



**CFO  
COALITION  
FOR THE SDGS**



# **CORPORATE INVESTMENTS TO ACHIEVE CLIMATE AMBITIONS**

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# FOREWORD

At the UN Global Compact, in partnership with the CFO Coalition for the SDGs, our goal is to direct as much of the estimated US \$17 trillion in corporate fixed investments annually — and trillions more in tangibles — to strategies and actions underpinned by our shared Global Goals and the Paris Agreement on climate.

To keep our global climate goals within reach, the world needs to reach US\$4.3 trillion in annual climate-related finance flows by 2030. The data is clear: we need to move from aspiration to action quickly.

Climate change represents one of the greatest challenges of our time and requires tremendous private sector investments to transition entire sectors towards an inclusive and just green economy. Climate action accounts for the largest slice of corporate investments in sustainable development — of the 138 investment examples analyzed by our CFO Coalition for FY2022, 20, or 15 per cent, were directly linked to Goal 13: Climate Action — spanning all industries and regions. What's more, climate-related targets are the most often used in sustainability-linked finance. For example, out of 514 SDG targets analyzed by the CFO Coalition in FY2022, 142, or 28 per cent, were directly linked to climate.

As companies increasingly set advanced targets on climate mitigation and adaptation — including through the Science Based Target initiative (SBTi) — corporate finance and investments provide a foundation of credibility and foresight for investors and stakeholders. Investments that are aligned with the SDGs act as a proxy for actions that companies take to reach their ambitions. Likewise, corporate finance linked to the SDGs brings strong contractual and financial commitments. Together, the triad of science-based targets, corporate investments and financing offers a strong foundation upon which companies can make ambitious climate commitments.

That's why, through our Forward Faster initiative, we are calling on all 18,000 participants of the UN Global Compact to take action in five critical areas to advance the Sustainable Development Goals (SDGs), especially climate action, and including corporate finance.

Therefore, as part of our global call to action through Forward Faster, we are asking companies to quantify and maximize investments and financing aligned with the SDGs, including for climate action.

We are also working with leading companies and financial market participants to accelerate understanding of what constitutes investments that are in alignment with the SDGs.

Our mandate at the UN Global Compact is to serve as a conduit between the corporate private sector and the UN to share key learnings and identify areas of action. In this role, we have heard from corporate CFOs that climate action is the primary Global Goal in their own target setting. This latest research builds on actions taken by corporates to advance their climate ambitions and explores the theory and practice of corporate investment and financing for climate action, focusing on key industry sectors, including Energy and Utilities; Construction, Materials and Real Estate; Industrial Goods; Consumer Products; Technology, Media and Telecommunications; and Consulting, while leveraging knowledge and insights from leading corporate CFOs and industry practitioners.

The following insights aim to provide inspiration and a reference point for companies striving to align their investments and financing to their climate action ambitions. The findings aim to aid financial markets in gauging the readiness of companies and industries for the climate transition and for the sustainable development community looking to promote private sector investments.

This publication was developed as a deliverable of the CFO Coalition for the SDGs of United Nations Global Compact, a group of global CFOs dedicated to sustainability within their own companies and disseminating knowledge on sustainable corporate finance.

This report is part of a growing pool of resources developed by the Coalition to inspire companies all over the world to increase their investments in the SDGs and to incentivize financial markets to reward progress towards our Global Goals.

Join us. Together, we can and must move forward faster.



## **Sanda Ojiambo**

CEO and Executive Director of the  
United Nations Global Compact

# PREFACE

As the strategic facilitator between the United Nations and the global business sector, the UN Global Compact launched the Forward Faster initiative in 2023 as a call for all companies to take action in five areas: living wage, climate action, water stewardship, gender equality and SDG investments and finance.<sup>1</sup> The business sector is uniquely positioned to drive progress in these areas, which also function as critical enablers for all 17 Sustainable Development Goals (SDGs). Acknowledging that “what is measured is managed,” this call to action asks companies not only to integrate these principles in their strategies and policies, but also to set ambitious targets to serve as goalposts for action.

The CFO Coalition for the SDGs is a special initiative of the UN Global Compact that convenes Chief Financial Officers (CFOs) and their teams to promote integration of the SDGs in corporate finance through opportunities for knowledge exchange and collaborative research. The CFO Principles developed by this Coalition offer a framework to guide this process, covering companies' impact thesis and measurement practices, strategy and investments, financing, and reporting and communications.<sup>2</sup>

In response to the growing urgency for collective action to combat climate change, the Coalition developed guidance and resources in 2023, including this report, to support companies in building a bridge between climate action and SDG investment and finance, two of the five areas of Forward Faster. This report is a product of the CFO Coalition for the SDGs and is the result of extensive collaboration with members of the Coalition's Advanced Group, including CFOs and their teams.

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The UN Global Compact CFO Coalition for the SDGs wish to extend its sincere thanks to all of its Advanced members and partners for their contributions through our working-level sessions, one-on-one consultations and submissions of questionnaires.

Please visit our website to discover more about our initiative and our Advanced members.

## DISCLAIMER:

The inclusion of organization names and/or examples in this publication is intended strictly for learning purposes and does not constitute an endorsement of or by the individual companies.



<sup>1</sup>UN Global Compact: Forward Faster Action Guides: Living Wage; Climate Action; Water Resilience; Gender Equality; SDG Finance and Investment

<sup>2</sup> UN Global Compact: CFO Action on Corporate Investment and Finance for Sustainable Development: 2023; CFO Principles on Integrated SDG Investments and Finance: 2020; Corporate Finance: A Roadmap to Mainstream SDG Investments: 2019

# KEY MESSAGES

1. Corporations are expected to be the largest direct investors in climate change mitigation, accounting for roughly one-third of the total cost between now and 2050, estimates of which range from USD 100 to 275 trillion.<sup>3</sup> In tandem with fixed capital investments, corporations are also principal investors in the human, intellectual, natural and relational capital assets that will drive decarbonization.
2. Substantial corporate climate investments are instrumental for mitigating climate change and climate-related risks. Such investments also represent a dynamic frontier of innovation and growth, serving as leading examples for transforming business models, new products and services, and more resilient assets, organizations, value chains and societies. The action of CFO Coalition members have produced a body of evidence that supports the impact of corporate commitment, and in the process modernize their operations, including digitization.
3. Most corporate climate investment is funded by debt issuance.<sup>4</sup> To realize their potential role in the climate fight, corporations depend on adequate access to insurance services and to financial capital from lenders and investors, many of whom have also adopted net zero targets and climate plans. Effective alignment among these stakeholders requires clear, coherent and credible information flows regarding decarbonization targets and transition plans. This includes reliable tracking of actions and impacts. The efficiency and efficacy of climate capital flows can be further improved through special-purpose debt instruments that promote the SDGs and climate action.
4. The CFO Principles provide corporate CFOs with a framework to achieve this clarity, coherence and credibility, both within organizations and with external stakeholders. These Principles address target-setting, investments, financing, and communications and reporting, which guide alignment of these activities both with the company's climate strategy and with each other.
5. CFOs are positioned to drive climate action within corporations and across the economy by adhering to the CFO Principles. They can cultivate purposeful partnerships, such as the CFO Coalition for the SDGs, and adopting innovative tools and techniques to scale climate investment (e.g., transition planning, climate-conscious investment analysis and governance, climate-smart accounting and budgeting, and SDG financing instruments. CFOs can make a substantial contribution to the SDGs and the goals of the Paris Agreement while fostering resilience and sustainable growth.

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<sup>3</sup>UN Climate Change Conference 2020, Net Zero Financing Roadmaps, produced by the UNFCCC Race to Zero campaign with support and analysis from Vivid Economics, 2021.

<sup>4</sup>R. Ma, R. Yuan, and X. Fu, "Climate change opportunity and corporate investment: Global evidence," *Journal of Climate Finance*, Volume 3, June 2023. <https://doi.org/10.1016/j.jclimf.2023.100013>

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# INTRODUCTION

Human-caused climate change presents a collective threat not only to natural ecosystems but to entire societies and economies. This threat demands a two-pronged global response: 1) physical, social and institutional measures that enable societies to adapt to its effects; 2) a broad-based strategy to mitigate its root cause, which is anthropogenic greenhouse gas (GHG) emissions from energy use, industrial processes, agriculture and land use change.

Since 1994, the United Nations Framework Convention on Climate Change has led a multilateral effort around the abatement of anthropogenic GHG emissions. Building on the Kyoto Protocol, a treaty among developed countries, in 2015 a global climate agenda was codified into international law in the form of the Paris Agreement. These treaties represent innovations in international law and also in climate science. The Kyoto Protocol laid the groundwork for classifying greenhouse gases, and the Paris Agreement formalized the scientific consensus that limiting the increase in average global temperature to 1.5° C required reaching net zero global GHG emissions by 2050.

In 2015, UN Member States agreed on the 2030 Agenda for Sustainable Development, which outlines a collective framework for achieving sustainability. Building on the eight Millennium Development Goals of 2000, the 2030 Agenda outlines 17 SDGs to be reached by 2030 in developing and developed countries. It is an essential framework not only for responding to the profound challenge of climate change but also for understanding and acting on the links between climate action and other dimensions of global wellbeing.

The Paris Agreement and the 2030 Agenda were agreed upon by Member States, but they both entail a clear mandate for non-State actors, including cities, financial institutions and corporations. Given their broad exposure to climate-related risks and opportunities, corporations are both principal stakeholders and, given their many levers for action, change agents in climate action. Central among these levers for action is their role as investors.

Achieving the goals of the Paris Agreement depends on tremendous levels of investment, with estimates ranging from USD \$1 trillion to \$9 trillion per year until 2050, at a total cost between USD \$100 trillion and \$275 trillion.<sup>5</sup> These figures only account for fixed capital expenditures. Reaching net zero also depends on large investments in human, intellectual, natural and relational capital. Corporations will play a critical role in realizing this level of investment. They are expected to be the largest direct investors in mitigation, followed closely by Governments, then the financial sector.<sup>6</sup>

To better understand and further advance this important role of corporations in the climate fight, this report examines four key contributions: an actionable framework for corporate decarbonization led by the finance function; a practical definition of key terms compelling and concrete investment examples; and a horizon-scan of innovations for scaling corporate climate investment.

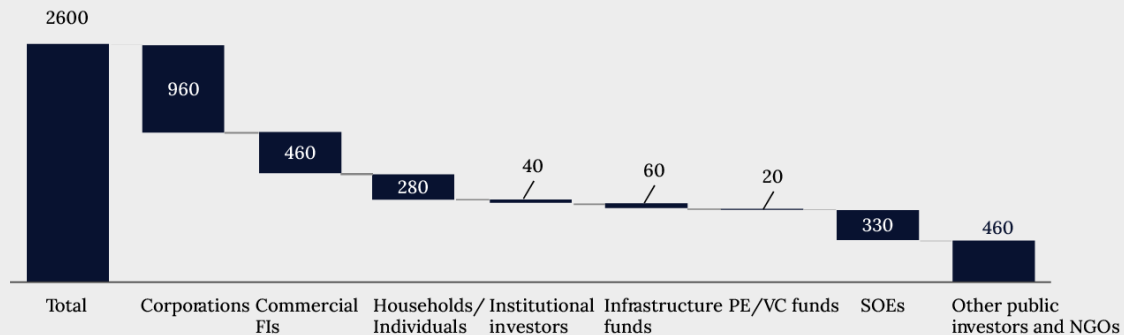
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<sup>5</sup> McKinsey Global Institute (MGI), The net-zero transition: What it would cost, what it could bring, 2022. J. Howell, "Green bonds are big business for climate investors," GreenBiz, October 2022.

<sup>6</sup> UN Climate Change Conference 2020, Net Zero Financing Roadmaps.

## CORPORATE INVESTMENTS TO ACHIEVE CLIMATE AMBITIONS CORPORATIONS: THE LARGEST DIRECT INVESTOR IN DECARBONIZATION

Annual decarbonization investments by direct by capital investment actor, 2021-2025 USD Billion



Source: UN Climate Change Conference 2020, Net Zero Financing Roadmaps

## 2. THE CFO PRINCIPLES: A FRAMEWORK FOR CLIMATE ACTION

The data is clear: the role of CFOs in climate action is paramount.<sup>7</sup> The CFO leads corporate investment activities by acting on opportunities to reduce emissions through investment. As head of the broader finance function, the CFO establishes and oversees multiple dimensions of corporate climate strategy, including target-setting, measurement and reporting, performance management, and risk management. A primary responsibility of CFO's is business insurance: their duty is to optimize the cost-to-coverage ratio of the company's insurance plan giving them a primary interest and lead role in meeting the growing demands of insurers by mitigating the company's climate-related risks.

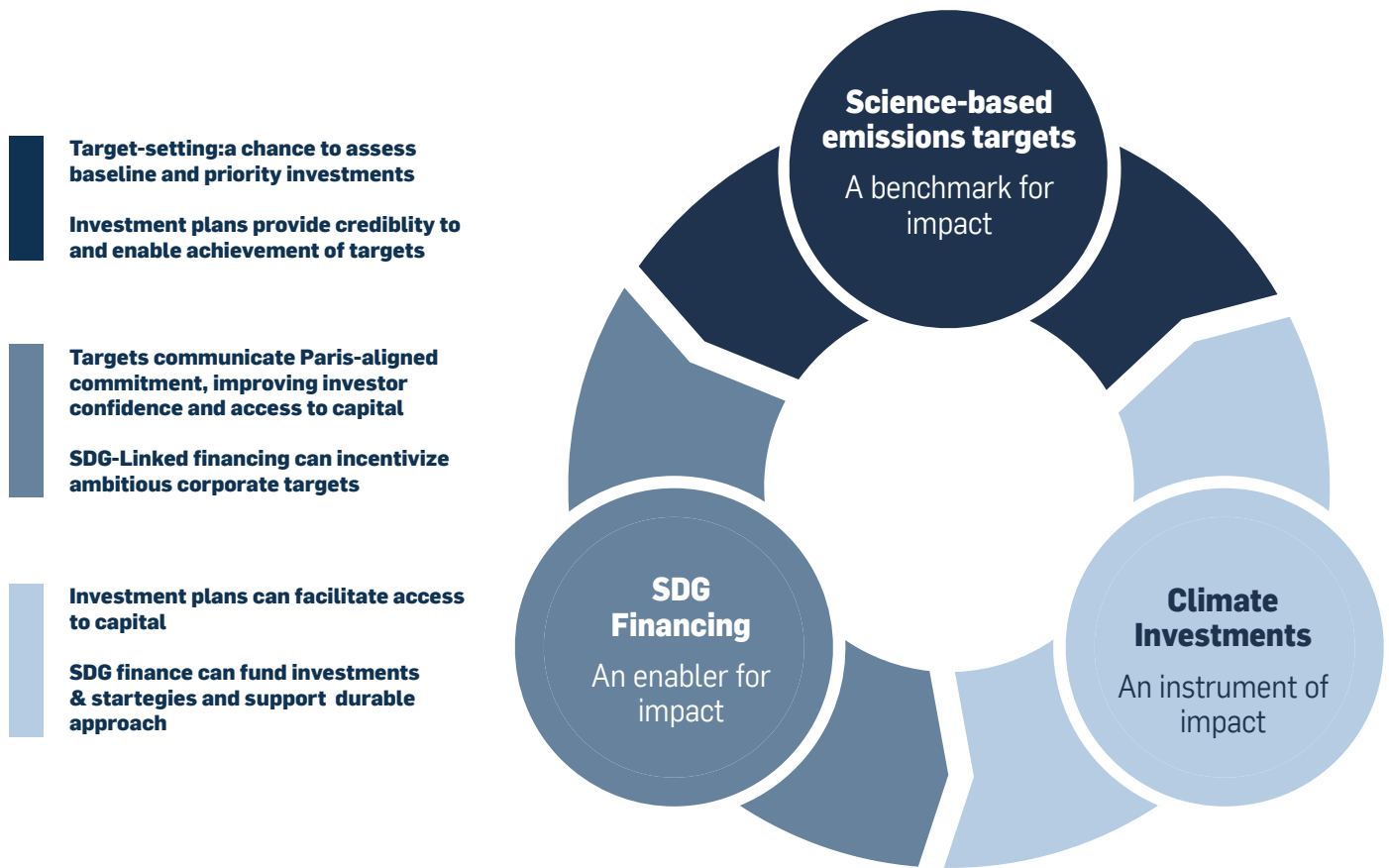
The urgency of climate action is evident among companies in the CFO Coalition. Among the 514 SDG-related targets guiding their strategies, SDG 13 Climate Action is the most common, followed closely by SDG 12 on Responsible Consumption and Production, which is also a key driver of climate action. Notably, a majority of these targets focus on climate action between now and 2030, covering the most critical period for progress on decarbonization.

<sup>7</sup> Climate Bonds Initiative: The role of the Chief Financial Officer in driving low-carbon transition: 2023.

## CLIMATE TARGETS, ALIGNED-INVESTMENTS AND LINKED-FINANCING — A REINFORCING LOOP

The CFO Principles (see Appendix) offer a four-pillar framework for integrating the SDGs in corporate finance: #1) - SDG impact thesis and measurement; #2) - SDG strategy and investments; and #3) - SDG financing; all of which serve as the basis for Principle #4) - SDG reporting and communications. The diagram below maps the first three Principles to a climate-specific context and provides an overview

of their synergies, explored in greater detail at the end of this section. Each vertex of this triangle has strategic, operational and communications value on its own. But companies can amplify these values by integrating them — communicating a coherent message to investors about their climate commitment and substantiating this commitment through action.



