters both in commercial forests and in nature beyond them. Increasing the amount of decaying wood in forests and favoring mixed forests are especially important for biodiversity. Decaying wood is increased by retaining dead trees and retention trees, and by making high biodiversity stumps — by cutting a tree trunk at a height of 2 meters-4 meters at thinning and regeneration felling sites. This is important, because decaying wood and protective thickets are vital for many birds, insects, and fungi.





**Exhibit 28: Disclosure of key scope 3 emissions categories differs significantly by sector**% of companies disclosing CO<sub>2</sub>e (Scope 3) by category, 2021

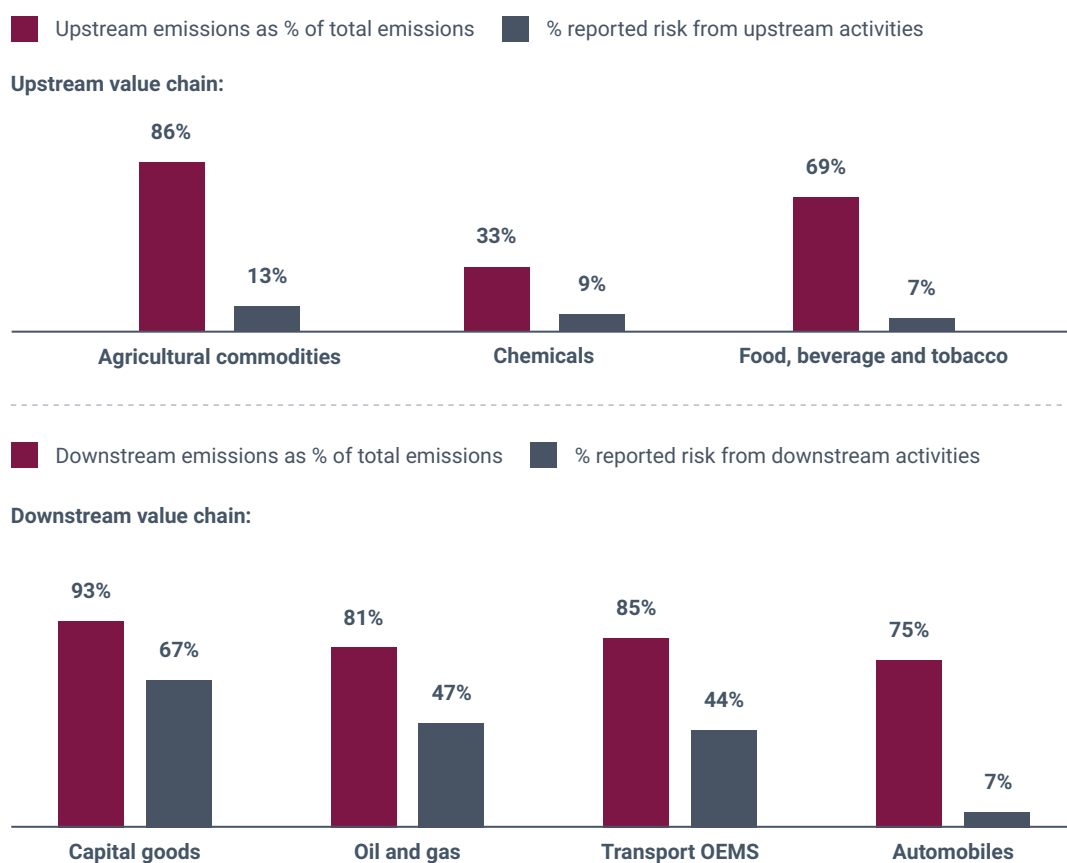
Sector	Purchased goods and services	Capital goods	Fuel-and-energy-related activities (not included in Scope 1 or 2)	Upstream transportation and distribution	Waste generated in operations	Business travel	Employee commuting	Upstream leased assets	Other (upstream)	Downstream transportation and distribution	Processing of sold products	Use of sold products	End of life treatment of sold products	Downstream leased assets	Franchises	Investments	Other (downstream)
Paper and forestry	83%	11%	72%	83%	61%	50%	44%	0%	6%	72%	33%	6%	39%	0%	0%	6%	0%
Agricultural commodities	76%	18%	65%	41%	59%	59%	18%	0%	0%	53%	18%	6%	24%	0%	0%	12%	0%
Electric utilities	67%	47%	73%	41%	55%	75%	53%	18%	0%	20%	10%	61%	2%	12%	2%	22%	0%
Food, beverage and tobacco	73%	35%	60%	67%	67%	65%	51%	16%	2%	55%	13%	33%	45%	11%	9%	11%	0%
Transport OEMS	59%	29%	35%	71%	53%	82%	59%	18%	6%	35%	12%	71%	35%	12%	18%	12%	0%
Cement	86%	14%	86%	100%	43%	57%	43%	0%	0%	86%	0%	0%	0%	0%	0%	0%	0%
Construction	68%	22%	62%	46%	76%	84%	51%	22%	3%	8%	5%	51%	41%	14%	0%	14%	3%
Oil and gas	48%	31%	48%	52%	41%	62%	48%	17%	0%	38%	21%	55%	21%	3%	10%	28%	0%
Real estate	58%	42%	67%	15%	60%	71%	41%	11%	5%	10%	1%	8%	3%	49%	5%	5%	8%
Financial services	60%	15%	50%	12%	63%	95%	39%	6%	4%	7%	0%	5%	2%	5%	1%	44%	2%
Chemicals	76%	62%	73%	76%	65%	81%	65%	27%	0%	57%	14%	30%	38%	8%	0%	24%	0%
Transport services	41%	34%	51%	34%	51%	80%	46%	7%	2%	20%	2%	12%	10%	12%	5%	2%	5%
Capital goods	51%	27%	48%	49%	48%	75%	45%	8%	3%	40%	4%	43%	23%	4%	0%	6%	0%
General	62%	36%	58%	47%	57%	76%	49%	15%	4%	33%	6%	28%	27%	10%	7%	10%	2%
Metals and mining	60%	30%	50%	50%	45%	70%	55%	5%	5%	40%	25%	25%	15%	0%	5%	25%	0%
Transport OEMS-EPM	20%	0%	20%	0%	20%	80%	20%	0%	0%	20%	0%	20%	0%	0%	0%	0%	0%
Steel	92%	23%	77%	69%	46%	69%	54%	0%	8%	62%	15%	23%	23%	0%	0%	8%	0%
All Sectors	62%	23%	58%	43%	58%	77%	47%	13%	4%	30%	7%	27%	22%	11%	5%	10%	2%

Source: Oliver Wyman analysis; CDP data

Climate-risk disclosures provide further evidence that companies are not yet on top of their value chains. Despite the importance of the value chain to transition and physical risk exposure, companies report that most risks come from their direct operations. On average, 60 percent of climate risks reported by companies in the real economy are attributed to direct operations, with 33 percent downstream (customers) and only 7 percent upstream (suppliers). In contrast, operational emissions make up only 14 percent of the total reported emissions across all. In some sectors, this is even more. For example, the agricultural commodities sector reports 86 percent of emissions in upstream activities, but only 13 percent of climate risks. (See Exhibit 29.)

### Exhibit 29: The value chain typically accounts for the majority of emissions but only a small share of climate risk

% of total CO<sub>2</sub>e (Scope 1-3), % of total reported climate risk by sector, current year



Source: Oliver Wyman analysis; CDP data

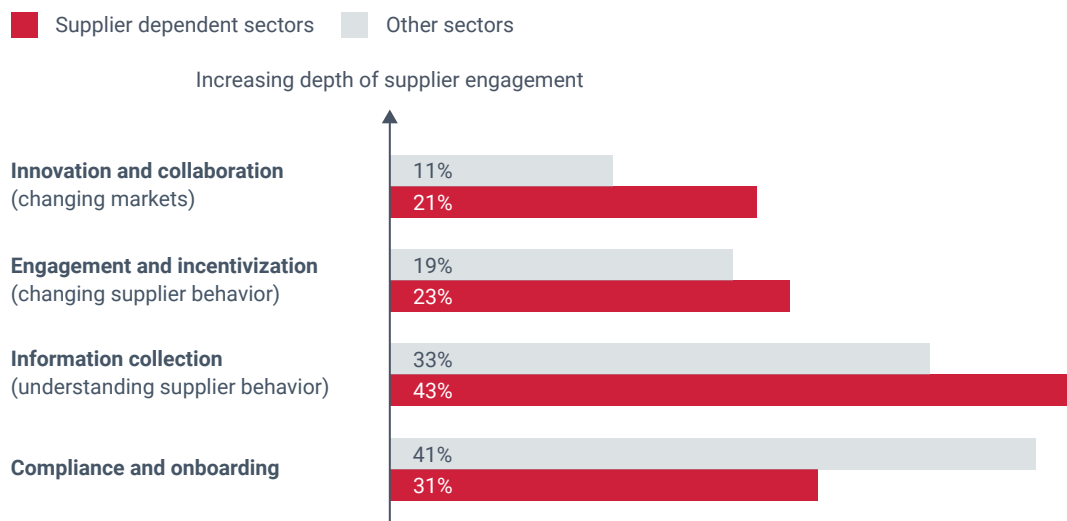
The importance of transition risks in international supply chains is set to grow as Europe contemplates new climate-related import regulations. In addition to rules to prevent imports of deforestation-linked commodities discussed in the previous chapter, the EU is also planning a Carbon Border Adjustment Mechanism to protect European producers of carbon intensive products from imports from countries with lower carbon prices. The CBAM could effectively bring the carbon price for imports of fertilizers, cement, electricity, aluminum, iron, and steel into line with domestic carbon prices. This may result in new compliance costs for importers in these supply chains and ultimately translate to higher material costs for downstream sectors, for example in agriculture, manufacturing, and construction.

