



# NET ZERO: CONTEXT AND LIMITS

Published by: Leonie and Norman Institute

The Leonie and Norman Institute aims at improving corporate practices in the field of sustainability. The core belief of the Institute is that engagement rather than portfolio construction will be critical to drive change. The Institute launches campaigns on issues particularly related to climate change, social matters and executive compensation. The work also includes raising company-specific concerns to management and making recommendations. The Institute is an open ecosystem whose ambition is to catalyze efforts from asset managers, NGOs and other parties. The Leonie and Norman Institute capitalises on the research produced by the Trium Sustainable Innovators funds and is its engagement arm.

Please follow and contribute on our [Linkedin](#), or contact Cecilia at [cecilia@leonieandnorman.com](mailto:cecilia@leonieandnorman.com) for more information.

October 2021

Authors: Cecilia de Melo Trigo Simon et al



# Table of Contents

Acronyms, Abbreviations and Definitions .....	3
Editorial .....	4
1. Introduction .....	5
<b>The Paris Agreement</b> .....	6
2. Net-Zero .....	7
<b>What is a Net-Zero Target?</b> .....	8
<b>Carbon Pricing, Offsetting, Carbon Border Adjustment Mechanisms and Achieving Net-Zero</b> .....	9
<b>Carbon Offset Programs: Voluntary Carbon Markets and Carbon Border Adjustment Mechanisms</b> .....	10
<b>How Should Companies Communicate Net-Zero Targets?</b> .....	11
3. Race to Zero .....	12
<b>What Are the First Steps for a Company to set a Net-Zero Target?</b> .....	12
<b>Controversies around Net-Zero</b> .....	13
<b>Biggest Financial Players Back Net-Zero</b> .....	14
4. Environmental Reporting and Disclosure .....	15
<b>The EU: EU Taxonomy and CSDR</b> .....	15
<b>The US: SEC Consultation</b> .....	16
<b>Task Force on Climate-Related Financial Disclosures (TCFD)</b> .....	17
<b>Sustainable Finance Disclosure Regulation (SFDR)</b> .....	18
5. Water Emissions and Net-Zero .....	19
Appendix 1: list of net-zero initiatives .....	22



## ACRONYMS, ABBREVIATIONS AND DEFINITIONS

<b>Acronyms / Abbreviations</b>	<b>Definitions</b>
BECC	Bioenergy with Carbon Capture
CBAM	Carbon Border Adjustment Mechanisms
CDSB	Climate Disclosure Standards Board
CO <sub>2</sub>	Carbon Dioxide
COP26	UN Conference of the Parties
CSRD	Corporate Sustainable Reporting Directive
C40	Cities Climate Leadership Group
DAC	Direct Air Carbon Capture
EPA	US Environmental Protection Agency
ESG	Environment, Social, Governance
ETF	Enhanced transparency framework
FCA	Financial Conduct Authority
FSB	Financial Stability Board
GCoM	Global Covenant of Mayors for Climate & Energy
GHG	Greenhouse gases
GRI	Global Reporting Initiative
IASB	International Accounting Standards Board
ICLEI	Local Government for Sustainability
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
IPCC	Intergovernmental Panel on Climate Change
NDCs	Nationally Determined Contributions
NFRD	Non-Financial Reporting Directive
SASB	Sustainability Accounting Standards Board
SBTi	Science Based Targets initiative
SDGs	Sustainable Development Goals
SEC	U.S. Securities and Exchange Commission
SFDR	Sustainable Finance Disclosure Regulation
TCFD	Task Force on Climate-Related Financial Disclosures
UCLG	United Cities and Local Governments
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WRI	World Resource Institute
WWF	Worldwide Fund for Nature



## EDITORIAL

For most corporates, reducing carbon emissions is still not at the top of their priority list. Why would it be? The incentives are just not powerful enough.

Most corporates satisfy their stakeholders by adopting sustainability strategies based on 'incrementalism'. This strategy consists in adopting insignificant steps that have no real impact but give the impression of 'doing something'. To make matters worse, most companies, besides those in the energy sector, never highlight to shareholders the significant cost associated with carbon emissions reduction as, most of the time, it's just not relevant.

There is a systematic failure to produce the right amount of pressure within the corporate ecosystem and it comes from three directions: customers, shareholders and regulators. On the customers' side, we barely see signs of the so-called "bargaining power of buyers". Firms rarely lose significant business should they not produce a proper sustainability agenda. Prioritising the environment when choosing who to do business with remains a luxury for mostly affluent people in developed countries. Without including business-to-business models where the incentives are simply not there, except for in rare circumstances, most companies develop astute, green-based communication strategies to distort clients' perceptions. There are even recent businesses that have absolutely no sustainability agenda but are still highly successful. Think about the fast fashion retailer Shein. The company produces a-few-pound-each garments in China and sells them in Europe and the US. Most will wear them a couple of times before throwing them in the bin. This nightmarish operating model did not prevent the company to develop into a USD20bn worth business in just a couple of years.

From a shareholder perspective, despite the noise on ESG investment, and except for some extremely polluting industries, the progress is simply too slow and often misses the point. Most investors that advertise a sustainable strategy are actually ticking boxes. The biggest holdings of ESG funds are FAANG companies. This makes sense mechanically, as they adopt a net zero strategy, but it makes no sense from a climate change perspective. Look at Apple: 97% of its carbon emissions come from scope 3 (indirect emissions like transportation and manufacturing), which Apple does not have under its control. Moreover, part of the corporate world is not concerned by the ESG investment constraints, e.g., the private market. Venture Capitalists that finance start-ups today do not have incentives to build green businesses from the onset. Some of these companies will be corporate leaders in the future, but they are yet to develop plans that avoid the mistakes of current corporate giants.

Finally, from a regulatory standpoint, the development of the carbon market is encouraging. Impacting the bottom line of companies is the way forward, particularly if it is combined with consequences for executive compensation. The Automotive industry is a good example where companies feel enough pressure to review their model entirely. It also makes sense for consumers, as the long-term total cost of electric vehicles will be more advantageous. But the worry here is that such business model changes may not be enough or are too slow for many other sectors and geographies. 80% of future marginal carbon emissions will come from Asia and the development of a local carbon market may take years to make an impact.

The Glasgow conference (COP26) in November 2021 will be a critical event. Unless there is a real set of incentives to make the corporate world act decisively across the world, the risk is high that 'incrementalism' will remain. In this report, we particularly focus on Net Zero. Nothing is more revealing than this concept. It lacks a clear definition and is sometimes targeted over too a long period, particularly given the immediate challenges of climate change. Ultimately Net Zero is often a greenwashing tool.

### Report Key Findings:

- The Glasgow Conference will bring clarity in terms of the definition of net zero, as well as specific targets to follow that are stipulated by the Science-based Targets initiative (SBTi). Ambiguity surrounding "carbon-neutrality", "net-zero" or "climate positive" will be cleared and aligned with 2050 net zero plans.
- Scope 3 is the biggest challenge for companies to tackle in the race to net zero due to the lack of control over the larger supply chain. However, for a company to pledge net zero they must report on scope 3 emissions.
- As carbon offsetting stands today, it is pointless. The SBTi does not consider this as a viable target for companies to reach net zero. There is still a lack of technology for this to be truly successful.
- The fragmentation between reporting standards, differing companies, jurisdictions and issues obstructs performance on sustainability and decreases comparability across reports. Until the TCFD, SFDR, the IFRS Sustainability Accounting Standards or governmental led regulations such as the EU's CSRD become integrated, businesses will continue to be unclear about environmental disclosure.
- The next trend in the Net Zero 2050 discourse will be water emissions. As communities set carbon reduction goals in response to net zero; water reuse is a valuable, cost-effective way to reduce greenhouse gas emissions and prepare for the water supply challenges brought on by climate change.



# 1. INTRODUCTION

The Financial Conduct Authority (FCA) stated in July 2021 that ESG and sustainable investment funds are currently the fastest-growing segment of the European funds market, reflecting an increasing investor appetite for such investments. The market and regulators are accelerating their focus on sustainability and climate-related disclosures, creating initiatives for emission targets together. Bloomberg reported in July that "About \$68 billion has gone into ESG exchange-traded funds this year, and over \$118 billion over the past 12 months", and according to Dimensional Fund Advisors (representing \$637 billion AUM), close to \$2 trillion has been invested into over 4,500 sustainable funds globally. Given the fast transformation in the market, and the various initiatives that are emerging, this report aims to shed some light into this space by explaining and discussing the trends surrounding net zero.

In 2015, 195 national governments came together in Paris to adopt the first legally binding global climate deal. This deal became known as the [Paris Agreement](#), adopted at the Paris climate conference (COP21) where cities, regions, states, and the private sector played a paramount role in supporting and building momentum for the agreement. Action to implement the agreement and to align policies, business plans and investments with its goal of achieving net zero emissions by mid-century has spread across the globe.

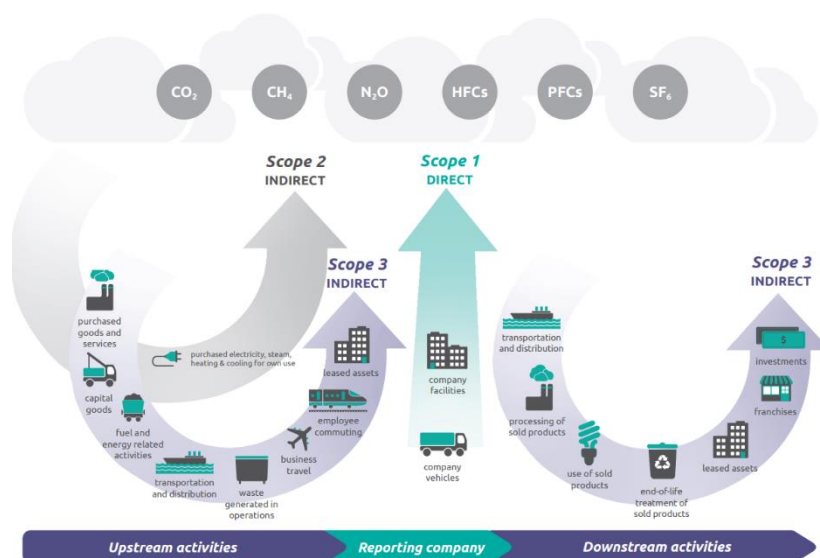
The document that most influenced the Paris Agreement was the Intergovernmental Panel on Climate Change (IPCC) [Fifth Assessment Report](#) on the impacts of global warming. The IPCC is a UN body set up in 1988 to assess the science around climate change. They produce scientific reports that contribute to the work of the United Nations Framework Convention on Climate Change (UNFCCC), the main international treaty on climate change. The report fundamentally highlighted the critical importance of keeping global warming below 1.5°C in order to keep within the safe operating boundaries of the planet and ultimately avoid the catastrophic impacts of climate change. In support of the 1.5°C ambition, the Paris Climate Agreement, therefore, aims to hold global warming to well below 2°C and to pursue efforts to limit it to 1.5°C above pre-industrial levels. Countries have agreed with the following under Article 2.1.c of the Paris Agreement:

### Paris Agreement - Article 2

1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:
  - .. (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

Greenhouse gas emissions (GHG) are categorized into three groups of "scopes" by the most widely used international greenhouse gas accounting tool, the [GHG Protocol Corporate Standard](#)<sup>1</sup>. The protocol defines GHG as "a gas which absorbs and re-emits infrared radiation, thereby trapping it in Earth's atmosphere. Includes carbon dioxide (CO<sub>2</sub>), methane, water vapour, nitrous oxide and ozone". The three different types of GHG are:

- Scope 1 – all emissions from processes which are the organisation's direct responsibility.
- Scope 2 – purchased emissions associated with the organisation's electricity use, heat, cooling and steam.
- Scope 3 – all other emissions, which may be indirectly associated with the organisation, but which come from sources that the company does not own or control, including upstream and downstream emissions.



