Moving towards net-zero

Allianz Global Investors

TCFD Report 2020

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Allianz Global Investors

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01 Introduction

Approach derived upon TCFD principles.

At Allianz Global Investors, we manage EUR 582 billion in assets for individuals, families and institutions around the world as of December 2020. We have grown the volume of sustainability-related investments to EUR 203 billion (AuM as of 30 December 2020) over the past years.

Sustainable investing is in our DNA. At AllianzGI, we began our sustainable investing journey over 20 years ago and published our first global Responsible Investing Report in 2018. As we aim to drive transparency and performance across our sustainable investment approach and beyond, we are broadening the focus this year by publishing our first TCFD report.

Climate risks are a major consideration in our assessment of the value of any potential holding. As an active investor, we can help to find innovative ways to reallocate capital towards a climate transition meeting the Paris Agreement goals. We are a member of the Net Zero Asset Manager Initiative to act on the climate demands, present and future, jointly with other investment industry members. This is alongside our parent company, who committed to decarbonise their asset owner portfolio as a founding member of the Net Zero Asset Owner Alliance. In recent years, we have laid strong foundations for our climate change strategy by supporting the TCFD recommendations and implementing them, as well as developing an enhanced systematic approach to investee engagement on climate. AllianzGI is also supportive of the climate efforts of Allianz SE, who have further strengthened their approach to exiting coal-based business models due to climate risks and committed as an investor to the Science Based Target initiative (SBTi) among many other efforts.

Allianz Global Investors became an official supporter of the TCFD recommendations in 2019 following its parent company Allianz SE. We have structured this report along the 4 TCFD pillars: Governance, Strategy, Risk Management and Metrics and Targets.

The TCFD's four-pillar framework provides guidance for companies on how to consistently disclose risks and opportunities from a changing climate as well as to integrate them in their business. We strongly believe that, for investors to be able to make informed decisions, companies must report comprehensively on how they tackle dominant global long-term trends such as climate change. AllianzGI advocates for greater transparency and reporting on climate change risks by companies.

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For more information see AllianzGI Climate Policy Framework on our website

02 Governance

Management's role in assessing and managing climate-related risks and opportunities

AllianzGI has a Sustainable Investment Working Group in place with representatives from the Investment Executive Committee and relevant internal stakeholders. It advises the Executive Committee and other relevant committees on sustainability issues including climate change. The Executive Committee has responsibility for all sustainability-related topics, including climate change. The Investment Executive Committee and Head of Investments have responsibility for all sustainability-related investment topics, including climate change.

03 Strategy

Climate change is a serious issue for all our stakeholders and, given the volume of assets we manage, we can be of some influence on this topic. The "failure of climate change mitigation and adaption" is a pressing long-term risk by impact and likelihood according to the Global Risks Report 2021 published by the World Economic Forum. In this context, we help our clients to reflect climate risks and opportunities in their holdings as a committed member of the Net Zero Asset Manager Initiative. We commit to support the goal of net zero greenhouse gas (GHG) emissions by 2050, in line with global efforts to limit warming to 1.5°C. We also commit to support investors wishing to align with net zero emissions by 2050 or sooner. We also encourage investee companies to integrate climate change considerations in their strategic decision-making process.

03.1 Strategy

1. Climate-related risks and opportunities the organisation has identified over the short, medium and long term

We see a diverse set of both transition and physical climate risks and opportunities that may pose a significant risk or opportunity to us in the short, medium and long term through the value of assets we manage on behalf of our clients, the investment products that are at the core of our business model, and operationally as a corporation.

Climate-related risks

Climate-related risks are developments that may pose a significant risk to the value of assets we manage, the standing of investment products we sell and our corporate activity.

In the short term we see policy and reputational risks of our investee companies as the leading climate-related risks that may affect investments. In the mid term, market and technology risks of climate transition may develop more substantially, and acute physical risks may emerge more frequently. With a long-term perspective, we are of a view that chronic physical climate risks can become more substantial.

