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# Net-Zero and the Race to 2030

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## Acknowledgements

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## **Foreword**

We are facing an unprecedented climate emergency. Avoiding it will create unprecedented opportunities.

The United Nations Climate Change Race to Zero Campaign aims to rally leadership and support from businesses, cities, regions and investors for a healthy, resilient zero carbon recovery that prevents future threats, creates decent jobs and unlocks inclusive, sustainable growth.

This paper is a perspective from two organisations trying to support the Race to Zero in their own fields.

GIB Asset Management is a sustainable manager and founding signatory to the Net Zero Asset Managers Initiative. In our investments, we assess how companies are seeking to engage with the challenges and opportunities presented as the world seeks to tackle climate change and turn it into an opportunity – for their business to grow and thrive. We are constantly searching for companies that are winning in the Race to Zero, and we look to engage positively with those that have furthest to go to the finish line.

CDP is the not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impact. CDP's platform is a critical enabler in understanding how entities have progressed against climate goals and in encouraging further action. For CDP, reporting and the resulting data outputs are a key building block in the Race to Zero.

Although we are two very different organisations, we share one common belief that only through collaboration across multiple stakeholder groups can we solve climate change. This report is testament to that belief.

***Katherine Garrett-Cox, CEO GIB Asset Management and Chair CDP Worldwide Trustees Board.***

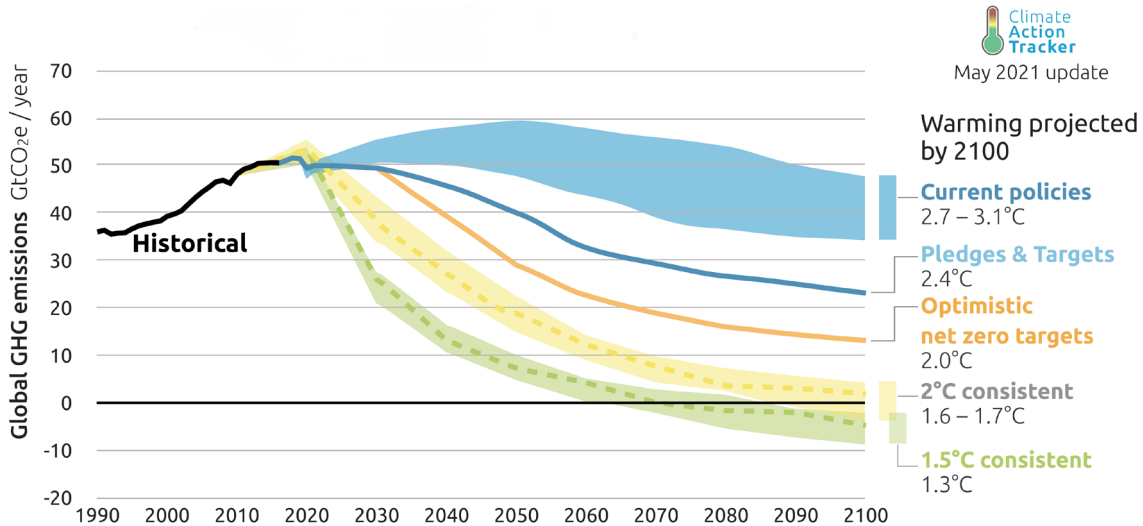
## Why net-zero is so important

There is a race against time to become a sustainable world. The challenge is clear, and recently confirmed, in the Intergovernmental Panel on Climate Change's (IPCC's) Sixth Assessment Report. So too are the opportunities. The IPCC warns that global warming will exceed 2 degrees Celsius during the 21st century. The UN Secretary-General António Guterres calls the findings "a code red for humanity." The clock is ticking, and this decade is critical. A rapid acceleration in our transition to a net-zero economy is required to prevent irreversible global warming.

This paper explores the need to accelerate this transition, and the growing breadth of opportunities available for companies that take the lead. The scale of the challenge implies a comprehensive transformation, and we believe it is corporate behaviour, supported by the financial system, that must deliver.

The 26th Conference of the Parties (COP 26) is the fifth annual UN climate summit since the Paris Agreement was struck. It is another opportunity for governments to publish raised targets and more comprehensive plans to meet their stated goals. Under all five climate-driving scenarios detailed in the recent IPCC report, global surface temperatures continue to rise until the middle of the century, reaching 1.5 degrees Celsius above pre-industrial levels between 2028 and 2035. This is a decade earlier than previously predicted. We believe that governments must set the stage, but cannot achieve the needed transformation alone. This is an opportunity for the private sector to accelerate commitments, and provide more detailed action plans for tackling the climate crisis.

**Figure 1: Warming above pre-industrial levels in 2100**



Source: Climate Analytics and New Climate Institute. All rights reserved.

Reversing the climate crisis and creating an environmentally and socially sustainable world can provide significant financial benefits, which far surpass the costs of inaction. It is the duty of investors, on behalf of their clients and stakeholders, to drive change and to encourage and support companies in their race to net-zero. We believe that one company can be the catalyst to change a sector, and that one sector can begin the momentum needed to change the world.

## **A key problem is that emissions are cumulative, with climate change responding rapidly**

Because CO<sub>2</sub> in the atmosphere adds up over time, it is cumulative CO<sub>2</sub> emissions that are key, and this means that energy and industrial emissions cuts are needed now. In the past decade, climate science has delivered two important and related insights. First, global warming appears to be approximately linearly proportional to cumulative emissions of CO<sub>2</sub>e. Second, the temperature response to CO<sub>2</sub> emissions is almost immediate and then constant as a function of time<sup>1</sup>. In simple terms, it is wrong to assume that the main effects of CO<sub>2</sub> emissions will not be felt for several decades. In fact, the negative impacts of corporate emissions will be felt even before the year's activity has been reported on.