SOURCE : UN Global Compact

## A. SCIENCE-BASED EMISSIONS TARGETS: A BENCHMARK FOR IMPACT

Science-based targets provide a recognized and credible platform for benchmarking a company's progress toward net zero, provided appropriate methodologies for target-setting are available. Science-based targets represent an impact thesis and measurement framework (CFO Principle #1) that can be leveraged to shape internal processes, generate incentives and identify priorities as well as spur greater external communication and coordination. An effective climate target framework includes interim goals and is supported by robust transition plans, including investment strategies. The Science-Based Targets initiative (SBTi) promotes best practices in emissions target-setting and provides related technical assistance and expert resources for companies.<sup>8</sup>

Climate KPIs and targets provide a practical basis for operationalizing net zero goals across the business, including investment decisions. The target-setting process itself is an important opportunity to assess current emissions, explore innovative structures for better coordination and governance around climate risks and opportunities, reflect on current net-zero business models and identify easily achievable goals. It is also a crucial opportunity for advancing climate-related knowledge, assessing strategic alignment and assuring interoperability internally and with external stakeholders, including industry peers, financial actors, value chain partners, and Governments (e.g. in relation to Nationally Determined Contributions).

The vast majority (93 per cent) of Fortune Global 500 companies have made public climate-related commitments, and almost two-thirds have set a major climate milestone. However, only a minority have committed to a target on or before 2030, and less than a third use accredited science-based targets.<sup>9</sup>

Yet the direction of travel is encouraging. In 2021 alone, the number of companies committing to the Science-Based Targets initiative doubled to 2,253, representing more than a third (USD \$38 trillion) of global market capitalization.<sup>10</sup>

Many companies that have committed to ambitious targets are making progress in emissions reductions: SBTi companies collectively reduced emissions by 29 per cent between 2015 and 2020. While investment in decarbonization is accelerating, however, these figures are not on track to meet the goals of the Paris Agreement.<sup>11</sup> Raising corporate ambition — and turning existing ambition into action—is an urgent need.

<sup>8</sup> Science-Based Targets initiative (SBTi) homepage and 2021 PROGRESS REPORT 2022.

<sup>9</sup> S. Varley, How can slowing climate change accelerate your financial performance? EY 2022.

<sup>10</sup> SBTi, 2021 Progress Report.

<sup>11</sup> S. Varley, How can slowing climate change accelerate your financial performance? MGI, The net-zero transition.

## B. CLIMATE INVESTMENTS: AN INSTRUMENT OF IMPACT

Investment is where the rubber meets the road in corporate climate action. For both companies and entire economies, the capital stocks — fixed, intellectual, human, natural and relational capital — largely determine the “what” and “how” of economic production, including its emissions profile. Investment should be utilized to grow, upgrade and modify capital stocks to accelerate decarbonization.

By definition, investment is a contract with the future, an exchange of value between now and the years to come. As such, corporate investments are an objective indicator of forward-looking business strategy because they reflect a commitment to certain production processes and products as well as to certain business models, which can outlast the lifespan of an individual asset. To illustrate, a corporate investment in a 30-year asset impacts not only the next three decades of business but also the nature of that company in 30 years, including its customers, its reputation and its prospects. This path dependency, or “lock-in”, makes it particularly important that corporate investment decisions today reflect short- and long-term decarbonization commitments.

Corporate climate investment is therefore instrumental in reducing emissions now and in the future and also in opening the door to transformations in business models, new products and services and more resilient assets, organizations, value chains and societies. Climate change has opened a new frontier of innovation and interconnection. Many corporations are at the forefront of developing and deploying the industrial technologies and materials, digital capacities, institutional structures and partnerships and skills that will decarbonize the global economy.

Climate investments harness opportunities for the investing company but also create positive impact across entire economies. They signal to Governments the strategic climate commitment of business and

provide critical information on implementation, setting the stage for more ambitious and informed climate policy. In addition, although corporate investment decisions respond to the technology and skills frontiers, they also have the power to shift them towards net-zero economies, including through innovation and economies of scale. The lessons learned along the way serve to strengthen resolve, advance practice and deepen the impact of climate investment for business as a whole.

## C. SDG FINANCING: A CATALYST FOR IMPACT

SDG finance offers an important source of funds for climate investments and strategies across a range of instruments — sustainability-linked loans and bonds, in which financing terms are contractually linked to performance targets in sustainability KPIs (e.g. science-based emissions targets), use-of-proceeds instruments such as green bonds and SDG corporate blended finance (Government and business co-investment). Many CFO Coalition Advanced Group members are leaders in this market. SDG financing accounted for 38 per cent of members' outstanding debt in FY2022, over two-thirds of which was KPI-linked.

As monetary conditions have tightened in response to inflation and average issuance falls, Coalition members are finding value in SDG financing, indicated by its rising share in total debt, which grew from just 27% in FY2020 to 38 per cent in FY2022(4).

SDG finance can offer favourable financing terms and additionally serve as a commitment mechanism that incentivises or even obligates companies to follow through on climate plans. For example, green bonds and loans restrict the use of investment capital to climate-aligned investments.

SDG-linked financing is investment-agnostic but can shape a broader range of strategic decisions by creating financial incentives for the entire organization to achieve SDG-related targets.<sup>12</sup>

Beyond this, SDG finance brings many other advantages such as a universal stakeholder language for educating financial markets on companies' SDG-aligned strategies and investments, a platform for ensuring credibility and trust through verification and assurance and incentives for internal innovation.

For example, sustainable financing opportunities for several Coalition members prompted deliberation and innovation around sustainable business opportunities and motivated the integration of climate metrics and targets in measurement and reporting systems. This created a first-mover's advantage in managing climate risks and opportunities.

## D. CLIMATE COMMUNICATIONS AND REPORTING

Just as effective decision-making within a company requires accurate and useful data, successful economy-wide capital allocation and financial incentives depend on robust sharing of information across financial markets, particularly with respect to climate-related data. The CFO is typically involved with and sometimes primarily responsible for a company's sustainability reporting, especially where sustainability-related topics form part of financial reporting (integrated reporting). In the context of climate, this can include the disclosure of key metrics such as GHG emissions or renewable energy consumption share, operational considerations and

risks (e.g. according to TCFD Recommendations), emissions targets and even climate transition and investment plans). SDG financing instruments also entail their own reporting requirements. For green bonds, that includes data on how the proceeds are used and expected or achieved impacts. Sustainability-linked instruments require issuers/borrowers to provide up-to-date performance data of the selected KPIs as well as information that enables investors/lenders to monitor the level of ambition of the KPIs and targets.<sup>13</sup>

Successful climate leaders typically go well beyond the minimum regulatory requirements for sustainability disclosure – and even beyond voluntary reporting frameworks – to proactively engage investors and others in relation to climate performance and plans.

In fact, many companies found that integrating their SDG commitments, strategies and performance into communications and investor relations activities transformed reporting from a costly obligation into an opportunity for stakeholder alignment, knowledge sharing, and improved financial access. Among Coalition members, 64 per cent of investor relations events in 2022 addressed the company's SDG strategy and/or performance, a number that was expected to grow to 76 per cent in 2023.

<sup>12</sup> UN Global Compact SDG Bonds - Leveraging Capital Markets for the SDGs 2019.

<sup>13</sup> International Capital Markets Association: Green Bond Principles: 2022 and Sustainability-Linked Bond Principles, 2023. Loan Syndications and Trading Association: Sustainability Linked Loan Principles, 2023.

## E. FOSTERING SYNERGY ACROSS THE CFO PRINCIPLES

The growing commitments of investors and financial institutions to align their portfolios and activities with net-zero goals creates both carrot and stick incentives for corporate investment in decarbonization. Investors display a growing propensity to divest on the basis of ESG performance, and climate is often a front-and-center investor consideration. According to a 2021 survey of global institutional investors, 84 per cent of investors said some degree of divestment from fossil fuel and emissions-intensive companies was a key part of their decarbonization strategy.<sup>14</sup>

The same survey found that 86 per cent of investors have allocated funds to climate solutions, which typically include debt and equity investment in companies with aggressive decarbonization strategies or low carbon footprints as well as green infrastructure and real estate. Investment capital earmarked for the climate transition provides a strong market incentive for corporate climate investments. Green and other labeled bonds play a central role in climate solutions portfolios, as they offer opportunities to invest not only in green industries but also to “green the brown”. A growing number of investors recognize that financing the transition of emissions-intensive industries is critical for going beyond net-zero portfolios to achieve a net-zero economy.<sup>15</sup>

Connecting the dots between climate capital and climate opportunities — including those in high-emitting sectors — depends on a deeper understanding between corporations and financial actors with respect to companies’ climate targets and transition plans, investment opportunities and

financing needs.<sup>16</sup> The CFO Principles offer a framework that finance teams can employ to coordinate different corporate finance activities, deliver a more coherent message to financial actors, and facilitate access to the climate capital that can drive corporate decarbonization. In other words, each CFO Principle is a critical step in its own right but their ultimate power is how they work together.

For example, while science-based targets are an important operational tool, they are also instrumental for communicating a company’s commitment to net zero, which is critical for investor confidence and access to capital.

Among CFO Coalition Advanced Group members that use sustainability-linked financing, the targets embedded in these instruments reflected the same targets businesses set for overall strategy, reflecting coherence between their sustainability strategies and their commitments to investors. Similarly, while climate investments and investment plans are key to achieving actual emissions reductions, they also provide credibility to climate targets and facilitate access to SDG capital. Again, this is reflected in the SDG investments and investment plans of CFO Coalition members, which are broadly coordinated both with headline sustainability targets and their financing strategies. Additionally, SDG financing is not only a valuable way to fund climate investments and Paris-aligned business strategies but can also help companies embed a more durable approach to climate action. The covenants and

<sup>14</sup> EY. Is your ESG data unlocking long-term value? Sixth global institutional investor survey 2021.

<sup>15</sup> To illustrate: “It would be easy to manage transition risks by simply divesting from climate-critical sectors, but this will not drive the decarbonization of companies in these sectors. In fact, it could have unforeseen effects, restricting the development of the very companies that need to invest in and manage the necessary technology transitions. This is particularly important in emerging economies, where access to capital is already more restricted and where the investable universe available to investors is more limited.” N. Dodd and M. R. Sierra, Institutional Investors Can Make the Climate Transition Bloom in Latin America, RMI, 2023; K. Yanosek and D.G. Victor, How Big Business Is Taking the Lead on Climate Change, McKinsey, 2022.

<sup>16</sup> Including to help investors mitigate the reputational risks of supporting emissions-intensive industries.

mechanisms governing access to SDG capital shape investment decisions and incentivize performance on sustainability targets, which in turn catalyzes an array of internal innovations. Several Coalition members have shared that access to SDG financing provided the rationale for building new systems to measure, analyze and report sustainability data,

initiating new processes for internal engagement and incorporating the SDGs in investor relations strategies. The table below expands on these examples, showing the many potential synergies among science-based target-setting, climate investments and SDG financing.

<b>BENEFITS</b> FROM ▾ TO ▸	<b>SCIENCE-BASED EMISSIONS TARGETS</b>	<b>CLIMATE INVESTMENTS</b>	<b>SDG FINANCING</b>
<b>Science-based emissions targets</b>	_____	<p>Target-setting process is a key opportunity to assess emissions baseline, identify priority levers for decarbonization and evaluate investment landscape</p> <p>Sector-specific target-setting guidance can aid identification and communication of suitable investments and strategies<sup>17</sup></p>	<p>Broad commitment to SDG- and Paris-aligned business strategies, communicated through targets and plans, improves investor confidence, affecting equity valuations and cost of capital</p> <p>Targets facilitate inclusion in Paris-aligned benchmarks and ESG funds, which are less sensitive to underperformance<sup>18</sup></p> <p>Enables anticipation of regulatory and voluntary standards</p> <p>For KPI-linked instruments, science-based targets provide an accredited framework for target-settings.</p>
<b>Climate investments and investment plans</b>	<p>Investments enable achievement of targets</p> <p>Disclosing historic and planned investments provides credibility to target-setting, especially long-term targets</p>	_____	<p>Capital investment plans improve standing in financial markets<sup>19</sup></p> <p>Provide forward-looking indicators of performance for investors, including by ensuring company is aligned with sectoral pathways<sup>20</sup></p> <p>Investment plans underpin access to UoP SDG debt</p>
<b>SDG financing</b>	<p>SDG financing opportunities can incentivize ambitious targets</p> <p>SDG debt standards can support development and communication of climate strategy and targets<sup>21</sup></p>	<p>Labeled bond criteria can help identify suitable investments<sup>22</sup></p> <p>Provide funds for investments and strategies</p> <p>Prompt innovations that improve durability of climate strategy, including enhanced collaboration and data practices</p>	<p>SDG financing frameworks can be used to initiate dialogue with market participants, make more informed financing decisions, improve access to capital, diversify investor base, achieve differential pricing<sup>23</sup></p>

<sup>17</sup> SBTi Sector Guidance

<sup>18</sup> OECD, Financial Markets and Climate Transition: Opportunities, Challenges and Policy Implications, 2021.

<sup>19</sup> Say on Climate, Guide for companies.

<sup>20</sup> PIMCO, Best Practice Guidance for Corporate Sustainable Bond Issuance, 2022.

<sup>21</sup> PIMCO, Best Practice Guidance for Corporate Sustainable Bond Issuance. Climate Bonds Initiative, Financing Credible Transitions, 2020. International Capital Markets Association, Mapping to the Sustainable Development Goals, 2023. UNDP, SDG Impact Standards.

<sup>22</sup> Climate Bonds Initiative, Sector Criteria.

<sup>23</sup> Accounting for Sustainability, Implementing a Sustainable Financing Framework.

## **WHY IS THE ROLE OF CFOs PARAMOUNT TO REDUCING GHG EMISSIONS?**

### **THE CFO IS RESPONSIBLE FOR:**

1. Setting science-based targets that provide credible and appropriate methodologies to verify a company's progress toward net zero.
2. Establishing climate investments that are instrumental in reducing GHG emissions and that transform entire business models.
3. Using SDG-linked finance as a commitment mechanism that incentivizes or even obligates companies to follow through on climate plans.
4. Communicating substantiated climate commitments to investors to facilitate access to capital.

The CFO Principles offer a framework for companies to integrate these critical steps into their overall corporate finance strategy.

# 3. WHAT IS A CORPORATE CLIMATE INVESTMENT?

To facilitate the subsequent discussion on climate investment and its place in corporate finance, this section provides a practical definition of key terms.

## A. INVESTING IN CLIMATE

Corporate investment refers to developing, acquiring or upgrading assets that can create value in the future. Just as corporate SDG investments are those that also make long-term contributions to the SDGs, climate investments contribute to climate goals, such as mitigation (decarbonization) or resilience. Mitigation investments are those that reduce emissions in operations or the value chain.

Corporate mitigation investment priorities depend on the size, source and structure of the emissions footprint. The sources of anthropogenic greenhouse gas (GHG) emissions are energy use, industrial processes, agriculture and land use change. Energy use, the primary source of GHG emissions, is central to all corporate operations, ranging from the transport of raw materials and finished goods to the powering of production plants and equipment to the operation of buildings. The structure of the emissions footprint can be usefully categorized into Scope 1 (direct operations), Scope 2 (purchased energy, steam, heat and cooling), Scope 3 (supplier and downstream emissions, including product use), with a role for Scope 4 as well.<sup>24</sup>

Investments in low-carbon production technologies and efficiency improvements reduce emissions from direct operations (Scope 1), which is especially important for high-emitting industries. In those

industries where electricity consumption (Scope 2) represents a large share of emissions, investment in renewable energy — through power purchase agreements, credits or even onsite development — is often a key priority. Although upstream and downstream emissions (Scope 3) are more difficult to control relative to Scope 1 and 2, many companies have found innovative ways to invest in the management and reduction of Scope 3 emissions. This includes investments in energy-efficient product design or in capacity-building initiatives that provide suppliers with technology, finance and know-how that supports decarbonization.<sup>25</sup>

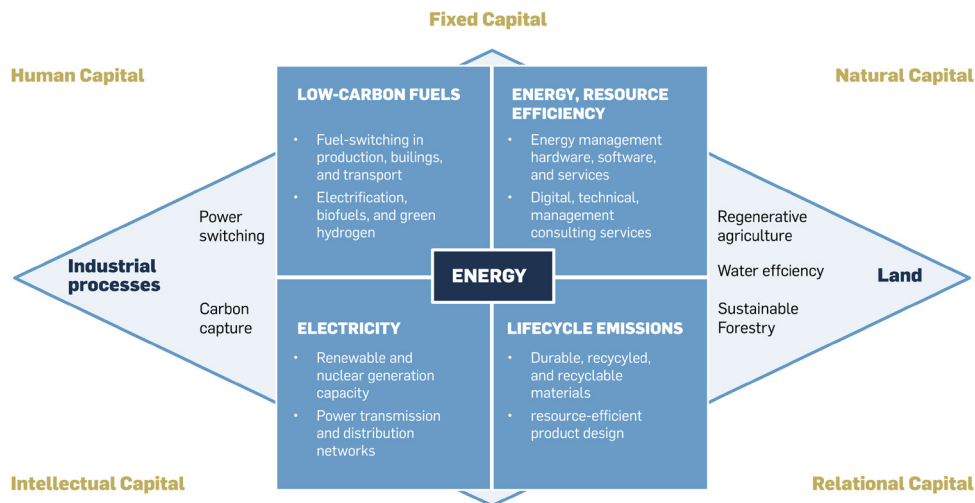
Reducing Scope 1, 2 and 3 emissions is important for all companies, but in some cases this may represent only one part of a broader contribution. Part of the business model of “enabling” companies is to help others reduce emissions and when this happens outside a product’s life cycle or value chain, it is considered “avoided emissions” (Scope 4).<sup>26</sup> For example, investments to decarbonize the manufacturing process for solar panels, electric vehicles or energy-efficient capital goods are important, but investments to scale production — providing other actors with low-carbon alternatives to high-emitting energy sources — are also a fundamental contribution to climate goals.<sup>27</sup>

**“In climate change adaptation, the solutions are often unique, because they depend on a range of local conditions, including the area’s communities, environment, and even its history.”**

**- Fernando Tennenbaum, CFO, AB InBev**

<sup>24</sup> GHG Protocol: homepage

<sup>25</sup> UN Global Compact: Supply Chain Sustainability



Source: UN Global Compact CFO Coalition for the SDGs

## INVESTMENTS IN ADAPTATION

This report focuses on mitigation investments for several reasons. First among these is that CFOs have more direct control over corporate GHG emissions than they do over management of physical climate risks. This is reflected in investment practices. Climate change adaptation can be relevant at the asset level, but it is more often related to a systemic response that involves infrastructure, institutions and social processes that are not governed — much less owned or invested — by single actors. Nonetheless, in some cases, adaptation and mitigation activities go hand in hand (e.g. improvements in resource efficiency), and for some companies, adaptation may even be the first priority, depending on the nature of their climate-related risks and opportunities.

