For professional investors - Marketing communication

A PRACTICAL HANDBOOK

ADJUSTING YOUR INVESTMENT APPROACH TO NET ZERO

BNP PARIBAS
ASSET MANAGEMENT

The sustainable investor for a changing world

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FOREWORD

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To achieve carbon neutrality by 2050, we must allocate sufficient capital. This will allow us to meet the enormous challenge of net zero – when the amount of greenhouse gases (GHG) emitted are equal to the amount removed from the atmosphere.

A recent **McKinsey report** concludes that such a transition of the global economy would be all-encompassing and would require some USD 9.2 trillion in annual average spending, much of it front-loaded because the next decade will be decisive.

At this pivotal point in time, we have produced this handbook to provide our investor clients with the insights and tools they may require to adapt their portfolios effectively such that they align with the ambition of helping to limit climate change and its potential physical and transition risks while preserving – or improving – their financial return.

This publication first outlines the meaning, urgency and implications of 'net zero'. We then detail what net zero means for companies and for investors, and how each can contribute

MCKINSEY REPORTS THAT TO ACHIEVE NET ZERO IT WOULD TAKE SOME

USD 9.2

TRILLION IN ANNUAL SPENDING

to achieving it.
To provide a solutions-based perspective, the later sections cover how BNP Paribas Asset Management supports investors on their journey to net zero and offer three detailed case studies focusing on different strategies for transitioning portfolios so that they contribute to net zero.

Our Solutions & Client Advisory team has developed tools to support investors in setting their net zero objectives, with measurable performance indicators, analysing and optimising their portfolios to ensure alignment with their defined objectives, as well as monitoring and reporting on progress.

This handbook forms part of BNP Paribas Asset Management's commitment to partner with its clients on their net zero goals. We trust you find it thought-provoking and of practical use.

OUR SOLUTIONS & CLIENT ADVISORY TEAM HAS DEVELOPED TOOLS TO SUPPORT INVESTORS IN SETTING THEIR NET ZERO OBJECTIVES

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EXECUTIVE SUMMARY

The world is already seeing the consequences of 1°C of global warming – more extreme weather events, rising sea levels and shrinking polar region ice being among the evidence. If humankind is to maximise its chance of limiting global warming to 1.5°C above pre-industrial levels by the end of this century, global net human-caused emissions of carbon dioxide need to fall by 45% by 2030 from 2010 levels and reach net zero around 2050. The vast societal and economic consequences of unmitigated climate change are driving a growing number of countries, companies and the financial community to act, pledging to take rigorous, immediate action to reach net zero by 2050.

HUMANKIND NEEDS TO REACH NET ZERO BY

2050

Climate change is already bringing serious physical and transition risks to most industries worldwide. The physical risks result from severe weather events such as floods, storms, droughts and wildfires damaging production facilities and infrastructure, disrupting logistics and supply chains, and causing losses in productivity. Transition risk includes higher business costs arising from new policies, laws and regulations designed to address climate change. They can also arise from changes in technologies and consumer trends. When not properly managed, such risks can affect a company's financial health, through revenue loss, higher operational costs or a greater probability of default.

But climate change and the transition to a net zero economy also create new opportunities for companies. Those more likely to thrive will be the ones that integrate climate change considerations into their business strategies and companies developing new products or services that help reduce emissions.

Institutional investors are increasingly aware of the risks associated with climate change. They have long-term investment horizons and invest across many asset classes and sectors. As such, they are acutely vulnerable to the systemic disruptions that climate change will bring to global economies. The performance of an investment portfolio and its risk-return profile are closely linked to the value of its underlying assets. Such value is increasingly being affected by

the risks resulting from the effects of climate change and the mitigation measures taken to respond to those effects.

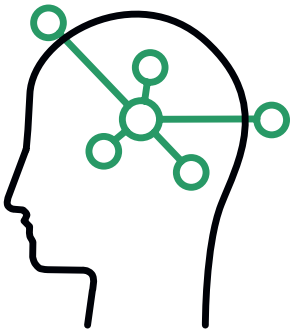
Climate change also creates opportunities for investors who seek to capitalise on opportunities arising from the transition to a low-carbon economy. They can invest in companies likely to be future market leaders either by providing innovative solutions to mitigate climate change or by aligning their GHG emissions reduction with net zero targets.

Reducing emissions and having a real-world impact in a global, diversified investment portfolio is a complex challenge. Investors have several approaches at their disposal. For an investment strategy to be efficient from both financial and climate perspectives, we believe it should have three primary objectives: 1) decarbonising the investment portfolio; 2) increasing investments in climate solutions; 3) engaging with issuers.

To support investors on their journey to net zero, BNP Paribas Asset Management has developed an internal four-step approach: Supporting clients to set their decarbonisation/ alignment objectives and define measurable key performance indicators; assessing the current portfolio against the established objectives and indicators; optimising the portfolio to better align it with the defined objectives; monitoring and reporting on progress towards those objectives.

This paper includes three illustrative case studies focusing on different strategies contributing to net zero. The first introduces portfolio optimisation with decarbonisation targets. We refer to this strategy as a core investment strategy as the underlying funds used to achieve the targets follow broad market indices. The second presents portfolio optimisation with specific targets in terms of temperature alignment. The third case study looks at building a thematic portfolio investing in climate solutions providers, minimising portfolio risk against its parent index and aligning revenues to climate-mitigation-linked Sustainable Development Goals.