Term	Investments	Products	Corporate
Short	**Transition risk: policy and reputational risks** In the next two years, increased policy ambition can be expected to reach the Paris Agreement goals[1], which is likely to translate into stricter regulatory and policy action and thus potentially increase company compliance costs or exert reputational pressure on company and sector climate profiles. A rise in EU Emissions Certificate prices is an example of such risk. With more public attention on climate change, some business models will not meet objectives of a Paris-Aligned[2] World, which may transmit by **losing a "social licence to operate"**[3] **or reputational risk** eg, via movements like "Extinction Rebellion". Both risks can affect the value of investments due to decreased growth expectations or increased cost expectations.	**Transition risk: shift in market demand** With an increased attention to climate-related matters from both retail and institutional clients, addressing climate topics insufficiently in our investment process and products might put them at risk of falling out of demand.	**Reputational risk** If the public and relevant stakeholders see that insufficient action is being taken to address material climate-related issues, it might affect the intangible brand value and capital availability on our operating entity, as well as having a knock-on group-wide effect as AllianzGI is part of Allianz SE.
Medium	**Transition risk: market, technology and physical climate risk (acute)** Larger economic trends like energy transition and further policy action are likely to exacerbate pressure in the next two to 10 years on fossil fuel producers. Higher costs may occur in areas increasingly exposed to physical climate risks. Additionally, **policy and customer preference changes are likely to amplify the shift in market demand** towards companies with more sustainable services and/or products. Some of the costliest losses from extreme weather events and natural disasters have occurred in recent years. Such acute physical climate risks are likely to increase insurance premiums to entities in the areas affected. Thus, investments exposed to areas prone to increasing acute physical risks may either experience **higher insurance costs or increased expenditure to adapt to such events.**		**Transition risk: policy** If there is an increase in regulatory pressure on fossil fuel energy, this may transmit itself through additional operational costs on using such energy sources versus non-fossil based. In addition, more required disclosure on climate change by the regulators would increase the compliance costs.
Long	**Physical climate risk (chronic)** In areas exposed to high physical risks, due to more frequent extreme weather events anticipated in the next 10 years, there may be an increase in disruption to business services leading to a higher risk of economic distress and future losses. The locked-in emissions in the atmosphere are predicted to lead to more frequent and severe extreme weather events,[4] which could **destroy assets or disrupt business services** leading to a potential loss on investment. The same causes can lead to **economic distress in countries exposed to physical climate risks**, which may result in re-pricing of investments linked to sovereigns.		**Physical climate risk (chronic)** The locked-in emissions in the atmosphere are predicted to lead to more frequent and severe extreme weather events,[5] which can put our business operations in affected areas at risk of disruption.

1. "Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change".
Source: Paris Agreement
2. Paris-Aligned refers to a world meeting the objectives set out by the Paris Agreement (UNFCCC, 2015)
3. Warhurst, A. 2001 Corporate citizenship and corporate social investment: Drivers of tri-sector partnerships. J. Corporate Citizenship 1, 57–73
4. Source: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf
5. Source: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf

03.1 Strategy

Climate-related opportunities

Climate-related opportunities are developments that may pose an upside potential to the value of assets we manage, enhance the market positioning of our investment products and optimise our corporate activity.

In the short term we see activities that enable and benefit from the climate and energy transition as the leading opportunities that may affect investments. In the mid and long term, climate-related investment opportunities are arising from competitive positioning and climate innovation.

In summary, our key assumptions across the three climate risk factors are as follows. We consider the transition risk of corporates moving into a low-carbon-emitting economy to be broad and to go beyond energy supply transition only. Transition will concern energy-using processes and products, agriculture and forestry, waste management etc. We are in this transition already and it is far from over; business disruption looms. In our view it is not clear that, despite large scale efforts following COP 21, we will avoid the 2°C warming which scientists are warning of. It is likely that both mitigation and adaptation will have major ramifications for investors.

Term	Investments	Products	Corporate
Short	**Resource efficiency** Opportunities for businesses and economies that enable and benefit from the climate transition towards cleaner energy generation, efficient energy storage and sustainable energy consumption. This not only would decrease costs per unit produced but the freed-up capacity can be leveraged for sustainable business growth, thus benefitting the investment value. **Energy transition** With an increasing policy risk on energy transition, renewable energy is likely to benefit if additional costs are imposed on emissions-heavy energy and fuel sources. Thus, a climate opportunity emerges within businesses that either produce renewable energy, as the demand for it will increase, or businesses that use it because peers using energy affected by policy impacts would experience relatively higher costs.	**Climate transition: shift in market demand** With increased attention on climate-related matters from both retail and institutional clients, amending existing investment processes and products to strengthen how they address climate topics and innovating new investment products targeting climate change can lead to an increase in market share and business growth.	**Climate transition** Reducing emissions from our business operations by improving energy efficiency can also lead to increased savings on operational expenses.
Medium	The climate transition and emergence of more prevalent physical climate risks is likely to bring a transformation unlocking new sources of revenue, change in competitive positioning of businesses and economies, emerging leaders in climate innovation, and significant reputation advantages, all of which may result in opportunities in investments. Companies already aligned with Paris Agreement targets may benefit from a "first-mover" advantage in reputation and attracting new financing at potentially lower rates. Likewise, companies showing credible transition efforts will likely benefit from cheaper financing eg, bonds linked to climate KPIs. To achieve that new technological solutions will be required, and thus companies at the innovative edge may receive positive tailwinds, too. An example of a policy framework that will amplify these opportunities is the EU Taxonomy.		**Brand reputation** Improving reputation as a company actively tackling climate change and responsibly participating in climate transition can stand to benefit the intangible value of our brand globally and across communities.
Long	Furthermore, the change in consumer preferences globally, and the increased attention on climate change mitigation and adaptation, sustainable use of water, circular economy and waste management, and biodiversity are all themes likely to play a role in shaping the investment landscape.		

03.2 Strategy

"Climate change is one of our planet's most pressing challenges, and AllianzGI believes that asset managers should take a more active role. Following our recent announcement of our new stewardship approach – Climate Engagement with Outcome, aimed at engaging with companies on the climate transition pathway towards a low-carbon economy – we are pleased to be joining the Net Zero Asset Managers initiative. This is another milestone in our sustainability pathway that complements the commitment made by Allianz Group in 2019"

Tobias Pross

CEO of Allianz Global Investors

2. Impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning

A Net Zero Asset Manager

In line with the best available science on the impacts of climate change, we acknowledge that there is an urgent need to accelerate the transition towards global net zero emissions and for asset managers to play our part to help deliver the goals of the Paris Agreement and ensure a just transition.