## **This is not a fair race**

While climate change is a global issue that matters to us all, the impacts will not be felt evenly. Company and country starting positions vary as widely as the costs and benefits of action. We must ensure that there is a just transition. Climate change will increasingly impact basic elements of life for people all around the world, with water accessibility, food cultivation, health conditions and biodiversity all at significant risk. If we fail to act immediately, climate change will cause significant economic and societal disruption for us all, but the impact will be felt disproportionately by developing economies and vulnerable populations.

## **It is a race we must all finish**

The real value of our future investments depends on the state of the world in which they will be spent. There are financial opportunities in solving the climate challenge, but they can only be enjoyed in a habitable world. If they are made in only a few clean companies or clean portfolios, then the value of those returns greatly diminish in an overheated and dangerous world.

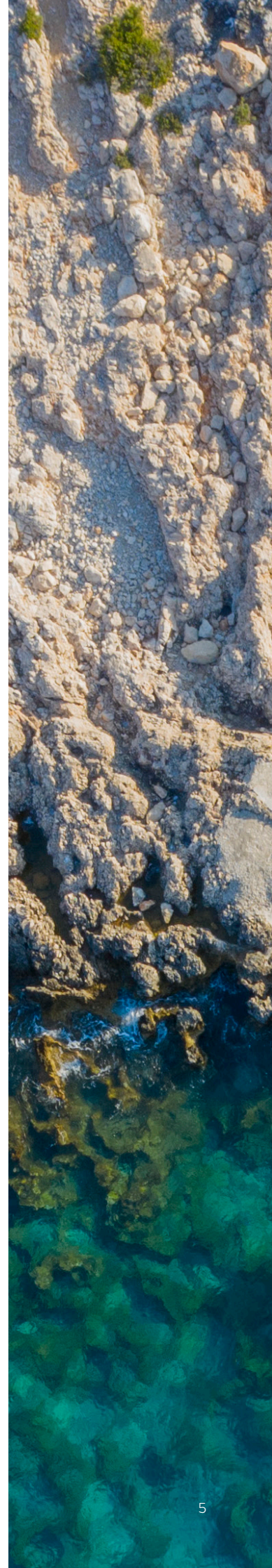
This is an odd race where to win is not enough. We need to get every company over the finish line.

Despite the fact that companies are starting from different places, and have very different resources, all must complete the task of decarbonisation, though it may take some longer than others.

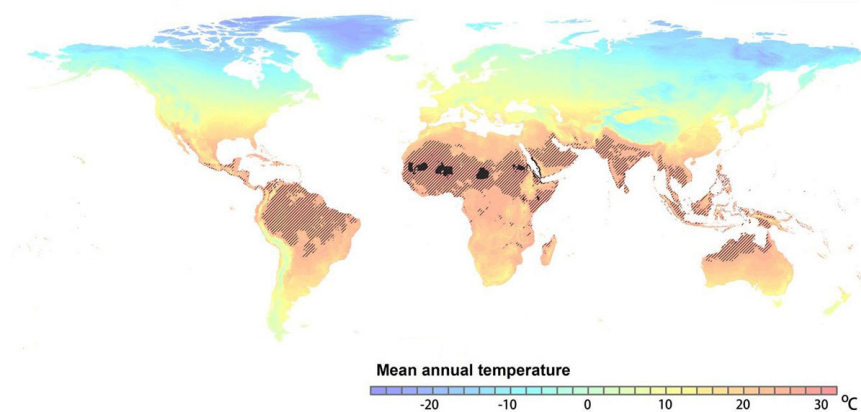
The impacts of climate inaction will result in parts of the world becoming uninhabitable (Figure 2). More and more areas of the world will experience heat stress and thus become inhospitable for humans and the ecosystems we are connected to.

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<sup>1</sup><https://www.sciencedirect.com/science/article/pii/S0095069618302122>



**Figure 2: Global temperature<sup>2</sup>**



Much of the conversation at COP26 will revolve around the need for governments to accelerate their decarbonisation plans and make progressively bigger cuts in emissions to reach net-zero.

This will only be possible if corporates play a significant role by implementing, adapting and accelerating their own net-zero goals as actors within these economies. With 31 Gt<sup>3</sup> of CO<sub>2</sub> released into the atmosphere in 2020, the active involvement of private sector companies in both transitioning their internal business models, and pushing governments to reaffirm their commitment to climate action, is essential to the success of a rapid economic transformation.

Companies and their stakeholders need to push the climate emergency to the front of their agendas, and keep management accountable.

As a long term horizon issue this can always be seen as the next CEO's problem. This perspective must change; this is every CEO's problem, now and in the future. We need to make this a current issue, to be addressed by current company leaders.

## Why a focus on 2030 is critical in the race to net-zero

While the attainment of net-zero emissions by 2050 (NZE2050) has become the mantra among policy makers, investors and companies, it is emissions cuts by 2030 that are urgently required. The steepest decline in real world emissions is necessary over the next nine years.

CO<sub>2</sub> budgets are nearly exhausted. The world has 8% of its carbon budget remaining<sup>4</sup> which will be exhausted in the coming decade at current emission rates, according to the Global Carbon Budget report 2020<sup>5</sup>. The global carbon budget is generally defined as the maximum amount of CO<sub>2</sub> that humans can emit into the atmosphere and still keep global average temperatures below an increase of 1.5 degrees Celsius. It refers to the budget of all emissions and removals of CO<sub>2</sub> which are the direct or indirect result of human activities<sup>6</sup>.