REDUCING EMISSIONS AND HAVING A REAL-WORLD IMPACT IN A GLOBAL, DIVERSIFIED INVESTMENT PORTFOLIO ARE COMPLEX CHALLENGES

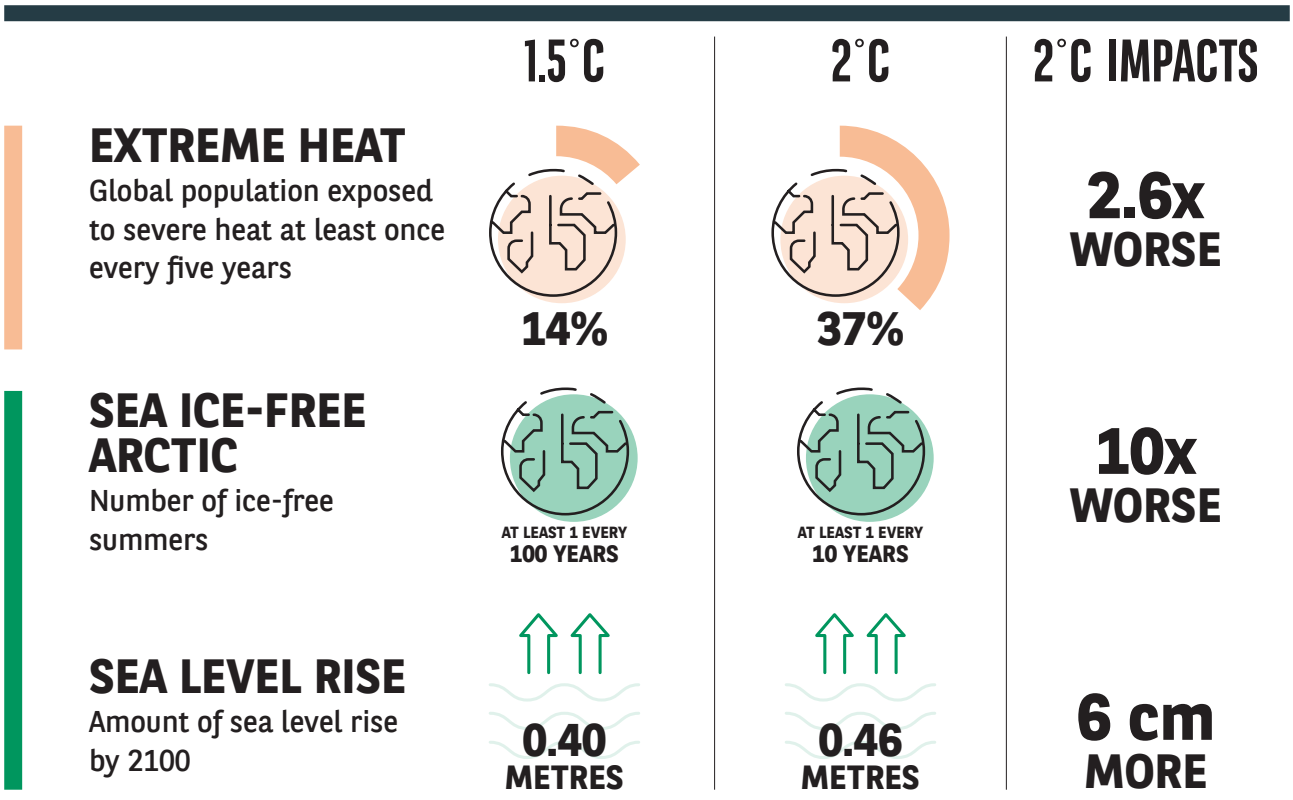


CARBON NEUTRALITY IS REACHED WHEN HUMAN ACTIVITIES RESULT IN NO NET EFFECT ON THE CLIMATE SYSTEM

SECTION 1: THE NET ZERO IMPERATIVE AND WHAT IT MEANS FOR COMPANIES AND INVESTORS

What is net zero?

According to the Intergovernmental Panel on Climate Change (IPCC)[1], if humankind is to maximise its chance to limit global warming to 1.5°C above pre-industrial levels by the end of this century, global net human-caused emissions of carbon dioxide (CO_2) need to fall by 45% by 2030 from 2010 levels and reach net zero around 2050. As the organisation says: "Carbon neutrality is reached when human activities result in no net effect on the climate system. Achieving such a state would require balancing residual emissions with emission (carbon dioxide) removal."[2]



Source: The Climate Action Tracker Thermometer (2021) https://climateactiontracker.org/global/cat-thermometer/

[1] Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C
[2] Glossary — Global Warming of 1.5 ºC

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The IPCC points out that the world is already seeing the consequences of 1°C of global warming, more extreme weather events, rising sea levels and diminishing polar region ice being among the evidence.

The scientific community also makes clear that limiting global warming to 1.5°C rather than 2°C would reduce the number of climate change impacts and pose less risk from long-lasting or irreversible changes in climate patterns.

Limiting global warming will also give people and ecosystems more room to adapt and remain below relevant risk thresholds. This is not just an environmental issue: The vast societal and economic consequences of unmitigated climate change are what is driving a growing number of countries, companies and the financial community to act, pledging to take rigorous, immediate action to reach net zero by 2050.

It is important to remember that the only scientifically valid definition of net zero applies to the planet as a whole. Individual companies or investors can only claim to contribute to the objective of global carbon neutrality.

How can companies contribute to net zero?

How climate change and the net zero transition affect companies

Climate change is already – directly or indirectly – bringing serious physical and transition risks to most industries worldwide.

The physical risks of climate change result from severe weather events such as floods, storms, droughts and wildfires damaging production facilities and infrastructure, disrupting logistics and supply chains, and causing losses in productivity. But climate change also gives rise to transition risks resulting from the adjustment to a low-carbon economy.