In this context, AllianzGI commits to support the goal of net zero greenhouse gas (GHG) emissions by 2050, in line with global efforts to limit warming to 1.5°C. It also commits to support investing aligned with net zero emissions by 2050 or sooner. This is in line with the Paris Agreement which sets out a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C. It also aims to strengthen countries' ability to deal with the impacts of climate change and support them in their efforts.

The Net Zero Asset Managers initiative is a step change. It requires those actions, such as engagement, to be in line with the net zero goal and anticipates increasing the scope of assets being managed in line with the net zero goal until 100% is reached. Asset managers will also have to report on their actions and update their targets regularly to bring transparency and accountability to this action.

Steps taken to address the impact of climate-related risks and opportunities

A key pillar in our philosophy surrounding climate investments today is that the public corporate disclosures on climate are not yet highly developed nor in-depth enough to be sufficient for simple rules-based strategies. For this reason, we believe that there exist market inefficiencies on climate risks and opportunities, for which active research and corporate engagement are necessary. That is why we do not aim to rely solely on the climate data used by us but rather have it inform our portfolio managers and analysts in their investment analysis and engagement efforts.

AllianzGI's dedicated sustainability research team and mainstream analysts monitor and assess the science, regulatory response and business implications of climate change very closely. The ESG research team works alongside fundamental analysts and portfolio managers to ascertain the financial implications for individual issuers and sectors. We analyse a number of ways that climate change can be a driver of stock performance. For example, we research:

- How commodity prices such as oil prices may be negatively impacted from uptake of low-carbon transportation.
- How the growth of deployment of renewable energy may impact the solar and wind value energy chain as well as utilisation rates for traditional thermal power plants.
- How carbon prices, tax credits and subsidy schemes for fossil and renewable energy impact clean technologies and whether or how fast they disrupt incumbent business models.

As part of its intrinsic ESG rating analysis, the AllianzGI research team looks at extreme environmental risks on a corporate issuer level, including possible tail risks from climate change transition risks. Research views and investment opinions are exchanged and documented on a global proprietary research platform – "Chatter" – which can be accessed by all investment professionals. In the light of our ESG integration efforts, therefore, all AllianzGI portfolio managers can consider climate change risks in the investment strategies they manage.

03.2 Strategy

Next to mainstream strategies AllianzGI offers climate thematic and impact-driven funds such as green bonds, climate transition equity and illiquid renewable energy equity. These "green" assets contribute positively to the alignment of an asset owner's portfolio related to the contribution to a 1.5 and 2°C economy and the portfolio's compatibility with climate and energy transition targets.

Climate Transition

We believe that investments for climate transition should be managed under a dynamic low-carbon investment strategy in line with the objective of limiting global warming to 1.5 and 2°C. This approach involves sustainable development likely to impact the business model and the growth and risk profile of companies across various business sectors, which also create potential medium- and long-term investment opportunities. Approaches should limit exposure to carbon risk by ensuring the reduction of its impact on climate over the recommended investment horizon, without applying any sector exclusions targeting industries generating high greenhouse gas emissions.

Strategies should target two types of companies:

1. Companies demonstrating dynamic progress in terms of climate impact performance by aligning their strategies with energy transition objectives and therefore reducing risks incurred by implementing this type of transition.
2. Companies involved in businesses, products or services which reduce greenhouse gas emissions in the real economy and which, therefore, benefit from opportunities provided by energy transition.

Green Bond

"Our commitment is to contribute positively to the climate transition. By investing into green bonds we aim to mobilise capital to finance the energy and climate transition. By using the Green Bond market segment, we favour the reallocation of investments through a lower carbon-intensive economy which is an important challenge in the fight against climate change."

We are conscious that the investments needed to cope with the objectives of a maximum 1.5 and 2 degrees Celsius increase compared to pre-industrial times are huge and hence aim to actively contribute to this capital market mobilization.

By focusing on impact for green bond investments, issuers with the highest potential of improvement or the highest potential impact do not necessarily need to be excluded. This strong positioning is in line with the ambitious transition objectives of the Paris Agreement for climate.

The most important step of climate change integration in investments begins with analysis of bond structures to determine whether it is in line with the Green Bond Principles.

Eligibility criteria[1] under which bonds are considered "Green Bonds" include:

- A formal statement in the **use of proceeds** section of the bond prospectus stating that the proceeds will be used to finance "green" / climate projects.
- **Internal process** by the issuer to identify qualifying projects based on sound methodology and clear criteria.

1. as per The Green Bond Standards from ICMA, 2018

03.2 Strategy

- **Management of the proceeds** to make sure that they will be allocated to the identified projects and not to other general expenses / investments.
- **Reporting**, at least annually, of the status of the use of proceeds, the status of projects and the actual environmental impact.