### Collaboration on climate

Yet there are signs that leading companies are taking action and are pursuing transformational engagement with their partners. For example, 21 percent of companies in supplier dependent sectors engage deeply with their suppliers to collaborate on changing markets. (See Exhibit 30.)

#### Exhibit 30: Companies from supplier-dependent sectors are more likely to engage deeply with their suppliers

% of companies by sector type, 2021



Source: Oliver Wyman analysis; CDP data



Further, firms setting science-based targets are required to consider material Scope 3 emissions as part of their targets. In the food, beverage and tobacco sector, for example, companies that have set SBTs are aiming to reduce their Scope 3 emissions by 25–35 percent by 2030.

To deliver these kinds of reductions, innovative collaborations are emerging along value chains as leading companies work with each other to address their emissions. Capital goods firm GEA recently collaborated with a Dutch chocolate manufacturer to develop customized heat pumps to recycle waste heat from the chocolate-making process, reducing GEA's Scope 3 emissions and the chocolate manufacturer's Scope 1 and 2 emissions. Looking along the automotive value chain reveals multiple examples of collaboration to cut emissions. For instance, steel, mining, and automotive manufacturers are collaborating to produce steel in a more sustainable way to reduce their Scope 1 and Scope 3 emissions. (See Exhibit 31.)

**Exhibit 31: collaboration on emissions reduction along the automotive value chain**



Source: Oliver Wyman analysis; Volvo (2020): "shaping the future of transportation and infrastructure"; Electrive (2020): "Malm orders 60 electric bendy-buses from Volvo"; Environmental Leader (2021): "Nucor launches carbon neutral steel product"; ESG Today (2021): "Nucor announces GM as launch customer for a New Line of Net-Zero Steel; BHP (2021): "BHP partners with JFE to address decarbonisation in the steel industry"; Dürr Group (2020): "Sustainable Transformation"

### Collaboration on nature

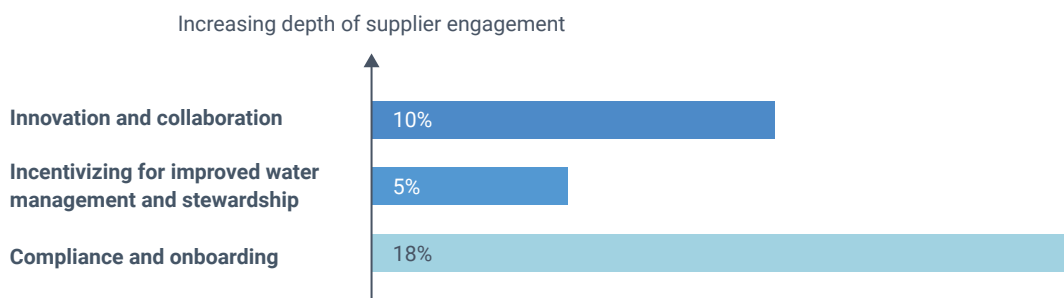
While rates of supplier engagement on climate and forests are broadly similar, companies are less likely to engage their suppliers on water security. For example, companies responding to both the climate and water security questionnaires were around 50 percent more likely to report engaging their suppliers on climate than on water security.

One example of a company engaging deeply with its suppliers on wider environmental areas is Unilever, which has committed to achieving deforestation-free supply chains for several high-risk agricultural commodities (such as palm oil, and soy) by 2023 (see Unilever case study).

There is less evidence of deep engagement with suppliers on water security. Only one in 10 companies reports collaborating with more than a quarter of their suppliers on innovation, and only one in 20 incentivizes better water management for more than a quarter of their suppliers. (See Exhibit 32.)

#### Exhibit 32: Most companies do not engage with their suppliers on water issues

% of companies with > 25% water supplier engagement, 2021



Source: Oliver Wyman analysis; CDP data

This even holds for operations in high water stress countries, where supplier engagement on water is also low. Exhibit 21 in the previous chapter showed that companies are actively monitoring and managing withdrawals at their own facilities in water-stressed countries. A very different picture emerges when the focus is shifted to the supply chain. Only 27 percent of companies engage more than half of their suppliers in these locations. For example, whereas monitoring of owned facilities in Mexico was very high, only 23 percent of companies engage with the majority of their Mexican suppliers. GEA is an example of a company that actively manages water stress in both its value chain and own operations (see GEA case study).

# CASE STUDY

## GEA GROUP

GEA is one of the world's largest systems suppliers for the food, beverage, and pharmaceutical sectors, and its plants, processes, and components help achieve significant worldwide reductions in carbon emissions, plastic use, and food waste.

The group has committed to reduce water-consumption intensity by 13.8 percent in 2025 and 49.3 percent by 2050. To meet these targets, GEA has set out a strategy to tackle water security from three angles. It will enhance its product portfolio, so that its machinery needs zero freshwater extracted from the environment to operate. It will make its own operations more water-efficient, especially in locations with high water stress. And it will engage with its supply chain to tackle water-related risks.

### **Product portfolio enhancement**

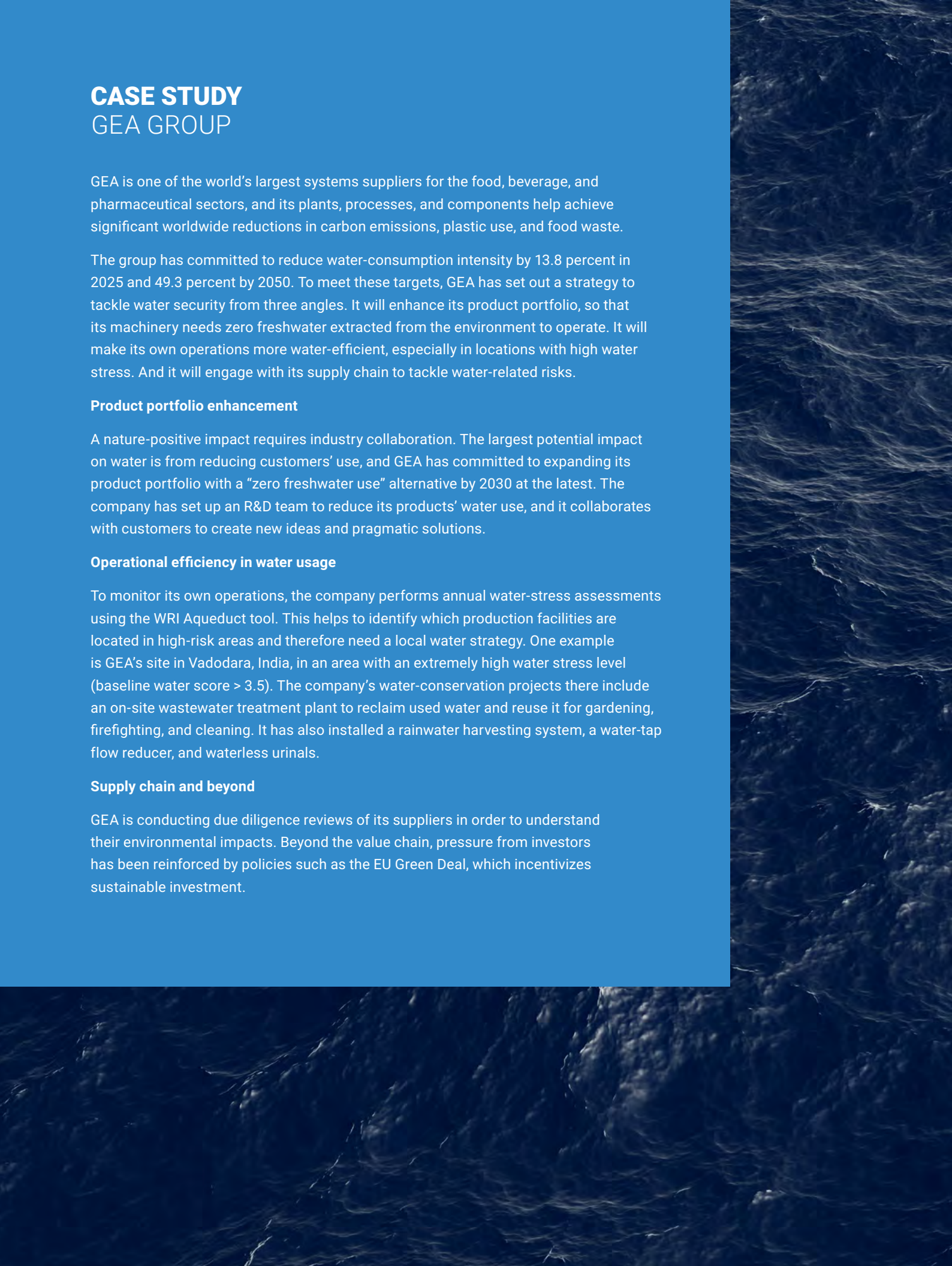
A nature-positive impact requires industry collaboration. The largest potential impact on water is from reducing customers' use, and GEA has committed to expanding its product portfolio with a "zero freshwater use" alternative by 2030 at the latest. The company has set up an R&D team to reduce its products' water use, and it collaborates with customers to create new ideas and pragmatic solutions.

### **Operational efficiency in water usage**

To monitor its own operations, the company performs annual water-stress assessments using the WRI Aqueduct tool. This helps to identify which production facilities are located in high-risk areas and therefore need a local water strategy. One example is GEA's site in Vadodara, India, in an area with an extremely high water stress level (baseline water score > 3.5). The company's water-conservation projects there include an on-site wastewater treatment plant to reclaim used water and reuse it for gardening, firefighting, and cleaning. It has also installed a rainwater harvesting system, a water-tap flow reducer, and waterless urinals.