Transition risk includes higher business costs arising from new policies, laws and regulations designed to address climate change. Transition risks can also arise from changes in technologies and consumer trends. These are particularly prevalent for companies operating in high greenhouse gas (GHG)-emitting sectors, whether by virtue of their own

THE PHYSICAL RISKS OF CLIMATE CHANGE RESULT FROM SEVERE WEATHER EVENTS SUCH AS FLOODS, STORMS, DROUGHTS AND WILDFIRES

activities, or those of their suppliers or customers.

When not properly managed, physical and transition risks can affect a company's financial health, for example through revenue loss, higher operational costs or a greater probability of default, all of which can threaten their bottom line.

However, while climate change and the transition to a net zero economy bring huge challenges, they also create new opportunities. Companies that integrate climate change considerations into their business strategies and prepare for the net zero transition, as well as companies developing new products or services that help reduce GHG emissions can more likely thrive in the future low-carbon economy.

What companies can do to contribute to net zero

Every company has a role to play in the transition to a low-carbon economy. Companies need first to drive decarbonisation across their value chain by reducing the emissions from their own operations (scope 1 & 2) and their indirect upstream[3] and downstream[4] emissions (scope 3).

They can do so by adopting energy-efficient practices, using renewable energy sources, optimising transportation logistics, investing in clean technologies – in short, by implementing sustainable practices throughout their supply chain, manufacturing processes and operations.

Some companies can contribute to carbon emissions reduction by providing new low-carbon solutions through their goods and services.

Finally, companies can contribute to climate change mitigation activities beyond their value chains by financing projects for carbon emission avoidance, removal and sequestration, such as reforestation projects. This can be through direct equity investments or by purchasing high-quality carbon credits generated by these projects.

All companies can contribute to the overall decarbonisation objective. By acting now, they can mitigate climate change risks and benefit from the new opportunities.

[3] Upstream emissions occur during the production of goods or services that a business purchases or uses. [4] Downstream emissions result from the use or disposal of a business's products or services.

What does net zero mean for investors?

How climate risks and opportunities may affect investors

Institutional investors are increasingly aware of the risks associated with climate change. They have long-term investment horizons and invest across a wide range of asset classes and sectors. As such, they are acutely vulnerable to the systemic disruptions that climate change will bring to global economies.

The performance of an investment portfolio and its risk-return profile are closely linked to the value of its underlying assets. Such value is increasingly being affected by the risks resulting from the effects of climate change and the mitigation measures taken to respond to those effects.

Investments in companies that fail to account for climate-related risks will likely be at a disadvantage in the transition to a low-carbon economy. Changes in regulation, technology and consumer behaviour will lead to stranded assets, lower credit quality and company valuations and higher financing costs, posing potential losses from the financial instruments issued by these companies.

That is why it is crucial for investors to act now to identify and manage climate-related risks in their investment portfolios.

On the plus side, climate change also creates opportunities for investors. They can seek to capitalise on opportunities arising from the transition to a low-carbon economy by investing in companies that establish themselves as future market leaders either by providing innovative solutions to mitigate climate change or by aligning their GHG emissions reduction with net zero targets.

The role investors can play in the net zero transition

It's a two-way street: Investors need to be aware of how climate change affects their investments but also how their investments impact climate. They have a pivotal role to play through their capital allocation.

Many institutional investors are members of sector-specific alliances under the umbrella of the Glasgow Financial Alliance for Net Zero (GFANZ), of which BNP Paribas Asset Management is a member.

GFANZ members commit to transitioning their investment portfolios to net zero GHG emissions by 2050, in line with global efforts under the Paris Agreement.

They seek to achieve this by advocating and engaging in corporate and industry action, underpinned by public policy measures to accelerate the decarbonisation of the economy. This approach considers both climate science and the social impact of decarbonisation. GFANZ members stand ready to finance the transition.

In recent years, a growing number of institutional investors have made voluntary net zero commitments.

Successful execution of these commitments is critical to catalysing the decarbonisation of the real economy, mitigating climate risks and accelerating the energy transition.

THE MEMBERS OF GFANZ ARE COMMITTED TO SUPPORTING THE REAL ECONOMY IN ITS TRANSITION TO NET ZERO

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SECTION 2: WHAT CAN INVESTORS DO TO CONTRIBUTE TO NET ZERO?

Set clear targets

When making net zero commitments, investors need to articulate their objectives and priorities, specifying measurable interim and long-term targets, the timeline for achieving objectives, and how they will be achieved. This requires the selection of credible target-setting approaches that are best adapted to their portfolios while seeking to adhere to appropriate industry best practice. Such an approach provides a bridge from the high-level commitments investors have made to the specific changes they will make to their investment portfolios to support the real-economy transition to net zero.

The members of GFANZ are committed to supporting the real economy in its transition to net zero, wherever possible using science-based targets and pathways to realign their portfolios and underlying assets.

Investors who are not members of the sector-specific alliances are encouraged to use a similar target and science-based approach consistent with achieving net zero emissions by 2050 and to ensure a credible portfolio alignment with that aim.

Different investors, different needs

Institutional investors operate in different contractual and regulatory environments. They also have different business models, sizes, client bases, products and services, as well as diverse fiduciary, regulatory and legal obligations. Their investment scope, strategy, objectives and exposures to certain high-emitting sectors also differ, which may affect how they tackle the net zero transition and the pace at which they will be able to realise their commitments.

There is no 'one-size-fits-all' approach to adapting global climate objectives and net zero commitments at the investment portfolio level. Investors should carefully consider their unique characteristics and select the best approach towards a net zero transition strategy in the context of their fiduciary duties.