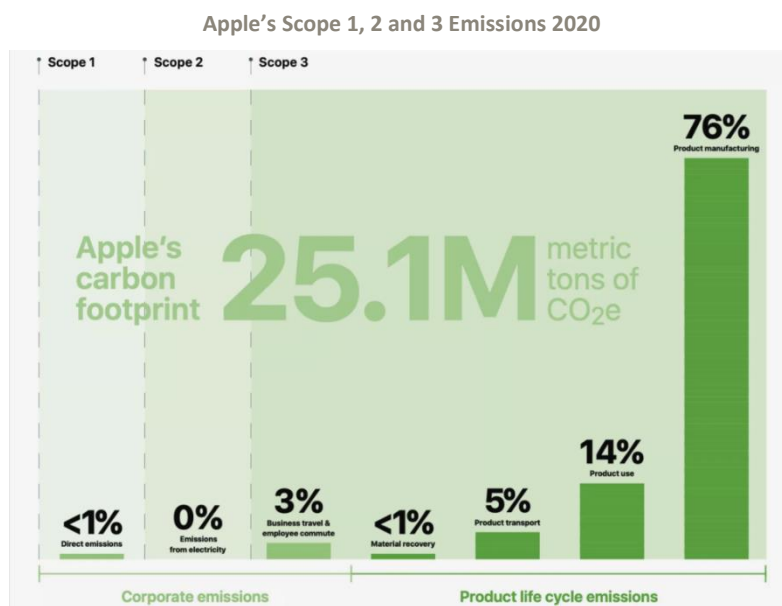
Source: GHG Protocol, 2021

<sup>1</sup> The GHG Protocol establishes global standardized frameworks to measure and manage greenhouse gas emissions from private and public sector operations, value chains and mitigation actions. In 2008, a partnership between the World Resource Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) launched a three-year process to develop the standards. The GHG Protocol works with NGOs, businesses, and governments.



Understanding the value chain emissions is important, as most of the largest companies in the world account and report on the emissions from their direct operations (scope 1 and 2). Scope 1 and scope 2 are mostly within an organization's control as companies will normally have the source data needed to convert direct purchase of gas and electricity into a value in tonnes of GHGs. This information may sit with procurement, finance, estates management, or in a sustainability department within a firm.

According to the CDP, emissions along the value chain of a company, known as scope 3, often represent a company's biggest greenhouse gas impact (typically 70% carbon footprint), on average 5.5 times larger than scope 1 and 2. For instance, for an organization that manufactures products, there will often be a significant carbon emission from the extraction, manufacture and processing of the raw materials. Many of the largest companies in the world already report on the emissions from their direct operations (scope 1 and 2), but scope 3 is the one that businesses have the least amount of control on how to address, which means companies that are not reporting on their scope 3 emissions have been missing out on significant opportunities for improvement. Despite the limitations, it is becoming the norm to disclose scope 3 emissions in the climate change discourse, and more specifically for companies that want to pledge their alliance to the 1.5°C ambition. Some businesses have tackled this by collaborating with current suppliers for their scope 1 and 2 data or consider changes to their supply chain if they can't get the information needed.



Source: Apple 2021

## The Paris Agreement

The UNFCCC is the parent treaty of the 2015 Paris Climate Change Agreement. The objective of all agreements under the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a timeframe which allows ecosystems to adapt naturally and enables sustainable development. The UNFCCC is also the parent treaty of the 1997 [Kyoto Protocol](#), the first agreement between nations to mandate country-by-country reductions in GHG emissions.

The implementation of the Paris Agreement requires economic and social transformation. Governments agreed under the Paris Agreement to work on a 5- year cycle of increasingly ambitious climate action. By 2020, countries had to submit their Nationally Determined Contributions (NDCs), to show their plans for climate action. With the Paris Agreement, countries established an Enhanced Transparency Framework (ETF) in order to track progress. Under the ETF which starts in 2024, countries will report transparently on actions taken and progress in climate change mitigation, adaptation measures and support provided or received. It also provides international procedures for the review of the submitted reports. The information gathered through the ETF will feed into the global stocktake which will assess the collective progress towards the long-term climate goals. This will lead to recommendations for countries to set more ambitious plans in the next round.

The [Katowice package](#) adopted at the UN climate conference (COP24) in December 2018 contains detailed rules, procedures and guidelines that operationalise the Paris Agreement. It covers all key areas including mitigation and adaptation, transparency, finance, and provides flexibility to parties that need it considering their capacities, while enabling them to implement and report on their commitments in a transparent, comparable and consistent manner. It has also enabled the parties to progressively enhance their contributions to tackling climate change, in order to meet the agreement's long-term goals.

Since the Fifth Assessment Report 2014 (the document that shaped the Paris Climate Change Agreement), the IPCC embarked on its Sixth Assessment Report which is due to be completed by 2022. Since then, they also released the *Special Report on Global Warming of 1.5°C* in October 2018, as well as the "2019 Refinement" in May 2019 (an updated version to its 2006 Guidelines for National Greenhouse Gas Inventories). In 2019 they also published two special reports, the *Special Report on Climate Change and*



*Land and the Special Report on the Ocean and Cryosphere in Changing Climate*. This will make the Sixth Assessment Report the most ambitious as historically there has never been as much scientific discovery and consensus since the inception of the IPCC 32 years ago.

The IPCC released a report in August 2021 called *Climate Change 2021: The Physical Science Basis*, alerting a “code red for humanity” noting a prediction of quicker global warming than anticipated. The report highlights that the threshold of 1.5°C will be breached around 2050 and current company and country targets to be carbon neutral by 2050 are insufficient. It has been described as a reality check, addressing the most up-to-date understanding of the climate system and climate change, putting forward the latest advances in climate science and combining with global and regional climate simulations, observations, and paleoclimatology. It provides new estimates of the changes of crossing the global warming level of 1.5°C in the next decades and finds that unless these are immediate reductions, limiting warming to close to 1.5°C or even 2°C will be beyond reach. In the coming decades, climate change will increase in all regions.

The IPCC Climate Change 2021 report notes that for 1.5°C of global warming, there will be increasing heat waves, longer warm seasons and shorter cold seasons. At 2°C of global warming, heat extremes would more often reach critical tolerance thresholds for agriculture and health. It is not limited to temperature solely, the findings note that climate change will also intensify the water cycle (more intense rainfall, flooding, drought) and coastal areas will see the sea-level rise (a 2m rise in sea levels by the end of the century). However, continuous reductions in CO<sub>2</sub> would limit climate change, and benefits for air quality would come, but it would take 20-30 years to see global temperatures stabilise. Though stabilising the global rise in temperatures at 1.5°C is possible, it will still result in increasing heatwaves, droughts, and floods. The launch of this report comes 3 months before the Glasgow Summit, which can be interpreted as bearing pressure for the possible outcomes of the conference given the findings.

## 2. NET-ZERO

As the environmental crisis focus intensifies, achieving net zero emissions by 2050 has become the new benchmark among policymakers and investors. Science indicates that the amount of CO<sub>2</sub> in the atmosphere as a result of human activity largely determines the extent of global warming. To prevent catastrophic climate change, CO<sub>2</sub> emissions need to be reduced to zero. The scientific evidence led to governments worldwide agreeing to achieve a balance between emissions and removal of greenhouse gases, this became coined as “Net Zero” in the Paris Agreement. In order to prevent the worst climate damages, global net human-caused emissions of CO<sub>2</sub> need to fall by about 45% from 2010 levels by 2030, reaching net zero around 2050. Global warming is proportional to cumulative CO<sub>2</sub> emissions, which means that the planet will keep heating for as long as global emissions remain more than zero. This implies that climate damages, caused by global heating, will continue escalating for as long as emissions continue.

The term net zero is important because it is the state at which global warming stops, meaning no new emissions are being added to the atmosphere. It refers to achieving an overall balance between emissions produced and emissions taken out of the atmosphere. The UN has asked the world to aim for net zero emissions by 2050 which would help limit global temperature rise to 1.5°C and in turn limit the impact of global warming. The Paris Agreement underlines the need for net zero, requiring states to “achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases” in the second half of this century. Committing to reach net zero will involve tackling scope 3 emissions.

At the 26th UN Climate Change Conference (COP26) in November 2021, governments will outline steps they each need to take to limit global warming. Hundreds of cities and private companies have already pledged to get to “net zero” removing as much CO<sub>2</sub> as they produce by 2050.

### **The Road to Net-Zero**

#### **2015**

196 countries adopted the historic Paris Agreement to reduce global warming and build resilience to climate change. Its overall goal: limit warming to no more than 1.5°C.

#### **2015-2017**

Parties to the agreement started submitting climate action plans known as Nationally Determined Contributions (NDCs). The initial commitments, even if implemented, would only be enough to slow warming to 3°C. There were urgent calls for action and ambition gained momentum as the plans proposed would not stop catastrophic impacts.

#### **2020-2021**

In the lead-up to the COP26 climate talks, countries have begun revising their NDCs to strengthen climate action. With science affirming a shrinking window of opportunity, the plans must include urgent actions to cut carbon emissions and reach net zero by 2050.





## 2030

To keep warming to 1.5°C, countries must cut emissions by at least 45% compared to 2010 levels.

## 2050

The transition to net-zero emissions must be fully complete.