The evaluation is followed by the analysis of the projects financed with Green Bond issuance proceeds. Allianz Global Investors has been a partner of the Climate Bond Initiative since 2015.

Renewable energy
In renewable energy investments, the carbon emissions avoidance should be measured and monitored. The impact on carbon emission reduction of the operational project is compared to a "business-as-usual" national scenario. The information on emissions per MWh for each country is based on the "Total Supplier Mix", which is taken from the study "European Residual Mixes. Results of the calculation of Residual Mixes for the calendar year 2018" published by the Association of Issuing Bodies on 28 May 2019 (Version 1.1). As of today, our carbon reporting fulfills all requirements and is aligned with the French Energy Transition Law in its article 173.

Our response – active industry and policy engagement

As part of our support for TCFD, we recognise the necessity for broader change and alignment in the investment industry around climate risks and opportunities. We believe that this can bring several long-term benefits to our investors: more attention and efforts from investees due to more aligned climate expectations, more precise measurement through clear requirements on climate scenarios that meet investor needs, and more refined climate investment frameworks.

Concretely, Allianz Global Investors has been a very active member of the Paris Aligned Investment Initiative, which has been launched by the Institutional Investors Group on Climate Change (IIGCC) to bring together some of the world's largest asset owners and asset managers for the development of a "Net Zero Investment Framework".

We are also joining forces with other institutional investors in encouraging companies to implement such pathways. Our participation in the engagement platform Climate Action 100+ and the Institutional Investors Group on Climate Change connects us with like-minded investors and offers platforms for collaborative engagement.

Case study 1

Climate Action 100+

Climate Action 100+ is a major global investor initiative, launched back in 2017, with the intent to engage with more than 100 of the world's biggest GHG emitters in order to limit global warming to less than 2°C. This group of emitters is responsible for a large portion of GHGs, roughly two thirds of global industrial emissions per year. Under the CA100+ initiative, which represents more than 500 global investors who are responsible for over $50 trillion in assets under management, a three-fold engagement agenda focuses on (1) secure commitments from companies that they will implement a strong governance framework setting out the board's accountability and oversight of climate change risk, (2) undertaking actions to reduce their GHG emissions fostering clean energy transition and align their strategic decisions to the Paris Agreement goals, (3) enhancing investor understanding of the inherent risks that climate change poses to their portfolios thanks to the disclosure provided in line with the TCFD recommendations.

Case study 2

Institutional Investors Group on Climate Change

We are also an active member in two working groups of the Institutional Investors Group on Climate Change (IIGCC) relating to the Paris Aligned Investment Initiative – in particular on developing guidance for Net Zero Investment Framework Implementation and finding ways to progress climate solutions necessary to meet the 1.5°C goals. Discussion among the Paris Aligned Investment Initiative working groups (which are part of the IIGCC's Investor Practices programme) have helped to create a framework that aims to meet the goals for a zero emissions target within the next three decades. Hence, this has enabled AllianzGI to support and actively contribute to a path for closer alignment between the industry members and strive closer to distilling best practice on climate change investments.

03.2 Strategy

Climate-related initiatives

Climate

NZ AMI Net Zero Asset Manager Initiative	IIGCC Institutional Investors Group on Climate Change			
TCFD Taskforce on Climate-related Financial Disclosures	Climate Action 100+ Global Investors Driving Business Transition	CFLI Climate Finance Leadership Initiative	CDP	The Green Bond Principles Climate Bonds Initiative
– Official member of **NZ AMI** and supporter of **TCFD** – Publicly disclosing on **TCFD** – Disclosing on **NZ AMI** via annual **PRI** reporting	– Member of **IIGCC** and long-time member of the **Paris Aligned Investment Initiative** and **Climate Scenario** working group – Member of **Climate Action 100+**	– Founding Member – Bridging the gap for private finance to catalyse climate transition	– Investor Member – Promoting carbon and GHG reporting	– Advisory Council to Executive Committee; Member Green Bond Principles – Partner Climate Bonds Initiative

Source: Allianz Global Investors, 2021. For illustrative purposes only. PRI: (United Nations) Principles for Responsible Investment. GHG: Greenhouse gas.

04
Risk management

1. Organisation's processes for identifying and assessing climate-related risks

We have done in-depth initial assessments and reviews of a range of pathways and different methodologies, which have contributed to fostering the internal debate on climate scenario analysis. Additionally, by starting initial pilot tests on a range of selected portfolios we have been able to understand the differences between a range of climate scenario approaches while gaining first insight into potential impacts of climate-related risks and opportunities on the portfolios we manage for our clients.

Currently, we are observing a rapidly increasing number of differing methodologies that all are trying to estimate climate-related risks with some leading to highly similar outputs despite differing inputs and methodologies, such as the Global Warming Potential metrics. This is why we believe an important starting point for a globally aligned climate risk assessment is a common set of standards on climate scenario assumptions such as:

- Be associated with limiting warming to 1.5°C above pre-industrial levels with at least 50% probability
- Reach global net zero emissions by 2050, or sooner
- Provide differentiated pathway information for regions and sectors which may require net zero emissions earlier or later, consistent with the global goal
- Have a global peak emissions year of the current year or later
- Ideally be (or linked to) a multi-sector model, taking account of all emissions sources
- Rely on a limited volume of Negative Emissions Technologies (NETs) to 2050.[1]

We are committed to advancing on our climate journey, where we are taking the necessary steps and actions to further innovate and enhance our climate investment capabilities. To be able to account for climate change in our analysis, we are looking at technical ways to enable access for climate scenario assessment by our portfolio managers and analysts to enhance their active research process with a quantitative climate perspective.