Another reason the report focuses on mitigation is the strong context-specific nature of adaptation needs. Not only do climate impacts have a strong regional and even local dimension, but an adequate adaptation response takes as its starting point local ecological, political, economic and social conditions. In contrast, notwithstanding sectoral and regional considerations, there is substantial alignment on mitigation goals across regions, sectors and stakeholder groups. Consensus is building around the implementation plans for achieving these goals — including sectoral pathways, national transition plans and interim emissions targets. This makes adaptation investment a more difficult object of analysis and limits the ability to translate or generalize lessons across sectors, regions or entities.

<sup>26</sup> GHG Protocol: Estimating and Reporting Avoided Emissions: 2019.

<sup>27</sup> CFO Coalition member Maxeon, a solar technology company, calculates its avoided emissions to be almost 70 times its Scope 1, 2, and 3 emissions. (Maxeon, Sustainability Report 2022). Similarly, Schneider Electric's total emissions in 2022 were substantially less than the emissions it avoided and saved for its customers (Schneider Electric, 2022 Climate Report).

## B. INVESTING IN THE CAPITALS

Accounting convention centres fixed capital (e.g., property, plants and equipment) in its concept of investment. Fixed capital investments are funded through capital expenditures (CAPEX), a category of expense that also includes investments in businesses such as mergers and acquisitions (M&A) or corporate venture capital.

Recognizing that financial, environmental, social and economic value creation depends not only on fixed capital, the UN Global Compact widens the aperture on the concept of investment to include human, natural, intellectual and relational capital.<sup>28</sup>

For example, the value of green skills is essential to the development and operation of green technologies and infrastructure assets. Developing, acquiring and upgrading human capital is an indispensable part of an effective strategy, and the long-term value of a skilled workforce means these expenses should also be considered investments.

Similarly, achieving net zero is critically dependent on investments in intellectual capital including those who manage new industrial technologies, digital capacities and business processes. Reflecting the emergence of the knowledge economy, in 2013 the U.S. Bureau of Economic Analysis revised its GDP calculation to count R&D spending and the acquisition of software and other intellectual property products as fixed investment rather than intermediate inputs.<sup>29</sup> Accounting conventions are catching up to this trend, allowing or even requiring the capitalization of certain R&D and workforce development costs.

This report acknowledges the full range of investments needed to reach net zero, including tangible and intangible capitals. Intangible capital represents a large and growing share of global enterprise value and is a key driver of enterprise growth: companies that invest more in intangibles grow revenues 6.7 times faster.<sup>30</sup> As the investment examples in the following section demonstrate, intangible capital investments are often central to climate strategies as well.

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<sup>28</sup> Hamilton and Hepburn: "Wealth". Oxford Review of Economic Policy 2014.

<sup>29</sup> J. Bughin and J. Manyika, Measuring the full impact of digital capital, McKinsey, 2013

<sup>30</sup> McKinsey, Why intangibles are the key to faster growth in Europe, 2022

## INVESTING IN THE CAPITALS FOR NET ZERO

<b>FIXED CAPITAL</b>	<ul style="list-style-type: none"> <li>• Renewable energy development</li> <li>• Low-carbon and electrified production, transport and buildings</li> <li>• Energy efficiency hardware</li> <li>• Equipment enabling increased use and production of recycled/recyclable materials</li> </ul>
<b>HUMAN CAPITAL</b>	<ul style="list-style-type: none"> <li>• Climate knowledge and know-how across the organization, including in finance</li> <li>• Skills for developing and operating low-carbon technology and infrastructure</li> <li>• A healthy and safe workforce</li> </ul>
<b>INTELLECTUAL CAPITAL</b>	<ul style="list-style-type: none"> <li>• Innovation in low-carbon production technology, product design and services</li> <li>• Organizational enhancements to promote internal alignment on climate goals</li> <li>• Process enhancements from energy efficiency software</li> <li>• Intangible digital capital that reduces emissions in operations and value chains</li> </ul>
<b>NATURAL CAPITAL</b>	<ul style="list-style-type: none"> <li>• Conservation and restoration of ecosystems and carbon sinks</li> <li>• Water stewardship projects to reduce energy use and build resilience</li> <li>• Sustainable forestry and regenerative agriculture</li> </ul>
<b>RELATIONAL CAPITAL</b>	<ul style="list-style-type: none"> <li>• Supplier engagement initiatives to improve climate capabilities and alignment</li> <li>• Multistakeholder initiatives to reduce emissions at regional or industry levels</li> <li>• Brand alignment with climate goals</li> <li>• Customer education initiatives around climate issues</li> <li>• Investor relations initiatives to improve climate communications and alignment</li> </ul>

## C. INVESTMENT IS OPPORTUNITY

To date, many companies,<sup>31</sup> financial institutions,<sup>32</sup> Governments<sup>33</sup> and researchers<sup>34</sup> have focused on the adverse impacts of climate change on business without taking advantage of available opportunities and solutions.<sup>35</sup> This is beginning to change, and climate investments represent the focal point for acting on those opportunities. This drives a virtuous learning cycle around the investment landscape, relevant data and systems, partnership opportunities and, in one area showing surprising promise, the return profile of climate investments.

Moreover, corporate climate leaders — those who set more challenging climate targets and integrated climate across strategy — were 2.4 times more likely to experience significantly higher return on climate investment than expected, relative to companies that took only a few climate actions. This positive feedback loop has the power to encourage greater ambition to not only increase climate investment but to integrate climate across business strategy. In this way, companies learn from their own experiences and those of others that climate investments make business sense.

Unsurprisingly then, 61 per cent of large companies surveyed are planning to increase their climate spending.<sup>36</sup>

An Ernst & Young survey found that 69 percent of companies that undertake climate-smart investment strategies have been positively surprised by the financial value (revenue growth, earnings) of climate investments, as well as by their employee value (recruitment, retention, satisfaction), customer value (quality, brand value), social value (public health, economic opportunity) and planetary value (emissions reductions).

### IN THE E&Y SURVEY:

- 69 per cent of companies were positively surprised by the financial value of climate investments
- Corporate climate leaders were 2.4 times more likely to experience significantly higher return on climate investment than expected, relative to less ambitious companies
- 61 per cent of large companies are planning to increase climate-related spending

<sup>31</sup> S Varley: How can slowing climate change accelerate your financial performance?

<sup>32</sup> EY: Climate change: The investment perspective 2016.

<sup>33</sup> OECD, Financial Markets and Climate Transition.

<sup>34</sup> Ma et al, "Climate change opportunity and corporate investment: Global evidence."

<sup>35</sup> Climate change creates acute and chronic physical risks for company assets, employees, suppliers and customers, as well as transition risks relating to law and regulation, technology, markets and reputation. But it also creates significant opportunities related to resource efficiency, reduced energy cost, product and service innovation, new markets and climate resilience. Recommendations of the Task Force on Climate-related Financial Disclosures

<sup>36</sup> S. Varley, How can slowing climate change accelerate your financial performance?.

## **WHAT IS A CORPORATE CLIMATE INVESTMENT?**

- Corporate Climate investments aim to contribute to climate goals such as decarbonization or resilience while creating value in the future.
- The UN Global Compact acknowledges the full range of investments needed to reach net zero, including investments in both tangible and intangible capital.
- There is growing consensus that investments in climate action can generate higher returns.

# 4. CORPORATE INVESTMENT IN MITIGATION: THE STATE OF PLAY

This section outlines the current landscape of corporate investment in climate change mitigation, including salient trends, opportunities and challenges, illustrated these with real investment examples from Coalition members.

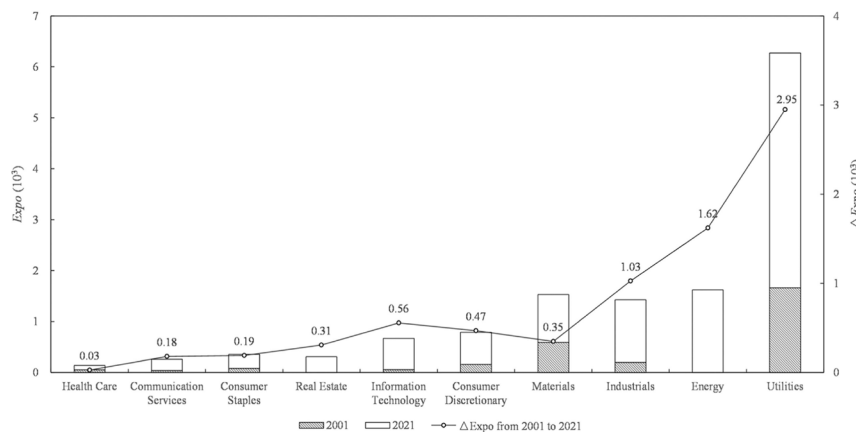
These examples are shared with the intention to elevate ambition, inspire new ideas for action across the entire corporate sector and raise stakeholder awareness about the leadership role many companies are playing in the climate fight.

To structure this discussion and provide a useful context for the investment examples, the report zooms in on key value chains and sectors, cross-cutting concerns related to technology, skills, data and supply chains and country-specific considerations.

## A. SECTORAL PATHWAYS AND INVESTMENT EXAMPLES

The carbon footprint and climate-related opportunities of key sectors show marked differences, creating contrasts in investment needs and investment patterns. By and large, the level of climate investment is greater in higher-emitting and capital-intensive sectors, corresponding to greater exposure to climate-related risks and opportunities, as well as bigger CAPEX budgets. The chart below shows the relative exposure to climate-related opportunities across sectors, highlighting the change between 2001 and 2021.<sup>37</sup>

Companies in the energy and industrial sectors are typically front of mind for regulators, investors and customers with regard to emissions and decarbonization. In varying contexts, they are seen as the problem, the solution, or both.



Source: Ma et al, "Climate change opportunity and corporate investment: Global evidence"

<sup>37</sup> R. Ma, R. Yuan, and X. Fu, "Climate change opportunity and corporate investment: Global evidence," Journal of Climate Finance, Volume 3, June 2023 <https://doi.org/10.1016/j.jclimf.2023.100013>. Exposure to opportunities is measured using a machine learning algorithm on earnings call transcripts from over 10,000 firms headquartered in 34 countries between 2002 and 2022. This data was first compiled by Z. Sautner, L. van Lent, G. Vilkov, and R. Zhang in "Firm-Level Climate Change Exposure," The Journal of Finance, Volume 78, June 2023, <https://doi.org/10.1111/jofi.13219>.

Decarbonization for one company depends on many external factors, including local, national and value chain alignment, a fact that drives innovation and interconnection across the business ecosystem.<sup>11</sup>

For example, electrical grids powered by renewable energy, electrification of transport, buildings and industry, digital automation technologies and knowledge-based services operate in tandem to drive decarbonization, yet effectively belong to different sectors. This interdependence is one reason behind the evolving investment strategies of large companies, many of which have embarked on M&A or venture strategies that cross sectoral boundaries. Although in many cases these assets could be considered not central to a company's core business, they nonetheless pave the way for evolutions in the business model. Digitization, with few exceptions, is central to this trend.

The following sub sections explore a wide-ranging set of investment examples drawn from the experience of Coalition members. These examples have been chosen to demonstrate key characteristics of their value chains or operational models, which we group into six macro-sectors: energy and utilities; construction, materials and real estate; industrial goods; consumer goods; technology, media and communications; and consulting.

## 1. ENERGY AND UTILITIES

The large majority of global emissions can be tied to energy production, placing the energy and utilities macro-sector at the centre of worldwide mitigation efforts. At the same time, access to clean energy is itself a critical catalyst for sustainable development and decarbonization, including as a means to electrify and decarbonize sectors such as transport, buildings and industry. The energy and utilities macro-sector includes an array of energy sources — nuclear fission, wind, solar, batteries, hydropower and geothermal renewables, as well as oil and gas, fuel cells and fuels such as hydrogen and biofuels.

Achieving net-zero emissions depends on a deep transformation of the energy system. This transformation has implications for everybody, including how energy is produced, how it is delivered and how it is used. Indeed, the energy and utilities macro-sector is the core of the energy system but hardly the extent of it. In an effort to align expectations through this complex process, organizations such as the International Energy Agency (IEA), the Intergovernmental Panel on Climate Change (IPCC), BloombergNEF and others have developed scenarios that outline a pathway for the global energy system consistent with net-zero goals — in addition to the many developed for national contexts.<sup>38</sup> Nonetheless, the speed and nature of future technological developments, as well as economic and political factors, represent substantial sources of uncertainty with respect to how the transformation unfolds.

<sup>38</sup> International Energy Agency (IEA) Net Zero by 2050 - A Roadmap for the Global Energy Sector: 4th Revision: 2021; Intergovernmental Panel on Climate Change (IPCC), Climate Change 2022: Mitigation of Climate Change 2022; BloombergNEF: New Energy Outlook 2022.

Reflecting this imperative to scale renewable generation capacity and to achieve its SBTi-approved 2040 net-zero emissions targets, **EDP**, an electrical utility based in Portugal, is investing over 21 billion euros before 2026 in generation capacity across the renewables landscape, including solar, wind and hydro, helping it to achieve a 90 per cent rate of renewable/total capacity. This is in addition to a nearly 4 billion euro investment in electrical grids.

In 2022, the share of renewable energy from solar, wind, geothermal, hydropower and the ocean rose to 5.5 per cent of total energy supply (rising 8 per cent in absolute terms). In all of the global energy scenarios for net zero mentioned above (including the three evaluated by IPCC that are consistent with 1.5° C warming), this share rises to 50 per cent-75 per cent by 2050. Nuclear power, a low-carbon source of electricity, currently accounts for about 10 per cent of global electricity, nearing 20 per cent in advanced economies. According to the scenarios developed by the IEA and the International Atomic Energy Agency, total nuclear capacity doubles by 2050, maintaining its 10 per cent share in total supply.<sup>39</sup> The share of fossil fuels in the energy mix is expected to fall from 80 per cent to 10 per cent to 20 per cent by 2050.<sup>40</sup>

Components manufacturers are a critical enabler of scaling renewable generation capacity for electrical utilities and many others. **Maxeon**, a Singapore-based manufacturer of solar panels, has made solar technology a key component of its investment strategy. The company owns over 1,000 solar-related patents, improving the efficiency of its panels and extending their lifetime to reduce waste. It also invests in the decarbonization of its own production through renewable PPAs.

**Vena Energy**, a Singapore-based renewable energy company, is investing approximately \$2 billion by 2025 in renewable power generation and storage projects in the Asia-Pacific region.

Although economy-wide electrification and clean electricity generation work together as an important lever for decarbonization, they are only part of the picture. Achieving net zero also requires addressing non-electric energy production and consumption patterns, particularly in industry and transport, as well as the development of Carbon Capture, Utilization and Sequestration (CCUS) to reduce the carbon footprint of energy production and consumption. Modern bioenergy such as biodiesel and biomethane, which today accounts for 6 per cent of total energy output, also represents an important frontier in energy transformation. Achieving this shift in energy sources depends on greater deployment of proven technologies as well as investments to advance the technological frontier of energy production, transportation and consumption through R&D.