### What is a Net-Zero Target?

The Science Based Targets initiative (SBTi) provides companies and investors with a clearly defined path to reduce GHG emissions. They were established by the World Resource Institute (WRI), CDP, Worldwide Fund for Nature (WWF) and the UN Global Compact. It requests companies to publicly commit to setting carbon emission reduction targets that are in line with climate science. The SBTi is working with more than 1,000 companies in 50 sectors to set targets in line with the Paris Agreement goals and being validated by SBTi. The definition of net zero targets for corporates is:

“To reach a state of net zero emissions for companies implies two conditions:

1. To achieve a scale of value-chain emission reductions consistent with the depth of abatement achieved in pathways that limit warming to 1.5°C with no or limited overshoot and;
2. To neutralise the impact of any source of residual emissions that remains unfeasible to be eliminated by permanently removing an equivalent amount of atmospheric carbon dioxide”

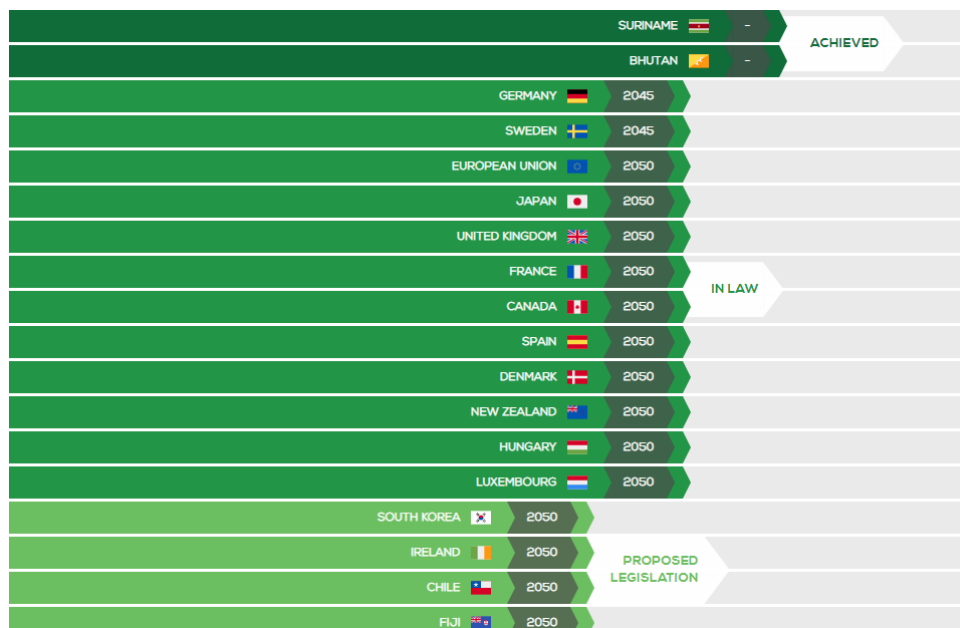
In September 2020, the SBTi published its [Foundations for Science-based Net-zero Target Setting in the Corporate Sector](#). The main takeaways were:

- a) Clarity and consistency on what net zero means: there needs to be uniformity with the language used so that comparisons can be made to facilitate informed decisions, whether for investors seeking to invest in “credible net zero” businesses or net zero supplier section to help meet value chain targets.
- b) Capture everything: Value chains are often excluded from many net zero targets, known as scope 3 emissions. For many companies, emissions released across the value chain make up most of a company’s footprint. Scope 3 emissions therefore must be included in credible net zero plans.
- c) Carbon “neutralisation” or removal offsets: Companies will be allowed to use credible removal offsets to mop up residual emissions. The huge investment in biological and technical schemes that enable removal offsets will create a global revolution in rewilding initiatives to restore nature and will support innovations like Direct Air Carbon Capture (DAC).

The SBTi is also consulting on draft criteria for assessing corporate net zero targets and is planning to publish the final criteria, with associated guidance, ahead of COP26 in November 2021. Currently, companies from all sectors (apart from oil and gas) can set science-based targets, aligned with the SBTi criteria. Approaches for setting net zero targets for financial institutions are still under development.

Last year the UK and France became the first major economies to sign a net zero 2050 target into law. In total, 58 countries, representing 54% of global GHG emissions, have now communicated a net zero target.

Net Zero Country Tracker



Source: Energy & Climate Intelligence Unit, 2021





Corporate Asia has lagged behind the rest of the world in setting climate strategies. Regulatory developments such as ESG reporting rules in Hong Kong, updates to China’s governance code and Japan’s Stewardship code, will all help drive corporate disclosure and decarbonisation in Asia. Previously, Japan was the only Asian economy that had an emissions pledge under the Kyoto Protocol.

### Carbon Pricing, Offsetting, Carbon Border Adjustment Mechanisms and Achieving Net-Zero

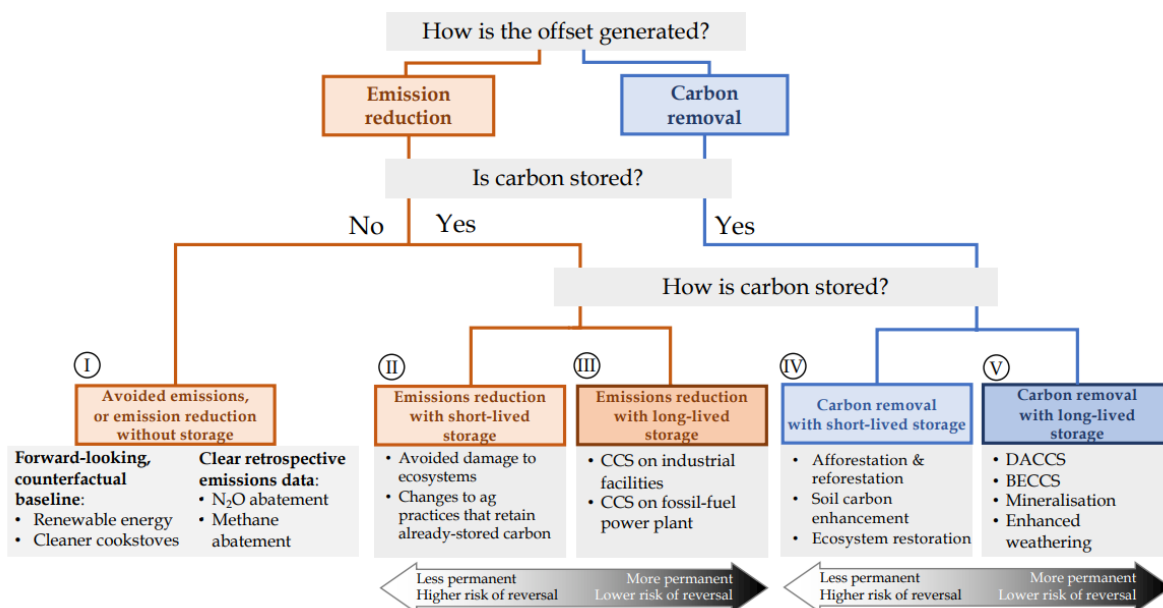
Carbon pricing is an instrument that captures the external cost of GHG emissions (e.g., the cost of the loss of property from flooding and sea level rises or health care costs from heat waves) and then ties them to their sources through a price of CO<sub>2</sub> emitted. A carbon price provides an economic signal to emitters and allows them to decide to transform their activities and lower their emissions or continue emitting and paying for their emissions. Placing an adequate price on GHG emissions is of fundamental relevance to internalize the external cost of climate change in the broadest range of economic decision-making and in setting economic incentives for clean development. It can help to mobilize the financial investments required to stimulate clean technology and market innovation, fuelling new, low-carbon drivers of economic growth.

There are different approaches to carbon pricing; emissions trading system (ETS) is a system where emitters can trade emission units to meet their emission targets. Another approach, carbon tax, directly sets a price on carbon by defining an explicit tax rate on GHG emissions, i.e., a price per tCO<sub>2</sub>e. Other main types of carbon pricing offset mechanisms, results-based climate finance (RBCF) and internal carbon prices set by organizations. Scaling up GHG emission reductions and lowering the cost of mitigation is crucial to decarbonize economies.

One of the most spoken about carbon pricing approaches is carbon offsetting, an umbrella term for a process where an organization can compensate for the carbon emissions, they generate by funding an equivalent CO<sub>2</sub> saving elsewhere (a reduction in GHG emissions, or an increase in carbon storage used to compensate for emissions that occur elsewhere). It is emerging as a tool in climate transition; and there have been efforts to make carbon offsets a core part of the Paris Agreement. Most offsets today are emission reductions, which are necessary but not sufficient to maintain net zero in the long run.

Article 6 of the Agreement opened the way toward international cooperation on carbon markets, but five years on there is still a lack of consensus. The Article supports NDCs, and offsets have a role to play in achieving these targets, but countries need to agree on accounting protocols to avoid emissions being double counted in different jurisdictions and standards for environmental assessment. However, its use and benefits are not straightforward, and it does not provide a neat solution to carbon emissions. The United Nations Framework Convention on Climate Change REDD+ offset scheme has been criticized for lacking environmental integrity and violating indigenous land rights. Whilst it is not a new concept, there is now an increased focus on organisations using offsetting to balance carbon in the atmosphere as part of their net zero strategy.

While many of us think of trees when offsets are mentioned, there are different types of carbon offsets. Oxford University published [The Oxford Principles for Net Zero Aligned Carbon Offsetting](#), which provides a taxonomy categorising offsets into avoided emissions, emissions reduction and greenhouse gas removal offsets:



**Avoided emissions offsets** are often related to improving energy or global energy mix by substituting fossil generation assets with solar, wind, hydro or biomass alternatives. For example, replacing kerosene cook-stoves with solar stoves, avoiding emissions



that would have taken place if the cook-stoves had not been replaced. It should be seen as a replacement, rather than “removal” of carbon emissions generated by a company.

**Emissions reduction offsets** include both reduction and carbon removal. For offsets that involve storing carbon, a further distinction is made as to whether that storage is likely to be short-lived (decade wise) or long-lived (centuries to millennia). It may require storing the carbon whose emission was averted by carbon capture and storage on industrial point sources or gas power stations. It can also involve paying someone to avoid damage to natural ecosystems. It can come from the deployment of renewable energy to replace planned fossil fuel power plants. Another example could be offsetting via marine habitats (e.g., seagrass meadows, mangroves, and marshes) which as natural carbon stores, and are considered more effective than forest on land. It is critical that the storage employed is sufficiently permanent whether in biological carbon reservoirs through avoided damage to natural and semi-natural ecosystems, or geological reservoirs.

**Carbon removal offsets** is defined as the act of taking CO<sub>2</sub> out of the air and permanently storing it. For carbon removal, whether nature-based or technological process, carbon must be stored. This can come from projects such as afforestation (carbon sequestration) or reforestation where a hectare of new trees can sequester 300-400 tCO<sub>2</sub>e over its life depending on species and management method. The cost of natural offsetting may be tied to the value of land, with costs increasing as land available for planting and restoration becomes further scarce. Some companies that own land for example can plant trees or restore habitats to offset their emissions, this is known as insetting. An important limitation however is that there will never be enough trees on the planet to wholly offset emissions, highlighting the need for a combination of solutions. Direct air carbon capture and storage (BECCS) is another method where emissions are physically removed from the atmosphere. High-quality emission reductions have the same effect on the atmosphere as carbon removals in the near term. The advantage of carbon removals is that they can scrub emissions from the atmosphere, which implies an important role in the future in stabilizing atmospheric conditions of carbon dioxide and helping to reduce them after net zero is achieved.

There is a range of users offsetting their carbon footprints, predominantly companies and governments targeting emissions. Countries are trading offsets to meet emissions targets and can effectively swap emissions and reach their climate goals via offsets, and companies, particularly in oil & gas, tech, autos, banks, airlines and asset management sectors. Consumers can also offset directly via brokers or by offsetting specific activities (such as carbon tax on a plane ticket).

Many companies invest in offsets through technologies that support carbon removal, including Bioenergy with Carbon Capture (BECC), which uses a chemical reaction to capture carbon which is emitted through power generation, like biomass or Direct Air Capture (DAC), which also uses chemical reaction to capture carbon, but it captures the carbon directly from the air rather than at an emissions source. These options are currently energy-intensive and costly. Carbon offsets however are not a substitute for technological advancements in areas like carbon capture, hydrogen or energy storage. They are widely available and inexpensive alternatives to fill technological gaps on the path to decarbonization.