### **Supply chain and beyond**

GEA is conducting due diligence reviews of its suppliers in order to understand their environmental impacts. Beyond the value chain, pressure from investors has been reinforced by policies such as the EU Green Deal, which incentivizes sustainable investment.





# PRIORITIES FOR ACTION





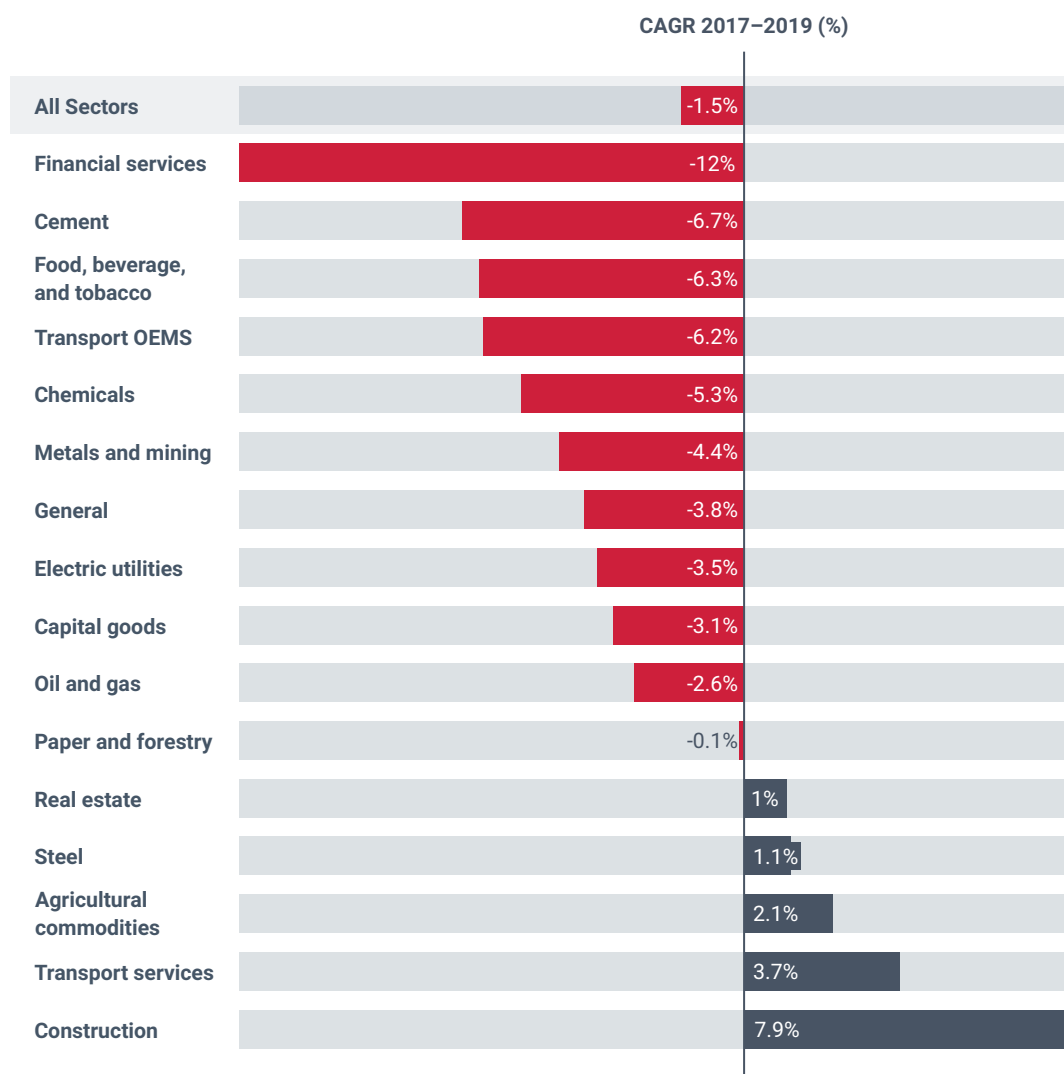
### Priorities for action

Halting and reversing nature loss and getting on track to net-zero emissions by 2050 requires new forms of collaboration and system-level change. Each industry has different challenges. Yet huge progress can be made with steps that companies can take now, and by adopting best practices within industries.

Consider operational emissions. Although most of the reported emissions occur in companies' value chains, Scope 1 and 2 emissions represent a more directly controllable lever. Companies reported 823 million tonnes CO<sub>2</sub>e of emissions across these categories last year. Looking within sectors reveals significant variation in progress in tackling these emissions across companies. (See Exhibit 33.)

### Exhibit 33: Performance on Scope 1 and 2 emissions varies massively between sectors

Scope 1 and 2 emissions annual reduction by sector, 2017–2019

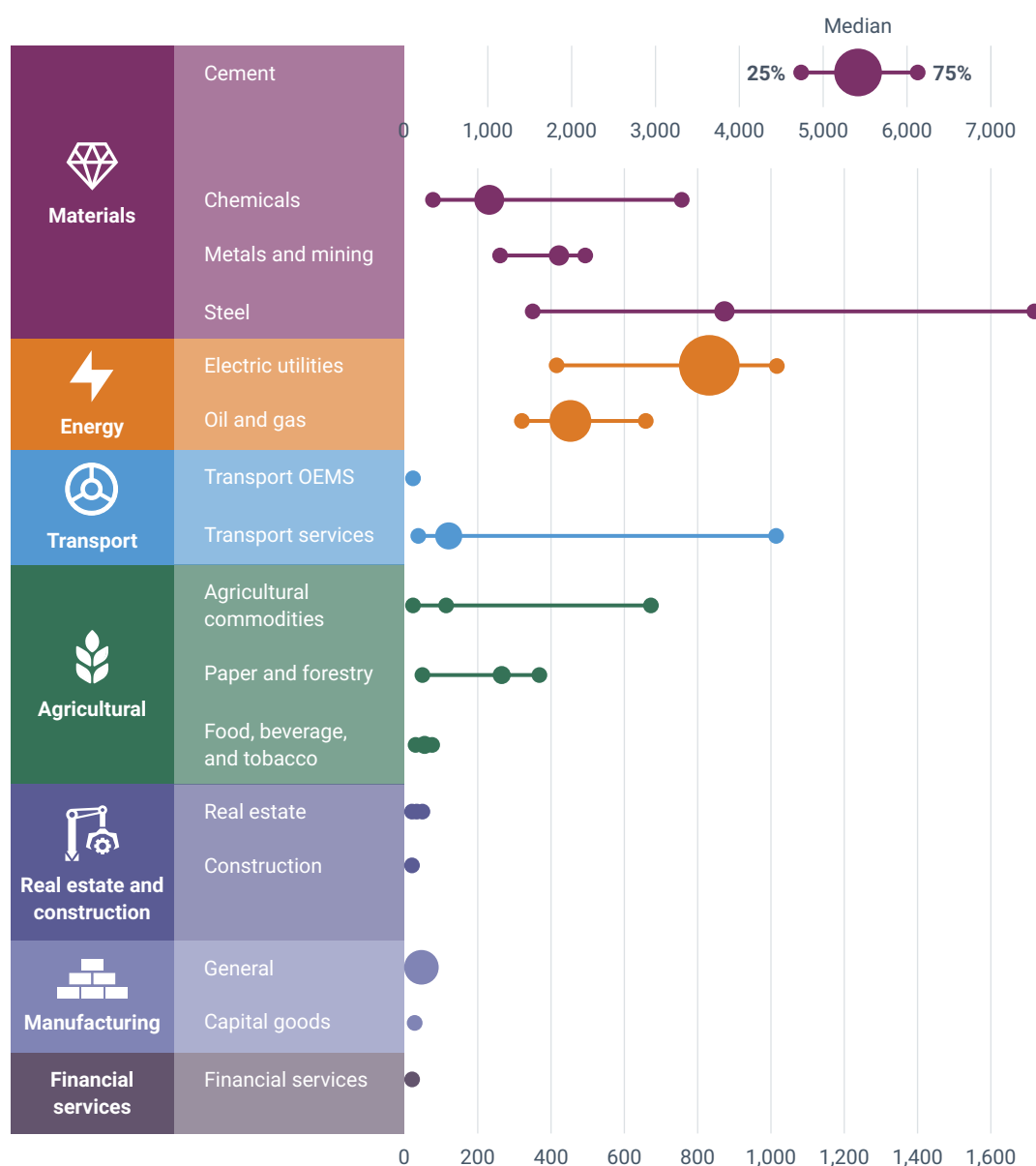


Source: Oliver Oliver Wyman analysis; CDP data

After grouping companies within sectors according to their primary activities, we see that the top quartile of companies within the transport services sector have an emissions intensity 73 percent less than the average; in the chemicals sector, the difference between the top quartile and the average is 60 percent. This indicates that in each sector, a relatively small cohort of companies is well ahead of their peers.

### Exhibit 34: Operational emissions intensity varies significantly within sectors

Economic emission intensity (metric tonnes CO<sub>2</sub>e/ € MN), 2021



Note: The "General" sector includes retail, services, light manufacturing, and pharmaceuticals. Emissions intensities vary within a given sector, and the sector average is used to compute the economic emissions intensity.

Source: Oliver Wyman analysis; CDP data

# CASE STUDY

## UNILEVER

### **Integrates action on climate and nature into the corporate strategy**

The Unilever Compass, launched in 2021, places sustainability at the heart of the corporate strategy. It builds on 10 years of the Unilever Sustainable Living Plan and includes further action to tackle climate change, regenerate nature, and protect people.

In addition to science-based targets to eliminate greenhouse gas emissions from its operations by 2030 and to halve the emissions footprint of its products by 2030, Unilever has committed to achieving net zero (Scope 1, 2, and mandatory downstream scope 3) value-chain emissions by 2039.