<sup>2</sup>"Future of the human climate niche" (<https://www.pnas.org/content/117/21/11350/tab-figures-data>)

<sup>3</sup><https://www.cdp.net/en/climate>

<sup>4</sup><https://www.forbes.com/sites/dishashetty/2020/12/11/world-is-set-to-exhaust-carbon-budget-in-10-years/?sh=60a38be92fa9>

<sup>5</sup><https://essd.copernicus.org/articles/12/3269/2020/>

<sup>6</sup><http://www.globalcarbonatlas.org/en/content/global-carbon-budget>

## The importance of tipping points

Tipping points are where a changing climate could push parts of the Earth's systems into abrupt and irreversible change. Climate systems have tipping points which cannot be undone. Possible tipping points identified by research range from collapsing ice sheets and thawing permafrost, to shifting monsoons and forest dieback. One example of a possible tipping point is the climate change-induced shutdown of the Atlantic Meridional Overturning Circulation (AMOC), which could cause "widespread cessation of arable farming" in the island of Great Britain with "losses of agricultural output that are an order of magnitude larger than the impacts of climate change without an AMOC collapse"<sup>7</sup>.

Another example is the disintegration of the West Antarctic Ice Sheet (WAIS), one of three regions making up Antarctica. Although much smaller than its neighboring regions, the WAIS still holds enough ice to raise global sea levels by around 3.3 metres. Even a partial loss of its ice would be enough to change coastlines around the world dramatically<sup>8</sup>.

## The start and finish line are clear, now and 2030

It will be decisions made in this decade that will dictate the pathway to 2050. The International Energy Agency (IEA) calculates that for the world to reach NZE2050, annual energy and industrial emissions would need to fall by around 45% from 2010 levels by 2030<sup>9</sup>. This is the challenge, and the opportunity, that we face.

## What are companies and investors doing today in the race to net-zero?

Since the 2015 Paris Agreement there has been a rapid increase in the number of governments and corporates pledging to reduce their greenhouse gas emissions to net-zero by 2050 or sooner. Net-zero pledges to date cover around 70%<sup>10</sup> of global GDP and CO<sub>2</sub> emissions. Initiatives such as CDP's (formerly known as the Carbon Disclosure Project) investor and supply chain requests have seen ongoing annual increases in companies disclosing emissions, with over 13,000 disclosing in 2021<sup>11</sup>. Initiatives, such as the Science Based Targets Initiative (SBTi), have helped devise credible Greenhouse Gas (GHG) reduction pathways to achieve decarbonisation goals, with over 2,000 companies having now set Science Based Targets and the first round of financial sector targets being recently approved<sup>12</sup>.

However, approximately 40%<sup>13</sup> of companies with net-zero targets have yet to disclose how they plan to achieve them which raises questions around the risk or perception of greenwashing. Credible transition plans need to be put in place by companies once they have set their targets, so that stakeholders can understand and track how these reductions will be achieved. Initiatives such as ACT (Assessing Low-Carbon Transition) and CA100+ look to assess credible transition for companies.

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<sup>7</sup><https://www.nature.com/articles/s43016-019-0011-3>

<sup>8</sup><https://www.science.org/doi/abs/10.1126/science.1169335>

<sup>9</sup><https://www.iea.org/reports/world-energy-outlook-2020/achieving-net-zero-emissions-by-2050>



The transparent sharing of data is the critical first step in measuring environmental performance. There is significant momentum in action, with record numbers disclosing their environmental data through CDP in 2021. However, a disconnect remains between what is reported by financial institutions and their actual impacts. The climate impact of financial institutions’ investment and lending is over 700 times their direct impact on average, according to CDP research. Yet, for many institutions that is not where the focus is, with only 25% reporting the emissions associated with their portfolio, and 49% not analysing their portfolio’s impact on climate at all.

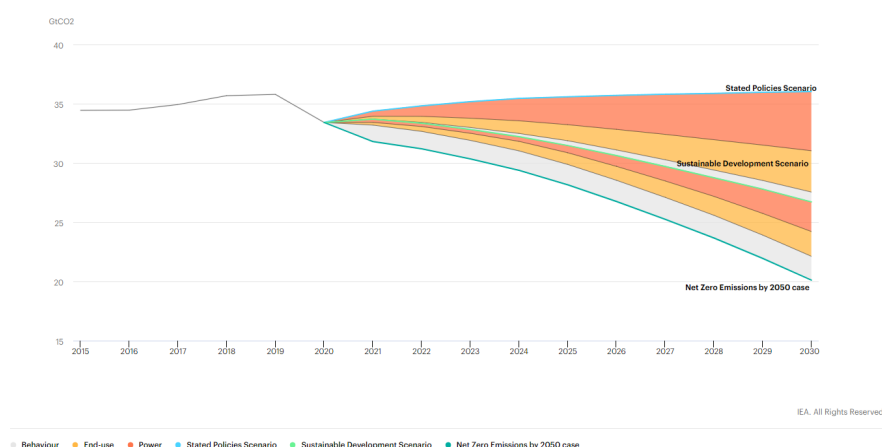
The current regulation around environmental disclosure is not sufficient to ensure that risk and impacts from economic activities are correctly estimated. Following COP26, it is likely that more countries and regions will regulate for mandatory environmental disclosure, with financial institutions among some of the first organisations required to disclose. This must be done with urgency and enforced stringently across all regions and sectors such that full compliance to consistent, comparable, Taskforce for Climate-related Financial Disclosure (TCFD)-aligned reporting is not a matter of choice.

### Decarbonising power & energy will be a key area of focus

The substantial emissions reductions required prior to 2030 necessitate a radical transformation of the energy and power sectors in particular. Many unparalleled changes across all parts of the energy sector need to be realised simultaneously, at a time when the world is trying to recover from the Covid-19 pandemic and its inherent supply and demand shocks. Primary energy demand in the NZE2050 scenario falls by 17% between 2019 and 2030, to a level similar to 2006, even though the global economy is already twice as large.