While these efforts are only in an early iteration, it already allows us to obtain valuable insights to assess the potential climate risks of our investees and portfolio profiles surrounding climate change mitigation and adaptation, but it is our aim to continously develop and enhance our climate capabilities further adjusting to the latest advancements in climate science investments.

For mainstream investment strategies, all AllianzGI portfolio managers have access to the ESG and climate risk research including intrinsic issuer ESG ratings. For many sectors, climate change already poses a material consideration for fundamental analysts and, as such, is reflected in the sector frameworks (capturing material ESG risks) and stock ratings used to inform investment decisions.

1. Source: Net Zero Investment Framework, IIGCC, 2021

04.2 – 04.3 Risk management

2. Organisation's processes for managing climate-related risks.

As investors we are dependent on the disclosure companies are providing to us. Therefore, climate is one of the focus areas for us when engaging with companies. Over time we expect this disclosure to improve, making it easier for us to report in a more meaningful way.

We will continue our engagement with companies on climate-related issues and encourage them to report on TCFD and SBT (Science Based Targets) because we believe this will also lead to improved quality of disclosures provided to our investors, positioning them to meet their climate ambitions more precisely. We also support and participate in the Climate 100+ initiative.

For listed equities and corporate fixed income assets, Allianz Global Investors performs a regular portfolio screening of Principal Adverse Impact risks along selected key performance indicators, including climate-change-relevant indicators such as carbon emissions and exposure to sectors that are affecting climate change more than other sectors.

For private market investments, Allianz Global Investors considers Principal Adverse Impact risks during the origination and structuring phases, often through project and fund-specific due diligence questionnaires that may also include a climate-change-relevant section where applicable. Additionally, many of Allianz Global Investors' private market assets are subject to the Allianz ESG Integration Framework, which sets out criteria to be considered and met when investing in particular sensitive business areas.

3. Processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.

Climate-related risks are addressed as part of an overarching qualitative and quantitative risk reporting and controlling framework. Early-warning indicators are monitored and regularly reported to senior management through risk dashboards, risk capital allocation and limit consumption reports, where climate aspects become material. Supplemented by quarterly updates, senior management decides on a risk management strategy and related actions.

In addition to addressing climate-related risks as part of our reporting and controlling framework described above, a variety of comprehensive policies and processes foster integration of climate-related risks and opportunities. Our ESG approach integrates climate- and sustainability-related considerations by applying group-wide corporate rules and ESG instruments across all our underwriting, investment and asset management activities.

The publicly available AllianzGI ESG Policy Framework, including the ESG Integration Framework, further increases transparency around our internal processes and guidelines related to our ESG approach. We also rely on external providers for data related to climate, ESG and reputational risks.

Active stewardship

Recognising the importance of climate change and the power of engagement to drive real world impact, we have launched a dedicated climate-engagement approach. The approach focuses on engagement with companies on the climate transition pathway towards a low-carbon economy.

As proxy for climate change impact we identify the top absolute CO2 emitters per portfolio. In order to set realistic targets for each company, we analyse best practices

Case study 3

Stewardship on climate change

At its strategic presentation in February 2020, an oil major investee company announced that they will work with the Science Based Targets Initiative and the Transition Pathway Initiative to develop the industry framework and align with it, the first true oil major to make this announcement after the world's leading oilfield services provider a year ago. This constitutes a stewardship outcome as we have been engaging on that topic across the board over recent years. That's why, in each of our engagements on climate change, we require our investee companies to give us evidence of their travel to a low-carbon economy. Further, we recommend them endorsing the TCFD recommendations articulated around four pillars: Governance, Strategy, Risk Management and Metrics & Targets.

04.3 Risk management

per sector and what each sector should achieve going forward. This analytical framework provides a solid basis to define company-specific engagement targets, which will be aligned within our investment teams and documented in our global research and collaboration platform. Examples of engagement targets could be greenhouse gas emissions reduction targets or board-level remuneration targets linked to climate change. The engagements are performed centrally, tracked over time, their outcomes reported, all of which supports our investment and divestment decisions. Ultimately, climate-engagement targets improve risk-adjusted returns by helping companies to adjust their business models for the future.

Additionally, our TCFD journey plays an important role in our proxy voting activities by establishing clearer strategy and expectations. Our voting records on climate-related shareholder resolutions demonstrate strong support for such resolutions encouraging companies to pursue the transition to decarbonisation.

Our proxy voting decision-making process involves close collaboration between portfolio managers, research analysts and the sustainable investment team. The specialists in the sustainable investment team coordinate our engagement efforts and often lead engagements on corporate governance, environmental, social and business conduct matters. Hence, thanks to steering and proxy voting, climate-related risks are effectively assessed, addressed, mitigated and monitored.