Key nature commitments include having a deforestation-free supply chain in palm oil, paper and board, tea, soy, and cocoa by 2023; helping to protect and regenerate 1.5 million hectares of land, forests, and oceans by 2030; and implementing water stewardship programs in 100 locations in water-stressed areas by 2030.

Unilever's €1 billion Climate & Nature Fund also enables its brands to invest in projects including landscape restoration, reforestation, carbon sequestration, wildlife protection, and water preservation.

### **Working with others to have a positive impact**

Tracing the supply chain upstream and measuring the impact of commodity production in the first mile are essential. Unilever is collaborating with a suite of technology providers (such as Orbital Insight, Google, Descartes Lab, and NASA) to improve traceability and share geospatial data that helps to identify deforestation risk.

Unilever is also driving jurisdictional approaches for forest landscape management. Five public-private partnerships have been launched, which have improved farmers' livelihoods, lowered certification costs, and restored wildlife habitat. For example, in Sabha, Malaysia, Unilever works with the World Wildlife Fund (WWF) and others to combine conservation and sustainable development by integrating the protection of forests, wildlife, and rivers into the production of RSPO certified palm oil.

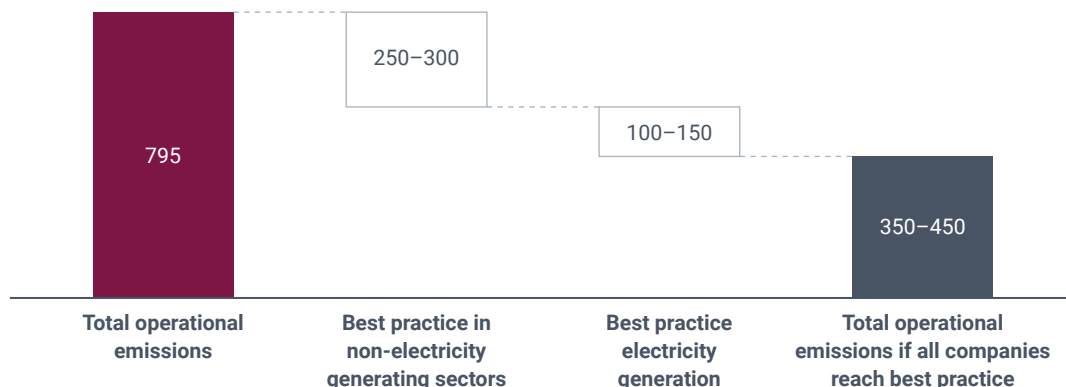
Unilever is empowering farmers and smallholders to protect and regenerate farm environments. In 2021, the company announced the Regenerative Agriculture Principles, a new approach to farming that works in harmony with nature to ensure the long-term viability and resilience of land. Knorr, a brand of Unilever, is putting the principles to the test, working with US rice supplier Riviana to implement a suite of farming practices that enable farmers to grow rice while preserving water and decreasing methane emissions.





**Exhibit 35: Total operational emissions could be cut in half if all companies caught up with the leaders in each sector**

Potential emission reduction in MN tonnes CO<sub>2</sub>e (Scope 1 and 2) by sector, 2021



Note: Best practice emission intensity represents the emission intensity of the top quartile across each sector's primary activity. Total operations emissions in the current year adjusted to remove double counting of utilities Scope 1 and other sectors' Scope 2 emissions.

Source: Oliver Wyman analysis; CDP data

Were the lagging 75 percent of companies in each sector to "catch up" and have the same emissions intensities of the leading 25 percent, reductions in their operational emissions would be significant. We estimate that universal achievement of best-in-class emissions intensity would cut the European corporate sector's operational emissions by 40–50 percent: an annual saving of approximately 350 to 450 million tonnes CO<sub>2</sub>e — roughly the equivalent of the annual emissions of the UK and Ireland combined. (See Exhibit 34 and Exhibit 35.)

Examples of companies with operational emissions intensity significantly below the average of their peers are: HeidelbergCement AG — 42 percent lower than the average economic emissions intensity of the Cement sector, and Iberdrola — 70 percent lower than the average of the electric utilities sector. In this chapter we explore three priorities for direct action that companies can take today.

## GREEN ENERGY

**Leading companies are following a simple playbook to reduce operational emissions: expanding the use of green energy and doubling down on energy efficiency.**

### Expand renewables

The decarbonization of Europe's electricity sector creates powerful tailwinds for operational emissions reductions. The build out of renewable sources has helped the utilities sector sustain one of the strongest rates of emissions reduction in recent years. (See Exhibit 33.) And in 2020, the share of renewables in European electricity generation reached 38 percent, surpassing fossil fuels for the first time (Ember and Agora Energiewende, 2021).<sup>21</sup> For example, Iberdrola, an electric utility based in Spain, is committed to having its global energy mix as 0 percent coal, less than 20 percent gas, with the remaining from renewable energy sources (see Iberdrola case study).

Utilities' progress has contributed to impressive Scope 2 emissions reductions in other sectors, averaging 5.7 percent per year from 2017–2019 (before the pandemic). This trend provides companies with additional opportunities to reduce Scope 1 emissions by electrifying fossil fuel powered activities — for example, transport.

Leading companies are looking to move even faster than the grid. Growing numbers are collaborating with utilities through Power Purchase Agreements (PPAs), which allow them to source green power directly, at a fixed price, while supporting the construction of new renewable capacity. Corporate PPA volumes in EMEA nearly tripled in 2020, to 7.3 GW, from 2.6 GW in 2019 (Bloomberg NEF, 2022).<sup>22</sup>

Some companies are also building their own renewable power sources. For example, 20 percent of transport engine part manufacturers and 12 percent of the financial services firms use on site solar photovoltaics (PV).

Companies are also using renewables for activities and processes that are not electrified. Examples include bioenergy (e.g. for combined heat and power), biofuels for transport, and solar heating and cooling. For instance, around half of cement companies are using alternative fuels such as waste-derived fuels.

## CASE STUDY

### IBERDROLA

Spain-based Iberdrola is an electric utility with great ambitions for the energy transition. It aims to be carbon neutral by 2030 in Europe based on Scope 1, 2, and 3 emissions. Globally, it is aiming to meet this target before 2050, with an interim Scope 1 emissions-intensity target of 50 grams of carbon dioxide per kilowatt-hour by 2030, down from 300 grams in 2007.

Iberdrola aims to push for transformative change rather than just incremental improvements. To achieve those goals, Iberdrola's global energy mix will need to consist of less than 20 percent of gas in its electricity production by 2030 and 0 percent coal, with the rest coming from renewables. To this end, Iberdrola aims to triple its renewable power generation to 100 GW by 2030 from the current 37 GW.

But success will not come without any effort. To expand its renewable power generation, Iberdrola has committed to invest €150 billion by 2030. Of this investment, 51 percent will go into renewable power generation, with offshore wind and solar power a priority. In 2020, it installed 3 GW more renewables capacity, of which 1 GW was solar — meaning annual capacity increase over this decade will need to double to reach its 2030 target. Another 40 percent of the investment will finance infrastructure, such as smart grids, to enable the expansion of renewables.

Iberdrola is also supporting reductions in its customers' emissions, something it will invest the remaining 9 percent of the funds in. One way is to help them become more energy-efficient and consume renewables rather than fossil-generated electricity. That can be done by installing solar panels at production facilities and EV-charging points, as well as the electrification of heating systems. The company is also partnering with other sectors (such as fertilizers, steelmakers, and heavy transport) to develop green hydrogen-based solutions for their manufacturing processes.

One way for industrial customers to reduce their Scope 2 emissions is by the adoption of power purchase agreements (PPA), which Iberdrola is also encouraging. While demand for PPAs is growing, especially by industrial and technology customers, demand in markets that have been affected by COVID-19 are lagging due to the lack of financial means by companies to invest in PPAs.

Green financing, thus, will need to play a bigger role in driving the energy transition. To finance the renewable energy expansion and power grids, Iberdrola has become the world's largest corporate issuer of green bonds, having issued a total of €13.2 billion since 2014. Currently, 25 percent of the loans Iberdrola takes out are green, and it plans to increase the proportion to 45 percent in 2025.

To truly enable transformative and systemic impact, the company also lobbies regulators to be more ambitious in phasing out fossil fuels. And it engages with NGOs and organizations to develop new economic opportunities for local economies that have lost income from the closure of coal fields.



# 66%

of companies disclose no use of low-carbon energy

Companies with SBTs are

# 30%

more likely to invest significant sums in low-carbon R&D

## Double down on energy efficiency

Energy efficiency in production and buildings is a second key lever. Across all sectors, 41 percent of companies are pursuing energy efficiency in production processes. In the steel sector, the share is 77 percent. In addition, many companies are increasing the energy efficiency of their buildings. For example, 65 percent of transport OEMs, 53 percent of capital goods, and 41 percent of chemicals companies are working towards making their buildings energy efficient.

This simple playbook has yet to be applied universally. However, widespread adoption of this would provide a significant opportunity for a step change in delivery. For example, while one in six European companies (excluding electric utilities) generate some low-carbon energy themselves, five in six do not. More broadly, the share of companies that report no low-carbon energy use of any kind is 66 percent, rising to 75 percent in the metals and mining sector and 90 percent in the oil and gas sector. Exhibit 36 summarizes the progress of each sector on renewables and energy efficiency. As can be seen, from one sector to the next, it is typically a minority of companies pursuing these strategies.