Energy sources are not perfect substitutes. The transformation of the energy and utilities macro-sector also requires revamping energy

**Snam** has framed a long-term energy system evolution based on a multi-molecule infrastructure. The company has a vision to realize a hydrogen backbone, mainly through repurposing existing gas infrastructure, to deliver the most cost-effective transport network able to serve national demand and import-export flows. This entails a medium-term investment of approximately USD \$7 billion, including for storage facilities and hydrogen-ready assets initially used to transport gas.

<sup>39</sup> International Atomic Energy Agency, Nuclear Energy for a Net Zero World, 2021; IEA, Nuclear Power

<sup>40</sup>This is the range spanned by the IEA NZE Scenario and the IPCC IMP Scenario.

infrastructure to improve efficiency and resilience and adapting to new electricity generation, transmission and distribution patterns, including in relation to more decentralized and variable renewable energy production.<sup>41</sup> These changes must support the transport, storage and delivery of alternative fuels. For example, developing electric vehicle charging infrastructure and converting existing gas infrastructure to be used for hydrogen — an energy 'vector,' rather than 'source,' which is expected to play a key role in the decarbonization of industry and transport.<sup>42</sup>

The vision described in the IPCC and IEA scenarios also includes a key role for falling energy intensity (energy per output). This depends on energy-conscious consumption patterns, circular production patterns and greater energy efficiency in buildings, industry, appliances and transport. Both scenarios also point to the necessity of nature- and technology-based carbon dioxide removal solutions, such as carbon capture, to reach net-zero goals (high confidence, IPCC).<sup>43</sup>

A number of energy utilities are leveraging their own experience in decarbonization to open new business lines that help others do the same. **Edison**, an Italian utility and Europe's oldest energy company, is investing EUR 2.5 billion by 2030 to develop a new platform called **Edison Next**, which combines services, technologies and skills to help private and public sector clients improve energy efficiency in buildings and cities. Edison Next will support clients in planning, implementing and monitoring projects related to industrial decarbonization and the production of green gas and green hydrogen, thereby making a multifaceted contribution to the electrification of public and private transportation and a circular economy.

In a CAPEX plan fully aligned with its SBTi-certified 2040 net zero targets, European energy utility **Enel** plans to allocate its investments efficiently. Regulated businesses will be at the center of Group Strategy mainly to improve supply quality and grid resiliency. Renewable investment decisions will be focused on improving returns and reducing risks through the diversification technologies, countries and partnerships. Finally, the Group plans to optimize its portfolio of customers and end-to-end processes, clients loyalty through bundled offers, alongside the promotion of electrification consumption, thus facilitating the energy transition in other sectors.

<sup>41</sup> U.S. Department of Energy, About the Grid Modernization Initiative

<sup>42</sup> Z. Abdin, A. Zafaranloo, A. Rafiee, W. Mérida, W. Lipinski, K. R. Khalilpour, "Hydrogen as an energy vector," *Renewable and Sustainable Energy*, Volume 120, March 2020, <https://doi.org/10.1016/j.rser.2019.109620>

<sup>43</sup> IEA, Net Zero by 2050; IPCC, Climate Change 2022: Mitigation of Climate Change

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• New technologies, new markets, new business lines</li> <li>• Digitization: efficiency and service improvements</li> <li>• Opportunity to address many SDGs at once: e.g. reducing inequalities by increasing energy access; new green jobs' contribution to decent work and gender equality; reduced fossil fuel pollution advancing public health</li> <li>• Public incentives and financing</li> <li>• Low marginal cost of renewable generation</li> <li>• Cross-sector collaboration, particularly with transport, industry and buildings</li> <li>• Efficient reuse of existing infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Economy-wide coordination around energy production and consumption patterns</li> <li>• Capital costs and project lead times</li> <li>• Financing and insurance: new infrastructure, new firms, new tech, new risks<sup>44</sup></li> <li>• Navigating geopolitics / economics of global shifts in value, resource demand and trade</li> <li>• Access to skills<sup>45</sup></li> <li>• Social risks: employment impacts, supply chains, health and safety</li> </ul>

## 2. CONSTRUCTION, MATERIALS, REAL ESTATE

The built environment is responsible for roughly 40 per cent of global GHG emissions. A large part of this share (~26per cent) is operational emissions from cooling, heating and lighting buildings and powering the appliances and equipment in them.<sup>46</sup> The second largest contributor to GHG in the buildings sector (11 per cent) comes from the manufacturing of materials such as steel, cement and glass.<sup>47</sup>

The long lifecycle of buildings, infrastructure and construction materials means it is equally important that emissions are reduced in both new and existing buildings. To illustrate this two-sided imperative, the building stock is expected to double by 2060; yet much of the building stock for decades to come has already been built today.<sup>48</sup> The IEA has stated

that achieving net-zero emissions in the buildings sector requires ensuring that all new buildings and 20 per cent of the existing building stock are zero-carbon-ready by 2030. Zero-carbon-ready buildings are highly energy-efficient and resilient structures that either directly use renewable energy or rely on a source of energy supply that can be fully decarbonized, such as electricity or district energy. In addition to operational emissions, the zero-carbon-ready concept also includes embodied emissions<sup>49</sup> from key inputs. Decarbonizing production of construction-related materials depends on investments in energy efficiency, fuel and process switching, including electrification and carbon capture.

<sup>44</sup> J. Makower, Could insurers pull the plug on renewable energy?, GreenBiz, 2022

<sup>45</sup> K. Pecknold, Is a lack of skills holding back the transition in energy & utilities?, Capgemini, 2022

<sup>46</sup> Direct emissions account for 8% and indirect emissions for 18%. IEA, Buildings - Energy System

<sup>47</sup> Global Alliance for Buildings and Construction, Global Status Report for Buildings, Construction, 2019

<sup>48</sup> Architecture 2030, Why the built environment?

<sup>49</sup> World Green Building Council, Bringing Embodied Carbon Up Front, 2019.

Procurement, product design and production offer opportunities to apply circular economy principles, but these principles can also drive a deeper transformation of business models. In 2023, **Cemex**, a cement manufacturer based in Mexico, launched Regenera, a waste management business with operations in all of Cemex's regions (with flagship projects in Mexico, Colombia, France and Egypt and expanding into other key markets), with a focus on construction and excavation waste. Leveraging its 20 years of experience in the repurposing of waste for alternative fuels, alternative raw materials and limestone substitution, **Cemex** has harnessed its place in the construction value chain and the opportunities created by more sustainable processes to drive an ambitious and impactful investment strategy. Partnering with Synhelion, Cemex also leads a project to develop fully solar radiation-driven cement production by scaling their technology to industrially-viable levels, including the continuous production of clinker, the most energy-intensive part of cement manufacturing.

Steel and cement face special challenges in decarbonization because of their production processes.<sup>50</sup> The challenge is two-fold: 1) Production is highly energy-intensive, requiring levels of heat that electricity cannot generally provide; and 2) A significant share of these industries' emissions are not related to energy production but rather to the chemical processes of manufacturing. That is, even if energy production were fully decarbonized through zero-carbon fuels, conventional steel and cement production would still emit carbon dioxide. Alternative

technologies such as electric arc furnaces (EAF) for steel production have grown rapidly, particularly in developed economies, though these technologies face certain limits to broader growth. For example, EAF relies on scrap steel, which is in limited supply as 85 per cent is already recovered.<sup>51</sup> It also produces a different quality of steel, which is not generally a substitute for steel made by conventional processes. In the case of cement production, carbon is removed from limestone to produce clinker, a critical component of cement. Decarbonization pathways have generally focused on reducing the clinker-to-cement ratio and carbon capture in addition to energy efficiency, alternative fuels and circularity.<sup>52</sup> Additionally, an underappreciated feature of cement is its ability to absorb carbon over its lifetime, which could be fully utilized with the aid of improved measurement and accounting tools.<sup>53</sup>

Downstream from materials manufacturers, the construction industry plays a multifaceted role in decarbonizing the buildings and infrastructure value chain. Companies in this industry are finding ways to reduce emissions in construction processes, including in the transportation of materials, and procure more sustainable materials in coordination with developers. Moreover, construction companies play a key role in energy-efficient retrofits of existing buildings as well as in the construction of low-carbon energy infrastructure.

<sup>50</sup> IEA, Iron & Steel and Cement; A. Hasanbeigi, N. Bhabhade, and A. Ghosh, Air Pollution from Global Steel Industry, 2022 and Air Pollution from Global Cement Industry, 2022.

<sup>51</sup> IEA, Iron and Steel Technology Roadmap.

<sup>52</sup> M. Williams, A. Bell, The Pathway to Industrial Decarbonization, Center for American Progress, 2022.

<sup>53</sup> J. Rissman, Cement's Role in a Carbon-Neutral Future, 2018.

As an example, **FCC Construcción**, a Spanish construction company active internationally, has positioned itself as a key player in sustainable and energy-efficient infrastructure. In its industrial division, it has designed and built photovoltaic projects and industrial solar thermal plants, which use a parabolic trough to generate high levels of heat. Increasing industrial access to low-carbon heat through technology research, development and deployment is a critical piece of the decarbonization puzzle.

Even further downstream in the value chain, real estate developers and operators are central drivers of the sector's transformation. They can create demand for low-carbon materials and construction services through their procurement and contracting activities and reduce emissions from building operations with materials, building designs and technologies that promote energy efficiency.

Rather than merely buying technologies that improve the efficiency and carbon profile of buildings, **City Developments Limited (CDL)** has undertaken wide-ranging investment strategies to develop, pilot and implement these technologies itself. As examples, the Singapore-based global real estate operator, investor and developer has invested R&D capital in process technologies for water filtration and building cooling, material technologies such as solar film and cool paint and digital technologies (proptech) to improve energy management. The successful development and pilot of digiHUB, a facilities management platform, allowed CDL to achieve a discount on a sustainability-linked loan from DBS Bank. CDL was the first company in Southeast Asia to commit with the World Green Building Council to owning and developing exclusively net-zero carbon operational assets under direct control by 2030. CDL's strategy for achieving this goal includes investments in energy-efficiency measures throughout assets' design, construction and operations stages as well as onsite and procured renewable energy.

Developing countries are at the centre of the buildings and infrastructure sector in many ways. They account for 80% of predicted building stock growth.<sup>54</sup> Over half of the global infrastructure need is in developing Asia alone.<sup>55</sup> Moreover, the vast majority of cement and steel production takes place in developing countries, with China leading by a large margin.<sup>56</sup>

<sup>54</sup> IEA: Buildings

<sup>55</sup> Global Infrastructure Hub: Global Infrastructure Outlook

<sup>56</sup> Statista: World Cement Production by Country; Visual Capitalist: The World's Biggest Steel Producers

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• Carbon absorption potential of both buildings and materials<sup>57</sup></li> <li>• Cost savings through energy-efficient building design and proptech, fuel and process switching and energy efficiency in materials production</li> <li>• Circular economy opportunities to cut waste, costs and emissions</li> <li>• Competitive advantages at the technological frontier, including from rising green demand</li> <li>• Growing emphasis on circularity, carbon capture and diversified production opens the door to new business models<sup>58</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty in technological pathways to reduce energy and carbon intensity</li> <li>• “Hard-to-abate” label obscures available solutions and locks out financing for critical investments</li> <li>• Industrial standards and regulations that impede improvements to critical processes</li> <li>• Decarbonizing existing building stock</li> <li>• Strong demand growth is a challenge for absolute emissions reductions</li> </ul>

### 3. INDUSTRIAL GOODS

The industrial goods macro-sector encompasses a wide range of industries and businesses that manufacture goods primarily for Governments and other businesses, including intermediate goods. It is a very diverse macro-sector that includes aerospace and defense, auto parts, electrical and electronic equipment and components, chemicals, paper and pulp, containers and packaging and industrial commodities such as steel. The macro-sector occupies a central place in the global value chains of the goods economy and is a key player in achieving net zero. The vast majority of the macro-sector's direct emissions are energy-related, implying that electrification and fuel switching, clean energy and energy-efficient process improvements are important mitigation opportunities.

**Leonardo**, an Italian manufacturer in the aerospace and defense industry, invests in a range of digital technologies to reduce emissions in its manufacturing processes and products (e.g., helicopters) as well as to develop simulation flight trainers that reduce flight time.

<sup>57</sup> Rissman: Cement's Role in a Carbon-Neutral Future

<sup>58</sup> McKinsey: Cementing your lead: The cement industry in the net-zero transition, 2023.

**Schneider Electric**, based in France, has set its sights on opportunities to reduce emissions beyond its own four walls. The company is a global leader in energy management, digitization and automation for grids, buildings and industry, and a key enabler of decarbonization across the electricity sector and manufacturing (reducing 347 Mt CO<sub>2</sub>e for customers between 2018 and 2021). In addition to investments to decarbonize its own operations through energy efficiency, site electrification, renewable energies and electric vehicles, it invests heavily (Nearly USD \$ 1 billion in 2022) in R&D to develop new technologies and services, emphasizing involvement in early-stage product development to maximize GHG reduction potential. Building on its IoT-enabled EcoStruxure platform for energy management, the company launched Exchange, a strategic investment to maximize its role as net-zero enabler in industrial networks. This open-access platform allows users to exchange and access knowledge, data, design documentation, software solutions and service providers.

This macro-sector is a key agent in building a circular economy through actions that design out waste and pollution, keep products and materials in use and regenerate natural systems.<sup>59</sup> Applying these principles could reduce global emissions by up to 39 per cent.<sup>60</sup> The industrial goods macro-sector is a key agent in “closing the loop” of the circular economy at both ends of a product’s life: incorporating recycled input materials and extending the life cycle of products and materials through durable and recyclable design. This is reflected, for example, in

the investment strategy of Pirelli, an Italian tire manufacturer, that invests in R&D both to increase recycled inputs and improve product durability as well as to reduce energy consumption and increase clean energy use.

The chemicals industry is the largest industrial consumer of energy and the third largest industrial GHG emitter after steel and cement. Decarbonization in this industry depends on increased rates of plastics recycling (currently only 10 per cent globally), reduction in the use of single-use plastics and more efficient application of ammonia fertilizers.<sup>61</sup>

**Braskem**, a Brazilian chemicals company, set a goal to reduce plastic waste across the economy, complemented by a strategy that includes procurement of recycled materials and investments in recycling infrastructure and customer education, including the USD \$25 million acquisition in 2022 of a majority equity stake in Wise, a Brazilian company in mechanical recycling.

The paper and pulp industry<sup>62</sup> is also highly energy-intensive and is the largest industrial user of virgin wood. A net-zero pathway in this industry relies on process improvements and clean fuels that reduce energy-related emissions as well as sustainable forestry practices to reduce emissions from land use change. Indeed, the paper and pulp industry faces a relatively unique opportunity to become carbon negative — both in direct operations, using technologies such as calcium looping,<sup>63</sup> as well as in coordination with other sectors by repurposing the primary waste material (sludge) for biofuel production, land application to improve soil health, or even as an input to cement clinker.<sup>64</sup>

<sup>59</sup> Capgemini Research Institute: Circular Economy for a Sustainable Future, 2021.

<sup>60</sup> Circle Economy, Circularity Gap Report 2021, 2021

<sup>61</sup> IEA, Chemicals

<sup>62</sup> IEA, Paper and Pulp

<sup>63</sup> M.P.S. Santos, V. Manovich, D.P. Hanak, “Unlocking the potential of pulp and paper industry to achieve carbon-negative emissions via calcium looping retrofit,” *Journal of Cleaner Production*, Volume 280, January 2021, <https://doi.org/10.1016/j.jclepro.2020.124431>.

<sup>64</sup> D.D.F. Del Rio, B.K. Sovacool, S. Griffiths, M. Bazilian, J. Kim, A.M. Foley, D. Rooney, “Decarbonizing the pulp and paper industry: A critical and systematic review,” *Renewable and Sustainable Energy Reviews*, Volume 167, October 2022, <https://doi.org/10.1016/j.rser.2022.112706>.

**Suzano**, a Brazilian paper and pulp company, spends approximately 1 percent of net revenues on R&D and part of this amount is dedicated to climate change initiatives.

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• New markets, products and business models in the circular economy</li> <li>• Energy cost savings from recycled inputs,<sup>65</sup> efficiency improvements and clean energy</li> <li>• Some proven technologies in low-carbon heating and energy efficiency (though not universal)</li> <li>• Carbon removal potential of sustainable forestry</li> <li>• Competitive advantages at the technological frontier</li> </ul>	<ul style="list-style-type: none"> <li>• More decentralized production in light industry relative to heavy industry, thus more difficulty applying new technologies</li> <li>• Lower incentives for innovation</li> <li>• Economics of recycling are hindered by underdeveloped recycling infrastructure, as well as high demand for recycled materials</li> <li>• Unclear technological pathway in the chemical sector</li> </ul>

## 4. CONSUMER GOODS

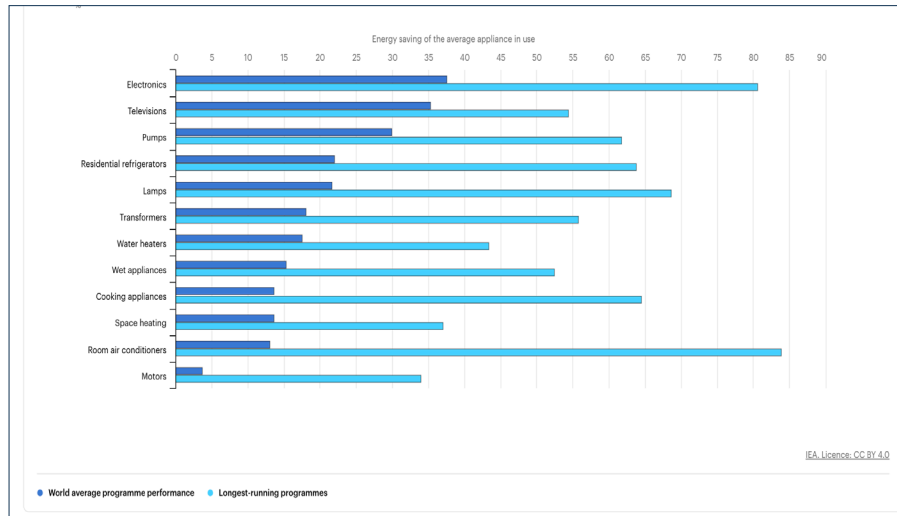
The consumer goods macro-sector includes industries that produce goods for consumers, including food and beverage, consumer electronics and household and personal products as well as online and physical retail.