Every effort should be made within an organisation to reduce carbon emissions before offsetting them. If an organisation cannot reduce its direct or indirect carbon emissions to absolute zero, carbon offsetting is likely to be one of the only other options. We expect that the oil, airlines, steel and agriculture sectors will rely most heavily on offsets given their high emission intensity, low emission progress and a large share of emissions that cannot be abated on current technologies. There is wide disagreement regarding which offsets deliver carbon neutral strategies vs net zero strategies. Although the Oxford Principles considers avoided emission offset aligned with net zero principles, the SBTi initiative does not agree. In their view, avoidance offsets help organisations to become ‘carbon neutral’ as defined by the British Standards Institute’s PAS 2060 standard. However, to become net zero carbon, an offset must actively remove carbon from the atmosphere equivalent to the amount they produce.

The SBTi has focused its requirements on final and interim targets relating to the amount of greenhouse gas removal undertaken, although it also recommends that companies start using other offsets in the short term to complement the greenhouse gas removals. Companies should prioritise decarbonisation of scope 1, 2 and 3 emissions aligned to 1.5°C pathways over and above offsetting on their journey to net zero.

### Carbon Offset Programs: Voluntary Carbon Markets and Carbon Border Adjustment Mechanisms

Voluntary carbon offsets are an important and growing subset of the carbon pricing toolkit. The trading of carbon credits can help companies meet ambitious goals for reducing GHG emissions. As many companies cannot fully eliminate their emissions, or reduce as quickly as they would like, carbon credits to offset have become a solution for these organisations to buy time to decarbonize. Carbon credits are certificates representing quantities of greenhouse gases that have been kept out of the air or removed from it. The Taskforce on Scaling Voluntary Carbon Markets (TSVCM), sponsored by the Institute of International Finance (IIF) estimates that demand for carbon credits could increase by a factor of 15 or more by 2030, and by a factor of up to 100 by 2050. The market for carbon credits could be worth more than \$50 billion in 2030. The Carbon Offset Guide describes voluntary carbon markets as enabling businesses and individuals to offset their emissions outside a regulatory regime by purchasing offsets that were created either through the voluntary or compliance markets. Trading and demand in the voluntary market are created only by voluntary



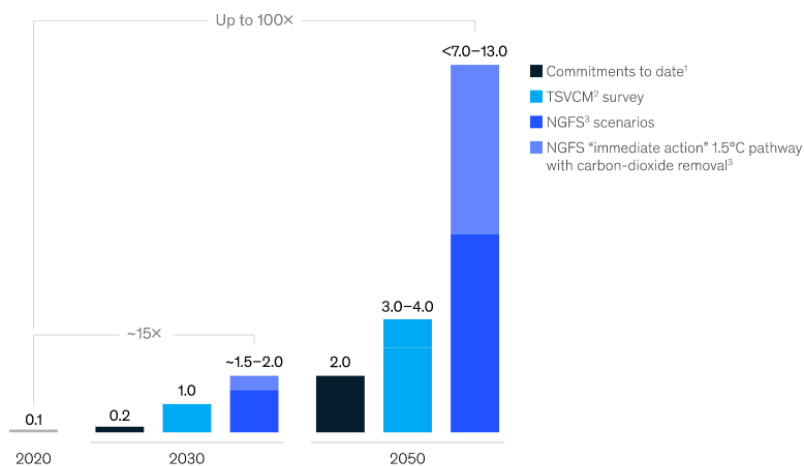
buyers (corporations, institutions, and individuals). This type of offsetting directs private financing to climate-action projects, such as biodiversity protection, pollution prevention, public health improvements and job creation.

Voluntary offsets are typically purchased in coordination with public relations efforts to present a company or organization as a climate actor, many factors can influence a buyer's interest to best present this image. Pricing in voluntary offset markets reflects this reality, in which buyers have varied objectives in purchasing carbon offset credits. Voluntary market credits differ in price based on the potential for marketing, project type, location, and co-benefits beyond climate impact that match with the buyers' preferences. Criticisms are that some credits have turned out to represent emissions reductions that were questionable, limited pricing data makes it challenging for buyers to know whether they are paying a fair price and for suppliers to manage the risk they take on by financing and working on carbon-reduction projects without knowing how much buyers will ultimately pay for carbon credits. Furthermore, the voluntary carbon market as it stands today lacks the liquidity necessary for efficient trading, partly because carbon credits are highly heterogeneous. Each credit has attributes associated with the underlying project (depending on the type of project or region), which then affects the price of the credit, as buyers value additional attributes differently. Therefore, the inconsistency among credits results in matching an individual buyer with a corresponding supplier being a time-consuming and inefficient process transacted over the counter.

Europe's efforts to go climate neutral by 2050 could be limited by a lack of ambition by international partners. There has therefore been a resurgence in the debate around Carbon Border Adjustment Mechanisms (CBAMs), a climate measure that should prevent the risk of carbon leakage (when companies transfer production to countries that are less strict about emissions) by putting a carbon price on imports of certain goods, and support the EU's increased ambition on climate mitigation while ensuring WTO compatibility. The European Commission has announced in July 2021 that a CBAM will be operational by the end of 2022, along with 12 other policy measures meant to support the EU to meet its ambitious GHG emission reduction targets of 55% in 2030. The EU envisages the CBAM as a component of the EU ETS<sup>2</sup> and its main purpose is to prevent carbon leakage by creating a level playing field for EU producers in sectors covered by the EU ETS (the initial proposal applies to imports of electricity, cement, aluminium, fertilizer, iron and steel). The CBAM is, in fact, a replacement of the free ETS allowances currently granted to EU producers assessed to be at high risk of carbon leakage. The free allowances will be phased out between 2026 and 2035. The CBAM will be implemented in 2026, following a transition period of three years characterised by data collection only.

**Global demand for voluntary carbon credits could increase by a factor of 15 by 2030 and a factor of 100 by 2050.**

Voluntary demand scenarios for carbon credits, gigatons per year



Source: KPMG 2021

For companies that are not able to offset their emissions, buying carbon credits from third parties investing in offsetting initiatives is an option, as is a direct investment in specific offsetting schemes, known as authentic offsetting. The consensus however should be that users of offsets must increase the portion of their offsets that come from carbon removals, rather than from emission reductions, so that they can reach 100% carbon removals by 2050 to ensure compatibility with Paris Agreement goals.

### How Should Companies Communicate Net-Zero Targets?

The SBTi draft net zero criteria include requirements for how net zero targets should be communicated, which include the following:

<sup>2</sup> The EU Emissions Trading System (ETS) was set up in 2005 and is the world's first and largest carbon market, operating in all EU countries plus EEA-EFTA states. It limits emissions from around 10,000 installations in the power, airline and manufacturing industries and covers around 40% of the EU's GHG. The launch of the [Market Stability Reserve](#) in 2019, whose aim is to reduce the surplus of emission allowances in the carbon market, has resulted in higher and more robust carbon prices, resulting in a year on year total emissions reduction of 9% in 2019, a 14.9% reduction in electricity and heat production and a 1.9% reduction in industry.



- The net zero target should be publicly announced disclosing baseline year, boundary and target year. The announcement should also include the magnitude of emissions abatement and neutralisation.
- Companies should disclose the carbon removals used to achieve net zero in the target year.
- Progress against targets should be reported on an annual basis, and include the following:
  - Fully disaggregated emissions and removals in the GHG Inventory, broken down by scope 1, 2 and 3
  - Identifying documentation for all contractual instruments used for carbon removal targets
  - Project information regarding all purchased and issued certificates and the approaches used to conduct carbon removal
  - Details regarding the liability and impermanence risk of carbon storage.

### 3. RACE TO ZERO

The Climate Ambition Alliance launched in 2019, brings together countries, businesses, investors, cities and regions that are working towards achieving net-zero CO<sub>2</sub> emissions by 2050. The idea was to make the Paris Agreement a reality and build a thriving net zero emissions economy. Country engagement in the Alliance is led by the governments of Chile and the United Kingdom, with support from UN Climate Change and UNDP. Mobilization of non-government actors is led by the High-Level Climate Champions for Climate Action, Nigel Topping and Gonzalo Muñoz under the "[Race to Zero](#)" campaign.

Race to Zero is a global campaign to gather leadership, support and mobilize non-state actor membership of the Climate Ambition Alliance. It mobilizes a coalition of leading net zero initiatives, representing 733 cities, 31 regions, 3,067 businesses, 173 of the biggest investors, and 622 higher education institutions. The objective is to build momentum around the shift to a decarbonized economy ahead of COP26, where governments must strengthen their contributions to the Paris Agreement. It brings together leading networks and initiatives such as the Business Ambition 1.5C and the Climate Pledge (please find the full list of partners in Appendix 1).

The UN convened the [Net-Zero Asset Owner Alliance](#) was launched in 2019, and became the founding investor initiative of the "Race to Zero" campaign. The Alliance has grown to 33 investors with over USD 5 trillion in assets under management who have pledged to make their portfolios net zero emissions by 2050. These actors join 120 countries in the largest alliance committed to achieving net zero carbon emissions by 2050. Collectively these actors now cover nearly 25% of global CO<sub>2</sub> emissions and over 50% of GDP. In January 2021, the Alliance members decided to issue their 2025 interim targets by issuing transparent and realistic targets and committing to report against them in the next 4 years, providing a demonstration of ambition by private sector leaders.

Importantly, in April 2021, Race to Zero published its [refined criteria](#) which all partner initiatives must meet through a rigorous application process, reviewed by an independent Expert Peer Review Group. The review process honoured the commitment made at launch by the Race to Zero campaign in June 2020 to review its criteria on an annual basis to ensure that these are keeping pace with science and best practice, and to help the entire climate action community converge around robust approaches in line with halving emissions by 2030 and reaching net zero by 2050. The major changes in the criteria were critical additions to include a stronger emphasis on:

- actors demonstrating how they will contribute towards or beyond their fair share of halving emissions by 2030;
- additional clarity around the need for members to include all scopes of emissions (scopes 1, 2 and 3) in their emissions reduction targets;
- enhanced specificity around the language of residual emissions, sources and credits, with a critical emphasis on abatement measures; and
- the introduction of leadership practices on equity and empowerment, to reiterate the importance of operationalizing principles of equity in pledges and actions, as well as encouraging broader information sharing, capacity building and access to finance

#### What Are the First Steps for a Company to set a Net-Zero Target?

In order to become a signatory of Race to Zero, businesses are required to sign up for one of the initiatives, such as Business Ambition for 1.5C, which is underpinned by the SBTi. A company is required to measure the scope 1, 2 and 3 emissions and set a 1.5C aligned science-based target for their operations and value chain. When setting a 1.5C aligned science-based target, an organization should consider the feasibility and decarbonisation initiatives necessary to meet the trajectory before committing to a net zero target.



## Controversies around Net-Zero

The Paris Climate Agreement applies to all greenhouse-gas emissions, but participating countries did not decide how emissions are to be reduced, nor how reductions would be measured. Agreement on both will be priorities for the Glasgow summit, but the information vacuum during the intervening six years has created a space for multiple interpretations and options. There is even less agreement on which substances net zero applies to. This creates ambiguity, and countries and organizations are defining the action according to their own criteria. Whereas the European Union's pledge targets all such gases, China's plan focuses only on CO<sub>2</sub> emissions and does not include methane or nitrous oxide. China also declared 2060 for its own net-zero date. The administration of US President Joe Biden has pledged 2050 as its deadline for net-zero greenhouse-gas emissions but has yet to specify which gases are covered. Of the 191 Parties to the Paris Agreement, more than [80 countries](#) have so far submitted a new or updated NDCs. Their planned combined emissions reductions by 2030 still fall far short of the level of ambition needed to achieve the 1.5 °C goal.