Case study 4

A TCFD-focused climate engagement

In 2020, Allianz Global Investors engaged oil majors in Europe and the United States on their path to energy transition. We consider ourselves an active owner in this sector urging companies to amend their business model and transition to low-carbon energy provision. We scrutinised companies on how they are implementing TCFD recommendations in relation to governance, strategy, stress-testing, resilience and risk metrics and expressed our expectation that companies endorse these recommendations. We also wanted to understand which options companies consider for themselves when it comes to low-carbon business models, for example with respect to the scope of investments in renewables. In our engagements we also expressed our expectation for them to report more consistently on climate-related risks, whether physical or transitional. Furthermore, Allianz Global Investors encourages companies to join the Science-Based Target Initiative. We closely monitor the industry's lobbying activity to analyse how far activities of industry lobby groups contradict with their commitment to address climate change.

Case study 5

Thames Tideway Tunnel Project

London's population has outgrown the capacity of its 150-year-old sewer system, resulting in 60 million tonnes of sewage spillage into the River Thames annually.[1] The Thames Tideway Tunnel is part of a major sewer system upgrade to remedy this and reduce pollution by 94%.[2]

Allianz is a leading shareholder in the "Tideway" consortium that is financing, building and operating the tunnel.

Physical climate risks incorporated into the investment process

The Met Office, the UK's national weather service, expects rising temperatures in the UK to result in drier summers and wetter winters, potentially causing:

- Reduced freshwater flow into the Thames, increasing the susceptibility of the surrounding ecosystem to pollutive sewage discharges during the summer.
- More frequent and larger discharges that would fill the tunnels to higher levels during winter.

A climate risk assessment was performed to take into account the physical impacts of climate change on the Tideway infrastructure – for example, modelling the impact of changing rainfall patterns on combined sewage overflows as part of scenario planning exercises.[3]

Sustainability appraisal to maintain and enhance biodiversity

An evaluation was also conducted with the objective of preserving and enhancing biodiversity in the project area and the potential costs and benefits of this. For example, the potential for net loss of wildlife sites was appraised in accordance with the Mayor's Biodiversity Strategy, and the project's contribution to the protection and management of aquatic ecology was examined. Short-, medium- and long-term impacts were identified, and mitigating actions were then planned to protect and promote biodiversity.[4]

1. Tideway, London, 2020.
2. Allianz Global Investors. 2020. Thames Tideway Tunnel Project.
3. Thames Water, "Resilience to Change."
4. Thames Water, "Sustainability Statement."

05 Metrics and targets

We aim to be as transparent as possible in our climate-related profile. In this section we disclose our entity and investment-related climate metrics as well as our fund-level reporting capabilities, which also provide transparency to our clients on the climate profile of their investments. Additionally, we will report on our Net Zero Asset Manager activities in the annual PRI reporting. We have also committed to set an interim target for the proportion of assets to be managed in line with the attainment of net zero emissions by 2050 or sooner. We will also review our interim target at least every five years, with a view to ratcheting up the proportion of AUM covered until 100% of assets are included.

1. Metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

As proxy for climate change impact we identify the top absolute CO2 emitters per portfolio. In order to set realistic targets for each company, we analyse best practices per sector and what each sector should achieve going forward. This analytical framework provides a solid basis to define company-specific engagement targets, which will be aligned within our investment teams and documented in our global research and collaboration platform. Examples of engagement targets could be greenhouse gas emissions reduction targets or board-level remuneration targets linked to climate change. The engagements are performed centrally, tracked over time, their outcomes reported, all of which supports our investment and divestment decisions. Ultimately, climate-engagement targets improve risk-adjusted returns by helping companies to adjust their business models for the future.

Corporate and investment-related climate metrics

Investment-related

Listed equity assets				
Indicator	Unit	2020	Δ y-o-y	2019
Total financed emissions	mn t CO_2	13.44	-13.0%	15.45
Portfolio carbon intensity	t CO_2/€ mn invested	59.70	-27.6%	82.45
Weighted average carbon intensity	t CO_2/€ mn revenues	135.57	-5.7%	143.77
Emission data coverage of equities AuM	%	96.5%	0.7%	95.8%
Corporate bonds assets				
Indicator	Unit	2020	Δ y-o-y	2019
Total financed emissions	mn t CO_2	18.01	11.6%	16.14
Portfolio carbon intensity	t CO_2/€ mn invested	127.37	6.7%	119.35
Weighted average carbon intensity	t CO_2/€ mn revenues	216.86	4.9%	206.71
Emission data coverage of corporate bonds AuM	%	86.5%	2.3%	84.6%
Green assets				
Indicator	Unit	2020	Δ y-o-y	2019
Investments in renewable energy	€ mn	4,756.27	-10.4%	5,307.00
Investments in green bonds	€ mn	6,468.07	41.9%	4,557.00

all values as of 31 December 2020

Corporate-level related

Environmental performance of Allianz Global Investors				
Indicator	Unit	2020	2019	2018
Energy consumption (internal)	t CO_2/employee	1.40	1.60	1.50
Business travel	t CO_2/employee	0.50	1.90	2.70
Paper consumption	t CO_2/employee	0.02	0.03	0.03
Share of renewable energy	%	47%	43%	48%
Water consumption	m^3/employee	21.00	26.00	27.00
Waste	kg/employee	90.00	149.00	116.00

05.2 Metrics and targets

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

The portfolio carbon footprint report is designed to show the implied CO2 emission intensity of all companies in the portfolio versus the benchmark. It is based on underlying data composed of estimated annual direct (Scope 1) and indirect (Scope 2) CO2 emission of corporates. Total carbon intensity is the weighted sum of the carbon intensity of the underlying corporates adjusted by their respective weight in the portfolio or the benchmark.