In addition to emissions reductions in direct operations through electrification, clean energy and energy efficiency, companies in the consumer goods macro-sector are also exercising influence on upstream and downstream emissions. Reductions are realized through lower carbon inputs, more

efficient supply chain logistics and climate-smart product design. For example, home appliances such as refrigerators, TVs and electronics account for roughly 15 per cent of global electricity consumption and 30 per cent of residential carbon emissions. Heating and cooling appliances represent a far greater share. Achieving greater efficiency in home appliances is therefore a key lever for reducing emissions, with climate-friendly standards and labels playing a proven role (see chart below).

<sup>65</sup> Goldman Sachs Research: The evolution towards a Circular Economy, 2022.

## Energy savings from energy-efficient standards and labels over life of programmes



In 2022, as part of its plan to meet the SBTi-approved target of reducing Scope 3 emissions from end use by 15 per cent before 2030, **Arçelik**, an appliance manufacturer based in Turkey, invested USD \$19 million to improve the efficiency of its products. Collaborating with B2B customers around green labeling, the company has achieved nearly 50 per cent turnover from energy-efficient products. **Arçelik** has also made significant investments in manufacturing plant decarbonization as well as in the procurement of renewable energy and the use of recycled and bio-based input materials.

**Tesco**, a UK-based grocer and general merchandise retailer, is investing in the decarbonization of refrigeration by replacing harmful gasses with CO<sub>2</sub>-cooled fridges, the electrification of HVAC and its online-shopping home-delivery fleet, and the exploration of a hydrogen-powered HGV fleet.

Circular economy principles applied in collaboration with the industrial goods sector can also drive down emissions from consumer goods: textiles, packaging,<sup>66</sup> durable goods and electronics are especially suited to recycling, with implications for both production and product design.

<sup>66</sup>M Sahnoun: Sustainable packaging: A critical part of your green credentials: Capgemini: 2023.

**Danone** is investing \$7 billion CAPEX in Canadian dairy lines to enable use of PET rather than hard-to-recycle polystyrene, simultaneously enabling the use of recycled materials and improving end-life recyclability of its packaging. It also invested more than USD \$9 billion CAPEX to decarbonize manufacturing plants — reducing emissions and insulating itself from natural gas price inflation and volatility — and USD \$3 billion in new systems to recover and reuse waste heat and water.

**Grupo Herdez**, a Mexican food company, leads a Sustainable Agriculture Program to guide, train and monitor agricultural vendors' production practices, with a focus on water conservation, soil and biodiversity restoration and pollution reduction, covering over USD \$50 million of agriculture procurement in 2022. It complements this approach with venture capital strategies that connect entrepreneurial efforts in sustainable food production to capital and opportunities to scale.

Although customer-focused initiatives to promote climate-conscious customer demand constitute an important lever in all sectors, these take on special meaning in the consumer goods sector. Successful strategies to shape the behaviour of thousands, millions or billions of customers typically must combine communications, credibility (e.g. through established product labels) and collaboration among those who produce consumer goods and those who sell them as well as with policymakers. Developing climate consciousness among consumers,<sup>67</sup> identifying climate-conscious market segments,<sup>68</sup> responding to consumer priorities,<sup>69</sup> and equipping them with credible information for climate-informed consumption decisions can be an effective lever for improving the return on corporate investments in mitigation and driving down emissions.

**Seventh Generation**, owned by UK-based Unilever, partnered with the Green New Deal Network in the US to launch a consumer education campaign to build awareness and increase public support of policies that put communities in control of climate, care, jobs and justice policies.

Many consumer goods industries, including food, beverage, household and personal products, have significant links to the agricultural sector. Agriculture is responsible for about 12 per cent of global emissions and for an even greater share when counting the sector's energy use and related land use change. Yet the highly decentralized production of agricultural inputs (almost half of global habitable land is agricultural) can hinder measurement and management of GHG emissions for global companies. Many supply chains include informal relationships with independent, smallholder farmers, and the emissions profile of agricultural production depends significantly on local conditions, including farming practices around crop, soil, nutrient, livestock, fire and water management.<sup>70</sup> In facing this challenge, large buyers of agricultural commodities are innovating methods to build supplier capacity in regenerative practices, reducing energy- and non-energy-related emissions, reducing water demand and improving the resilience of local economies and communities, where agriculture's employment and output shares are often highly concentrated.

<sup>67</sup>PR Newswire, Green New Deal Network, Seventh Generation Launch First-of-Its-Kind Partnership, 2023

<sup>68</sup> L. Johns, H. Morrison, J. Davis-Peccoud, D. Carbinato, How Brands Can Sell to Environmentally Conscious Nonconsumers, Harvard Business Review, 2023

<sup>69</sup>Gallup, Environment and Energy

<sup>70</sup>IPCC, Climate Change 2022: Mitigation of Climate Change (Section 7.4.3)

**Nortura**, a Norwegian meat and egg producer, participates in a research collaboration called Foods of Norway, which brings together academic institutions and industry partners to advance sustainable food production, including through alternative feed sources and feed efficiency. Nortura has also entered into a partnership with Capgemini to drive the company's digital transformation, with the aim of improving traceability and sustainability through the value chain.

In 2018, **AB InBev**, the world's leading brewer based in Belgium, established the goal to improve water availability and quality to 100 per cent of the water-stressed communities where it operates by 2025. As an example of investments related to this goal, its Peruvian subsidiary Backus collaborated with local water fund Aquafondo to restore the ancient canal systems called amunas, which harvest and deliver water to Lima, the world's second-largest city located in a desert.

Water is a key dimension of the physical impacts from climate change, which range from flooding and pollution to droughts and shrinking supply. Water efficiency in agriculture, food and beverage industries, consumer appliances and personal/household products represents an opportunity to advance adaptation and mitigation goals simultaneously. It reduces water demand, improves resilience to water scarcity, reduces energy needs for pumping, treating and heating water (which accounts for 5 per cent to 10 per cent of global emissions<sup>71</sup>) and slows degradation of critical wetland carbon sinks.<sup>72</sup>

The 2030 Sustainability Commitment for climate of **Coca-Cola İçecek** is to run manufacturing sites on 100% renewable electricity and make them carbon-neutral and to reduce its total absolute GHG emissions by 13 per cent by 2030. While growing the business relative to 2015, **Coca-Cola İçecek** also aspires to reduce emissions per liter of product by 50 per cent by 2030.. This plan includes procurement of renewable energy, recycled inputs, and Sustainable Agriculture Initiative-certified sugar, investment in energy-efficient cooling equipment and more energy-efficient production equipment and improvements in the energy usage ratio during production.

**Danone**, the first food company to align its targets with the Global Methane Pledge, collaborates with suppliers through initiatives such as its Regenerative Agriculture Scorecard and Environmental Handbook to promote regenerative agriculture practices, and through the Cool Farm Tool and Les 2 Pieds sur Terre to build more effective GHG data systems for its supply chains. The Soy Traceability Project limits land use change related to its dairy operations by tracking the sourcing of soy used to feed cattle.

<sup>71</sup>IEA, Energy and Water

<sup>72</sup>GIZ, Water Climate Report 2020, 2020

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• Opportunities to address mitigation and adaptation simultaneously through energy and water efficiency</li> <li>• Synergies between climate action and many other SDGs, given sector's footprint in local communities and economies, including both suppliers and customers</li> <li>• Enhanced supplier relationships and supplier resilience through engagement, education and financing initiatives</li> <li>• Competitive advantages and brand value in credible climate-smart product labeling</li> <li>• Biological carbon sequestration through regenerative agriculture practices</li> </ul>	<ul style="list-style-type: none"> <li>• Extensive and sometimes informal supply chains hinders upstream and downstream GHG measurement and management</li> <li>• Highly decentralized production and strong dependence on local conditions (particularly for agricultural inputs) can make solutions hard to scale</li> <li>• Waste management, particularly food waste and e-waste</li> </ul>

## 5. TECHNOLOGY, MEDIA AND TELECOMMUNICATIONS

The telecommunications and technology (TMT) macro-sector includes businesses in the software and information technology (IT) industry as well as wireline and wireless telecommunications companies and those that offer cable and satellite services. The macro-sector's direct emissions are small, though energy intensity and electricity demand are high in some parts of the sector, particularly in the operation of data centres and communications networks. Sourcing renewable energy through credits, power purchase agreements (PPAs) and even on-site development is a key lever for driving down emissions in the sector. The large demand of data centres for cooling also positions it well to drive innovation in this field.<sup>73</sup>

**Turkcell**, Türkiye's leading digital operator, has been using certified 100 per cent renewable energy and aims to meet at least 65 per cent of its total electricity consumption from its own renewable resources by 2026. This objective is anticipated to be met through the utilization of energy assets owned and managed by Turkcell, which include an already established 18 MW wind power plant and a 300 MW solar power plant, which is expected to be completed in 2025. To facilitate this transition, Turkcell intends to secure financing from sustainable debt capital markets on a best-effort basis for these projects and augment solar energy production within their data centers and base stations.

<sup>73</sup> Global Opportunity Explorer: Keeping it Cool

**Safaricom**, Kenya's leading mobile network operator, has deployed solar power at 1,432 of its sites through PPAs and Independent Power Product partnerships. The solar power replaces diesel-based onsite generation and grid power, helping Safaricom to simultaneously reduce carbon footprint and ensure the sites' energy supply.

Yet, the low levels of direct emissions in the technology sector may have created a perception that it is not exposed to climate change, leading to relatively low ambition among its leaders.<sup>74</sup> This perception ignores the immense opportunities for companies in the technology sector to drive down emissions across the economy through products and services that support customers' decarbonization strategies, increase energy efficiency for assets and system-wide and facilitate innovation itself. Digital technologies are a key driver of energy efficiency and security for organizations and assets such as buildings, industrial plants (Industry 4.0) and energy infrastructure. For example, the modernization of electrical grids in response to the shifting energy landscape is in large part a digital transformation,<sup>75</sup> creating an opportunity for the technology sector.

**Workiva**, a software-as-a-service company for integrated and assured financial reporting, ESG, audit, risk and compliance, is investing more than \$150 million towards research and development of their cloud-based platform that helps companies on their decarbonization journey to compile, evaluate and report both financial and non-financial data (including GHG data) in a secure, controlled and audit-ready environment.

<sup>74</sup>PwC: 25th Annual Global CEO Survey: 2022.

<sup>75</sup>IEA: Digitalization and Energy: L. Varro, G. Kamiya, 5 ways Big Tech could have big impacts on clean energy transitions: IEA, 2021.

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• New digital products and services for GHG measurement and management, energy efficiency and innovation itself</li> <li>• Energy security and emissions reductions achieved together through clean energy procurement or generation</li> <li>• Driving innovation and economies of scale in novel cooling solutions, net-zero buildings and materials, and clean energy through R&amp;D and procurement</li> </ul>	<ul style="list-style-type: none"> <li>• High demand growth and growing energy intensity in the sector</li> <li>• Perception of low exposure to climate change risks and opportunities</li> <li>• Complex supply chains</li> <li>• E-waste management</li> </ul>

## 6. CONSULTING

The consulting macro-sector includes professional and commercial services such as management consulting, data services and legal, accounting and tax services. Technical services such as engineering and design and information technology consulting also fall under this macro-sector. Generally speaking, these industries have relatively low levels of capital intensity and capital expenditure, relying instead on intellectual, human and social capital to create value. As they do not manufacture goods, process-based emissions in direct operations are minimal, whereas electricity consumption typically accounts for a large share of corporate emissions. Upstream emissions from purchased products and services and employee travel-related emissions are also a consideration for this sector.

Consulting firms are well-positioned to support emissions reductions among their public, private and third-sector clients (Scope 4), in particular by helping to identify and implement beneficial decarbonization technologies. In addition, the implementation of mitigation technologies, and more generally the rising priority of climate in business strategies, creates the need to anticipate and manage related organizational and cultural changes, creating a window for this industry to guide companies through this process.<sup>76</sup> Some consulting firms have developed specialist teams and services in sustainability, integrating a combination of strategic, digital, technical and management consulting services.<sup>77</sup> Furthermore, many consulting firms serve clients across many industries as well as Governments.

<sup>76</sup>J. Brecheisen, J. Robison, Why Leaders Should Partner With CHROs in ESG Reporting, Gallup, 2022.

<sup>77</sup>For example: Jacobs, Sustainability Solutions

This makes them a valuable resource for accessing emergent ideas and solutions, adopting best practices and identifying potential partners. Moreover, consulting firms are often key players in the planning, design, development and operation of high-impact infrastructure assets that serve many segments of society and many industries. They can leverage this position to facilitate the social and operational coordination that underpins decarbonization.

Yet, in such a knowledge-centric sector, the challenge proves to be in accessing and managing that knowledge. The vast range of skills relevant to consulting projects — whether to support a corporate decarbonization plan or build a new bridge — can make it difficult not only to find employees with the right skills but also to bring different skill sets together effectively.<sup>78</sup>

**Jacobs**, based in the US, provides consulting, technical, scientific and project delivery services for public and private sector clients, on projects ranging from transportation and energy infrastructure to manufacturing operations and scientific research. Reflecting the knowledge-centric nature of its business, Jacobs invests significantly in the human capital behind its sustainability-related projects, and launched its first sustainability-linked bond in 2023. The company also recently acquired Streetlight, a mobility analytics platform that supports urban and transportation infrastructure investment decisions, accounting for social and climate impacts.

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• Respond to growing demand among companies to improve operational and energy efficiency, adopt digital solutions and align with climate goals</li> <li>• Drive best practices, excellence in solutions and partnerships as cross-industry and cross-sector “knowledge centre”</li> <li>• Facilitate social and operational coordination through high-impact projects</li> </ul>	<ul style="list-style-type: none"> <li>• Skills gap</li> <li>• Internal coordination of wide-ranging skills in complex projects</li> </ul>

<sup>78</sup> S Murray: Consultants face sustainability skills gap as net zero pressure rises: Financial Times, 2022.

## B. KEY CHALLENGES AND OPPORTUNITIES

Corporate climate investment depends on investment capital, but it also depends on investment opportunity.

In some contexts, investment opportunities are ready and waiting; in others, they are constrained by economic realities relating to technology, human capital and data and limitations which are often compounded by region- or country-specific factors. Yet, it is in precisely these challenging areas where Coalition members are harnessing strategic opportunities through investment.

### 1. TECHNOLOGY

McKinsey and the IEA estimate that roughly half of global emissions come from industries in which the technological and business solutions to reducing emissions remain unclear.<sup>79</sup> Heavy industry and long-distance transportation represent pronounced challenges, but uncertainty and immaturity in the technological landscape affects all sectors and activities. Even in areas where the technology pipeline appears robust, many innovations are unproven at scale or too costly for implementation today, particularly in heavy industry.<sup>80</sup> Technologies such as carbon capture and storage and green hydrogen are expected to play a pivotal role across sector lines, but lack of certainty around the performance and cost profile of these technologies can impair plans to finance and adopt them, both at the company level

and within the economic infrastructure that serves businesses collectively.

Corporations are central agents in decarbonization research, development, demonstration and deployment. This translates to investments in R&D, but it also means partnerships and engagement — through platforms for sharing knowledge, risk and resources — with other key players such as Governments and industry peers to advance critical technologies.

Reflecting the critical role that nascent technologies must play in decarbonizing the materials industries, **Holcim**, a Switzerland-based building materials manufacturer, leads an R&D organization with more than 300 researchers working on over 300 patent families. Its investments in innovation include low-carbon materials, production technologies and construction processes as well as carbon capture, utilization and storage (CCUS). The company is preparing over 50 CCUS pilot projects in Europe and North America.

In developing countries, even proven and economically-viable decarbonization technologies can be difficult to access or adopt, in many cases owing to constraints on human capital and access to finances. Corporations can be key facilitators of cross-border transfers of demonstrated technologies as well as the knowledge and skills required for their operation.<sup>81</sup>

<sup>79</sup>Yanosek and Victor: How Big Business Is Taking the Lead on Climate Change: McKinsey, 2022.

<sup>80</sup>McKinsey: Cementing your lead: The cement industry in the net-zero transition, 2023.

<sup>81</sup>V. Steenbergen, A. Saurav: The Effect of Multinational Enterprises on Climate Change: World Bank, 2023.