Terms like "carbon neutrality", "net zero" or "climate positive" have been around for a while, but for the last couple of years, small start-ups to global corporations have integrated them, mainly for mainstream marketing purposes. The diversity of phrases and the lack of clarity around them can mislead well-intentioned consumers. However, communicating transparently may encourage businesses to be more proactive. The criticism of having various terms available in the race to net zero is not only each term implies very different impacts environmentally speaking, but in the companies' perspective, means different steps in terms of goalsetting for their environmental policy.

- **Carbon neutral** means that any CO<sub>2</sub> released into the atmosphere from a company's activities is balanced by an equivalent amount being removed.
- **Climate positive** means that activity goes beyond achieving net-zero carbon emissions to create an environmental benefit by removing additional CO<sub>2</sub> from the atmosphere.
- **Carbon positive** is how organisations describe climate positive and carbon negative. It's mainly a marketing term.
- **Carbon negative** has the same definition as "climate positive."
- **Climate Neutral** refers to reducing all GHG to the point of zero while eliminating all other negative environmental impacts that an organisation may cause.
- **Net-Zero carbon emissions** mean that an activity releases net-zero carbon emissions into the atmosphere.
- **Net-Zero emissions balance** the whole amount of GHG released and the amount removed from the atmosphere.

As clearly demonstrated above, the various terms being used in the net zero discourse have very distinct outcomes and knowing the differences will mean different strategies. An example of using the wrong terminology is when Brookfield Asset Management joined the Net Zero Asset Managers initiative, controversy arose as it marked a shift after its Vice-Chair, Mark Carney came under fire in February 2021 for claiming its portfolio was already net zero, while continuing to invest in fossil fuels. This controversy hung on Carney's use of "avoided emissions" in which a company takes credit for refraining from high-polluting actions. A spokeswoman for the company later made a statement to clarify that it was not their intention to suggest that they had achieved their objectives in carbon reduction, and that Brookfield is indeed committed to achieving a net zero by 2050 by working with Greenhouse Gas Protocol definitions and setting interim targets. Understanding the differences between each of the different terms is therefore important.

There are many companies claiming to be carbon neutral or pledging towards achieving it. However, there are also several key differences between carbon neutrality and the SBTi draft definition of net zero:

1. The boundary of a net zero target includes global scope 1, 2 and 3 emissions of the organisation, whereas carbon neutrality for an organisation only requires scope 1 and 2, with scope 3 emissions encouraged but not mandatory.
2. The boundary of a carbon-neutral claim can refer to a specific product or service instead of encompassing the whole organisation in the case of net zero.
3. The reduction in reported emissions required differs. Net zero targets must align to a 1.5°C science-based target, whereas the level of ambition of a carbon management plan for carbon neutrality is not specified.
4. The approach to residual emissions differs, with specific greenhouse gas removals required for net zero targets, whereas carbon offsets are accepted for carbon neutrality.

In addition to the abundance of terms being used in the net zero agenda that creates confusion, Joeri Rogelj at Imperial College London has shown via his research how different definitions and pathways to net zero can have drastically differing outcomes. For example, reducing CO<sub>2</sub> emissions halts warming, but the CO<sub>2</sub> that already exists in the atmosphere will remain for hundreds of years. At the same time, cuts to other greenhouse gases could affect warming faster. But eliminating these other gases is more complex than is cutting carbon. It becomes clear that using common expressions such as "cutting emissions will halt global warming" are not only misleading, but far too simplistic.





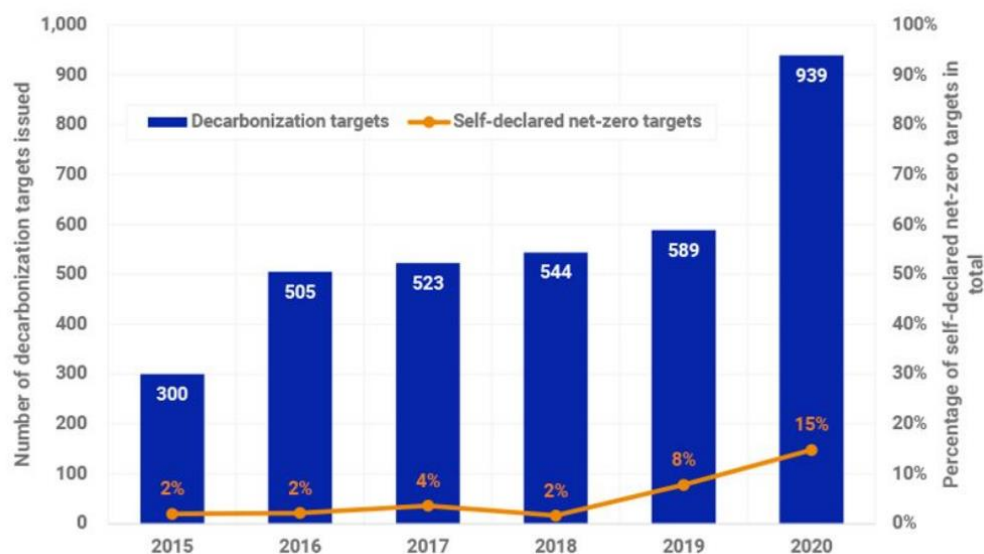
Some companies making net zero pledges are being similarly flexible in their definitions. For some, net zero means removing greenhouse gases from all their processes, including taking steps to offset historical emissions. But others, such as investment banks and fossil-fuel companies, will continue to invest in fossil fuels while pledging net zero policies in other areas of their businesses. However, initiatives such as Race to Zero were set up specifically to stop this risk of divergence, as it seeks to pull credible global net zero initiatives under one roof and provides clarity on what science-based and credible net zero plans must look like.

Controversy also continues around the word “net” in that net zero is the balance between emissions produced and emissions removed. Under previous emissions reductions rules that expired in 2020 (under the 1997 Kyoto climate protocol), high-emitting countries were allowed to offset their emissions with the help of lower-emitting countries. They could, for example, buy and sell carbon as a commodity on the many carbon-trading exchanges that have been set up around the world. Carbon trading allows high-emitting countries and companies to reduce their net emissions without reducing the overall amount of carbon they release into the atmosphere. These countries could also claim carbon credits if they finance clean energy or plant trees in low-emitting countries. As noted in the Offsetting and Achieving Net-Zero chapter above, the SBTi has stated that all efforts should be made in an organisation to decarbonize their scope 1, 2 and 3 emissions aligned with 1.5C prior to resorting to offsetting. There is also debate regarding which of the different types of offsets deliver carbon neutral strategies vs net zero strategies.

### Biggest Financial Players Back Net-Zero

As of March 2021, at least a fifth of the world’s 2,000 largest public companies had committed to reaching net zero emissions, representing annual sales of nearly \$14tn, according to the Energy and Climate Intelligence Unit and the University of Oxford.

Businesses from heavy emitting sectors such as car manufacturing, airlines, electricity generation, heavy industry and food and agriculture are included. For some companies, the path to net zero emissions is only just becoming clear and requires investment in innovation, research and development to drive faster growth in solutions during the 2020s. Many of the 2,000 businesses still need to set out plans and interim targets for fulfilling their commitments and halving emissions this decade. Only a quarter of them meets the criteria for robust climate action goals as set by the UN’s Race to Zero campaign. At present, only about a third of the world’s listed companies have set decarbonisation targets. Fewer have announced plans to cut emissions to net zero. Some of the world’s largest corporate emitters of greenhouse gases have yet to report any of their emissions.



Source: MSCI 2021

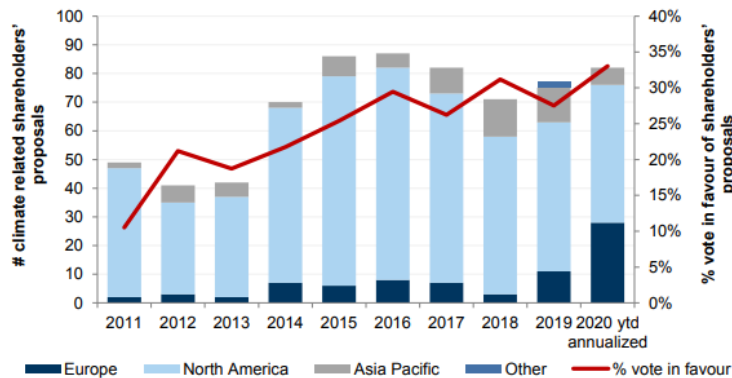
In order to fulfil the requirements of joining the Race to Zero initiative, it is required that members present a plan for achieving their goals within a year of joining the initiative, and to report on progress every year. They also specify that companies prioritise reducing emissions, rather than offsetting them with tree-planting or carbon capture technology. They state that reductions must cover the full scope of a business’s direct and indirect emissions. There is currently no science-based route for oil and gas companies to join but are currently developing SBTi to be launched in 2021.

In addition, climate-related shareholder resolutions continue to increase year by year, creating a push for companies to start disclosing or make efforts/improvements towards decarbonization. Climate-related shareholder resolutions, especially in the heavy emission sectors, have helped push companies to pledge towards a net zero target. For instance, Total SA was requested by 11 European asset managers to lower their scope 3 emissions. Rio Tinto’s shareholders requested scope 3 disclosure and stronger targets from the company in February 2020, and in April 2020 Shell announced plans for carbon neutrality by 2050 (including scope 3 emissions) following heavy shareholder pressure.



## Exhibit 12: Climate related shareholder resolutions continue to increase despite COVID

Number of climate-related shareholders' proposals vs. % vote in favour



Source: Morgan Stanley, 2020

## 4. ENVIRONMENTAL REPORTING AND DISCLOSURE

According to research by Duff & Phelps, almost half of valuation experts (45%) believe that a lack of a standardised and recognized measurement system is the biggest threat to effective environmental, social and governance disclosure for businesses. An effective net zero strategy must consider the risks and opportunities that climate poses to business and it also must be able to address the increasing demand from investors and reporting frameworks for evidence of forward planning on climate change.

The sustainability reporting landscape is undergoing a fast transformation. The International Integrated Reporting Council (IIRC) and Sustainability Accounting Standards Board (SASB) have merged into the Value Reporting Foundation. They and three other sustainability reporting bodies: CDP, Climate Disclosure Standards Board (CDSB) and Global Reporting Initiative (GRI), known as the Group of Five have called for closer coordination and launched a prototype [climate-related financial disclosure standard](#).