CO2 emissions from the power sector decline by around 60% in the NZE2050 scenario between 2019 and 2030. Worldwide annual solar Photo Voltaic additions in the NZE2050 expand from 110 GW in 2019 to nearly 500 GW in 2030, while virtually no subcritical and supercritical coal plants without Carbon Capture Usage & Storage (CCUS) are still operating in 2030.

**Figure 3: CO2 emissions under a range of scenarios**



<sup>10</sup>IEA “Net-Zero by 2050: A roadmap for the Global Energy Sector” 2021

<sup>11</sup><https://www.cdp.net/en/articles/media/cdp-reports-record-number-of-disclosures-and-unveils-new-strategy-to-help-further-tackle-climate-and-ecological-emergency>

<sup>12</sup><https://sciencebasedtargets.org/blog/validation-of-the-first-financial-institution-science-based-targets-a-turning-point-for-the-sector>

<sup>13</sup>IEA “Net Zero by 2050: A roadmap for the Global Energy Sector” 2021 p35.



## Decarbonisation needs to be comprehensive, not just in power & energy

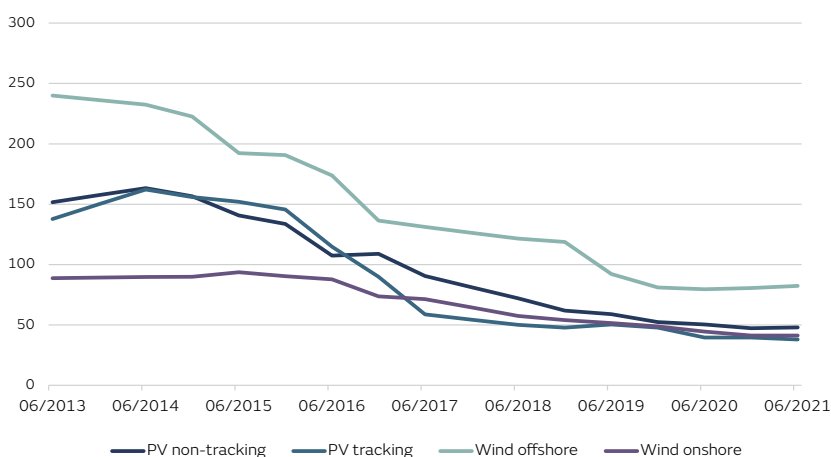
Climate transition is much more complex than decarbonising power and energy or deploying electric vehicles. Transitioning all sectors of the economy will be vital in achieving net-zero. It will require resource and energy efficiency improvements to reduce the overall demand of energy across the economy, especially over the coming decade as the efficiencies from renewable-driven electrification of the power system are yet to be realised. The inclusive effort needed is clear through the EU Taxonomy, which stresses that sectors ranging from the power and energy to industry, mobility, buildings, agriculture and forestry will all play a vital role in achieving the goal.

The transition to net-zero will occur through exponential change, and companies that do not consider the implications of net-zero will be left behind. The corporate world is littered with names that have succumbed to not innovating and adapting to new technologies and shifting policy landscapes. Well-storied examples include the globalisation of trade, the increasing capability of personal computers, the emergence of online commerce and the development of hydraulics<sup>14</sup>.

Thus, the transition to net-zero can also be seen as a disruptive macro-trend, perhaps one of the largest in recent human history. But, unlike other trends before it, the reasons behind it and the changes required are widely known and increasingly well understood.

Renewable energy, such as solar and wind, has become one of the cheapest forms of generation in many parts of the world. According to BNEF, the levelised cost of electricity (LCOE) from solar was more than \$300 a megawatt-hour and onshore wind exceeded \$100 per megawatt-hour 10 years ago. Today, onshore wind is \$37 in the U.S. and \$30 in Brazil, while solar is \$38 in China, the cheapest sources of new electricity in those countries. The cost of renewables has been declining sharply (figure 4).

**Figure 4: Levelised Cost of Electricity<sup>15</sup>**



<sup>14</sup>The Innovators Dilemma – Clayton Christensen

<sup>15</sup>Source: BNEF

Energy efficiency would also require significant transformation. CO2 emissions from end-uses in the NZE2050 scenario need to fall by one-third between 2019 and 2030. Close to half of the existing building stock in advanced economies would have to be retrofitted by 2030. Half of all air conditioners sold globally between 2020 and 2030 will need to be replaced with the most efficient models available. Over 50% of passenger cars sold in 2030 will need to be electric, which would be up from 2.5% in 2019.

### **Change is not linear**

While the drop in the cost of renewable energy has been rapid over the last decade, it took some time to get to this point. Solar panel growth was slow until policy interventions like feed in tariffs, price auctions and government backed funding led to growth in demand in many markets and a manufacturing boom providing economies of scale, supercharging production. Learning rates and increased investment then led to greater technological advances with private sector investment, at both the wholesale and retail level, further making the technology more accessible.

While now is an inflection point in the fight against climate change, we are also at a crossroads in the scaling up of climate solutions.

Unlike solar and wind, there is not time to wait for these solutions to scale up. Hence government commitments and initiatives like Breakthrough Energy's Catalyst program<sup>17</sup> are seeking private sector investment to scale up climate solutions rapidly, like hydrogen, sustainable aviation fuel and long duration storage. Investors need to allocate funds to climate solutions to ensure that the finish line is close enough and that the rewards can be realised in a habitable world.

The route to sustainable growth and decarbonisation starts with innovation. This provides businesses and society with the opportunity to boost productivity by getting more out of the limited resources available and staying within carbon budgets and planetary boundaries. The more innovative and forward thinking an organisation, the more likely it is to realise the opportunities in the transition.