**Tata Steel**, based in India, leverages its multinational operational footprint to facilitate technology transfer across borders. For example, it recently partnered with Germany's SMS to demonstrate a technology that can reduce blast furnace emissions by 50 percent at a steel plant in India. It also partnered with the UK government to fund R&D investments in hydrogen technologies that can be applied to industrial decarbonization.

“**Cooperation around technology transfer creates opportunities for other types of cooperation. In the case of nuclear energy, cross-border technological cooperation usually means extensive academic and even regulatory cooperation, too.**”

- **Canon Bryan**,  
CFO, **Terrestrial Energy**

## 2. SKILLS

Ambitious corporate climate action depends on developing new skills in many areas of the organization, ranging from its board members to the finance team to those responsible for the management of new technologies and processes.<sup>82</sup>

“**To properly assess the impact of our product, internal resources (R&D squads for instance) must be trained on using the carbon calculation tool.**”

- **Johanna Recoura**,  
Group Accounting Policy & Sustainability Reporting VP, **Schneider Electric**

Making the finance team a powerful climate partner means ensuring employees can understand and act on a growing share of non-financial data, such as GHG emissions, and a new investment landscape. The team must understand the external context that makes the company's climate strategy important and the substance of its vision, purpose and targets.<sup>83</sup>

“**Our new operating model, effective since July 2023, will enable ADB to increase its capacity as Asia and the Pacific Climate Bank. This transformation is not only about departments or processes, but more importantly staff's capacities and skills to develop high-quality solutions for our clients to respond to climate-related challenges. This means not only hiring more climate change specialists, but strengthening all staff with understanding and skills related to climate change, from management to operations teams.**”

- **Roberta Casali**,  
Vice-President for Finance and Risk Management,  
**Asian Development Bank**

In an E&Y survey of more than 500 corporate sustainability leaders in 21 countries, 35 per cent of companies said difficulty retaining or upskilling sustainability-literate talent is a top internal barrier to doing more on climate change, and 28 per cent said that difficulty hiring talent with climate change skills is a key external barrier. Yet, only 23 per cent of respondents listed talent as one of their top three climate investments, and only 27 per cent had used hiring or training to acquire climate-change expertise. Climate-relevant skills can drive more effective climate strategy; and vice versa, a clear climate strategy helps attract and retain talent.<sup>84</sup> For this reason, human capital investments in climate skills offer a key value opportunity.<sup>85</sup>

<sup>82</sup> Deloitte: Directors' Guide to Climate Governance; K. Pecknold: Is a lack of capability and skills holding back the transition in energy & utilities? Capgemini, 2022.

<sup>83</sup> E. Assolin: steps to building a net zero workforce with a sustainability academy. Capgemini, 2021.

<sup>84</sup> J. McCarthy: Environmental Record a Factor for Most US Job Seekers. Gallup, 2021.

<sup>85</sup> S. Varley: How can slowing climate change accelerate your financial performance? P. Spiller: Making supply-chain decarbonization happen. Deloitte: A blueprint for green workforce transformation.

### Key Takeaways from the LinkedIn Global Green Skills Report 2023<sup>86</sup>

- Most jobs demanding green skills are not traditional green jobs
- Growth in demand for green skills outpaces supply
- Growth rates in green talent are correlated with national income



**As a food company, many of our climate investments are in local producers. Understanding the climate impact of these investments often requires local expertise, but access to this expertise varies significantly, depending on the country's level of development."**

**- Andrea Amozurrutia,**  
Finance and Sustainability Director,  
**Grupo Herdez**

Companies, Governments, trade unions and other stakeholders can all play a part in expanding the supply of green skills. This can mean incorporating climate change into a broader range of curricula (e.g. finance), developing technical standards around mitigation technologies and supporting training opportunities that respond to evolving needs.<sup>87</sup>

In January 2022, in collaboration with Global Green Connect, **City Developments Limited** launched Sustainability Connect, a platform to unite and empower sustainability professionals amidst the growing demand for ESG training. This initiative expands CDL's focus on capacity-building, equipping sustainability professionals with practical knowledge, allowing them to scale up their skill sets and support their employers to future-proof their businesses.

## 3. DATA AND METRICS

Though the rising prevalence of mandatory emissions reporting is improving the availability of emissions data (and also having a demonstrated effect on business operations<sup>88</sup>), many companies still have difficulty accessing data that is accurate, sufficiently granular, timely and verified. Even when quality data is available, it can be challenging to integrate it into decision making, in part owing to underdeveloped emissions-related accounting practices. According to McKinsey partner Peter Siller, these are "at a level where cost accounting was 40 years ago."<sup>89</sup> Developing and adopting effective climate-related metrics is an additional challenge, not least because it can be difficult to strike the right balance in KPI design between decision-useful (purpose-built) and interoperable — i.e. harmonized with other organizations and across teams within the company.

Furthermore, corporate data requirements go far beyond emissions. Data on performance and cost of mitigation technologies, which can be difficult to access at the technology frontier, is needed along with data on climate policy and climate change

<sup>86</sup> LinkedIn, Global Green Skills Report 2023

<sup>87</sup> International Organisation of Employers, No just transition without skills;

<sup>88</sup> J.-S. Mésosnier, B. Nguyen, Showing off cleaner hands: mandatory climate-related disclosure by financial institutions and the financing of fossil energy, Working Paper, Banque de France, 2021

<sup>89</sup> P. Spiller, Making supply-chain decarbonization happen, McKinsey, 2021.

itself, including scenario data.<sup>90</sup> Reducing emissions in investments, strategic decisions and procurement practices depends on a more robust climate-related information infrastructure, which enables more effective external reporting.

The challenge of data access is particularly pronounced in developing countries. Under the Paris Agreement, countries are the foundational unit for GHG inventories, and so the institutional and scientific infrastructure behind the measurement, tracing and reporting of GHG emissions is tightly embedded in national contexts. This infrastructure is lacking in many developing countries, leading to significant challenges for global companies seeking to measure and manage their emissions. Although organizations such as the IEA have developed databases of country-level emissions factors for a range of economic activities,<sup>91</sup> the level of granularity is often insufficient for those companies aiming to identify priority action levers in local operations.

## 4. REGION AND COUNTRY - SPECIFIC FACTORS

Climate investment opportunities are closely tied to regional, national and local conditions, including economic and political circumstances. This creates meaningful differences in country-level climate priorities as well as in the tools available to act on those priorities. As discussed above, constraints relating to technology, skills and data are often compounded in the context of developing countries.

## A. COUNTRY-LEVEL PRIORITIES, PLANS AND CAPACITIES

National climate action strategies<sup>92</sup> vary substantially among countries, reflecting their development context and climate priorities, which are shaped by economic structure and emissions intensity; income levels; demographic trends; energy production and use patterns; workforce education and skills; access to technology, finance and global markets; and exposure to climate change itself.<sup>93</sup>

The energy matrix of Brazil has a share of 80 per cent to 90 per cent from renewable sources, first among which is hydropower. These circumstances shape the country's climate transition priorities in several ways.

In countries with lower income levels, mitigation measures can be seen as a threat not a boost to income and development. Two thirds of global emissions are produced in developing economies,<sup>94</sup> and many low- and middle-income countries have a high share of output and employment tied to fossil fuels and other emissions-intensive activities.<sup>95</sup>

<sup>90</sup> Global metrics on climate change are newly available though local risks remain hard to assess. Indicators of Global Climate Change 2022: annual update of large-scale indicators of the state of the climate system and human influence. Climate change and climate policy scenarios represent a rapidly developing field. See for example: NGFS Phase 3 Scenario Explorer and Climate impact explorer. As these models improve they will become more powerful tools for corporate investment decisions particularly as companies are able to better assess the relative likelihood of different climate trajectories and overcome the complexity of coordinating multiple scenario types (physical impacts climate policy and economic projections) with reduced model uncertainty and decision-useful granularity.

<sup>91</sup> IEA. Emissions Factors 2022.

<sup>92</sup> For example those embodied in Nationally Determined Contributions (NDCs) and Long-Term Low-Emissions Development Strategies (LT-LEDS). NDC Partnership. NDC Investment Planning: Guide and Checklist. UNFCCC. NDC Registry. UNFCCC. Long-term strategies portal.

<sup>93</sup> For example Asia produces 51% of global emissions with China India Japan Indonesia and South Korea alone accounting for 43%. Asia is also vulnerable to climate change as it is home to 60% of the world's population half of which live in low-lying coastal areas including many small island states. World Economic Forum (WEF), Accelerating Asia's Advantage: A Guide to Corporate Climate Action 2023.

<sup>94</sup> Yanosek and Victor, How Big Business Is Taking the Lead on Climate Change, McKinsey, 2022. Roughly half of the developing economy share comes from China and India. Global Carbon Budget, 2022 Report.

<sup>95</sup> World Bank, Diversification and Cooperation in a Decarbonizing World, 2020.

**Braskem**, a Brazilian chemicals company, in partnership with French company Ciel & Terre and Brazil's Sunlution, is finding ways to double down on the renewable generation capacity of Brazil's hydropower plants and other water surfaces through floating photovoltaic power generation technologies. Braskem designed and manufactures input materials for these floats and lends operational and strategic assistance to support the joint venture's growth in the local market.

Constraints on public sector capacity, including fiscal capacity, are also common among low- and middle-income countries. Many of these Governments face the same issues as local businesses: constraints related to human capital, technology and finance.<sup>96</sup> And because much of the climate policy toolkit translates to a public financial commitment — subsidies or tax incentives, infrastructure investment, R&D funds, etc. — the policy space for acting on climate is tightly linked to fiscal capacity. So while Governments in the United States and European Union, for example, have launched record-breaking investment plans for climate action,<sup>97</sup> many developing economy Governments are plagued by high debt levels and servicing costs, declining revenues and highly constrained fiscal space, limiting public incentives for corporate climate investment.

For corporations, this creates the challenge of adapting to local priorities, plans and capacities while investing in climate even where public and market incentives are underdeveloped. The opportunity is the chance to act as a critical liaison between

global and local actors,<sup>98</sup> linking local opportunities for climate action to the technology, finance and know-how embedded in their own operations and stakeholder relationships. Moreover, companies that take a proactive stance toward engagement with Governments on their climate plans<sup>99</sup> can catalyze a virtuous cycle of increasing ambition in both business and policy (a so-called ambition loop). Indeed, ambitious and effective national climate strategies rely critically on input from and alignment with the private sector.<sup>100</sup>

At COP26, the net zero commitments of large corporations provided critical support for the large number of national governments who agreed to raise their climate ambition through enhanced NDCs.<sup>101</sup> Many Advanced Group members of the CFO Coalition for the SDGs were at that table, including **City Developments Limited, Danone, Enel, Fermentich, Klabin, Natura, Salesforce, Schneider Electric, SkyPower, Unilever and Safaricom.**

The **Asian Development Bank** is a member of NDC Partnership, a partnership among governments and international institutions that provides members with access to a global network of knowledge and resources to support their work in climate action.

<sup>96</sup> International Labour Organization, Enabling business mitigation and adaptation to climate change, 2022.

<sup>97</sup> The White House, Inflation Reduction Act Guidebook. European Commission, The European Green Deal.

<sup>98</sup> Steenbergen et al, The Effect of Multinational Enterprises on Climate Change. D. Bahar, Do multinational corporations play a role in entrepreneurship in developing countries?, Brookings Institution, 2015.

<sup>99</sup> For example: Danone Position on Climate Advocacy

<sup>100</sup> GRI and CDP, Engaging Business in the NDCs, 2020.

<sup>101</sup> UN Climate Change Conference, Annex I: Enhanced ambition in national climate plans

## B. FINANCIAL ACCESS

To further support the sustainability efforts across its value chain, **Cemex** has partnered with large banks to establish preferential financing programs for suppliers that have a sustainability certification from an acceptable third-party.

Financial market development varies widely across countries, as do macroeconomic conditions and sovereign financial conditions. Together this creates implications for the local cost of capital, financial and macroeconomic stability, financial risk management, and the investment environment. Rufe Ma et al observed that both entity-level financial constraints and underdeveloped financial markets each stymie companies from investing in climate opportunities.<sup>102</sup> Many corporations, including those based in developing economies, have access to global banks and capital markets for hard currency financing. Corporations are a crucial conduit for capital inflows into countries that are otherwise challenged to access finance, including through direct investment<sup>103</sup> and other types of financing initiatives.

**H&M** recently launched the Green Fashion Initiative, investing \$11 million dollars to finance decarbonization measures among suppliers, including energy efficiency and renewable energy. H&M was also a lead funder of the \$250 million Fashion Climate Fund that supports decarbonization in fashion supply chains.

## 5. SUPPLY CHAINS

Measuring, managing and reducing supply chain emissions represents a profound challenge for many companies. Problems of data access and interoperability are compounded through complex supplier relationships, as is the issue of access to technology and finance, particularly for suppliers in developing countries.<sup>104</sup> In the case of upstream emissions, measurement is the first obstacle: product- and supplier-level data is often unavailable, requiring companies to use a patchwork of proxies and estimates.<sup>105</sup> Even where data is available, relying on standards and incentives alone (e.g. emissions-based screening) to reduce upstream emissions can be unsuccessful if there are no low-emissions alternatives or if suppliers are not able to invest in their own transition, despite incentives created by the buyer. Suppliers often face constraints on financial and technology access and, because they are often tied to local energy systems such as power grids, investments to lower the emissions intensity of their energy use are often difficult or impossible. Suppliers' investments in decarbonization may not be recognized because buyers, regulators and others often use aggregate-level emissions factors (e.g., country/industry) to calculate supply chain emissions.



**Value chain decarbonization is a lot easier when you work with your suppliers and customers to reach a common goal.”**

**- Henrik Frisell,  
CFO, Nortura**

<sup>102</sup> Ma et al, "Climate change opportunity and corporate investment: Global evidence"

<sup>103</sup> UN Global Compact, Scaling SDG Finance for the Sustainable Development Goals, 2019.

<sup>104</sup> "The 'next level' of climate action." WEF, Net-Zero Challenge: The supply chain opportunity, 2021.

<sup>105</sup> GHG Protocol, Corporate Value Chain (Scope 3) Standard and Scope 3 Calculation Guidance.

These constraints have led leaders in sustainable procurement to prioritize two-way knowledge exchange and capacity development among suppliers as a key lever of action, combining this with incentives. That includes helping suppliers access the finance, technology and skills that drive decarbonization and establishing robust measurement and data practices among suppliers, which enables corporations to measure and reward progress.<sup>106</sup>

**Salesforce**, a cloud-based software company headquartered in the US, reduces emissions in its supply chain through a procurement initiative that combines supplier engagement and capacity building, sustainability provisions in supplier agreements and processes for monitoring suppliers' sustainability performance. A key feature of Salesforce's strategy is to encourage suppliers to commit to setting science-based targets in cooperation with SBTi and to develop and implement a plan for achieving targets.

The challenge of measuring downstream emissions is at least as significant as these represent estimates of future emissions rather than realized emissions. Nonetheless, many companies have found innovative ways to reduce downstream emissions, including through more energy-efficient and durable product design, product labels that encourage low-emissions use patterns and circularity and consumer education initiatives. Many of these are explored in the section on Consumer Goods.

**Pirelli** has played a central role in building a sustainable rubber ecosystem in collaboration with its suppliers. Its Sustainable Natural Rubber Policy was drafted based on consultations with stakeholders in the value chain and knowledge-sharing activities with other companies. The company pairs its involvement in standard-setting processes with supplier education programs that improve plantation health and reduce deforestation.

<sup>106</sup> Yet this comes with its own challenges, including the difficulty of maintaining supplier engagement through multiyear change efforts and the need for industry-level collaboration to achieve scalable impact. P. Spiller, Making supply-chain decarbonization happen. See also SBTi's guide for developing and achieving supplier engagement targets: Engaging supply chains on the decarbonization journey, 2023.

## **A. SECTORAL PATHWAYS AND INVESTMENT EXAMPLES**

### **WHAT DO CORPORATE INVESTMENT IN CLIMATE MITIGATION LOOK LIKE ACROSS INDUSTRY SECTORS?**

While climate action is a priority across the entire economy, it is also unique to each industry sector, requiring substantial investments in specific technologies and processes. This ranges from heavy CAPEX for energy and infrastructure to R&D spending and investment in human capital, procurement and supply chain monitoring.

## **B. KEY CHALLENGES AND OPPORTUNITIES**

### **CORPORATE CLIMATE INVESTMENTS CAN BE CONSTRAINED BY THE FOLLOWING FACTORS:**

1. The cost and uncertainty around key technologies (e.g. carbon capture and green hydrogen)
2. The need to build sustainability skills in the workforce
3. The access to accurate, timely, granular, and verified data and metrics
4. The difference in national, regional and local conditions, including economic and political circumstances
5. The challenge of measuring, managing and reducing supply chain emissions

CFO Coalition members have shown how strategic opportunities can be harnessed through investment in each of these areas.

# 5. INNOVATIONS FOR SCALING CORPORATE INVESTMENTS IN MITIGATION

## A. TRANSITION PLANNING

Expanding on the role of the CFO Principles as a framework for impact, this section explores a number of techniques and tools CFOs are employing to scale corporate climate investment.