Different approaches

Reducing GHG emissions and having a real-world impact in a global, diversified investment portfolio is a complex challenge. Investors have several approaches at their disposal. Each can play a different role in addressing climate risks and opportunities and have different impacts on the risk-return profile and sector exposure of their investment portfolio.

REDUCING GREENHOUSE GAS EMISSIONS AND HAVING A REAL-WORLD IMPACT ARE COMPLEX CHALLENGES

1. PORTFOLIO DECARBONISATION

Decarbonising an investment portfolio could be achieved by divesting out of companies operating in high-emitting sectors, but that would not necessarily contribute to lowering emissions in the real economy. On the contrary, it undermines investors' ability to engage with companies and positively influence their behaviour.

Divestment would also withdraw capital from companies that need it most to decarbonise their operations. Divestment and exclusions should be considered in cases where companies either cannot transition (e.g., for technological reasons) or show no intention of improving their climate performance consistent with a global net zero pathway.

That being said, divestment and exclusion can play a positive role in making a company, sector or industry less attractive and in reallocating capital towards companies with less harmful activities or seeking to transition to a low carbon economy.

Dordi and Weber (2019) examined how stakeholder awareness of public divestments of the top 200 global oil, gas, and coal companies could affect future cashflows and increase reputational risks. They found that the effects of divestment announcements were more pronounced over longer event windows, suggesting a shift in investor perception.

When allocating capital to companies integrating climate change considerations into their business strategy and aligning their operations to contribute to global net zero objectives,

investors may choose one of two portfolio decarbonisation approaches:

- Portfolio carbon footprint[5] reduction
- Portfolio alignment with a low-carbon trajectory or a temperature trajectory.

Both approaches offer diverse market exposure and are therefore suitable for a core investment portfolio. They may be less appropriate for investors seeking to increase their allocation to climate solutions.

a. Portfolio carbon footprint reduction

An investment portfolio can be optimised to favour more carbon-efficient companies across different sectors, while still maintaining the risk and return characteristics of its investment universe. Tilting the portfolio towards low-emitting companies and those with the best 'carbon emission performance' in their respective sectors can improve the portfolio's carbon footprint compared to its baseline and in line with defined decarbonisation targets.

This approach can help mitigate climate change investment risks and improve the portfolio's environmental profile. However, its contribution to the decarbonisation of the real economy may be limited compared to other approaches, as it may exclude high-emitting companies with credible decarbonisation plans in favour of companies with a lower carbon footprint but no decarbonisation plans. It may also reduce exposure to sectors (utilities, energy, industrials, etc.) and geographies (emerging markets) that are critical for the net zero transition.

b. Portfolio alignment

Investors may choose to decarbonise their investment portfolios through alignment with either a low-carbon trajectory or a temperature trajectory limiting global warming to 1.5°C.

Low-carbon trajectory alignment

Investors seeking to align their portfolios with the Paris

[5] The carbon footprint of an issuer is its GHG emissions (measured in CO_2 equivalent) divided by its Enterprise Value including cash (EVIC). GHG emissions should be measured along the operational boundaries of the company and should take into account all the emissions associated directly or indirectly with the company's operations.

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Agreement objectives may use the EU Climate benchmarks: the EU Paris-aligned benchmark (PAB) and EU climate-transition benchmark (CTB). These incorporate specific objectives related to carbon footprint reductions[6] and the transition to a low-carbon economy through the selection and weighting of underlying constituents.

Both benchmarks apply a set of selection, weighting and exclusion criteria to help ensure the resulting benchmark portfolios move towards decarbonisation. They consider a global decarbonisation trajectory for the portfolio without necessarily taking into account the decarbonisation trajectory of each underlying company.

The two benchmarks have similar goals but entail different levels of ambition. The EU PABs have stricter criteria, including a 50% lower weighted average GHG intensity than the investible universe and more stringent activity-based exclusions. The EU CTBs require a 30% lower GHG intensity than the investible universe. Both benchmarks should reduce the GHG intensity or absolute GHG emissions of their portfolios by at least 7% each year.

These benchmarks were designed to account for both climate risk mitigation and opportunity-seeking while providing exposure to the broad market. Investors may choose either to build passive portfolios tracking one of these benchmarks or use the benchmarks' minimum technical criteria to construct active investment portfolios with decarbonisation targets.

Temperature alignment

Another approach to progressively aligning an investment portfolio with the Paris Agreement goals is to integrate a temperature trajectory through the use of forward-looking metrics. There are three main categories of forward-looking portfolio alignment tools with a varying degree of complexity:[7]

- Binary target measurements of the percentage of the portfolio invested in companies with declared net zero/Paris alignment targets

[6] The EU PAB regulation imposes decarbonisation based on carbon footprint defined as Scope 1 + Scope 2 (+ Scope 3 for some industries already and as soon as possible for all sectors) emissions divided by enterprise value including cash (EVIC).
[7] Portfolio Alignment Team

- Benchmark divergence models that compare companies' emissions against a normative benchmark based on climate scenarios
- Implied Temperature Rise (ITR) models which extend "benchmark divergence models by translating the assessment of alignment/ misalignment with a benchmark into a measure of the consequences of that alignment in the form of a temperature score that describes the most likely global warming outcome if the global economy was to exhibit same level of ambition". The ITR has become the most widely used of these three tools.

This approach is suitable for a core investment portfolio, as it allows the allocation of capital to companies across all sectors and geographies that need to reduce their GHG emissions in line with these targets.

However, the metrics and methodologies behind these forward-looking tools are not standardised:

- They use different climate scenarios
- Some allocate a specific carbon budget to a given company, while others assess the decarbonisation rate it follows or focus on its performance at a given point in time
- Some look at a company's absolute emissions, whereas others focus on its carbon intensity.