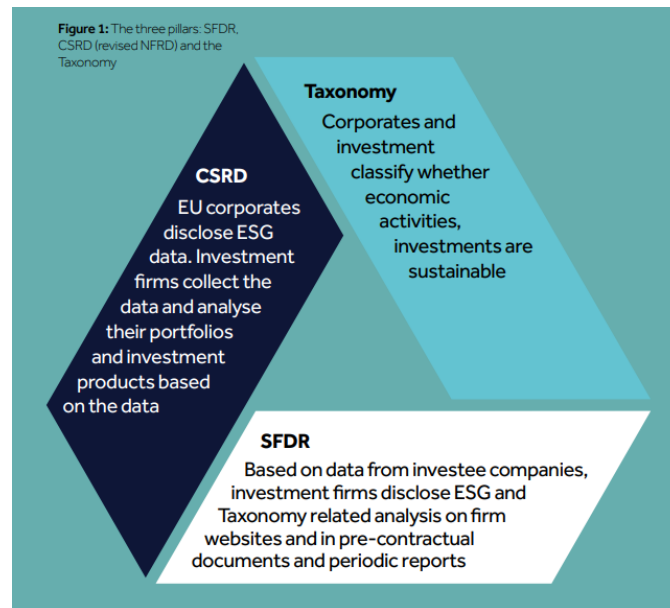
The IFRS Foundation is also considering how it might engage. Its financial reporting standards, developed and approved by the International Accounting Standards Board (IASB), are required in more than 140 jurisdictions around the world. In a manner like the IASB, the IFRS Foundation is exploring whether and how to set up an International Sustainability Standards Board (ISSB). This baseline standard would build on the Task Force on Climate-related Financial Disclosures (TCFD) framework and the existing work of sustainability standards-setters such as the Group of Five.

### The EU: EU Taxonomy and CSDR

The EU has set an ambitious path to reorient capital flows toward a sustainable economy while avoiding greenwashing, and it has introduced far-reaching legislation, such as the Sustainable Finance Disclosure Regulation (SFDR) and the EU Taxonomy. To support the EU's goals, investors need quality and comparable data from companies. To do so, the EU released in April 2021 the Corporate Sustainable Reporting Directive (CSRD) which is to replace the Non-Financial Reporting Directive (NFRD). The CSRD aims to provide investors with the information they need to consider ESG in their investment decisions and meet the requirements under the SFDR. All large companies (49,000 companies) governed by the law of an EU member state and all European stock exchange-listed companies (not including micro-companies) are under the scope of the new directive. For global businesses with operations in Europe, these new requirements may apply (not confirmed). The European Commission plans to adopt the CSRD in late 2022. In the meantime, the first set of standards should be adopted by October 2022 and a second set of standards by October 2023 with complementary and sector-specific information (SMEs will have more time to comply).

The foundational tool of the European Green Deal (the EU's roadmap to climate neutrality by 2050) is the EU Taxonomy, which will apply to companies beyond the European borders. The Taxonomy is a list of economic activities with performance criteria to assess the activities' contribution toward six environmental objectives and whether they are environmentally sustainable and if in the future those are socially sustainable. It is neither a rating of "good" or "bad" companies nor a mandatory list of economic activities to invest in or to divest from. It aims to provide clear definitions of what is green to companies, investors, and policymakers. The Taxonomy is likely to enable increased investment in activities deemed environmentally sustainable across a range of sectors, including but not limited to agriculture, buildings, ICT, manufacturing, transport, utilities, and finance. Activities in these sectors represent 93.5% of the EU's greenhouse gas emissions. The Taxonomy Regulation (by amendment of the SFDR) requires managers that market funds that make environmental claims to disclose the level of "taxonomy-alignment" of the underlying investments in the funds.





Source: Brunswick, 2021

The environmental taxonomy deals with activities that make a significant contribution to six core objectives, and the disclosure obligations relating to these objectives are being phased in as follows:

- 1 January 2022: climate change mitigation and climate change adaptation objectives.
- 1 January 2023: the sustainable use and protection of water and marine resources; the transition to a circular economy; pollution prevention and control; and the protection and restoration of biodiversity and ecosystems.

In addition, there will be further EU regulatory developments. For instance, in July 2021 the European Commission adopted a new [Sustainable Finance Strategy](#) and issued a “Fit for 55” package to tackle climate change and other environmental challenges. Significantly, the FCA issued proposals in June 2021 for fund managers and others in the financial sector to comply with mandatory disclosures aligned to TCFD which encourages climate scenario analysis. Both SFDR and TCFD are linked to the IFRS Foundation’s welcomed work to develop a baseline global reporting standard for sustainability. Key elements of the FCA proposals include annual reports containing:

- Entity-level disclosures – TCFD-aligned disclosures on taking climate-related risks and opportunities into account with investments.
- Product or portfolio-level disclosures – a baseline set of consistent, comparable TCFD-aligned disclosures in respect of their products and portfolios, including a core set of metrics.

The FCA anticipates capturing 98% of UK asset managers and asset owners, with exemptions for those with less than £5bn in assets under management or administration, on a three-year rolling average. They are proposing a phased implementation, with from 2022 the largest, most interconnected managers needing to make the first disclosures by 30 June 2023, and from 2023 the remaining managers making first disclosures by 30 June 2024.

### The US: SEC Consultation

The SEC recently closed a 90-day consultation on potentially mandatory climate disclosure (as well as broader ESG disclosure). In May 2020, the SEC Investor Advisory Committee approved recommendations urging the Commission to begin an effort to update reporting requirements for issuers to include material, decision useful ESG factors. In December 2020, the ESG Subcommittee of the SEC Asset Management Advisory Committee issued a preliminary recommendation that the Commission requires the adoption of standards by which corporate issuers disclose material ESG risks.

In July 2021, the SEC Commissioner Hester Peirce asked the IFRS Foundation not to develop its proposed International Sustainability Standards Board (ISSB) for several reasons, among them a concern that it would “inappropriately equate sustainability standards with financial reporting standards”. Some may say this was controversial, the reason behind this is probably linked to the US law on fiduciary duty.

Though the SEC is still only at the discussion/consultation stage, they should make use of the current reporting landscape as a baseline to create new mandatory climate disclosures. For instance, for climate disclosure the SEC should consider a two-part model with a) climate disclosure requirements for all companies based on the TCFD guidelines and b) industry-specific disclosures that



utilize the SASB standards and metrics. This will allow for the ease of reporting so that practitioners don't have to comply with another new disclosure.

The most apparent challenge with current ESG reporting is the number of reporting frameworks that exist, in addition to an array of reporting metrics. Furthermore, most frameworks are voluntary. There is a commitment to align several of the leading international frameworks, CDP, CDSB, the Global Reporting Initiative, the International Integrated Reporting Council and the SASB. For now, however, companies continue to spend resources reporting to several frameworks, and these resources could be better spent addressing critical environmental social issues.

Climate transition plans need to be accompanied by disclosure of high-quality, decision-useful information on the climate-related risks and opportunities that companies face. The SFDR and the Recommendations of the TCFD together form the blueprint for ESG-disclosures for investment managers in the EU and in the UK. The below section aims to compare and contrast the two disclosure standards and outline the principal differences between the two.

### Task Force on Climate-Related Financial Disclosures (TCFD)

Climate transition plans to net zero need to be accompanied by disclosure of high-quality, decision-useful information. These disclosures allow the financial system to systematically allocate capital toward more sustainable technologies and companies. Over the last years, disclosure of climate-related risks and opportunities has increased. This has been achieved through widespread dissemination of the framework by the TCFD.

The TCFD was convened in 2015 by the Financial Stability Board (FSB) to consider climate change as a financial risk. It was created to address a significant market failure: that investors lacked the necessary information about climate-related risks and opportunities to make informed investment decisions. The goal was to develop consistent climate-related financial risk disclosures for use by companies, investors and banks in providing information to stakeholders. The pretext was that by strengthening the amount of reliable information on financial institutions' exposure to climate-related risks and opportunities, we would strengthen the stability of the financial system and contribute to a greater understanding of climate risks and facilitate financing the transition to a more stable and sustainable economy. Although there were previous data and reporting frameworks that existed before the TCFD, it has become the go-to framework globally because it is streamlined, developed by the private sector with a focus on financially material information, and applicable to companies across all sectors.

In 2017, the TCFD released recommendations on climate-related disclosure to help companies release better information and to enhance climate-related capital allocation. Since, the TCFD framework has been very widely adopted by investors, such as Blackrock, and large investor alliances, including the Climate Action 100+, who demand disclosure in line with TCFD recommendations. Regulators are also embracing TCFD, including the UK, New Zealand, and more recently the G7 and EU. At the time of its launch, the TCFD had 100 supporters, representing a market cap of US\$3.3 trillion. As of June 2020, it had more than 1,300 supporters, with a market cap of US\$12 trillion.

It recommends a framework for disclosing climate-related risks and opportunities that goes beyond current practices in two main methods: a) inclusion in mainstream financial filings, and b) using scenario analysis to inform business strategy.

Key points:

1. The ultimate purpose of the TCFD is to appropriately assess and price climate-related risks and opportunities. This might be the case either through quantifying the disclosure and in other cases around describing the financial impact on your business.
2. The TCFD framework asks companies to consider the future, how we might react and what impact that might have on the business.
3. Accounting is a fair and balanced view. To be credible TCFD disclosure must describe much of the good work that an organisation been completed, but also the areas which still need to be improved. As disclosures evolve over time, they will change and expand. It is key to set the scene based on the information today.
4. Make TCFD specific to the organization and the risks and opportunities that the organization faces as part of these disclosures.
5. It is important to report this information in the annual report.

The four pillars of TCFD:

1. **Governance:** This section, usually composed of qualitative disclosure, involves identifying who is responsible in the organization for this topic, any training that's been undertaken by the board by members or committees, the number of times that climate change or sustainability has been on the board agenda.



2. **Strategy:** This section, usually composed of qualitative disclosure, involves articulating how climate change will impact (or not) the organization's overall corporate strategy. Naturally, the impact will vary depending on geography, product and service line to name a few. This section will provide an overview of areas that the company expects to expand on, and things they expect to do less of determined by their risks and listing the mitigating actions they are taking. This will be based on the issues most material to the organization and will depend on the type of business, the products, geographic exposure, and customers.

3. **Risk Management:** This section, usually composed of both qualitative and quantitative disclosure, requires using a materiality-based approach, identifying the areas where the impacts of the organization will be the most felt - both positive and negative. The risk management disclosure indicates the metrics chosen to measure risk and explains how that is incorporated into risk management frameworks and risk appetite.

4. **Metrics and Targets:** This section, usually composed of quantitative disclosure, is the most advanced and looks internally before disclosing. It is a quantitative scenario analysis that looks at the impact that different climate change scenarios will have on the organization, products, or services. Organizations tend to use time horizons of either 2050 or 2100 for these climate-related scenarios.

As of September 2020, there are 1,440 global companies who are disclosing climate-related financial risks and are supporters of the TCFD, representing a market cap of \$12.6 trillion. Four-fifths of the top 1,100 global companies are now disclosing climate-related financial risks in line with some of the TCFD recommendations, and over 30% of large and mid-caps across developed and emerging markets are disclosing scope 1 and 2 emissions.

The UK's reputation as a leader in environmental policy is well established. It was the first major developed economy to legislate towards achieving net-zero emissions by 2050. It has also committed to ensuring companies report on climate risks using guidelines from the TCFD by 2025, with a significant portion of mandatory requirements in place by 2023. For now, compliance is voluntary. In addition, the IFRS announced in March 2021 that they would form a working group to accelerate convergence in the global sustainability reporting standards. Specifically, the working group will provide technical recommendations, including further development of the TCFD recommendations as a potential basis for the new board to build on existing initiatives and develop standards for climate-related reporting.