**There can be no pledge without a plan.”**

**- Esther An,**  
CSO, **City Developments Limited**

Well-developed transition plans go a step beyond climate-related risk disclosures: they demonstrate a commitment to decarbonization, describe a plausible pathway for getting there, including climate targets<sup>107</sup> and outline key investment and financing needs.

Climate transition plans have become a critical dimension of climate-related corporate reporting.

Transition planning is included in a number of regulatory disclosure frameworks and in the International Sustainability Standards Board's Climate-related Disclosures Standard (IFRS S2). In most cases, the standard requires disclosure of transition plans where they exist but stops short of requiring the adoption of transition plans. Although the direction of travel is clear, for many companies

it is an underdeveloped practice. Transition planning, therefore, represents a key area where companies can anticipate evolving expectations, saving costs and creating a competitive advantage. The value of transition planning goes beyond satisfying compliance requirements. It can drive climate investment itself, in several key ways. As a communication tool, transition planning improves alignment with external stakeholders, particularly investors and Governments, and opens access to capital. This gives investors greater confidence in allocating capital, which is particularly important for transitioning industries.<sup>108</sup>

At its May 2023 Annual General Meeting with investors, **Schneider Electric** presented the Group's climate transition plan, which had been validated by the Science-Based Targets initiative corporate net-zero standard, and gave shareholders the opportunity to vote on its application. The result was 98 per cent approval, affirming both the plan itself and the value of integrating its climate ambition in its engagement with shareholders.

Because climate action plans with various actors naturally crisscross in their scope and substance, they can be utilized as a platform for coordination and collaboration. The efficacy of corporate climate strategies can be amplified through coordination with other businesses in the region, in the industry and across the value chain as well as with Governments and financial actors.

<sup>107</sup> See Science-Based Targets initiative, Corporate Manual, Step 5

<sup>108</sup> The Transition Plan Taskforce was launched to develop a gold standard for corporate transition planning and disclosure. Additional resources include TCFD, Guidance on Metrics, Targets, and Transition Plans; GFANZ, Real-economy Transition Plans; and CDP, Climate Transition Plans; and Climate Bonds Initiative, The role of the Chief Financial Officer in driving low-carbon transition, p. 10

**Edison** guides its development in renewables in line with the decarbonization objectives expressed in the Italian Integrated National Energy and Climate Plan and the European Green Deal. This has allowed Edison to access a 150mm EUR European Investment Bank Loan since 2017 dedicated to construction of 8 new wind plants. In 2020, Edison secured a 300mm EUR Green Framework Loan from the European Investment Bank specifically dedicated to the development of renewable energy and energy efficiency projects.

An additional benefit of transition planning comes from the planning process itself, which can serve as an internal forum to assess climate-related risks and opportunities, consider strategic alternatives and evaluate the climate investment landscape. This process can also initiate key conversations among corporate leadership and prompt investment in business systems and processes that improve a company's capacity to adapt.

## B. CLIMATE-CONSCIOUS INVESTMENT ANALYSIS

Investment decisions are underpinned by analysis that considers the risk and return expectations of individual investment options as well as of entire portfolios and strategies. Fully reflecting the risks, life cycle costs and opportunities related to climate change can make or break critical investments in climate change mitigation — even where financial performance is the only criterion for decision making. As a simple example, incorporating life cycle cost assessments in investment analysis can

tilt the balance in favour of renewable energy investments, which entail upfront investment costs but reduce the marginal cost of energy in the future. This practice can make an impact on investment decisions even under business-as-usual assumptions such as future energy prices. This effect is multiplied by the introduction of scenario parameters that reflect more nuanced expectations about the future impacts of climate change (e.g. an anticipated carbon tax or energy price shocks).

Climate scenario analysis has become a common practice among corporate climate leaders. Such analyses model physical climate scenarios and thus physical risk to assets and portfolios as well as transition scenarios and transition risk.<sup>109</sup>

Scenario analysis of transition risk can be wide ranging, including macroeconomic projections, policy costs and incentives, market prices, production and technology factors as well as legal and reputational factors.<sup>110</sup> Scenario analysis is used to assess individual investments as well as broader investment portfolios and strategies. It is applied both to more accurately price assets under conventional assumptions (the expected) and to stress-test against the unexpected — often quantified as Climate Value-at-Risk (CVar) or Climate Transition Value-at-Risk (CTVar).<sup>111</sup> As with transition planning, there is value in the practice of scenario analysis itself, including to catalyze improvements in measurement, analytics and governance, leading to more efficient and adaptive business systems across the board.

Nonetheless, exposure to transition risk is closely correlated with GHG emissions, so much so that transition risk is often proxied by a price on carbon. Effective scenario analysis therefore depends on robust data and methodologies for modeling and

<sup>109</sup> S. Varley, How can slowing climate change accelerate financial performance?

<sup>110</sup> TCFD, Guidance on Scenario Analysis for Non-Financial Companies, 2020.

<sup>111</sup> 2° Investing Initiative, Transition Risk Toolbox, 2017. United Nations Environment Programme Finance Initiative, Changing Course, 2019; NordESG, Quantifying Climate Risks, 2022.

forecasting the GHG emissions of assets, portfolios and the business. This, in turn, opens the door to the use of a shadow carbon price within investment analysis as a tool to systematically reduce exposure to transition risk — as companies such as **Braskem** have begun to do.



**Using historical data as the baseline for our ROI analysis is no longer the right approach. Instead, we need to be using data that reflects a warming world.”**

- **Laura Palmeiro**,  
Sustainable Finance Director, **Danone**

Building on these innovations in life cycle and scenario analysis, some organizations have begun directly assessing the alignment of new investments with the Paris Agreement or their climate targets. Rather than assessing risk or value as scenario analysis does, new investment analysis centres on reaching climate goals. This has been piloted by several Governments and development banks, including the World Bank, which established methodological principles for the practice across a range of investment and financing activities.<sup>112</sup>

## C. CLIMATE-CONSCIOUS INVESTMENT GOVERNANCE



**From the investor perspective, when analyzing companies, climate targets imply that decarbonization is embedded into the governance of the company. We verify this through engagement, giving us more confidence in our capital allocation decisions.”**

- **Mitch Reznick**,  
Head of Sustainable Fixed Income,  
**Federated Hermes**

Even very robust investment analysis can only support investment decisions; it cannot make them. Aligning investment decisions with climate goals depends on governance arrangements that integrate climate risks and opportunities into investment analysis, balance climate and financial performance and facilitate climate investment even under uncertainty. This section reviews innovative governance practices organizations are using to drive climate investment.

Introducing the requirement to evaluate low-carbon alternatives when making investment decisions and layering some degree of mitigation measures on top of all investment proposals, have shown to be valuable tools for integrating climate goals more thoroughly across investment decisions. In addition, procedural innovations such as lowering the hurdle rate for mitigation investments (a practice adopted by **Edison** for mature renewable energy source technologies),

<sup>112</sup> World Bank, Joint MDB Methodological Principles for Assessment of Paris Agreement Alignment.

lengthening the time horizon of the investment plan to reveal the longer-term benefits of climate-smart investing or introducing mandatory emissions reductions thresholds for new R&D initiatives (an initiative of **Schneider Electric**) represent ways to build in a “mitigation bias.”

To navigate a complex investment landscape, some companies have developed frameworks that integrate business and climate goals to support decision making. These prioritization frameworks take mitigation goals as given but, by asking the right questions, bring decision makers the confidence that resources are being used wisely. They begin with the expected assessments of materiality, performance and cost, but go further to evaluate mitigation investment considerations, particularly those that are not widely deployed. **Schneider Electric**, for example, has developed a prioritization framework that favors more mature technologies that are less complex to implement, those better to scaled deployment and those whose emissions reductions are most cost effective.<sup>113</sup> Frameworks such as these have also proven useful for integrating additional sustainability criteria; e.g. for adaptation and just transition.<sup>114</sup>

Lastly, many companies are also looking beyond the investment function to ensure that broader corporate structure and governance practices support climate-smart investment governance. Collaborative structures, particularly those that support knowledge exchange between key functions such as the finance and sustainability teams, are critical for efficient and effective investment decisions. Measuring and reporting new metrics that blend climate and financial objectives (e.g., carbon-adjusted EBITDA or earnings per share) and other innovative measurement practices can foster cross-

functional alignment on climate goals as can well-designed executive compensation schemes. Where appropriate, relevant and recognized standards such as those from ISO can also be adopted to ensure consistency across teams and actors.<sup>115</sup>

The preceding section explored valuable analytical innovations such as life cycle and scenario analysis. Yet, how the analysis is performed (e.g. the carbon price level and scenarios that are used) and how its results are applied is a question that cannot be answered by the models. Indeed, these decisions are in many cases the responsibility of corporate boards,<sup>116</sup> creating an opportunity for CFOs to engage with other members of corporate leadership on the broader climate strategy.

## D. CLIMATE-SMART BUDGETING AND ACCOUNTING

Climate-smart Budgeting and Accounting Budgeting and accounting are closely linked with investment, including as the source of funds for investment expenses and key information for investment decisions. They both have a role in facilitating and monitoring corporate climate investment. As an example, some organizations have integrated climate-related criteria in budgeting decisions, such as an internal carbon price, with direct effects on investment plans and decisions.<sup>117</sup>

When an internal carbon price is implemented as a shadow price, it is not effectively charged but nonetheless generates a systematic bias toward low-carbon expenses. When it is implemented as an ‘internal tax’, it generates funds which can be otherwise appropriated, including for investments

<sup>113</sup> Danone uses a framework with a similar purpose. See CBI, The role of the CFO, p. 8

<sup>114</sup> UN DESA, Climate Action and Synergies; C40, How to prioritise actions for your climate action plan

<sup>115</sup> E.g., ISO standards on assessing and reporting climate-related investments, sustainable finance, environmental costs/benefits, monetary valuation of environmental impacts, climate change adaptation

<sup>116</sup> WEF, How to Set Up Effective Climate Governance on Corporate Boards, 2019.

<sup>117</sup> UN Global Compact, Executive Guide to Carbon Pricing Leadership, 2015.<sup>118</sup> UN DESA, Climate Action and Synergies; C40, How to prioritise actions for your climate action plan

in mitigation.<sup>118</sup> Indeed, dedicated climate budgets have proven a useful tool for some organizations, whether or not funded by an internal carbon tax.

Accounting also plays a critical role in climate investment, in relation to both financial and emissions data. For example, the financial close of an accounting period typically requires the CFO to perform an impairment test, which is an assessment of potential value destruction in the company's asset base, based on probable risks and opportunities and related scenarios. The impairment test represents an important lever for climate leadership by the CFO, as it provides a critical context for identifying and assessing material climate-related risks as well as for evaluating mitigation investments and their potential to reduce future losses.

Effectively managing GHG emissions data across a multitude of external and internal transactions — including to implement an internal carbon price — also depends on adequate accounting methodologies and practices. Emissions accounting has proven a challenge and bottleneck for many companies, both within the organization and particularly in the context of supply chain relationships. A range of organizations has identified the critical need to improve carbon accounting practices, and some are leading pioneering efforts to address this need. That includes, for example, the carbon accounting and emissions liability management framework from Stanford University's Sustainable Finance Initiative and the Carbon Call initiative, whose members include a number of global corporations.<sup>119</sup>

## E. SDG FINANCE

Most corporate investment in climate-related opportunities is funded by debt issuance, followed by retained earnings, meaning that financial systems are critical facilitators of corporate climate investments.

Indeed, in an analysis of more than 10,000 firms, Rufei Ma and co-authors find that while financially unconstrained companies in countries with developed financial systems increase investment in response to climate-related opportunities, the same does not hold true where financial systems are underdeveloped.<sup>120</sup> But beyond the general terms of financial market depth, access and efficiency accounted for in this analysis, scaling corporate climate investment also depends on terms of financial market development specific to climate action and sustainable development, including the financial instruments, data and other market infrastructure that can connect climate opportunities to climate capital, including those around SDG finance.

<sup>118</sup> Pricing Nature, Tax Ourselves? Why Companies and Institutions Are Pricing Their Own Emissions

<sup>119</sup> Carbon Call, homepage. A. Sieger and M. Roston, From carbon counting to carbon accounting: The case for Emissions Liability Management, ImpactAlpha, 2022. M. Roston, A. Sieger, T. Heller, What's Next After Carbon Accounting? Emissions Liability Management, Working paper, 2023.

<sup>120</sup> Ma et al, "Climate change opportunity and corporate investment: Global evidence"

Financial service providers are a core component of financial market infrastructure, including as facilitators of effective data and information flows—among corporate issuers, investors and other capital market participants, lenders and insurers and within companies themselves. For example, the rise of labelled securities has benefited from the support of external review services (Second Party Opinions, SPOs) that build confidence among both investors and issuers in the new instruments, their purpose and their impact. **S&P Global Ratings**, through its recent integration of Shades of Green into its SPO offering, provides sustainable finance services and solutions, including entity level sustainability assessments and Second Party Opinions to help entities understand where they are on their journey to net zero. Building on existing SPO methodologies that evaluate alignment with market principles and standards, through its Shades of Green approach, S&P Global Ratings applies the latest climate science to assess the alignment of corporate operations with future low-carbon, climate-resilient corporate operations, including with respect to revenues, CAPEX, etc.

## 1. GREEN BONDS AND OTHER USE-OF-PROCEEDS DEBT INSTRUMENTS

Green bonds and other use-of-proceeds debt instruments are central to the climate finance landscape. Proceeds from green bond issuance are used to fund investments (primarily in fixed capital assets) aligned with environmental goals, the criteria for which are defined in green bond standards from the Climate Bonds Initiative (CBI), the International Capital Markets Association (ICMA) and the European Union. In addition to providing the criteria for eligible investments, these standards also outline best practices in project evaluation and selection, management of proceeds and reporting as well as requirements for external verification and recommendations.

As of January 2023, cumulative green bond issuance exceeded USD \$2.5 trillion, with yearly issuance more than quadrupling between 2016 and 2022.<sup>121</sup> In the first half of 2023, green bond issuance increased by 18 per cent relative to the same period in 2022. Governments are the primary issuers of green bonds, followed by financial institutions. The market's strong growth reflects the benefits for both issuers and investors. Green bonds offer investors the advantages of secondary market liquidity and price discovery, credible alignment with environmental goals supported by recognized frameworks and issuer-reported information that enables critical investor goals such as ESG alignment and risk management. Moreover, the use-of-proceeds bond market outperformed global bonds by more than 2 per cent in the first half of 2023.<sup>122</sup> For issuers, in addition to the financing role of green bonds, which sometimes

<sup>121</sup> World Bank, From India to Indonesia, Green Bonds Help Countries Move Toward Sustainability, 2023. World Bank, GSS Bonds Market Update - January 2023, 2023. S&P Global Ratings, Sustainable Bond Issuance Will Return to Growth in 2023, 2023.

<sup>122</sup> Bloomberg, Green bonds boom in first half of 2023, 2023

comes at a discount (“greenium”), they are also a powerful signal to investors of climate commitment, a platform for diversifying the investor base and a catalyst for internal enhancements.



**Our preparations to issue a green bond provided an opportunity to evaluate the decarbonization investment needs across global operations while engaging local managers on our climate priorities.”**

- **Özlem Ünlüer**,

Head of Sustainability, **Arçelik**

Green bonds have played a crucial role in financing climate investments to date, but significant segments of the market are not well-served by green bonds. The project eligibility criteria are typically unsuitable for industries that are not capital intensive and for heavy industry, where emissions levels remain high despite climate investments. Transition finance (e.g., labeled transition bonds) has been posited as a solution for addressing this market gap. By adopting the use-of-proceeds format, transition bonds convey transparency in the market and enable investors to understand the impacts that eligible projects generate through dedicated annual reporting.<sup>123</sup> Nonetheless, the market has yet to see meaningful uptake.

Furthermore, although the reporting requirements for use-of-proceeds instruments are generally considered a boon to the market's credibility and therefore scale, this level of transparency can also make green bonds unsuitable for investments where confidentiality plays an important role, including the development of new intellectual property through R&D.

## 2. SUSTAINABILITY-LINKED DEBT INSTRUMENTS

Sustainability-linked debt includes bonds (SLBs) and loans (SLLs) which do not limit the use of proceeds but rather link key financial terms of the obligation (typically the interest rate) to post-issuance performance in contractually-defined sustainability KPIs. Typically these KPIs correspond to the Sustainable Development Goals, though the key frameworks allow room for flexibility and innovation. Market leader Enel, who issued the world's first SDG-linked security back in 2019, updated in February 2023, its Sustainability-Linked Financing Framework to include a new set of KPIs related to Scope 3 emissions reductions and proportion of CAPEX aligned with the EU Taxonomy.<sup>124</sup>

The integration of sustainability targets in sustainability-linked debt makes it a powerful instrument for fostering alignment between corporate climate strategy, science-based emissions targets, financing for climate investments, and climate reporting and communications.<sup>125</sup> FTSE Russell reports that across the entire SLB market, more than half of all targets were related to carbon emissions, and over 80% of bonds included at least one target related to emissions.<sup>126</sup>

<sup>123</sup> ICMA, Climate Transition Finance Handbook, 2023. The European Union's legal framework does not define the concept of transition finance but recognizes and encourages the use of its Taxonomy to guide relevant investments and financial flows. Official Journal of the European Union, Commission Recommendation (EU) 2023/1425 - transition finance

<sup>124</sup> Enel, Sustainability-Linked Finance

<sup>125</sup> UN Global Compact, CFO Principles

<sup>126</sup> A. Meng, Sustainability-linked bonds: a nascent market gaining traction, FTSE Russell, 2023.