These diverse methodological choices and assumptions can lead to highly different outputs when assessing a company or a portfolio's alignment.

2. CLIMATE SOLUTIONS

As well as allocating capital to companies that are decarbonising their operations, investors also need to commit to increase their allocation to climate solutions providers.

Climate solutions companies provide services or products that lead to a reduction in GHG emissions, whether directly (carbon capture and sequestration), indirectly (replacement of existing carbon-intensive products) or by developing solutions that facilitate the energy transition.

Investors should be aware that allocating capital to climate solution providers is likely to result in higher portfolio carbon footprints or carbon intensities versus traditional benchmarks

INVESTORS ALSO NEED TO COMMIT TO INCREASE THEIR ALLOCATION TO CLIMATE SOLUTIONS PROVIDERS

because many such companies are involved in industrial activities which emit GHG, such as utilities, energy and industrials. However, they develop solutions to help reduce their own and others' emissions and the benefits provided by their activity are not reflected in GHG inventories.

To increase their allocation to climate solutions, investors can invest in sustainable thematic funds designed to address climate change mitigation and the energy transition. Such funds are less diversified at the sector level, have narrower market exposure and often a mid and small-cap bias. They thus tend to have higher volatility and a higher risk profile, making them more suitable for a satellite investment portfolio.

Investors can also invest in green bonds, private equity or private debt funds that provide exposure to climate solution providers in private markets, low carbon infrastructure, green and energy efficient real estate or natural capital.

3. STEWARDSHIP

Investors are encouraged to prioritise stewardship (notably engagement), particularly engagement for existing investments, as a primary tool to drive alignment with net zero targets.

In our view, engagement is the mechanism through which the impact on real-world emissions is most likely to materialise. It can drive significant incremental changes in the overall economy and can sometimes lead to dramatic changes within individual companies. It is important that investors maintain their holdings in high-emitting companies and engage to encourage them to set net zero transition plans and take immediate steps to decarbonise.

Investors may choose to engage with companies individually or through collaborative initiatives. Individual engagement with companies can be time-consuming, and it requires specific expertise and dedicated staff resources.

Some investors find it simpler to work with collaborative initiatives, such as Climate Action 100+, that help coordinate, reduce duplicative efforts, and frame the engagement process on investors' behalf. Collaborative engagement is generally more efficient, as it gives investors collective bargaining power and gives the issues greater visibility.

4. RECOMMENDED APPROACH

The achievement of net zero commitments requires a different allocation of capital across the economy: allocating capital to assist the decarbonisation of individual companies, particularly in hard-to-abate sectors, and to companies developing climate solutions.

Neither of the above-mentioned approaches on its own is likely to be successful in addressing a challenge as complex as the net zero transition. Investors would be better off financially with diversified portfolios well-positioned to mitigate climate-related risks and benefit from new opportunities arising from the net zero transition.

We believe that for an investment strategy to be efficient from both the financial and climate perspectives, it should have three primary objectives:

1) Decarbonising the investment portfolio (under specific constraints)

2) Increasing investments in climate solutions

3) Engaging with issuers.

This can be successfully implemented through a core/satellite portfolio approach.

INVESTORS WOULD BE BETTER OFF FINANCIALLY WITH DIVERSIFIED PORTFOLIOS WELL-POSITIONED TO MITIGATE CLIMATE-RELATED RISKS

SECTION 3:
HOW BNP PARIBAS ASSET MANAGEMENT SUPPORTS INVESTORS ON THEIR JOURNEY TO NET ZERO

Our approach

As a member of the Net Zero Asset Managers Initiative, BNPP AM commits to partnering with its clients on their net zero goals. We developed an internal four-step approach to better support investors on their journey to transition towards net zero investing.

Step 1 Help clients set their decarbonisation/alignment objectives and define measurable key performance indicators
Step 2 Assess the current portfolio against the established objectives and indicators
Step 3 Optimise the portfolio to better align it with the defined objectives
Step 4 Monitor and report on progress towards those objectives

Where are you on the path to contributing to net zero?

Source: BNP Paribas Asset Management

Step 1

Setting portfolio objectives & defining indicators

It is essential that targets be set in line with science-based pathways consistent with achieving net zero global emissions by 2050, or sooner. They should also aim to achieve emissions reduction in the real economy and increase allocation to climate solutions providers.

Net zero objectives and targets vary from one investor to another, depending on their overall investment priorities and constraints (risk-adjusted return, liquidity, etc.). We can support all types of investors in the objective and target-setting process.

Investors need to define the scope of the investments to be covered by their net zero objectives. They then need to define targets, the timeframe for achieving them and a suite of relevant key performance indicators (KPIs) which will help them implement their net zero investment strategy and assess, monitor and report on progress.

NET ZERO OBJECTIVES AND TARGETS VARY FROM ONE INVESTOR TO ANOTHER, DEPENDING ON THEIR OVERALL INVESTMENT PRIORITIES AND CONSTRAINTS

Examples of indicators to measure: 1) reduction of a portfolio's carbon footprint; 2) a portfolio's alignment with the 1.5°C trajectory (i.e. low-carbon trajectory, temperature trajectory); 3) a portfolio's allocation to climate solutions.