Carbon Footprint – Portfolio level

	Unit
1. Absolute Carbon Emissions (Scope 1+2) = $issuer's\ emissions_i$	tCO2e
2. Financed Emissions (Scope 1+2) = $\frac{€\ investment_i}{issuer's\ enterprise\ value_i} * issuer's\ emissions_i$	tCO2e
3. Contribution to PF Carbon Intensity = $\text{Portfolio weight}_i * \frac{issuer's\ emissions_i}{issuer's\ sales_i}$	tCO2e per EUR mn. Revenue
4. Issuer Carbon Intensity[1] = $\frac{issuer's\ emissions_i}{issuer's\ sales_i}$	tCO2e per EUR mn. revenue
5. % of Total emissions of PF holdings =	%

Where:

Issuer's emissions$_i$ = Scope 1+2 (according to GHG protocol[2]) emissions from issuer i. MSCI delivers the data on the most recent emissions data available to them (mainly comes from CDP[3])

Issuer's enterprise value$_i$ = the sum of the market capitalisation of common stock at fiscal year end, the market capitalisation of preferred equity at fiscal year end and the book values of total debt and minorities' interests minus the cash and cash equivalents held by the enterprise i.

Issuer's sales$_i$ = Company's sales data as given by MSCI ESG. For Fixed Income, this refers to the Identified Company.

Portfolio weight$_i$ = $\frac{€\ investment_i}{Portfolio\ market\ value}$

Investment$_i$ = Exposure in EUR for the issuer i in the investment portfolio. For equity and corporate bond investments (ex-derivatives) this corresponds to the market value in EUR.

Portfolio market value[C] = Sum of Equity and Fixed Income (Corporates and Agencies) holdings value of the PF ie, only value of holdings in scope for Carbon Footprinting are included in the sum

Total Portfolio NAV = Total Portfolio market value, including all Portfolio positions

Exchange rates used to convert the enterprise value and market capitalisation as well as sales into EUR refer to the WM/Reuters exchange rates (London 4pm closing spot rates)

Data source: MSCI/Bloomberg

1. Field not available for first roll-out, will be included in the refinement phase
2. GHG Protocol
3. CDP

05.2 Metrics and targets

05.3 Metrics and targets

3. Targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

As part of the Net Zero Asset Managers initiative, AllianzGI is committing to:

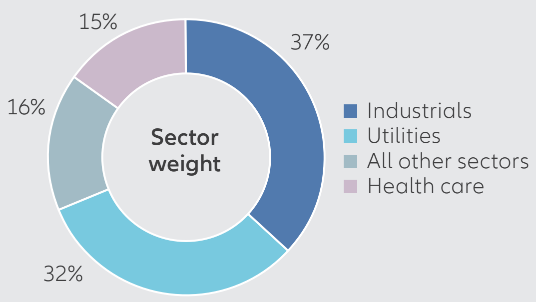
- Work in partnership with asset owner clients on decarbonisation goals, consistent with an ambition to reach net zero emissions by 2050 or sooner across all assets under management;
- Set an interim target for the proportion of assets to be managed in line with the attainment of net zero emissions by 2050 or sooner; and
- Review their interim target at least every five years, with a view to ratcheting up the proportion of AUM covered until 100% of assets are included.

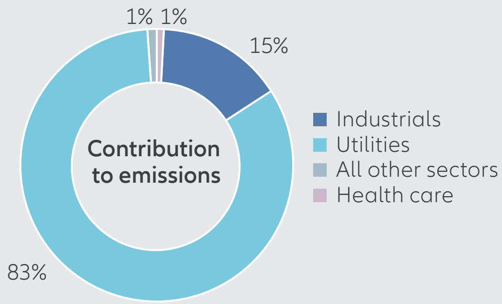
This new commitment comes as AllianzGI is accelerating its sustainable investment drive. 74 of its equity, fixed income and multi-asset funds recently joined its current sustainable investment offering, and, for a number of funds, AllianzGI set the bar even higher to support its ambitions on addressing climate change by launching a dedicated climate-engagement approach.