Sustainability-linked debt fills a critical gap in the sustainable bond space, particularly for companies and industries that are keen to make climate investments but have investment plans that do not satisfy the asset-based criteria of the green bonds standards

For example, in the airlines, aluminum and cement industries, cumulative SLB issuance exceeds that of green bonds. Yet these instruments perform a valuable function for both issuers and investors that goes beyond financing. They offer a platform to communicate SDG-aligned business strategy, a market infrastructure for verification and financial incentives for achieving key sustainability targets, including science-based emissions targets.

These financial incentives can motivate organizational innovations that ensure targets are met, with CFOs in the driver's seat.

The outstanding amount of SLBs exceeds 10 percent of outstanding green bonds and represents 7 per cent of the labeled bonds universe. Yet, as a younger market, sustainability-linked bonds are still evolving, and issuers, investors, underwriters and standard-setters all have a role in building the market's credibility and scale.<sup>127</sup> Key areas of attention include robust target-setting, meaningful incentive structures and credible implementation of those incentives.<sup>128</sup>

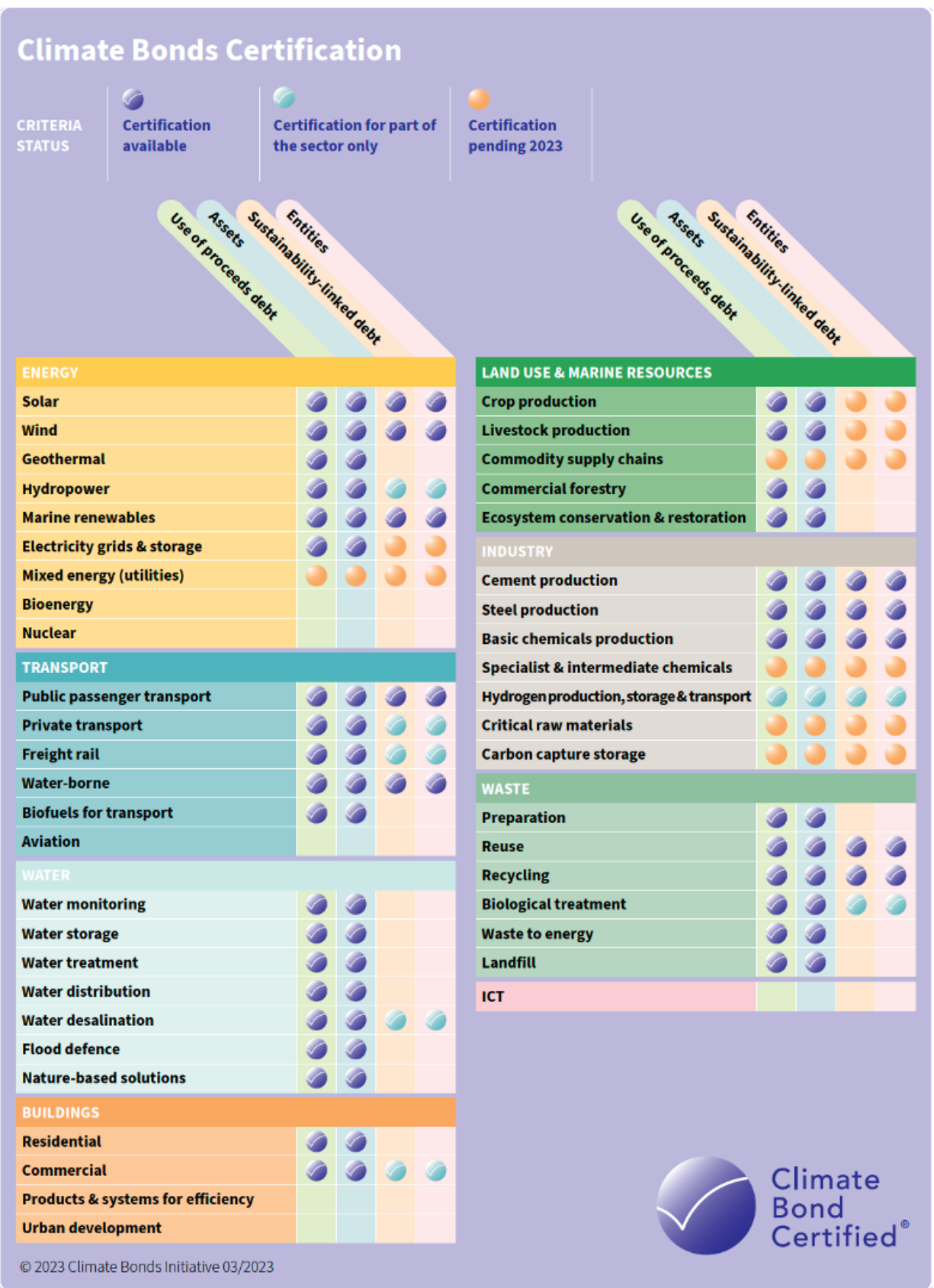
This year the Climate Bonds Initiative revealed a number of significant evolutions in its Climate Bond Standard (4.0),<sup>129</sup> expanding its coverage to include general-purpose instruments (no restriction on use of proceeds), assets and entities. This update vastly broadens the scope of financing opportunities.<sup>130</sup> CBI has also launched sector-specific resources to demonstrate best practices for issuers and provide clarity for investors. These resources provide a valuable bridge between detailed sector-level transition pathways and investor-friendly labels and certifications.

<sup>127</sup> S. Mary and J. Rojas, Sustainability-Linked Bonds: Coming of Age, PIMCO, 2022.

<sup>128</sup> A. Meng, Sustainability-linked bonds: a nascent market gaining traction, FTSE Russell, 2023.

<sup>129</sup> Climate Bonds Initiative, Climate Bonds Standard V4.0

<sup>130</sup> See related: World Federation of Exchanges, Green Equity Principles; Nasdaq, Green Designations



Source: Climate Bonds Initiative

### 3. BLENDED AND CONCESSIONAL FINANCE

Grant capital, concessional (discounted) loans and credit enhancements such as guarantees, which are primarily offered by public, philanthropic, or development finance institutions (DFIs), are important pieces of the climate finance landscape, particularly for unproven or pre-commercial technologies as well as underserved regions and populations, and risky projects. Blended finance structures combine public (typically concessional) and private (often market-rate) resources at the investment fund level, project level (e.g., public-private partnership), or company level (e.g., subsidized loans, political risk insurance and credit guarantees). These can also be structured to account for sustainability-linked performance outcomes.<sup>131</sup>

In addition to their role in catalyzing investment, blended and concessional finance can also bring non-financial benefits. Blended finance partners, including DFIs and Governments, often bring technical capacity to investment projects and plans, and in many cases can leverage policy tools and stakeholder networks (including relevant public authorities) to facilitate project execution.

As discussed in the section above on public sector capacity, some Governments are better equipped to launch and manage blended finance in their domestic economies than others, not least owing to differences in fiscal resources. In this context, DFIs fill a key gap in the global climate finance ecosystem. Many DFIs are capitalized by developed economy Governments and can access additional low-cost financing in capital markets, enabling them to direct both technical and financial resources to climate-aligned investment opportunities in low- and middle-income countries. In recent years, climate action has risen on the

agenda of DFIs, many of which have set climate financing targets and are working to align entire portfolios with climate goals. Following announcements made at COP27, French President Emmanuel Macron held a Summit for a New Global Financing Pact in June 2023, with the goal of agreeing on a reform agenda for institutions such as the World Bank and International Monetary Fund. The Summit offered a glimpse of how this Bretton Woods architecture — designed around liquidity, debt and development — might evolve to integrate climate action. Steering multilateral resources to climate change mitigation and adaptation is one pillar of this agenda, but it also includes accounting for climate vulnerability in sovereign debt lending and restructuring agreements, innovating financial solutions to address climate impacts and creating fiscal space for vulnerable countries.



**Private capital is difficult to come by for new, unproven technologies. Nuclear energy has never been financed by private markets. Even though the economic profile and financing needs of advanced nuclear is different from conventional nuclear energy, the global investment community has no research, no knowledge of people or infrastructure, no history of transactions, no clients, no experience of ROI. Many of our projects are in the pre-deployment, pre-project finance phase, so if we are to achieve what the world expects of us, public capital is critical.”**

**- Canon Bryan,**  
CFO, **Terrestrial Energy**

<sup>131</sup> UN Global Compact, Corporate Blended Finance and Scaling SDG Finance for the SDGs, 2019 (Part III).

“**As multilateral development banks, we need to support mobilizing more private capital in developing countries to reach the trillions of dollars of investments required to respond to the daunting challenges posed by climate change.**”

– **Roberta Casali,**

Vice-President for Finance and Risk Management, **Asian Development Bank**

## **HOW CAN CFOS SCALE CORPORATE CLIMATE INVESTMENTS?**

1. Develop comprehensive climate transition plans.
2. Integrate climate-conscious analysis into investment decisions.
3. Engage with other members of corporate leadership to create climate-conscious investment governance.
4. Incorporate climate-related criteria into budgeting and accounting processes.
5. Access SDG Finance in its various forms, including sustainability-linked and use-of-proceed instruments

## 6. CONCLUSION

Commitment and leadership from CFOs, senior management and corporate boards provide the foundation for a Paris-aligned business sector and ambitious corporate investment in climate change mitigation.<sup>132</sup> As shown above, there is tremendous potential within corporate finance organizations to scale climate investment and its impact. Yet this vision must be encouraged and facilitated from outside as well including through purposeful partnerships.

The CFO Coalition for the SDGs hosts a forum for knowledge exchange among members and the data platform for the collaborative research that underpins this report. The Coalition was founded on this principle of partnership: CFOs hold a position of immense influence, but they do not operate in a vacuum, and actualizing their commitment to sustainable development depends on opportunities for collective learning and collective courage. The CFO Coalition for the SDGs seeks to facilitate these partnerships — among CFOs but also with thought leaders, financial actors and the international community — to help CFOs drive sustainable development in their sphere of influence.

Many of the opportunities for truly transformative decarbonization exist at the intersections of teams, businesses, industries, technologies, geographies and stakeholders. Business efforts to foster internal collaboration can enhance strategic alignment, drive innovation and cross-pollinate expertise and capacities across teams, streamlining implementation. Industry-level collaboration is helpful for addressing shared interests related to decarbonization, including around supply chains, technical standards and skills requirements, and enabling public policies.<sup>133</sup> Collaboration with value chain partners, particularly around data and local

mitigation levers, can help corporations reduce emissions, build relational capital and mitigate supply chain risk. Customer relationships provide a platform for business climate partnership around digital energy management services, low-carbon materials and renewable energy.<sup>134</sup> Non-commercial partnerships are also important platforms for systems change, including collective procurement commitments, forums for knowledge exchange and platforms for developing shared policy or communications goals.<sup>135</sup>

Decarbonization also requires extensive collaboration with stakeholders outside the business sector. Shared net-zero goals create new opportunities for collaboration with governments, including through engagement processes that shape policy pathways, industry- and city-level platforms for piloting new ideas, and agency initiatives to foster collaboration across entrepreneurial activities. Social dialogue with worker representatives — sometimes made more effective by involving governments (tripartite social dialogue) — is essential for building strategic alignment with workers and policy plans, identifying and mitigating operational risks, leveraging human and relational capital, and fulfilling business responsibilities for a just transition. In particular, the skills requirements of a net-zero business sector look vastly different from the skills of today, and workers should be engaged as active partners in shaping the future labour market to meet these demands.

The challenges of corporate climate investment are many: costs; constraints on access to technology, skills, data and finance; the compounding effects of complex supply chains; and the wide range of factors affecting

<sup>132</sup> UN Global Compact, Corporate Blended Finance and Scaling SDG Finance for the SDGs, 2019 (Part III).

<sup>133</sup> P. Spiller, Making supply-chain decarbonization happen, McKinsey, 2021.

<sup>134</sup> E.g., Schneider Electric's partnerships with Enel and Sinopec or between Nortura and Capgemini

<sup>135</sup> E.g., RE100, SteelZero, and Mission Possible Partnership

individual sectors, industries and geographies. Yet the opportunities are equally unmistakable. The investment examples explored in this report reflect a panoply of innovation: new products, services and business models; cutting-edge industrial technologies and materials; efficiency enhancements across manufacturing, logistics and building operations; bold organizational reforms that promote better collaboration and climate governance; new categories of human knowledge and capability; and automation and digitization opportunities with no apparent frontier. They also demonstrate the potential of corporate climate action to strengthen relationships with key stakeholders such as employees, other businesses, governments and investors, including through innovative financial instruments that embed shared climate goals.

Chief Financial Officers play a vital role in driving climate action within corporations and across the economy. By adhering to the CFO Principles, adopting innovative techniques to scale climate investment, and seeking out purposeful partnerships, CFOs can make a substantial contribution to the SDGs and the goals of the Paris Agreement while fostering resilience and sustainable growth.

# APPENDIX: THE CFO PRINCIPLES

## PRINCIPLE 1. SDG IMPACT THESIS AND MEASUREMENT

- Business should develop a specific SDG impact thesis,<sup>ii</sup> which maximizes their unique capabilities and assets, promotes the most effective private-sector solutions to sustainable development and is updated or expanded over time;
- Identify and mitigate significant<sup>iii</sup> negative impacts on relevant SDGs, based on an analysis of the corporate portfolio<sup>iv</sup> and the supply chain and benchmarked against impacts generally associated with comparable assets, activities, or operating contexts;
- Align impact theses with countries' own needs and priorities for SDG investments (climate and SDG gap analyses and investment plans),<sup>v</sup> and where relevant, focus on priority sectors in less developed markets, considering the unique characteristics of each market, and respecting a common but differentiated approach to the sustainability transition,<sup>vi</sup> and
- Set goals, targets, and indicators that promote and credibly measure the company's contribution to relevant SDGs and its mitigation of significant negative impacts, using consistent and comparable metrics that are based on the official SDG targets and indicators.<sup>vii</sup>

## PRINCIPLE 2. INTEGRATED SDG STRATEGY AND INVESTMENTS

- Business should develop a specific SDG impact thesis,<sup>ii</sup> which maximizes their unique capabilities and assets, promotes the most effective private-sector solutions to sustainable development and is updated or expanded over time;
- Identify and mitigate significant<sup>iii</sup> negative impacts on relevant SDGs, based on an analysis of the corporate portfolio<sup>iv</sup> and the supply chain and benchmarked against impacts generally associated with comparable assets, activities, or operating contexts;
- Align impact theses with countries' own needs and priorities for SDG investments (climate and SDG gap analyses and investment plans),<sup>v</sup> and where relevant, focus on priority sectors in less developed markets, considering the unique characteristics of each market, and respecting a common but differentiated approach to the sustainability transition,<sup>vi</sup> and
- Set goals, targets, and indicators that promote and credibly measure the company's contribution to relevant SDGs and its mitigation of significant negative impacts, using consistent and comparable metrics that are based on the official SDG targets and indicators.<sup>vii</sup>

## **PRINCIPLE 3. INTEGRATED CORPORATE SDG FINANCE**

- Business should develop a comprehensive corporate SDG finance approach to support their contribution to the SDGs, and raise SDG-linked finance commensurate with the nature of SDG investments and the degree of their strategic integration;
- Leverage a full range of financial instruments for SDG-linked finance, including debt (loans and bonds) and equity, whether privately placed or publicly traded, and ranging from short- to long-term maturities;
- Structure financial instruments based on the nature of SDG-aligned investments and the degree of their strategic integration, starting with specific-purpose instruments for isolated assets and activities with generally accepted impact theses (e.g. EU Taxonomy), and evolving towards general-purpose and performance-based instruments for more integrated SDG strategies and investments;<sup>viii</sup>
- Maximize the credibility of SDG-linked financial products through a combination of contractual mechanisms (use of proceeds, covenants, pricing) and corporate governance oversight (board of directors, internal controls, accounting, audit and verification, and reporting); and
- Leverage blended finance from governments, development finance institutions, philanthropic foundations and impact investors to de-risk or subsidize corporate investments for technologies, sectors and geographies that are critical for the SDGs but currently underfunded.

## **PRINCIPLE 4. INTEGRATED SDG COMMUNICATION AND REPORTING**

- Business should engage in proactive investor communications about their SDG impact thesis, strategy, and investments, including through investor calls and engagement, annual financial disclosures, and integrated financial and sustainability reports;
- Enhance integrated reporting practices with key elements of SDG-aligned investments and finance, including impact measurement and valuation, alignment of investments with strategy, and accounting and monitoring performance;
- Work with rating agencies, external auditors, and second-party opinion providers<sup>ix</sup> to ensure the relevance and accuracy of publicly disclosed information and data related to SDG impact, SDG-aligned investments, and SDG-linked finance; and
- Work with peer companies and standard setters to harmonize practices and maximize the utility of integrated reporting, by promoting simplification, readability and a balance between innovation and comparability.<sup>x</sup>

For more information, see UN Global Compact, CFO Principles



**United Nations**  
Global Compact