Portfolio type[8]	Strategy	Sub-strategy	Indicators
Core	Decarbonisation	Carbon footprint reduction over time	Carbon footprint compared to the baseline and in line with established targets Sector and, where relevant, geographic allocation constraints
	Decarbonisation	Low carbon trajectory alignment (PAB-CTB strategy)	Reduction of portfolio carbon footprint compared to the parent index (%) % YoY portfolio self-decarbonisation Other indicators related to constraints (exclusions, green/brown ratio,...) detailed in the Commission Delegated Regulation (EU) 2020/2018 [9]
	Decarbonisation	Temperature alignment	Implied Temperature Rate (ITR)
Satellite	Climate and energy transition		% EU Taxonomy alignment % alignment to SDGs[10] 7, 9 and 11
Blended portfolio (combining core and satellite approaches)	Mix of Decarbonisation and climate solutions		Mix of indicators % of assets invested in companies achieving, aligned, or aligning with net zero targets (see BNPP AM's NZ:AAA framework detailed later in this document)

[8] We also indicate in the table if the strategy is better suited for a core or satellite portfolio. We define a core portfolio as a diversified portfolio following traditional market indices while a satellite portfolio focuses on specific thematics and is therefore less diversified.

[9] Official Journal of the European Union

[10] Sustainable Development Goals. SDG7: Affordable and Clean Energy; SDG9: Industry Innovation and Infrastructure; SDG11: Sustainable Cities and Communities.

Portfolio carbon footprint and low-carbon trajectory

A carbon footprint indicates the total amount of greenhouse gases produced directly or indirectly by a company. It is usually reported in tons of emissions (CO_2 equivalent) per unit of comparison. To make carbon emissions comparable across companies, emissions need to be normalised. This produces the carbon intensity measures.

At BNPP AM, we use a carbon footprint metric based on enterprise value including cash (EVIC), which means an investment portfolio's carbon footprint is calculated as the weighted sum of the ratios of the carbon emissions of each company to their respective EVIC.

A carbon footprint can be used to set a portfolio's decarbonisation targets and measure progress towards them. Investors may choose to set carbon footprint reduction targets relative to:

- A defined baseline (e.g., reducing the investment portfolio's carbon footprint by 30% by 2030 by 70% by 2040 compared to its 2019 carbon footprint), or
- A reference market benchmark and defined baseline, as in the case of PAB/CTB strategies (i.e., 50%/30% reduction relative to a parent index and a 7% annual reduction until 2050).

A company's carbon footprint is one of the most widely used indicators. It allows for benchmark comparison, attribution analysis and portfolio decomposition. It provides valuable information for investors by identifying assets that could pose future climate-related risks. However, it is inherently backward-looking – judging a company by what it's done, not what it plans to do – and does not allow for attribution of emissions reduction to company-specific decarbonisation strategies and actions.

Implied Temperature Rise (ITR)

The ITR is a forward-looking metric that helps understand the degree of a company's GHG reduction target alignment with a specific climate scenario outcome. It is expressed in degree Celsius (°C).

For instance, a reduction target with an ITR of 1.5°C indicates

that the emissions reduction pathway embedded in the target is compatible with global warming of 1.5°C. The portfolio-level ITR is a function of the temperature alignment of the underlying companies in which a portfolio is invested and can be useful in defining a portfolio's exposure to climate-related risks and opportunities as it focuses on companies' future decarbonisation rates so that, investors can identify firms actively transitioning to a net zero economy.

ITR methodologies are not yet harmonised, so the choices that are made can lead to different, or even misleading, outcomes and conclusions about the alignment of some companies. The Alignment Cookbook report[11] points out that ITR tools face challenges which can compromise their decision-usefulness and should be used carefully.

THE ALIGNMENT COOKBOOK REPORT POINTS OUT THAT ITR TOOLS FACE CHALLENGES

EU taxonomy

EU Taxonomy defines criteria for economic activities aligned with a net zero trajectory by 2050. It can be used as a tool to define which activities are most needed for the transition. Investments in companies operating these areas – e.g., climate solution providers – represent climate-related opportunities.

Investors can use taxonomy alignment when setting targets for investments in climate solutions providers and assessing progress at the portfolio level.

Taxonomy alignment can apply to the total revenue base of a portfolio by considering the weight of each security in the portfolio and the alignment of each issuing company's revenues with the EU Taxonomy climate change mitigation objective. Or investors can measure the taxonomy alignment by calculating the percentage of companies with economic activities aligned with the EU Taxonomy climate change mitigation objective within the portfolio. Only companies with a minimum revenue alignment threshold (e.g, 20%) are considered.

Sustainable Development Goals

The UN Sustainable Development Goals (SDGs) are one of the most commonly used frameworks to identify and measure positive impact across a broad set of environmental and social challenges.

[11] Institut Louis Bachelier et al, The Alignment Cookbook - A Technical Review of Methodologies Assessing a Portfolio's Alignment with Low-carbon Trajectories or Temperature Goal.

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At BNPP AM, we consider that companies involved in economic activities aligned with one or more of the following SDGs contribute to climate change mitigation and, therefore, to the transition to global carbon neutrality:

- SDG #7: Ensure access to affordable, reliable, sustainable, and modern energy for all
- SDG #9: Build resilient infrastructure, promote sustainable industrialization, and foster innovation
- SDG #11: Make cities inclusive, safe, resilient, and sustainable.

WHAT ARE THE UNIQUE FEATURES OF OUR SDG METHODOLOGY?

SDG Fundamentals is a dataset developed in collaboration between Matter and BNP Paribas Asset Management. The dataset:

- Draws upon a granular revenue dataset across more than 53 000 issuers
- Provides alignment percentages across all 17 SDGs (but not all SDG targets, as not all such targets are 'investable' through a product and service lens according to our analysis)
- Accounts for both alignment and misalignment
- Is anchored in a stringent, conservative and proprietary alignment criterion, itself based on rigorous interpretation of UNStat metadata and inspired by relevant standards (e.g., Sustainable Development Investments (SDI) Asset Owner Platform (AOP) Taxonomy)
- Provides data on both environmental and social objectives
- Stays true to the SDGs / minimises risks of SDG- or greenwashing by focusing on SDG targets and their accompanying indicators rather than using subjective or loose interpretations of SDGs at the level of the 17 broad goals.