We believe that for the TCFD to be truly successful, there needs to be more standardization. More companies need to firstly sign up for the TCFD recommendation, as it is currently far from the scale needed to mainstream green finance and systematically channel investment to sustainable and resilient business models. Investors should demand TCFD consistent disclosure from all companies they invest in or lend to. Stock exchanges need to develop guidance for TCFD compliant disclosures, and central banks need to lead by example and publish fully TCFD compliant disclosures. Governments also need to set out clear timelines for making TCFD-compliant disclosure mandatory by 2023. Secondly, disclosures need to become more decision useful. The enhancement of common, quantitative metrics will help investors more systematically identify climate leaders and laggards. These metrics would typically include the financial impact of a range of transition and physical risk scenarios, as well as information on current scope 1, 2, and 3 emissions and forward-looking targets.

## Sustainable Finance Disclosure Regulation (SFDR)

The SFDR is a part of the European Commission's package of reforms relating to sustainable finance under the EU Action Plan on Financing Sustainable Growth. The SFDR aims to harmonise disclosures by investment managers, financial advisers and other financial institutions to investors on sustainability information and the integration of sustainability risks in investment decision making and advisory processes, and on the consideration of adverse impacts on sustainable investment objectives or in the promotion of products that have environmental or social characteristics. It essentially requires fund managers and other market participants to disclose how they integrated into their processes, including their due diligence, an assessment of all relevant "sustainability risks" that might have material negative impacts on the financial return of a fund investment.

Details of the required disclosures are to be contained in the SFDR regulatory technical standards (RTS), which will include a template that managers that are considering principal adverse impacts will need to complete each year. The template will include a list of impacts that relevant managers must always consider and report on, and others which they should consider if material. The first RTS reference period will run from 1 July 2022 (delayed from 1 Jan 2022 which provides some time for asset managers to await further technical guidance) and the first reports based on the RTS will be published in 2023.

Apart from disclosure requirements, funds promoted as ESG are required to classify as being Article 8 or 9 products. They must also ensure compliance with the marketing of their financial products with reference to specified SFDR article classifications:

**Article 6** covers funds that disclose the way sustainability risks are integrated into investment decision-making and results of the assessment of the likely impacts of Sustainability Risks on the returns of the financial products they make available.



**Article 8** products promote environmental or social characteristics, and managers need to provide information on how those characteristics are met and (if there is a relevant index) information on whether and how this index is consistent with those characteristics.

**Article 9** products have sustainable investment as their objectives, and managers need to provide information on how sustainable investment objectives are achieved and (if there is a relevant index) information on how the index is aligned with that objective and an explanation as to why and how the index differs from a broad market index.

Most recently, investors that initially self-classified as Article 6 are facing difficulties raising assets when matched against more sustainable funds, and many have been trying to re-classify to Article 8. Some reports suggest that there is a greater risk for greenwashing to occur due to them initiating this transition.

Whereas the SFDR in the EU has gone through the legislative processes, the TCFD recommendations are international standards made by a Task Force with market participants from across the G20, created by the Financial Stability Board. The SFDR applies to "financial market participants" and "financial products", each of which is defined by reference to EU legislation and includes MiFID investment firms, alternative investment fund managers (AIFMs) and UCITS management companies and the funds and portfolios they manage (e.g., AIFs, UCITS and managed/segregated accounts). The SFDR also applies to "financial advisers", including investment advice provided by AIFMs, MiFID investment firms and UCITS management companies.

The TCFD recommendations are broader in scope, with the Task Force recommending all financial and non-financial organisations with public debt or equity implement its recommendations across all sectors, including asset managers and asset owners (which includes funds). Similarly, The UK TCFD-based disclosures regime will apply to seven "categories of organisation", which includes FCA-authorized investment managers (defined to include AIFMs, investment firms providing portfolio management services and UK UCITS management companies) as one of those categories (see a Roadmap towards mandatory climate-related disclosures, HM Treasury).

The disintegration between reporting standards, differing company, jurisdiction and issue, obstructs performance on sustainability and decreases comparability across reports. The current reporting landscape is fragmented, until the TCFD, the IFRS Sustainability Accounting Standards or governmental led regulations such as the EU's CSRD become mandatory, the need for enhanced due diligence (such as carbon audits, supply chain analysis) as part of the decision-making process will only increase. These standards need to break through the controversies and misconceptions in order to instil confidence in stakeholders to ensure businesses are up to date with the changing space.

Currently, asset managers conducting business in the EU must be aware of SFDR which started in March 2021, followed by the EU Taxonomy Regulation which will become effective January 1<sup>st</sup>, 2022, for environmental objectives of climate change mitigation and adaptation, and a year later for other environmental objectives i.e., sustainable use of water, circular economy transition, protection of biodiversity. Larger UK companies will need to take steps to implement TCFD reporting by 2023, in accordance with UK government proposals outlined in November, with all companies expected to be compliant by 2025. These include the next steps for TCFD reporting for pension funds and on ethnicity pay-gap reporting, following consultations which have now closed. There are clearly different deadlines, for different regulations, at different levels and paces. A synergy or standardisation between the disclosures would provide a greater appetite for companies that have not yet embarked on the net zero journeys, and subsequently motivate current players to report and disclose in an efficient manner. Presently, there is a risk that companies move forward from a unified report to a collection of issue-specific reports that lack cohesion.

Whilst the science has become clearer, the response has not. Investors must use their influence to push decision-makers to make bold emission reductions required to limit the severe consequences of climate change. Similarly, material non-climate ESG issues such as human rights; diversity, equity and inclusion; and biodiversity also will need to be reported in a similar manner.

## 5. WATER EMISSIONS AND NET-ZERO

Climate change challenges the sustainability of water resources. Food security, human health, urban and rural settlements, energy production, industrial development, economic growth, and thriving ecosystems are all water-dependent and thus vulnerable to the impacts of climate change. At the same time, climate change manifests itself primarily through changes in the water cycle. Over the last 25 years, floods, droughts and other weather-related events have caused more than 90 per cent of major weather-related disasters, and the frequency and intensity of such events are expected to increase if we do not halt climate change. Within the 17 global goals of the SDGs, in the context of water, the goals are clean water and energy, protecting land and water ecosystems. In terms of emissions, according to the GHG Protocol, energy consumption data such as water is used to calculate GHG emissions. According to the CDP, <1.2% of all water on earth is available for human use, and a 40% shortfall of the available global supply is expected by 2030.

It becomes evident, whilst researching climate change literature, of the importance of the two strategies for addressing climate change: adaptation vs mitigation, and how to distinguish them. **Adaptation** can be understood as the process of adjusting to the current and future effects of climate change by anticipating the adverse effects and taking action to prevent or minimize the damage

Page | 19



(e.g., reducing food waste or building infrastructural defences to protect against sea-level rise). **Mitigation** means making the impacts of climate change less severe by preventing or reducing the GHG into the atmosphere by reducing the sources of these gases (e.g., by establishing cleaner mobility systems or increasing renewable energy usage) or enhancing the storage of these gases (e.g., carbon sinks).

While it is essential for water management to adapt to climate change (from countering the effects of floods to addressing increasing water stress for agriculture and industry), water management can also play an important role in climate change mitigation. To contextualize, the use, storage, distribution, and treatment of water and wastewater contributes to about 10% of global GHG emissions collectively (GIZ, 2020), making it key to the net zero transition. In addition, according to the International Water Association, untreated sewage emits around 40 kilograms of CO<sub>2</sub> equivalent per year per person. Understanding the energy and carbon implications of water use can inform resource management and policy decisions in important ways. Water efficiency measures have a direct effect on energy savings, which can lead to the reduction of GHG emissions. Specific water management interventions such as conservation agriculture, wetland protection and other nature-based solutions can help to sequester carbon in biomass and soils. Advanced wastewater treatment can help reduce GHG emissions while supplying biogas as a source of renewable energy.

In the NDCs submitted by countries as part of the Paris Agreement, water is in many cases recognized in terms of policy statements or broad strategies, usually in terms of adaptation. Few NDCs include the intention to prepare a specific water plan. While most countries acknowledge water in their NDCs "portfolio of actions", fewer have estimated the related costs of these actions, even fewer have included detailed water-related project proposals. Clear synergies between adaptation and mitigation opportunities through water are practically non-existent in the NDCs.

The Climate Action Pathway: Water 2020 by the UNFCCC under the Marrakech Partnership for Global Climate Action aims to align with Energy, Industry, Human Settlements, Land Use and Oceans and Coastal Zones Pathways. It explains that this alignment is important due to the interlinkages between the water-climate-energy-food-environment nexus, which can lead to synergies. In the report, it stipulates that smart management of water and freshwater ecosystems can offer a range of impactful solutions to mitigate carbon emissions that remain largely untapped. To contextualize, electricity use by the water sector is mainly for the abstraction (40%), conveyance (25%) and treatment (20%) of water and wastewater, representing some 4% of global electricity production. Energy consumption in the water sector is expected to double through 2040 as a result of the increasing desalination of seawater (International Energy Agency, 2016).

Additionally, wetlands accommodate the largest carbon stocks among terrestrial ecosystems and still are suffering a loss rate that is 3x higher than forests. Studies suggest that around a third of GHG mitigation by 2030 can be attained through nature-based mitigation, to which wetlands can contribute a share of 14%. Considering that wetlands offer multiple co-benefits, including flood and drought mitigation, water purification and biodiversity, the conservation of wetlands is an important mitigating measure.

As communities set carbon reduction goals in response to net zero, water conservation and efficiency are valuable, cost-effective ways to reduce greenhouse gas emissions and prepare for the water supply challenges brought on by climate change. One of those ways is water reuse, defined by the U.S. Environmental Protection Agency (EPA) as "reusing treated wastewater for beneficial purposes such as agricultural and landscape irrigation, industrial processes, toilet flushing and replenishing a groundwater basin". In 2020, the EU introduced a new regulation on minimum requirements for water reuse for agriculture irrigation, which will enable a six-fold increase in the volume of wastewater that can be safely reused. The potential to reduce water-related energy consumption through wastewater reuse is highly dependent on the energy intensity of the water being replaced through reuse and the level of treatment required for the intended use. While wastewater reuse is typically implemented by water utilities or large industrial users, there are many opportunities for companies to reuse wastewater.

Although climate adaptation finance is gradually increasing as a proportion of overall climate finance, the Organisation for Economic Co-operation and Development found that it still makes up only 16% of total climate flows, and the International Institute for Environment and Development reports that less than a third reaches the least developed countries (WaterAid, 2020). Additionally, ESG reporting dominates corporate sustainability today, and while increased investor interest in ESG issues is welcomed, there are key issues that need to be addressed around current approaches if we want to achieve the SGD goals for water. The existing ESG reporting frameworks generally under-represent water as a critical risk and opportunity at a time when water is increasingly being recognized as a material risk to businesses. The exception is the CDP Water Framework, which was specifically designed to address water as a risk. Almost two-thirds of companies are reducing or maintaining their water withdrawals, and more than half are monitoring the quality of their wastewater discharges. Troublingly, only 4.4% of businesses are reporting progress against water pollution reduction targets; action here is severely lacking and must be urgently scaled up. There have been pioneering companies that are taking action to enable water security, such as L'Oreal which has created "waterloop factories" to reuse or recycle process water in a loop on-site, and then also Unilever that launched a new "dry personal care" range for water-stressed areas which are estimated to generate US\$2.2-3.4 billion in sales by 2025.