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<sup>16</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/456181/FIT\\_Evidence\\_Review](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/456181/FIT_Evidence_Review)

<sup>17</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/456181/FIT\\_Evidence\\_Review](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/456181/FIT_Evidence_Review)



## How can investors run their race: a view from CDP

A significant amount of effort has gone into building the frameworks for companies and investors to assess inputs and outcomes. These include: amendments to the climate benchmarks in the EU benchmark regulation and adoption of the various science based finance and real economy target setting methodologies and sectoral transition pathways and frameworks. We need these frameworks to assess who will thrive, and who will survive, in facing up to the risks and the opportunities in this transition. Only when we can assess behaviours and impacts consistently can we understand performance in the transition in order to drive engagement and allocate capital accordingly.

Indeed, an investor setting their own net-zero targets inherently relies on the performance of their portfolio companies, which, aggregated, forms the investor's own scope 3 financed emissions, estimated in CDP's 2020 financial services disclosure report as 700x emissions from their own operations.<sup>18</sup>

### How to translate good intentions into results

This can be summed up in four interlocking areas as outlined by the investor agenda<sup>19</sup>:



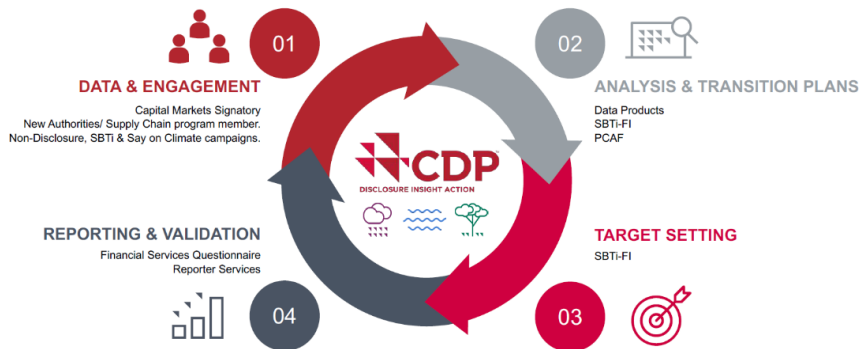
For investors, there are two main ways to decarbonise a portfolio. The first is to ‘invest in the best,’ to support those companies whose products, services and operations put them in line with net-zero. We believe capital will flow to companies with science-based targets and suitable transition plans as they align with investors own net-zero goals. The eventual network effects, as more investors and financiers follow suit, will see a lowering of these companies’ cost of capital, giving them better access to funds; and supporting asset prices.

The second option is to ‘change the rest,’ engaging with companies to support them in transforming their business and reducing their emissions. This can be through engagement programs outlined below in CDP’s capital markets program as well as by using voting rights to ask companies to set credible net-zero transition plans. This is supported by engaging with policymakers, as, without their support, transition in certain industries becomes much less feasible (such as the example of the large scale of building retrofits required to decarbonise real estate). Finally, disclosure and reporting from the investors themselves provides transparency for stakeholders and allows investors to continually measure and recalibrate their own transition.

<sup>18</sup><https://6fefcbb86e61af1b2fc4-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/005/741/original/CDP-Financial-Services-Disclosure-Report-2020.pdf?1619537981>

<sup>19</sup><https://theinvestoragenda.org/>

## How CDP supports engagement with companies and meeting their own net-zero targets



### Data and engagement - what gets measured gets managed

There is an increasing number of companies providing useful data for decarbonisation. In 2021, as part of a request on behalf of over 600 signatories, managing over \$110trn in cumulative assets, over 3,000 companies reported environmental data to CDP. This record amount was a 35% uplift from 2020 and 141% on 2015, when the Paris Agreement was signed and the TCFD launched.

While encouraging, disclosure needs to increase to fill the gaps investors require to help transition entire portfolios. CDP runs a non-disclosure campaign to assist signatories to engage more deeply with companies who don't disclose. In the 2021 Non-Disclosure Campaign a record 1317 distinct companies were requested to disclose by 168 financial institutions representing over USD \$17 trillion AUM. 25% of companies disclosed to at least one questionnaire and we found that companies were 2.3 times more likely to disclose to CDP after being targeted by institutional investors.

CDP also runs an annual campaign where signatories ask just over 1,600 companies, with a market cap of over \$40trn and total GHG emissions of 50 gigatons, to set science-based targets in line with 1.5 degrees, to take climate ambition to the highest level.

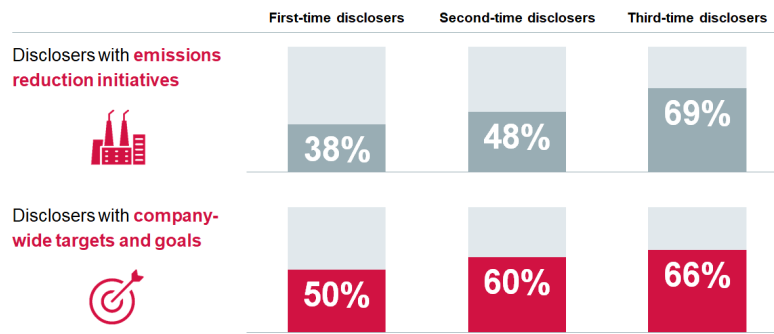
As governments increasingly move towards mandatory TCFD disclosure and sustainable finance taxonomies, engagement with companies on providing accurate, comparable and relevant data will become increasingly prescient. In response, CDP is piloting disclosure programs for private markets (venture capital, private debt and equity firms) and banks in 2021 & 2022 which aim to increase disclosure from private and growth companies.

### Disclosure works<sup>20</sup>

Data on disclosing companies show that continued reporting leads to an increased climate ambition in company-wide targets and goals. This alone proves that while reporting and the resulting data outputs are not a panacea, they are a key building block in the race to net-zero.