Like the taxonomy alignment, alignment with one or more climate-change-mitigation SDGs helps measure the proportion of investments in climate solutions and can be used for target-setting and progress assessment at the portfolio level.

The climate-change-mitigation SDG alignment of a portfolio is measured in the same way as the taxonomy alignment, i.e., either as a percentage of the total revenue base of the investment portfolio or as a percentage of companies with economic activities aligned with these SDGs within the portfolio. For the latter, only companies with a minimum revenue alignment threshold (e.g., 20%) are considered.

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BNPP AM's NZ:AAA Framework

Measuring company or portfolio alignment to a specific climate pathway is subject to uncertainty. Among the ways of aligning portfolios to a specific climate pathway, degree-warming metrics are attractive as they use the same wording as climate science and are quite easy to understand. They assign a temperature score (ITR) to a company or portfolio based on their future carbon emission pathway and compare it to a pathway compatible with a specific climate scenario.

Unfortunately, the many degree-warming methodologies that are available can generate highly diverse outputs. To overcome this, BNPP AM has built a proprietary framework to measure the alignment to net zero of its investments in corporate issuers.

BNPP AM's proprietary NZ:AAA (Achieving net zero, Aligned or Aligning) screen is based on a forward-looking framework inspired by the Paris Aligned Investment Initiative (PAII)[12] net zero framework proposed by The Institutional Investors Group on Climate Change (IIGCC)[13] and underpinning BNPP AM's net zero commitment.

The framework addresses two major themes:
i) Activity-based alignment with the environmental transition
ii) Carbon footprint reduction targets

Companies are categorised as NZ:AAA if they report sufficient revenues associated with climate mitigation linked to the SDGs[14] or aligned with the EU Taxonomy[15], or if they have published carbon reduction targets assessed as consistent with a 1.5°C or 2°C global temperature outcome.

BNPP AM's NZ:AAA framework enables investors to set and measure performance against a target measured as the percentage of assets invested in 'Achieving', 'Aligned' and 'Aligning' companies.

BNPP AM HAS BUILT A PROPRIETARY FRAMEWORK TO MEASURE THE ALIGNMENT TO NET ZERO OF ITS INVESTMENTS IN CORPORATE ISSUERS

[12] IIGCC [13] IIGCC [14] UN [15] European Commission

BNPP AM's NZ:AAA framework for assessing companies' net zero alignment	
Achieving net zero	• Companies with at least 50% of their turnover aligned with EU Taxonomy Climate Change Mitigation, OR • Companies with at least 50% of their turnover aligned with climate mitigation-linked SDGs and with no more than 20% of their turnover misaligned with any SDGs, OR • Companies committed to net zero and whose current carbon performance is at (or close to) the one needed for its sector by 2050 to reach net zero global emissions
Aligned to a net zero pathway	• Companies with at least 20% of their turnover aligned with EU Taxonomy Climate Change Mitigation, OR • Companies with at least 20% of their turnover aligned with climate mitigation-linked SDGs and with no more than 20% of their turnover misaligned with any SDGs • Companies committed to net zero emissions by 2050 AND that have a carbon reduction target assessed as smaller than or equal to 1.5°C
Aligning towards a net zero pathway	• Companies that have a carbon reduction target assessed as below 2°C and not otherwise considered Achieving or Aligned
Not aligned	• All other companies

Source: BNP Paribas Asset Management, 2023

Step 2

Assessment of the current portfolio against the established objectives and indicators

After Step 1, we analyse the existing portfolio to establish its carbon emission baseline. This serves as the starting point against which future progress will be measured, monitored and reported.

For a granular analysis of investors' portfolios, BNPP AM's Solutions & Client Advisory team has developed an infrastructure to gather and use a large set of Environmental Social and Governance (ESG) indicators at the issuer and portfolio levels. These indicators include, among others, those presented in the previous section. ESG assessments are based on BNPP AM's proprietary methodology which integrates Environmental, Social and Governance criteria.

Step 3

Optimisation of an investment portfolio to integrate decarbonisation/alignment objectives

Based on this granular analysis, we provide recommendations on adjustments – at the strategic asset allocation or the underlying investment strategy level – that would better align the current portfolio with net zero objectives.

- At the strategic asset allocation level, we can optimise the portfolio's net zero objectives alongside traditional financial metrics. Such optimisation can cover three objectives: risk, return and carbon footprint/ITR. When assessing each asset class, we consider the risk and return it may add to the overall portfolio as well as its potential contribution to the achievement of net zero objectives.
- At the underlying investment strategy level, BNPP AM has access to a broad range of investment strategies (funds or dedicated line-by-line mandates) contributing to climate change mitigation objectives. We assess these net zero strategies and evaluate the impact on the client's objectives.

These two levels of optimisation allow us to build proposals for a better alignment of investors' portfolios with their net zero ambitions while maintaining the required levels of risk, return and diversification in the portfolio.

Step 4

Monitoring and reporting on progress towards the established net zero objectives

Once a net zero strategy is in place, investors should monitor and report on progress towards its objectives. It is important that investors publish their net zero objectives and their progress towards them in publicly available reports to demonstrate how serious they are about meeting their net zero commitments, help keep their progress on track and avoid greenwashing issues.