The need for consolidation in reporting frameworks is essential to align reporting metrics, such as gallons of water reused, for instance, to reduce the reporting burden on companies and facilitate the adoption of reporting in investment risk evaluations. The





focus on climate change, at the exclusion of water as a risk and opportunity, runs the risk that we won't solve the environmental and social issues tied to water even if we solve climate change.

### Climate Action Pathway for Water



- All nationally determined contributions (NDCs) and national adaptation plans (NAPs), especially those representing the most water-stressed regions of the world, are updated to include resilient water management approaches and tools for GHG mitigation, such as low-carbon urban water supply and wastewater management and carbon sequestration through freshwater ecosystems such as wetlands, peatlands and mangroves.
- Governments (national and local), multilateral organizations and civil society organizations make a concerted effort to further unlock climate finance from relevant funds, such as the Green Climate Fund, for water-related projects that prioritize the world's most vulnerable communities and populations, in tandem with strengthened efforts to secure development finance, private sector interests, innovative funding sources and financing tools.
- Ensure all NDCs and NAPs are accompanied by a specific water plan and budget that addresses the climate–water interactions across all sectors, including energy and industry, agriculture and livestock, forestry and land use, public health, ecosystems and biodiversity, urban wastewater management, and urban regional planning and infrastructure.
- Double the share of sustainable renewable energy used in water extraction, supply, treatment, and reuse. At the same time, ensure that the level of water extraction and consumption in energy generation does not increase with a greater share of freshwater being allocated for use in renewable energy generation than fossil fuel-based generation activities.
- Ensure water and wastewater utilities reach complete decarbonization and improved climate resilience through climate risk management.
- Protect and restore 30 per cent of the Earth's water-related natural ecosystems so as to maximize carbon sequestration and ecosystem services by natural ecosystems such as wetlands and coastal habitats.
- Build resilient and healthy societies by achieving universal and equitable access to safe, affordable and climate-resilient drinking water and sanitation services, especially servicing the most vulnerable populations who are first to be affected by the impacts of climate change.
- Ensure the global water sector is a net-positive provider of renewable energy and nutrients, and that 100 per cent of all municipal, industrial and agricultural wastewater is treated for reuse or discharge into the environment.
- Double the area of protected water-based ecosystems and the number of free-flowing rivers since 2020.
- Ensure 100 water-insecure cities around the world achieve net-zero emissions and are no longer water-stressed.

Source: Climate Action Pathway: Water 2021



## APPENDIX 1: LIST OF NET-ZERO INITIATIVES

Current members of Race to Zero have joined the campaign through the following initiatives and networks, all of which are official partners. Members of Race to Zero automatically join countries in the Climate Ambition Alliance. When considering which initiative to join, it is important to review the technical detail, as the requirements for each scheme can differ, to ensure there is alignment between scheme participation, a company's own net zero commitments and strategy.

### **Business Ambition for 1.5C**

With the campaign "[Business Ambition for 1.5°C](#)", a broad coalition of partners, including all business organizations, is asking companies to address the climate emergency by committing to set science-based targets aligned with a 1.5°C trajectory for a net-zero future.

Building a prosperous, net-zero carbon economy by 2050 requires both business leadership and ambitious Government action. By setting policies and targets in line with a 1.5°C trajectory, Governments give businesses the clarity and confidence to invest decisively in the zero-carbon economies of the future. To help realize this Ambition Loop, the campaign supports the Secretary-General's will, urging member states to consider enhancing national ambition through upgraded Nationally Determined Contributions by 2020 and net-zero emissions by 2050.

The Science Based Targets initiative mobilizes companies to set science-based targets and boost their competitive advantage in the transition to the low-carbon economy. It is a collaboration between CDP, the United Nations Global Compact, WRI and the WWF and one of the We Mean Business Coalition commitments. The initiative defines and promotes best practices in science-based target setting, offers resources and guidance to reduce barriers to adoption, and independently assesses and approves companies' targets.

### **Certified B Corporation**

The [B Lab/Sistema B Global Network](#) is a non-profit that serves a global movement of people using business as a force for good. B Lab's initiatives include B Corp Certification, administration of the B Impact Management programs and software, and advocacy for governance structures like the benefit corporation. B Lab's collective global vision is of an inclusive, equitable and regenerative economic system for all people and the planet.

These organizations meet the highest standard of social and environmental performance – have announced their commitment to reach net zero by 2030, 20 years ahead of the Paris Agreement targets

### **Net-Zero Banking Alliance**

The industry-led, UN-convened [Net-Zero Banking Alliance](#) brings together over 45 banks from 24 countries with over US\$29 trillion in assets, which are committed to aligning their lending and investment portfolios with net-zero emissions by 2050. Combining near-term action with accountability, this ambitious commitment sees banks setting an intermediate target for 2030 or sooner, using robust, science-based guidelines.

The Alliance will reinforce, accelerate and support the implementation of decarbonisation strategies, providing an internationally coherent framework and guidelines in which to operate, supported by peer-learning from pioneering banks. It recognises the vital role of banks in supporting the global transition of the real economy to net-zero emissions.

Launched on the 21st April 2021, with 43 founding banks, the Alliance is joining the UN Race to Zero and is the banking element of the Glasgow Financial Alliance for Net-Zero. The Alliance is convened by the UN Environment Programme Finance Initiative and was co-launched by the Prince of Wales [Sustainable Markets Initiative Financial Services Taskforce](#). Some of the members include HSBC, Barclays, Santander, Bank of America, BNP Paribas, Citi, Deutsche Bank, Credit Suisse, Morgan Stanley, Societe Generale and UBS.

### **Net-Zero Asset Managers Alliance**

The [initiative](#) is an international group of asset managers committed to supporting the goal of net zero greenhouse gas emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5°C; and to supporting investing aligned with net zero emissions by 2050 or sooner. It was started by UBS Asset Management and Legal & General Investment Management, and now has 87 signatories and \$37 trillion in assets under management. The Net Zero Asset Managers initiative launched in December 2020, and has members such as Aviva Investors, BMO Global Asset Management, BlackRock, Federated Hermes, Coutts, Fidelity International, Mirova, Vanguard, and expects many more signatories in the months in the run-up to COP26. They must report their progress annually against the TCFD recommendations, as well as implementing a climate action plan that is consistent with the Race to Zero criteria.





They will only use offsets that involve long-term carbon removal where there are no technologically viable alternatives to eliminating emissions.

## The Climate Pledge

The [Climate Pledge](#) is a commitment co-founded by Amazon and Global Optimism to meet the goals of the Paris Agreement 10 years early and achieve net-zero carbon by 2040 or sooner. The 110 pledge signatories together generate over \$1.4 trillion in global annual revenues and have more than 5 million employees across 25 industries in 16 countries.

As of late April 2021, Amazon and Global Optimism announced that more than 100 companies have now signed to the Climate Pledge, among the 52 new signatories joining are brands such as Colgate-Palmolive, HEINEKEN, PepsiCo, Telefonica, Visa and Alaska Airlines.

Signatories to The Climate Pledge agree to:

- Regular Reporting: Measure and report greenhouse gas emissions on a regular basis.
- Carbon Elimination: Implement decarbonization strategies in line with the Paris Agreement through real business changes and innovations, including efficiency improvements, renewable energy, materials reductions, and other carbon emission elimination strategies.
- Credible Offsets: Neutralize any remaining emissions with additional, quantifiable, real, permanent, and socially beneficial offsets to achieve net-zero annual carbon emissions by 2040—a decade ahead of the Paris Agreement's goal of 2050.

## SME Climate Hub

The [SME Climate Hub](#) for small and medium-sized enterprises (SMEs) provides a one-stop-shop to make a climate commitment and access best-in-class tools and resources. The tools and resources provide support in regards to measuring your emissions, developing your climate strategy, reducing your own emissions and the emissions in your value chain, and exemplify complementary offset projects.

## Under2 Coalition

Driven by a group of ambitious state and regional governments committed to keeping global temperature rises to well below 2°C. The [coalition](#) is made up of more than 220 governments that represent over 1.3 billion people and 43% of the global economy. The 43 European regions of the Under2 Coalition represent a population of 179 million and a GDP of \$6.8 trillion which is equivalent to 35% and 36% of the EU population and economy respectively. The Climate Group is the secretariat to the Under2 Coalition and works with governments to accelerate climate action through three workstreams – 2050 pathways, policy actions and transparency.

## Cities Race to Zero

[Cities Race to Zero](#) is organised by [C40 Cities](#), the Global Covenant of Mayors for Climate & Energy ([GCom](#)), Local Governments for Sustainability ([ICLEI](#)), United Cities and Local Governments ([UCLG](#)), [CDP](#), the World Wide Fund for Nature ([WWF](#)) and the World Resources Institute ([WRI](#)) to mobilise cities in the Race to Zero. These will include City Councils in the UK for example, or cities like Boston and Berlin.

## Race to Zero for Universities and Colleges

Since 2019, over 500 higher education institutions representing 4.6 million students, and 60 networks representing more than 17,000 colleges and universities, have committed to being Net-Zero by 2050 at the latest, through either the [Race to Zero for Universities and Colleges](#) or [The Presidents' Climate Leadership Commitments](#). However, their commitment hasn't stopped there. As a part of the "Race to Zero" campaign leading up to COP26, their dedication to achieving carbon neutrality will be scaled up in order to showcase the transformative power of the higher education sector as an agent of change when it comes to climate action.

## Exceptional Roadmap Initiative

The [Exponential Roadmap Initiative](#) is for innovative, transformative and disruptive businesses taking action in line with 1.5°C, with the mission to halve emissions before 2030 through exponential climate action and solutions. Partners commit and take action to halve emissions at least every decade throughout their value chain. Moreover, partners also integrate climate in their business



strategy and influence climate action in society. This is described by the 4 pillar framework presented in the 1.5C Business Playbook, a guideline helping companies and organisations of all sizes to set a 1.5°C aligned strategy and move to action. The Exponential Roadmap Initiative is a non-profit, independent actor anchored in the latest climate science.

### **Fashion Charter for Climate Action**

[Fashion Industry Charter](#) is an industry-led effort, convened by UN Climate Change, to drive the fashion industry to net-zero Greenhouse Gas Emissions no later than 2050 in line with keeping global warming below 1.5 degrees. Companies participating in the charter commit to implementing the principles of the Charter: an interim goal of 30% across the supply chain and to in the meantime set a decarbonization pathway aligned with SBTs. Signatories include Adidas, Farfetch, Inditex, NIKE, and Otto Group for example.

### **Healthcare Without Harm**

This is an international nongovernmental [organization](#) that works to transform health care worldwide so that it reduces its environmental footprint. Signatories include Hospitals in Australia, India, Brazil, Denmark, Germany, France, Mexico, Colombia, United Kingdom, and USA.

### **Japan Climate Initiative (JCI)**

[JCI](#) is a network of various non-state actors such as companies, local governments and NGOs. They pledge to stand at the forefront of global challenges in order to realize the decarbonized society envisioned by the Paris Agreement by 2050. The initiative's purpose is to serve as a bridge between Japan and the world.

### **Net Zero Full List of Signatories: UNFCC Source**

<https://unfccc.int/climate-action/race-to-zero/who-s-in-race-to-zero#eq-12>