Exhibit 36: Action on energy efficiency and low-carbon energy is not widespread

Initiative Category	Transport OEMS-EPM	Construction	Cement	Food, beverage and tobacco	Steel	Capital goods	General	Paper and forestry	Chemicals	Transport services	Metals and mining	Agricultural commodities	Electric utilities	Oil and gas	Transport OEMS	All Sectors
Low-carbon energy consumption	100%	54%	43%	40%	38%	38%	38%	28%	27%	27%	25%	24%	12%	10%	0%	34%
Energy efficiency in production processes	80%	35%	86%	58%	77%	47%	31%	100%	86%	34%	55%	41%	37%	76%	47%	41%
Low-carbon energy generation	40%	22%	29%	18%	0%	19%	17%	28%	22%	17%	25%	18%	41%	7%	0%	19%
Energy efficiency in buildings	60%	41%	14%	31%	38%	53%	46%	33%	41%	34%	25%	24%	37%	0%	65%	42%

Source: Oliver Wyman analysis; CDP data



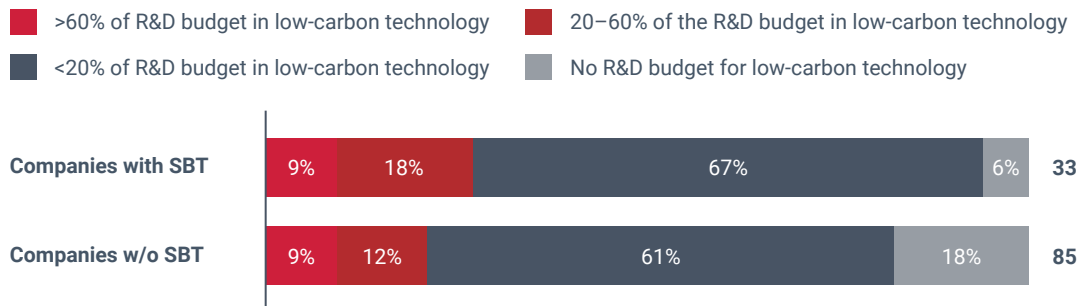
## Research and development

For companies in hard-to-abate sectors, there are limits to how far renewables and energy efficiency alone can reduce operational emissions. Industries such as cement, steel, chemicals, metals & mining, and transport services rely on carbon intensive technologies and industrial processes that cannot be readily electrified. Reaching net-zero in these sectors requires the development and commercialization of breakthrough technologies such as hydrogen, sustainable aviation fuels (SAF), and carbon, capture, utilization, and storage (CCUS). These have now moved beyond the early R&D stage but will require substantial investment in demonstration and deployment. Estimates from Oliver Wyman and the World Economic Forum indicate between \$300 BN and \$500 BN of global investment will be needed by 2030 (Oliver Wyman and WEF, 2021).<sup>23</sup>

In hard-to-abate sectors, investment in low-carbon R&D can therefore be viewed as a down payment on future emissions reductions, and it is the companies with the most ambitious emissions reduction plans that are investing the most. Across cement, steel, chemicals, metals and mining, and transport services, companies with any SBT are 30 percent more likely to spend a material share of their R&D budget (defined as more than 20 percent) on low-carbon technologies than those without. (See Exhibit 37.)

### Exhibit 37: In hard-to-abate sectors, companies with SBTs are 30 percent more likely to make material investments (more than 20 percent of total) in low carbon R&D

% of companies in hard-to-abate sectors, 2021

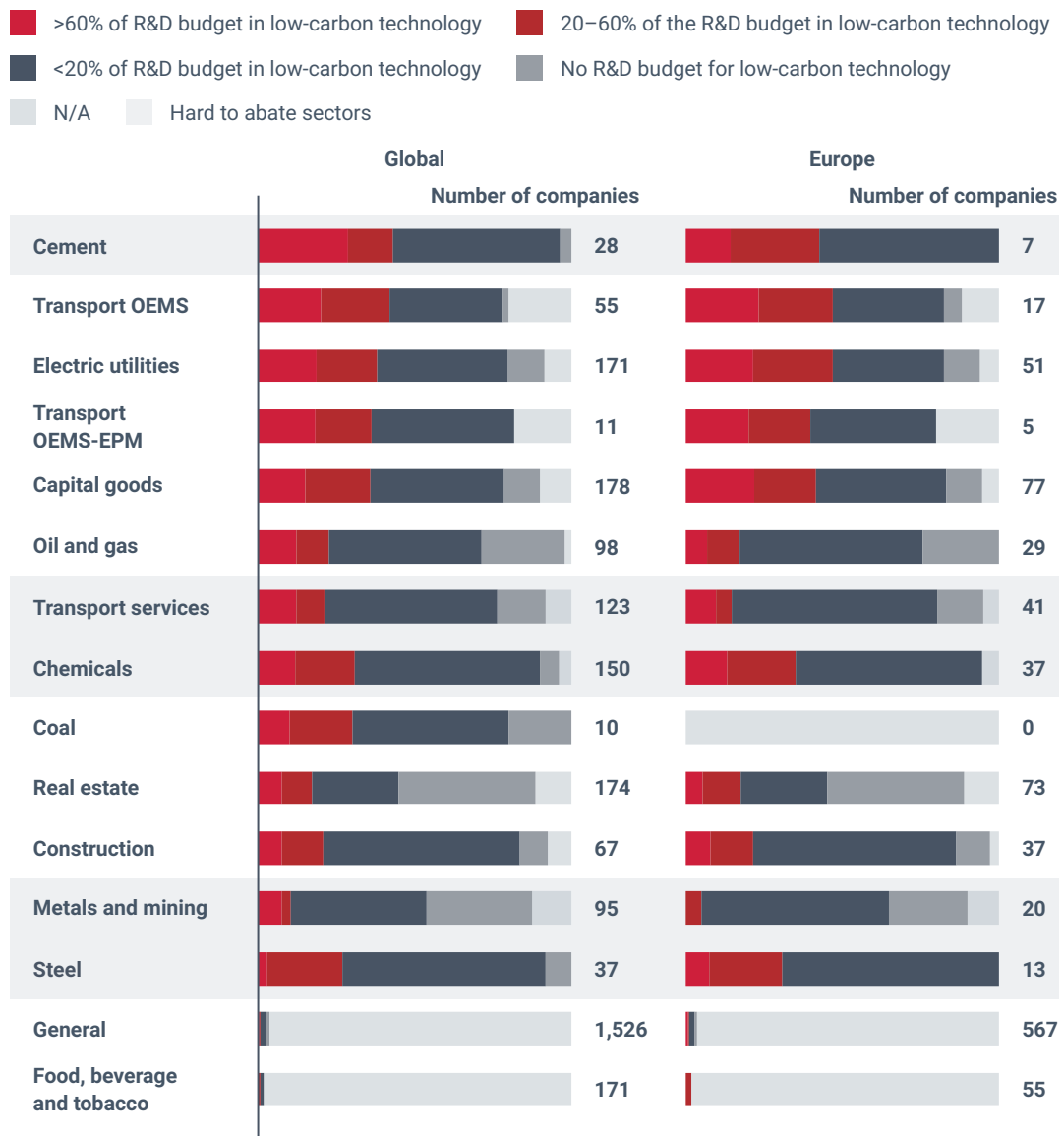


Source: Oliver Wyman analysis; CDP data; SBTi data

Overall, 86 percent of companies in hard-to-abate sectors reported some investment in low-carbon R&D, however only a quarter invest more than 20 percent. In some sectors – notably transport services and metals and mining – this share is markedly lower, possibly reflecting their partial dependence on innovation in upstream or downstream sectors. For example, decarbonization of transport services depends on innovations in fuels and transport technologies that are also being pursued in other sectors: Transport OEM Airbus spent more than 80 percent of its R&D budget on low-carbon technology, including alternative fuels and electric planes. (See Exhibit 38.)

### Exhibit 38: Investment in low-carbon R&D varies significantly by sector

% of corporations by R&D spend in low-carbon technology, 2021



Source: Oliver Wyman analysis; CDP data

## CASE STUDY

### HEIDELBERGCEMENT

HeidelbergCement committed itself to achieving carbon neutrality by 2050 at the latest within the SBTi framework. By 2020, the Germany-based multinational building materials company had reduced its CO<sub>2</sub> emissions by 23 percent compared to 1990. HeidelbergCement also aims to operate the world's first carbon-neutral cement production plant by 2030, in Slite, Sweden.

Given that cement production is highly energy intensive, and CO<sub>2</sub> emissions from the production process are unavoidable, the industry is seen as "hard-to-abate." HeidelbergCement drives the sector's decarbonization efforts in multiple ways, underpinned by concrete measures and scientifically validated targets; target achievement is embedded in the management incentive programs.

Reduction measures include conventional levers (such as increased use of alternative raw materials and biogenic fuels) and build on localized low carbon and sustainable product portfolios, such as the low-carbon concrete (LC2) technology which has been piloted in Sweden and Spain. In 2020, the company spent €120 million on process technology development and product research activities such as finding ways to substitute clinker in the making of cement with alternative binding materials such as calcined clay, pozzolan, and recycled concrete. In parallel, alternative and green energy sources are being investigated to reduce fuel-related emissions: In 2021, a cement kiln in Ribblesdale, UK, has successfully been operated with a 100 percent climate-neutral fuel mix including hydrogen as part of a demonstration, with the potential of saving 180,000 tonnes CO<sub>2</sub>.

HeidelbergCement pioneers carbon capture, utilization and storage (CCUS) technology, aiming to capture 10MN tonnes CO<sub>2</sub> until 2030 with several pilot projects which have already been launched. This commitment will be achieved, for example, with the world's first large-scale CCS facility at a cement plant, being operational in Norway from 2024. Following the success of the LEILAC 1 pilot project in Belgium, LEILAC 2 will be operated in Germany and capture around 100,000 tonnes CO<sub>2</sub> per year.