<sup>20</sup>2021-TCFD-Portfolio\_Alignment\_Technical\_Supplement.pdf (bbhub.io)





## GIB Asset Management’s (GIB AM’s) view

### Solving the world’s greatest challenges: two potential early winners in the race to net-zero

Our aim is to integrate detailed analysis of decarbonisation strategies into our view of a company’s long term prospects, its forecast earnings and therefore value. We have developed a framework to assess the action that a company is taking to participate in the race to net-zero.

Whilst companies may be net-zero aligned, we want to understand the substance and impact of their strategy and examine the overall performance towards their targets.

We assess whether their business activities, both at the revenue line and down through their operations, will affect acceleration towards net-zero.

We analyse strategy and alignment to net-zero utilising the power of data from CDP and other organisations to assist in evaluating the activities of the business and their alignment to net-zero; and helping to track progress. Our eventual aspiration is for the companies we invest in to move to zero emissions where possible, as carbon safely stored in fossil fuels is preferable to the carbon stored in the atmosphere, living organisms, top soils, and the oceans.

To ensure consistent and meaningful progress we also evaluate the governance framework and incentives to hold executives to account on achieving both overall sustainability and net-zero-aligned goals. We are long term investors and continue to engage to further improve the targets, pace and impact companies can have on decarbonising the global economy.

Below we provide our own opinions on two companies that we believe could emerge as front-runners in the race to net-zero.

## Trane Technologies

### The challenge

According to the IEA, the use of cooling in buildings will become one of the top drivers of global electricity demand due to income and population growth over the next three decades. There are currently 1.2 billion room air conditioning units in operation around the world, and it is estimated that the number of units will increase to at least 4.5 billion by 2050<sup>21</sup>. Developing countries specifically will see a fivefold increase in demand over the same period.

Growing demand for cooling will contribute significantly to climate change. Fugitive emissions from refrigerating units, air conditioners, and other cooling equipment will make a net-zero world increasingly difficult to achieve.

As the climate warms, the growing demand for cooling will lead to more warming, in a destructive feedback loop. However, the combination of energy efficiency improvements with the transition away from super-polluting refrigerants could prevent cumulative GHG emissions of up to 210-460 Gigatons of carbon dioxide equivalent over the next four decades. This is roughly equal to four to eight years of total annual global greenhouse gas emissions, based on 2018 levels.<sup>22</sup>

## The opportunity

Building cooling provides significant developmental benefits in warmer regions. The sector provides multiple health, recreational and productivity benefits, which presents significant opportunities if their transition to net-zero can be achieved.

Trane Technologies is a global manufacturer of climate control products for commercial and residential heating, ventilation and air conditioning (HVAC) and transport refrigeration.

The majority of Trane's products end up within buildings. The use of air conditioners and electric fans accounts for approximately 20% of the total electricity used in buildings around the world today.<sup>23</sup>

In terms of operations, the manufacturing industry is a significant contributor to overall GHG emissions. Within the USA, the industrial sector accounts for 23% of direct carbon emissions. Whilst the emission trend has fallen by 8.9% since 1990<sup>24</sup>, it is nowhere near enough to reach net-zero.

## Strategy

Trane's Scope 1 and 2 emissions for 2020 were 412,814 metric tons, equivalent to over a 1 billion miles driven by an average car. Previous GHG emissions reduction targets were achieved two years early. Trane successfully reduced its GHG refrigerant footprint by 61% and invested \$500m on research and development, focusing on refrigerants with lower global warming potential. This has resulted in Trane being a leader in the HVAC space, and capitalising on its climate solutions portfolio with above-market growth rates.

For Trane, the reduction efforts do not stop there; they have announced plans to cut product carbon emissions by nearly 50% by 2030, which have been validated by the SBTi.

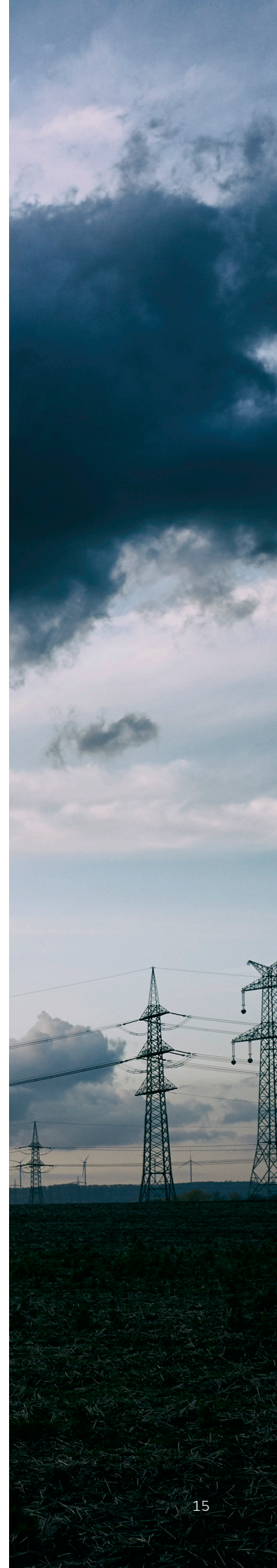
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<sup>21</sup>[https://globalcoolingprize.org/solving\\_the\\_global\\_cooling\\_challenge/](https://globalcoolingprize.org/solving_the_global_cooling_challenge/)

<sup>22</sup>UNEP - Cooling Emissions and Policy Synthesis Report

<sup>23</sup>IEA – Future of Cooling

<sup>24</sup>USA –EPA 2019



Whilst decarbonising their internal operations is vital, the majority of Trane’s footprint comes via the use of their products. Hence coupled with Trane’s commitment to reduce absolute Scope 1 and 2 GHG emissions 50% by 2030, they have also committed to reducing Scope 3 GHG emissions by 48% over the same timeframe via the ‘Gigaton Challenge’, a sustainability initiative aiming to reduce one billion metric tons of carbon emissions from its customers’ footprint by 2030.