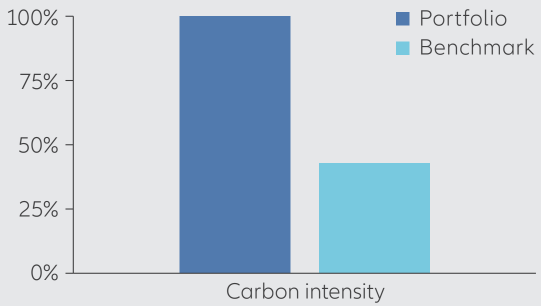
Example carbon portfolio overview metrics and targets

	Coverage	Total carbon emissions	Carbon intensity	
	by weight	Emissions scope 1+2	Relative carbon footprint	Weighted average carbon intensity
Portfolio	94.1%	3'094.8	104.9	288.9
Benchmark	98.7%	2'504.9	84.9	195.9
	Market value	tCO2e	tCO2e/EUR m invested	tCO2e/EUR m revenue

This report analyses a portfolio of securities in terms of carbon dioxide emissions invested. It provides a relative comparison to a market benchmark where available. The metrics provided in the table above include absolute and relative figures for portfolio carbon emissions as well as carbon intensity measures. The total carbon emissions aims to answer "What is my portfolio's absolute level of carbon footprint?" The relative carbon footprint is a normalised measure of a portfolio's carbon dioxide emissions investment contribution. It is defined as the total carbon emissions of the portfolio per million EUR invested. This metric enables comparisons with a benchmark, between multiple portfolios, over time and regardless of portfolio size. The weighted average carbon intensity is disconnected from ownership and thus does not capture the investor's contribution to climate change, but rather measures the portfolio's exposure to carbon-intensive companies. Therefore, it is applicable for comparison across different asset classes. All carbon emissions are computed based on Scope 1 and Scope 2 emissions data. Scope 1 aims to measure all direct emissions from the activities of a corporate or under their control. Scope 2 aims to measure all indirect emissions from electricity purchased and used by the corporate.





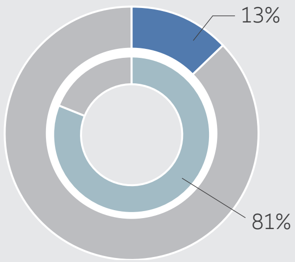


The portfolio's intensity is 56.5% higher than the benchmark. The sectors Industrials, Utilities, All other sectors (per GICS classification) in the portfolio make up 84.8% of the weight vs. 99.2% of the contribution to emissions. Calculations: Each holding's contribution to the carbon footprint is calculated on an enterprise value ownership basis. Analysis is based on Scope 1+2.

05.3 Metrics and targets

Top five absolute contributors

The list below shows the five individual companies contributing most to the greenhouse gas emissions of a fund. The chart on the right contrasts this with the value of those five companies within the portfolio. As not all companies disclose their greenhouse gas emissions, we show in the "Data Source" section if the emissions data used has been disclosed by the respective company or was approximated through our proprietary methodology.



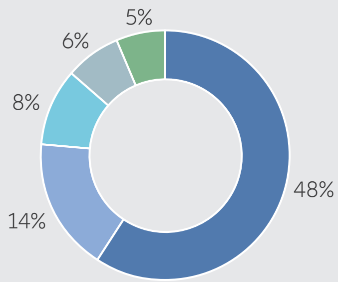
- Weighting of the top five contributors in the portfolio
- Percentage of the top five contributor emissions of the total portfolio emissions

Top five absolute contributors

	Company	Financed emissions (tCO2e)	Portfolio	
			% of total weight	
1	Company 1	1,480.0	47.82%	3.42%
2	Company 2	437.9	14.15%	2.90%
3	Company 3	247.8	8.01%	2.88%
4	Company 4	196.6	6.35%	1.90%
5	Company 5	151.3	4.89%	2.32%

Top five carbon intensive firms per m EUR invested

	Company	Financed emissions (tCO2e)	Portfolio	
			% of total weight	
1	Company 1	1,480.0	47.82%	3.42%
2	Company 2	437.9	14.15%	2.90%
3	Company 3	196.6	6.35%	1.90%
4	Company 4	247.8	8.01%	2.88%
5	Company 5	151.3	4.89%	2.32%



- Highest contributor to emissions
- 2nd highest contributor to emissions
- 3rd highest contributor to emissions
- 4th highest contributor to emissions
- 5th highest contributor to emissions

ESG report statistics

Number of portfolio holdings	39
Number of issuers with an ESG rating	39
Percentage of portfolio NAV covered	94.13%
Portfolio NAV covered (in m EUR)	27.78

ESG benchmark statistics

Number of benchmark holdings	1,480.0
Number of issuers with an ESG rating	437.9
Percentage of portfolio NAV covered	247.8
Benchmark NAV covered (in m EUR)	196.6

Carbon report statistics

Number of portfolio holdings	39
Number of issuers with an ESG rating	39
Percentage of portfolio NAV covered	94.13%
Portfolio NAV covered (in m EUR)	27.78

Carbon benchmark statistics

Number of benchmark holdings	1,480.0
Number of issuers with an ESG rating	437.9
Percentage of portfolio NAV covered	247.8
Benchmark NAV covered (in m EUR)	196.6

Information value of reports may be limited when ESG research data coverage is below a certain threshold

The tables provide descriptive statistics on portfolio and benchmarks used in the report including data coverage for ESG and carbon reporting. Percentage of portfolio NAV covered mentioned above considers corporate positions either equity, credit fixed income or sovereign fixed income where ESG data including carbon data is available. Cash, derivatives and mutual funds holdings are not considered in the ESG report.

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