The company also enables the circular economy through co-processing of waste materials as a source of energy at its cement plants and the recycling of demolished concrete — including enforced carbonation to further reduce the CO<sub>2</sub> footprint of its products and permanently utilize CO<sub>2</sub> within its own value chain.

HeidelbergCement will invest and also make use of public funding opportunities to advance sustainable and decarbonized products, thereby providing the foundation for climate-resilient infrastructure and green energy systems which are material for a net-zero society.







I'm encouraged by leaders in Europe's financial system and real economy stepping up. But leadership is really concentrated — we must broaden action out across the whole market. It's high time all companies and financial institutions with huge, global environmental footprints take urgent action to align their value chains with our planet's natural boundaries. We need to see a true transformation to reach both net-zero emissions and a full recovery of nature.

Maxfield Weiss, Executive Director at CDP Europe

In contrast, 42 percent of cement companies reported material low-carbon R&D and 86 percent reported investments in CCUS, making this the most commonly reported low-carbon technology in the sector's R&D disclosures (see HeidelbergCement case study).

Significant investments in CCUS were also reported in other sectors — notably oil & gas and capital goods, which could become key players in the CCUS value chain. For example, Siemens Energy spent over 40 percent of its R&D budget on CCUS while Repsol is allocating over 80 percent of its budget on sustainable mobility solutions, which includes CCUS alongside other initiatives (such as green hydrogen).

The high-risk, long-term, capital intensive nature of breakthrough technologies such as CCUS and hydrogen places a premium on collaboration in order to coordinate investment, pool capabilities, and share risks. For example, in the steel sector, the HYBRIT hydrogen-reduced steel project is a collaboration between a steelmaker (SSAB), a mining company (LKAB), and a renewables developer (Vattenfall). Another zero-emissions steel project — ArcelorMittal's Sestao plant in Spain — has benefitted from close collaboration with the local and national governments to provide regulatory and financial support and mobilize investment in enabling infrastructure. Financial institutions also have an important role to play de-risking and financing the deployment of critical technologies, indeed this will be critical if they are to achieve their own portfolio decarbonization objectives.

### **Nature-based solutions**

As nature rises up the agenda of governments, companies, and financial institutions, attention is shifting from a “do no harm” agenda — for example, preventing deforestation or habitat destruction — to a “nature-positive” agenda aimed at restoring ecosystems.

So far however, private sector investments in nature-based solutions remain low. Estimates suggest that business is responsible for only 14 percent of investments into nature-based solutions, despite being responsible for around 60 percent of global GDP (UNEP, 2021).<sup>24</sup>

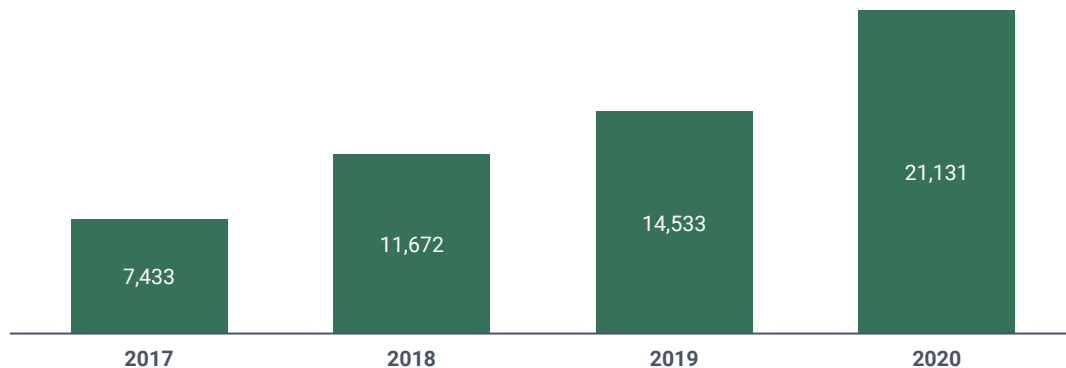
Private investment in nature-based solutions is difficult to mobilize because the benefits are hard to monetize — restoring a natural forest or wetland is unlikely to generate a cashflow. In cases where ecosystem restoration provides risk reduction benefits — such as restoring coastal wetlands to reduce flood risk — companies, governments, and financial institutions have begun to innovate with resilience bonds to mobilize the necessary upfront investment.

Another emerging channel for corporate investment in nature is the nascent voluntary carbon market. Carbon credits are increasingly marketed as providing co-benefits for nature — for example, in the form of forest restoration or biodiversity. However, a current lack of standardization and transparency makes comparability difficult and creates risks for buyers. Various initiatives are underway to develop a more robust market; notably, the establishment of the Integrity Council on Voluntary Carbon Markets, which is proposing new standards, will oversee the implementation of these.



An indication of business appetite for nature-based offsets is provided by the growth in volumes of forest-related credits reported to CDP. Volumes almost tripled between 2017 and 2020, from 7.4 to 21.1 MN tonnes CO<sub>2</sub>e, reaching 54 percent of purchased offsets. Most of these offsets are based on “avoidance credits,” which provide funding for the preservation of existing forest. As scrutiny on these markets increases, demand for “removal credits,” which focus on projects that create new forests and other natural sources of carbon reduction, are likely to increase. (See Exhibit 39.)

**Exhibit 39: Companies are increasing their purchases of forest-related offsets**  
1,000s tonnes carbon credits



Source: Oliver Wyman analysis; CDP data

Rather than rely on offset markets, some leading companies are choosing to invest directly in nature-based solutions in their own operations and value chains. Examples are most prevalent in sectors that rely on forests or land-use. Nearly a fifth of companies in agricultural commodities, food, beverage and tobacco, and paper and forestry sectors reported that they were actively engaged in nature-based solutions to reduce their emissions. Nature-based solutions that were reported include restoration of rainforest habitats, wetland restoration, and reforestation of land to replenish watershed. For example, Stora Enso PLC has dedicated roughly half of the land owned by its Veracel joint venture in Brazil to rainforest preservation. It also works with local organizations to restore areas of rainforest. These efforts have saved an estimated 2.65 MN tonnes CO<sub>2</sub>e and also connected areas of natural habitat with forest corridors, enabling wildlife to move more freely from one area to another.

Heineken’s reforestation and water security project in the Mexican city of Monterrey provides an example of climate and nature co-benefits arising from direct company action (see Heineken case study). In the forestry sector, Metsä Board has policies to ensure sustainable forest management alongside specific programs to maintain biodiversity, increase carbon sinks, and improve water quality (see Metsä case study).

Leading financial services companies are also acting on nature-based solutions. For example, AXA has launched a dedicated climate and biodiversity impact investing fund and is working to support the preservation of natural World Heritage sites (see AXA case study). Aviva is developing new frameworks to assess biodiversity risks in its portfolios and is actively investing in nature-based solutions and land restoration (see Aviva case study).



## CASE STUDY

### AVIVA

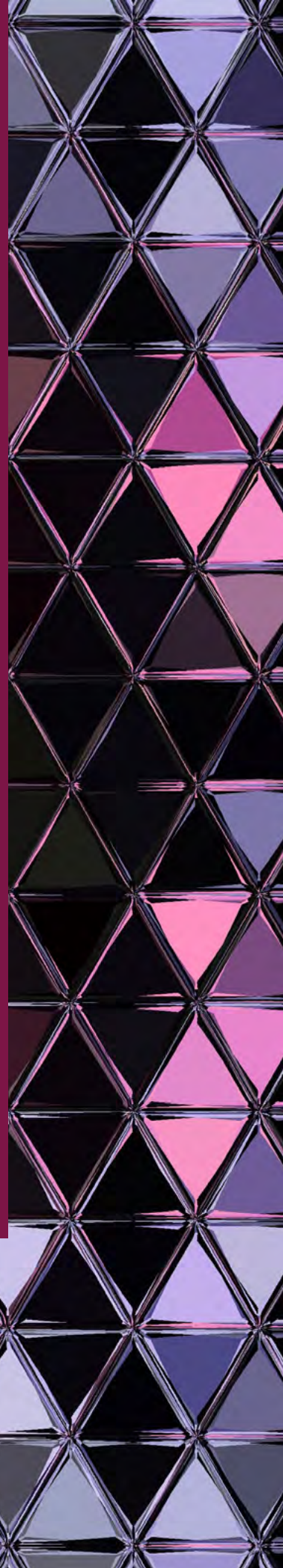
Aviva, the UK's largest general insurer, is supporting the transition towards a nature-positive economy. It was the first UK insurer to commit to the Finance for Biodiversity Pledge, which was launched by a group of financial institutions in 2020. Signatories commit to protecting and restoring biodiversity through their financing activities and investments by engaging with the companies they finance, assessing the impact of corporate activities, setting targets, and reporting publicly on activity.

Thus, Aviva is playing its part in reversing biodiversity losses by 2030, in line with commitments made by the G7 and the UK government. As part of its commitment, the insurer recently outlined a set of principles to guide biodiversity decision-making and identify areas for action.

**Assessing biodiversity risks:** Aviva has launched an in-depth impact assessment to understand biodiversity risks in the context of its business. By 2023, new assessment tools will enable it to identify and prioritize key areas of impact and dependency. It will then be able to set and disclose portfolio-wide targets and embed biodiversity considerations in its operations, investment, and underwriting processes.

**Engagement and support:** Aviva excludes certain activities — such as oil sands development and Arctic drilling — from its investment and underwriting partly due to their impacts on biodiversity. However, Aviva prefers engagement to divestment. So beyond these high-carbon emitting sectors, it is looking to engage companies and support them in taking action to prevent and reverse biodiversity loss. In partnership with NGOs such as the WWF, Aviva aims to put biodiversity on the legislative agenda and develop industry-wide standards and guidance on metrics, targets, and reporting.