To assist with assessing how likely it is to achieve this strategy, it is important to analyse the governance framework. Out of the 12 board members, 8 have ESG and sustainability skills and experience, which gives investors increased confidence of the effective oversight of the firms’ sustainability initiatives and strategies. Trane’s approach and initiatives are also guided by an external Advisory Council on Sustainability. Ongoing developments are analysed by the Centre for Efficiency and Sustainability (CEES), which surveys the market landscape, to bringing new ideas and requirements forward.

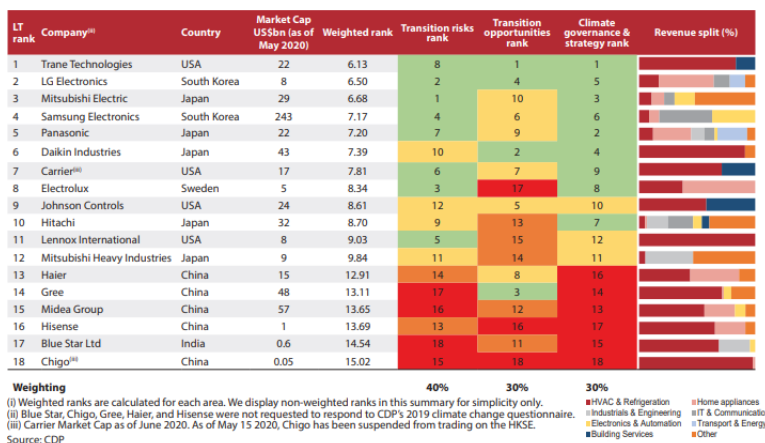
### Data

Trane reports on Scope 1 and 2 emissions using the GHG Protocol Initiative’s guidelines. Newly opened and acquired facilities are added to emission figures as soon as valid data is available. Trane publishes third party verified data annually and data verified includes the number of sites that operate with 100% renewable energy, GHG emissions and energy use.<sup>25</sup> Trane has been reporting to CDP since 2011, whilst being a part of Ingersoll Rand, and has improved its rating from D to A-. Increased transparency requested by Trane also aids their strategy: Trane requires suppliers to report on climate-related targets such as energy usage and GHG emissions as a part of their sourcing selection. This helps Trane to improve their risk management and assessment tools and further enhance their impact on achieving the net-zero goals by prompting a decarbonisation of the supply chain.

### Incentives

Whilst it is important to have targets in place, plans are equally important. One way Trane has tackled this is by linking its Executive and senior leader remuneration to ESG metrics that include climate targets. In May, it revised the Executive and senior leader incentive plans to include annual GHG reduction targets toward the ‘Gigaton goal’. The cumulative impact of all these actions makes Trane a best in class operator in the race to net-zero, ranking higher than peers in the CDP Cooling Report.

**Figure 5: CDP Cooling Report**



<sup>25</sup><https://www.tranetechnologies.com/content/dam/cs-corporate/pdf/sustainability/annual/2020-Assurance-Statement.pdf>



## Ecolab

### The challenge

It is estimated that the carbon footprint associated with moving, treating and heating water in the U.S. is at least 290 million metric tons, which represents c.5% of all US annual carbon emissions. With this context, we can better judge the positive impact that Ecolab can have through its 2030 target to help its customers reduce their emissions by 6 million metric tons.

The chemical sector is responsible for c.6% of all global GHG emissions. Ecolab primarily engages in chemical formulation, and is a relatively low emitter when compared to its petrochemical peers. Nonetheless, Ecolab's 2018 Scope 1&2 emissions were 490k metric tons CO<sub>2</sub>e, and so achieving the target to halve these emissions by 2030 would have material positive impact.

### The opportunity

This global leader in water and energy chemical technologies is on a path to not only halve its own carbon emissions by 2030, but to also help its customers reduce their GHG emissions by 6 million metric tons in the same timeframe. As of FY2020, Ecolab had already achieved 62% and 58% of these two goals respectively.

That Ecolab is so far ahead on its journey to a net-zero system should not surprise us, given its long history of developing solutions to help sustain a healthy world. For example, as far back as 1948, Ecolab invented the first rinse additive to dramatically reduce the energy needed to dry dishes, and in 1978, they eliminated ozone-depleting substances from cleaning products, fully 11 years before the Montreal Protocol went into effect.

### Strategy

At GIB AM, we believe that Ecolab's greatest opportunity is to drive positive impact through the products and services that it sells to its diverse range of customers, all of whom rely on water and energy to operate. These products and services primarily enable customers to use water and energy more efficiently and deliver meaningful improvements in "use-phase resource efficiency" as defined by the Sustainability Accounting Standards Board (SASB) Chemicals Standard.

Ecolab has also committed to engage with 70% of its suppliers by Scope 3 emissions to ensure they have set 1.5C science-based targets by 2024. Given that Ecolab's supply chain accounts for c.6 million mega tons of Scope 3 CO<sub>2</sub>e emissions, this represents a significant opportunity to drive towards a net-zero system.



Ecolab's customers operate across many industries and include a diverse range of multi-national corporations. Its core products and services help these customers to decarbonise and therefore its business strategy is explicitly linked to, and influenced by, climate change risks and opportunities. As a result, Ecolab's Board of Directors view the 2030 emissions reduction targets as a critical driver of future growth for the company. These emission targets fall under the responsibility of the Safety, Health and Environment (SHE) Committee, who report progress to Ecolab's Board of Directors on an annual basis. The Committee members are appointed by the Board and are comprised of no fewer than three directors, including the CEO.