**Restoration:** Aviva announced a commitment to invest £50 million in 2021–2022 in afforestation projects through Aviva Investors' Climate Transition Real Assets Fund. This includes investments to remove emissions from the atmosphere and benefit nature, whilst also making the fund net-zero aligned. In December, together with Par Equity, Aviva announced plans to deliver a 6,300-hectare woodland creation and peatland restoration scheme in Scotland, with the potential to capture over 1.4 million tonnes of carbon. This is in addition to an initial £100 million investment in nature-based solutions committed as part of Aviva's ambition to be net zero by 2040. Aviva is working with partners to develop projects that will not only provide removal credits but will do so in a way that promotes biodiversity and builds community resilience to climate change.



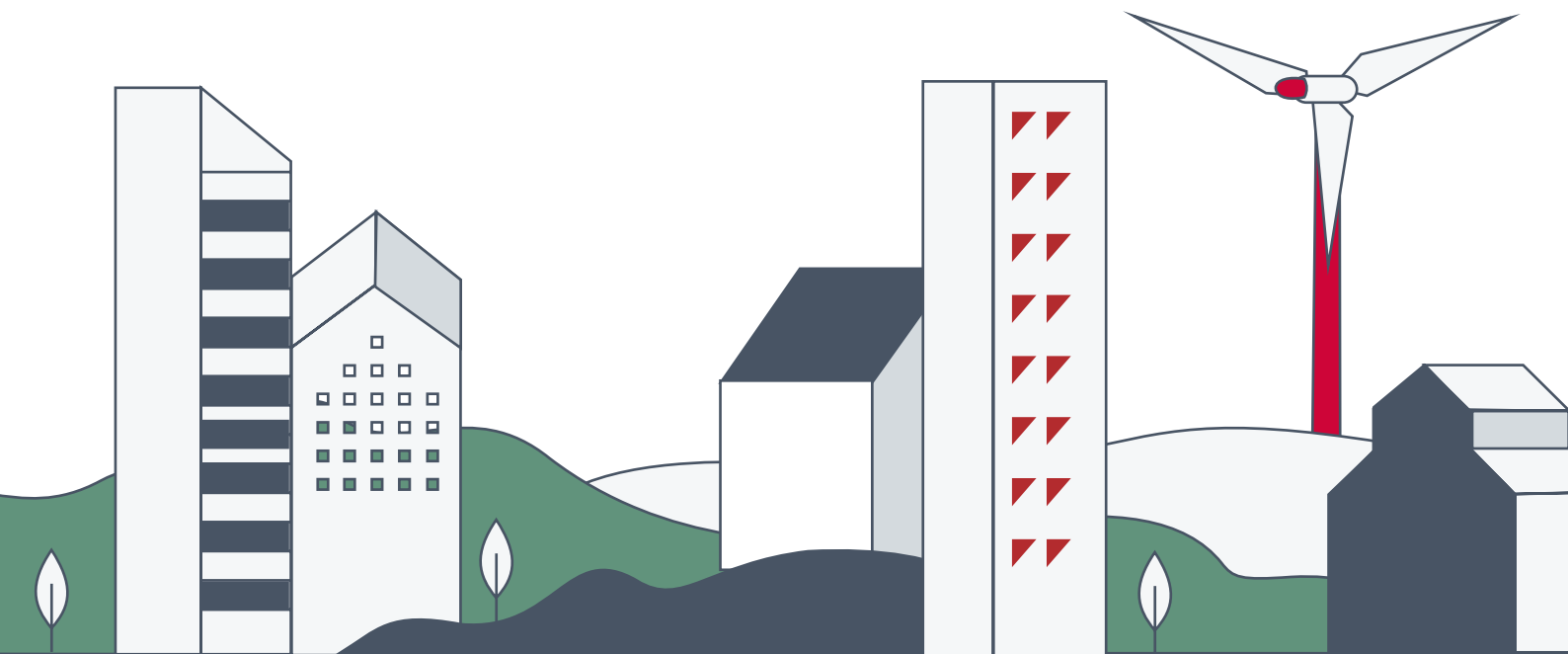
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# CONCLUSION

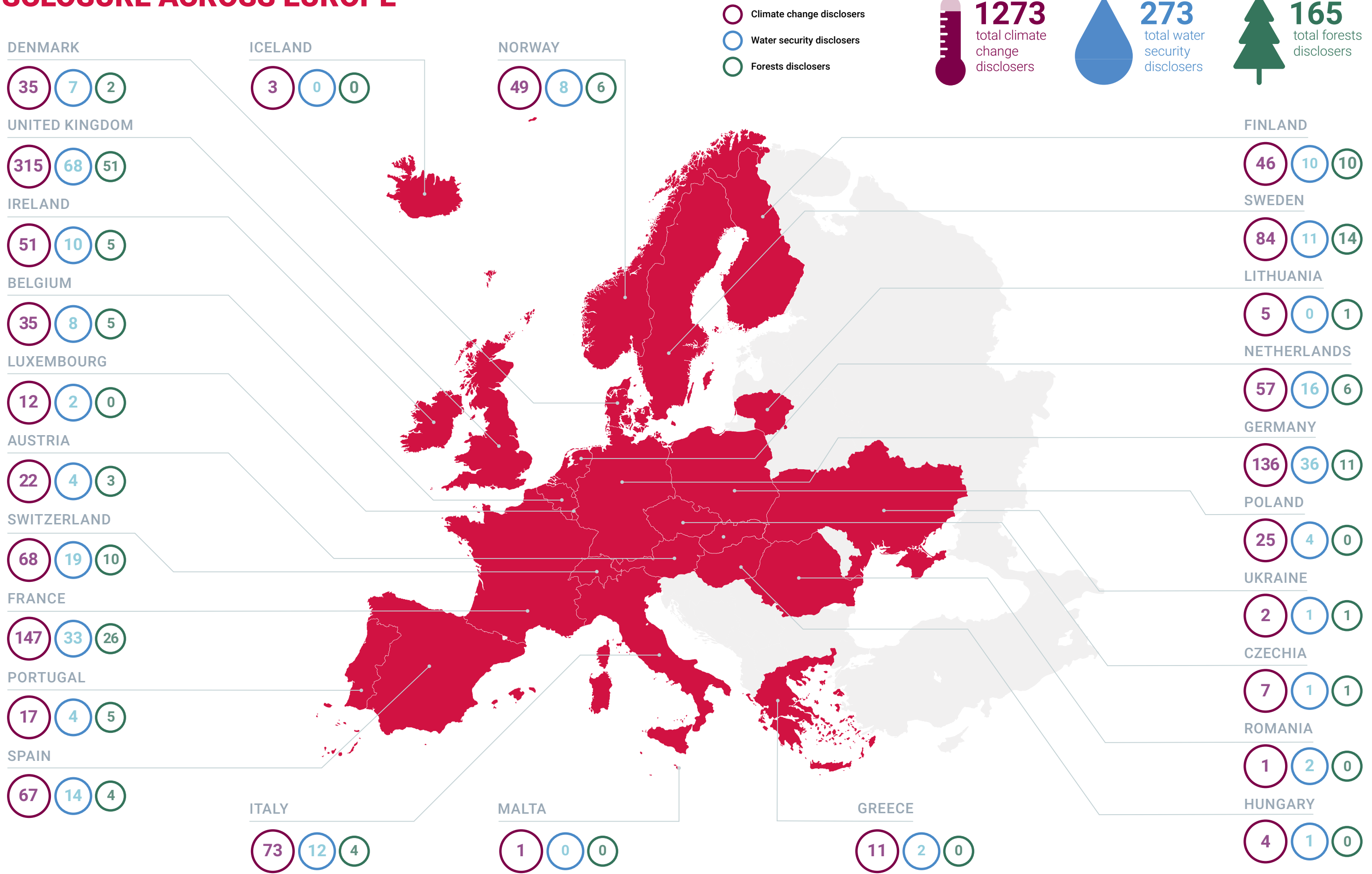
This report provides many examples of inspiring leadership on climate and nature. It shows how companies are collaborating along value chains to reduce emissions, reaching deep into supply chains to tackle deforestation and improve water security, and implementing nature-positive projects to simultaneously restore ecosystems, increase carbon sequestration, and improve water quality. It also shows how increasing pledges to reach net-zero in the financial services sector are helping to accelerate ambition in the real economy, and how leading financial institutions are beginning to engage with their portfolio companies on forests and water security, raising the possibility of a similar dynamic on nature.

However, the report also raises important warnings. Although corporate ambition on emissions is accelerating, progress on actual emissions remains stubbornly slow. And the broader picture on leadership is that, in almost every case, it is confined to a small number of companies.

As governments, societies, and financial institutions increasingly focus on delivery, it would seem that companies in the main have much catching up to do.



# DISCLOSURE ACROSS EUROPE

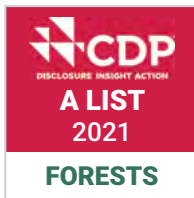


Map displays the number of 2021 responses from all companies responding to investors in the respective country, including companies reporting through their parent companies and some private companies.



# CDP A LIST AWARDS:

## EUROPE'S ENVIRONMENTAL LEADERS



Corporates in  
Europe achieved

# 40%

of all A List scores  
awarded globally

In 2021, there were 105 European companies on CDP's A Lists for climate change, forests and water security — a drop of 35 percent year-on-year. Between these 105 companies, a total of 137 A List scores were awarded: 94 for climate change, 14 for forests, and 29 for water security. Corporates in Europe represent close to 40 percent of the total global A List (273 companies).