The SHE committee is responsible for approval of Ecolab's 2030 emission targets:

- In 2019 Ecolab joined the UN Global Compact's Business Ambitions for 1.5C, committing to reduce emissions by 50% to 2030 from a 2018 base. In addition, the Committee oversaw the setting of science based targets, addressing Scope 1, 2 and 3 emissions, which were approved by the Science Based Targets Initiative.
- Ecolab has committed to helping customers become carbon neutral by helping them reduce their GHG emissions by 6 million metric tons by 2030.

Having committed to these targets, the SHE committee has worked with Ecolab's Corporate Sustainability Team to lay out a clear and measurable action plan to deliver on the 2030 goals.

This includes the following:

- Operate using 100% renewable electricity by 2030.
- Electrify the fleet of service vehicles, with a pilot beginning in 2021
- Work with the supply chain to encourage them to align with the science-based target methodology by 2024.
- Support the allocation of capital towards R&D in order to bring innovative products and services to market, that can deliver enhanced water and energy savings to customers. Ecolab has spent an average of \$190m per annum on R&D over the past three years.

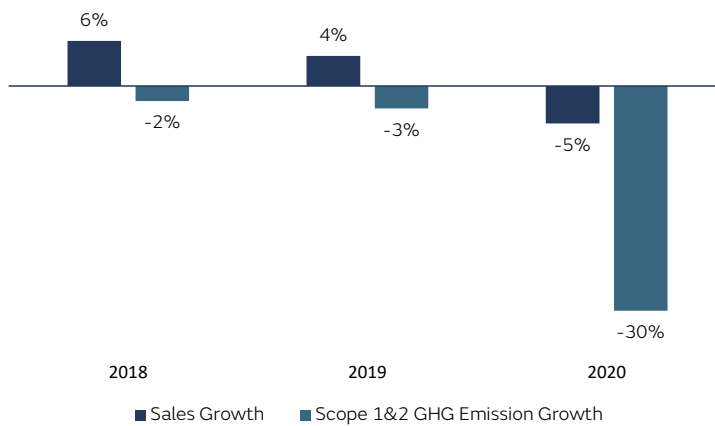
On a more granular level, Ecolab have also installed a 1.5C Climate Pledge Action Steering Team that meets quarterly to discuss climate related risks and opportunities across the business, that impacts the implementation of the 2030 climate goals and action plans.

## Data

Measurement and disclosure of data is essential to improving corporate and investor awareness around the risks and opportunities posed by climate change. Ecolab have been providing data to CDP since 2006, and currently receives an A rating for their disclosure. In addition, Ecolab uses an independent 3rd party to verify its GHG emission data.

Ecolab's transparent approach to data allows a comparison between its GHG emissions and the overall growth of the company. Despite sales growth over the last three years, Ecolab's absolute GHG emissions have dropped (Figure 6).

**Figure 6: Ecolab sales growth vs. GHG emissions growth**



Ecolab’s data capabilities are not just inward facing; the business has also developed a proprietary tool to measure the positive environmental impacts that customers benefit from when they use Ecolab products and services. This tool is trademarked eROI value (Exponential Return on Investment) and as customers increase their efforts to reach net-zero the eROI platform is proving a key differentiator and enabler.

**Incentives**

Strategic sustainability indicators, including emission reduction targets, are part of how Ecolab measures performance and is therefore used as an input in determining compensation for senior leaders and employees.



## Conclusion

### **The race to net-zero is a race to 2030**

This is a race against time and there must be material impacts shown within this decade. It is vital that there is accelerated action to cut real emissions before 2030. 2030 should be the 'finish line' in the race to net-zero.

The starting line, for any that have yet to align their behaviours with net-zero, is now. Temperature rise predictions are being brought forward. CO2 is a cumulative problem that cannot be left to the last minute, and our carbon budget is all but exhausted.

Without urgent action, there is a clear risk of a tipping point being reached, where a changing climate could push parts of the Earth's systems into abrupt and irreversible damage.

The different starting points, costs and benefits faced between companies, sectors and countries present another stark challenge. This is not a fair race at the outset, but success depends on there being a fair and just transition.

No one can be left behind. Decarbonisation will not be linear, as decarbonisation technologies mature at different speeds, but it must apply to all sectors and the pace of investment and scale-up must increase. While the opportunities accrue to those best positioned, it is the emissions of all companies that will dictate the world we inhabit.

The opportunities are also clear, as shown by the case studies of companies that may be able to excel by delivering net-zero for their stakeholders. New investment opportunities are emerging at an unprecedented rate, and opportunities include efficient air conditioning and transforming water and energy use in cleaning processes.

The presence of targets must be supported by detailed transition plans on how to achieve them. Rapid decarbonisation in advance of 2030 can be successfully embedded in business strategies; companies can not only break the link between growth and resource use, they can outperform through reducing emissions. For investors, data, tools and techniques can help identify companies with real ambition and drive change in those slow to adopt.

In recent years, a huge amount of effort has gone into developing initiatives that will provide frameworks for investors to assess companies on their environmental efforts and encourage further ambition.

### **The critical importance of good data in meeting this challenge**

Investors need data to fully understand historic and future emissions profiles, evaluate the best positioned companies and to understand where engagement is required to drive change. Relevant, accurate and comparable data make up the crucial starting point needed to translate real world decarbonisation into reality. Investors need data that can be deeply integrated into forward looking earnings forecast for companies that allow them to evaluate environmental impact alongside financial impact.

## How corporates are decarbonising in practice

The challenge for companies is how to balance the needs of their stakeholders while responding to this urgent need to accelerate decarbonisation. The challenge for investors is to analyse their progress and challenge and support them in this.

Overall, a comprehensive transformation of the economy is needed before 2030, and companies and the financial system can help deliver it. This is a monumental challenge and therefore opportunity. Its immediate urgency must be felt and acted upon by all who have the ability to solve it.

The finish line is 2030, the race starts **now**.

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