Most notably, 8 out of the 14 companies globally to receive a triple A are based in Europe, reflecting Europe's leading position for the highest levels of transparency and action across the three key interrelated environmental themes. This year, Lenzing, Metsä Board Corporation and Unilever joined Danone, FIRMENICH, L'Oréal, Mondi, Philip Morris International and Symrise, who also achieved three A scores in 2020.

For forests, companies from Europe take up 42 percent of the global forests A List, with 14 out of 24 of the best-performing companies globally. On water security, the 29 European companies represent 25 percent of the total A List awarded globally, which is down from 26 percent in 2020.

Within Europe, corporates from the United Kingdom, France and Germany again dominated the A List, accounting for 50 percent of the European A List companies, with 23 French companies achieving the best possible score, 15 from the United Kingdom, and 14 from Germany. In total, European A List companies have a market value of over €2.66 trillion.

For climate change, while 3.5 percent of European companies received an A score, 7 percent of companies in Europe were scored A-, and 15 percent B. This means that over 25.5 percent of companies in Europe were broadly performing well on climate issues, compared to 21.5 percent globally.

### Number of A List companies

France	UK and Northern Ireland	Germany	Spain	Switzerland	Italy	Netherlands	Total <b>104</b>
<b>23</b>	<b>15</b>	<b>14</b>	<b>11</b>	<b>7</b>	<b>6</b>	<b>6</b>	
Sweden	Denmark	Norway	Finland	Austria	Portugal	Belgium	
<b>5</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	

### Performance Stoxx® Global Climate Change Leaders vs. Stoxx® Global 1800



The STOXX Global Climate Change Leaders index has an annualized outperformance of 5.8% per annum over its reference index, the STOXX Global 1800, over the period December 2011 to October 2021.



**Companies not disclosing and acting on their environmental impacts are putting both the planet and themselves at risk. If they continue with business as usual, they will be on the wrong side of public opinion, regulation and the capital markets. Scrutiny is growing: inadequate targets or greenwash won't fly."**

Maxfield Weiss, Executive Director CDP Europe

# CLIMETRICS FUND AWARDS

## 2021 RESULTS



**Climetrics independently rates 18,000 global funds representing over**

**€15 trillion,**

**around a third of the global fund market**

In its fourth year, CDP's Climetrics Fund Awards recognizes the asset managers of 20 actively managed equity funds across four categories: US equity, European equity, emerging markets equity and Global equity.

The top five actively managed funds for each equity category were selected based on their underlying Climetrics score, which is based on CDP climate change, forests and water security data.

The funds have the highest overall performance through an entirely environmental lens. Climetrics gives a fund a '1-leaf' to '5-leaf' rating by scoring its portfolio of companies, the asset manager's environmental action, and its investment policy.

In the global equity, European equity and US equity categories, all funds are rated the best '5-leaf', while in the emerging markets equity category, the highest fund rating given was '4-leaf'. The funds awarded in 2021 stand out as generally investing in companies which are better at disclosing and managing material climate, water and deforestation issues.

The awards were distributed during the [CDP Europe Awards](#), a high-level dialogue hosted by CDP and produced by Euronews.

CDP's market-leading corporate data on climate change, forests and water security is used for the underlying corporate performance in the Climetrics methodology, along with sources like the Science Based Targets initiative and the ACT initiative.

Portfolio companies with larger environmental challenges are better scored if they manage them well or invest heavily in solutions. This includes, for example, if companies in hard-to-decarbonize industries have science-based targets (SBTs) that will align their emissions reductions with a 1.5°C pathway.

This approach enables investors to easily find diverse funds with good environmental performance and helps channel capital faster to the low-carbon transition.

Any investor can search the Climetrics database of close to 20,000 funds [for free on the CDP website](#).

Asset Manager	Equity category	Fund Name	Rating
AXA Investment Managers	Global	ACT Framlington Clean Economy	★★★★★
Mirova	Global	Global Environmental Equity	★★★★★
Schroders	Global	ISF Global Climate Change Equity	★★★★★
Storebrand Asset Management	Global	Delphi Green Trends	★★★★★
Swedbank Robur	Global	Transition Energy	★★★★★
Allianz Global Investors	European	Europe Equity SRI	★★★★★
HSBC Global Asset Management	European	RIF Europe Equity Green Transition	★★★★★
La Banque Postale AM	European	Federis ISR Euro	★★★★★
La Financiere de l'Echiquier	European	Climate Impact Europe - Action	★★★★★
Mirova	European	Europe Environmental Equity	★★★★★
Aktia	US	America	★★★★★
La Banque Postale AM	US	Federis ISR Actions US	★★★★★
La Banque Postale AM	US	ISR Actions Amerique	★★★★★
Mirova	US	US Climate Ambition Equity	★★★★★
Robeco	US	QI US Conservative Equities	★★★★★
Aberdeen Standard Fund Managers	Emerging markets	Emerging Markets Sustainable and Responsible Investments Equity	★★★★★
Aberdeen Standard Fund Managers	Emerging markets	Emerging Markets Sustainable Development Equity	★★★★
Fisher Investments	Emerging markets	Institutional Emerging Markets Responsible Equity ex-Fossil Fuels	★★★★
Robeco	Emerging markets	Sustainable Emerging Stars Equities	★★★★
Union Bancaire Privée	Emerging markets	Positive Impact Emerging Equity	★★★★



# APPENDIX

In most sectors, nearly all observed emission reductions can be explained by observed changes in indicators of travel, industrial output and energy demand

Driver of change	Aggregated sector	Sector	Change in emissions	Explained by COVID-19 impact	Economic activity proxy used
Reduced travel	Transport services	Air transport	-58%	Fully	• European flight volume
		Intermodal transport and logistics	2%	Mostly	• European parcel market size
		Marine transport	0%	Fully	• Global maritime trade volume
		Rail transport	-20%		• European passenger kilometers
Reduced industrial output	Manufacturing	General	-12%	Mostly	• European manufacturing production volume
		Capital goods	-18%		• European capital goods production volume index
		Transport OEMs	-15%	Partially	• European vehicle production volume
		Transport OEMs-EPM	-11%	Fully	• European manufacturing production of parts and accessories for motor vehicles
	Materials	Cement	-8%	Partially	• Relevant cement production volume
		Steel	-5%	Fully	• European steel production volume
		Metals and mining	-3%		• European mining and quarrying production volume index
		Chemicals	-3%	Partially	• European manufacturing of chemicals (excl. pharmaceuticals) production volume index
	Real estate and construction	Real estate	-17%	Mostly	• European residential Real Estate investment volume
		Construction	-14%	Fully	• European construction production volume
	Agriculture	Agricultural commodities	17%	Partially	• European agricultural industry output volume
		Food, beverage, tobacco	-7%		• European food & beverage production volume
		Paper and forestry	-7%	Mostly	• European pulp, paper and board production volume
	Financial services	Financial services	-22%	Partially	• Global financial services market size
Reduced energy demand	Energy	Electric utilities	-12%	Mostly	• European electricity demand volume
		Oil and gas	-10%	Fully	• Global oil demand volume

1. **Unit for emissions used in this report** unless otherwise stated: million metric tonnes of carbon dioxide equivalent
2. 164 companies disclosed to CDP forests, 148 of which disclosed at least one forest risk commodity. 16 companies disclosed no commodities so were not included in the analysis.
3. See CDP website for an explanation of self-selected companies, <https://www.cdp.net/en/companies-discloser/how-to-disclose-as-a-company/faqs-for-companies#4-request>
4. **A science-based net-zero target** includes both near-term and long-term SBTs. More information is available here: <https://sciencebasedtargets.org/net-zero> (retrieved Feb. 15, 2022)
5. Until recently, a 1.5°C pathway for targets for cement was not available through the SBTi. The cement company Holcim now has a long-term science-based target (a net-zero target) which is in line with 1.5C.
6. **Global Carbon Project**, 2021, [https://www.globalcarbonproject.org/carbonbudget/21/files/GCP\\_CarbonBudget\\_2021.pdf](https://www.globalcarbonproject.org/carbonbudget/21/files/GCP_CarbonBudget_2021.pdf) (retrieved on Feb. 15, 2022)
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14. Please note that the 71 percent of companies with an SBT reflects only the companies that disclosed to CDP in 2021 on all questionnaires: climate change, forests, and water security

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in partnership with:



## CDP contacts

**Maxfield Weiss**  
Executive Director

### Corporate Engagement

**David Lammers**  
Deputy Director  
david.lammers@cdp.net

### Supply Chain

**Hugo Ernest-Jones**  
Associate Director Supply Chain  
hugo.ernest-jones@cdp.net

### Reporter Services

**Ivor Kadragic**  
Associate Director Reporter Services  
Ivor.kadragic@cdp.net

### Disclosure enquiries

disclose.europe@cdp.net

### Capital Markets

**Laurent Babikian**  
Joint Global Director

### Climetrics

**Nico Fettes**  
Head of Product Development  
nico.fettes@cdp.net

### Policy Engagement

**Mirjam Wolfrum**  
Director

### Mona Freundt

Senior Policy and Government  
Partnerships Manager  
mona.freundt@cdp.net

### Media enquiries

**Josh Snodin**  
Senior Communications  
and Partnerships Manager  
joshua.snodin@cdp.net

## Oliver Wyman contacts

**Rob Bailey**  
Partner  
rob.bailey@oliverwyman.com

**James Davis**  
Partner  
james.davis@oliverwyman.com

**Linda Liu**  
Associate  
linda.liu@oliverwyman.com

**Berke Aral Sönmez**  
Data Analyst  
berke.sonmez@oliverwyman.com

**Jeroen Schmitz**  
Senior Consultant  
jeroen.schmitz@oliverwyman.com

**CDP Europe**  
c/o WeWork  
Potsdamer Platz-Kemperplatz 1  
10785 Berlin, Germany  
www.cdp.net  
Twitter: @cdp

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