ENGAGEMENT FOR EFFECTIVE STEWARDSHIP: A POSITIVE INFLUENCE

Alongside to the above steps, effective stewardship – proxy voting, direct or collaborative corporate engagement and public policy advocacy – is an effective way to help ensure we are doing all we can to move society as quickly as possible towards net zero.

Vote for climate action – Incorporate climate change considerations into proxy voting guidelines and provide strong support to shareholder proposals addressing climate change. Use votes to signal expectation that companies report on their GHG emissions. Expect the world's largest GHG emitters to set the goal of achieving net zero by 2050 or sooner.

Engage with companies on net zero – Implement an engagement strategy consistent with the ambition to achieve net zero by 2050 or sooner.

Advocate for climate policy – Actively advocate for net zero-aligned policy and seek to ensure direct and indirect policy advocacy is supportive of achieving global net zero by 2050 or sooner.

SECTION 4: STRATEGIES FOR OPTIMISING PORTFOLIOS FOR NET ZERO – THREE CASE STUDIES

In this section, we present three case studies to illustrate the breadth of analysis we undertake to help our investors tailor their portfolios and align them precisely with their unique net zero preferences and objectives.

Case study 1: Core multi-asset portfolio with decarbonisation targets

Here, the investor aims to build a multi-asset portfolio with two distinct objectives:

1. The minimisation of risk against the portfolio's traditional benchmark
2. The reduction of the carbon footprint over time

Minimising risk against traditional benchmarks helps maintain a degree of diversification in the portfolio. Many investors continue to use traditional market indices as their benchmarks to compare their portfolio on financial metrics even when integrating environmental constraints.

In parallel, reducing the carbon footprint has become one of the main objectives for many investors. The reduction of their portfolio's carbon footprint aligns with this.

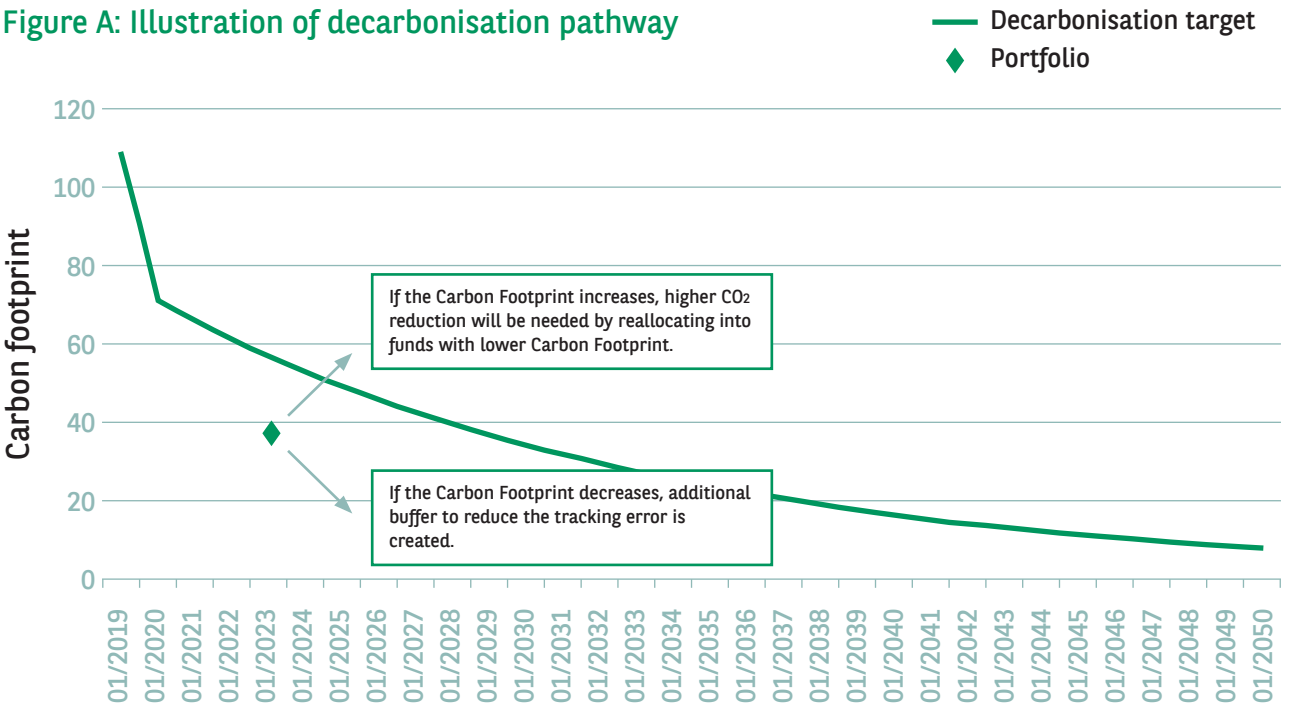
Integrating those two objectives can be challenging as introducing environmental goals could reduce the diversification of the portfolio and heighten its volatility.

In this optimisation exercise, we have translated the two objectives into specific and measurable KPIs:

- **Objective 1:** Minimisation of the ex-ante tracking error compared to a traditional multi-asset benchmark

- **Objective 2:** Reduction of the portfolio's carbon footprint[16] by implementing a decarbonisation pathway inspired by Climate Transition Benchmark[17] (CTB) targets. This aims to reduce the carbon footprint of the reference multi asset benchmark by 30% in the first year and then by 7% annually to reach net zero in 2050. This decarbonisation pathway considers only corporate, not government, bonds

Figure A: Illustration of decarbonisation pathway



Source: BNP Paribas Asset Management

Our optimisation exercise uses a reference multi asset benchmark made up 60% of Bloomberg Euro Aggregate Index and 40% of MSCI World Developed Countries. We also consider an investment universe of funds with different levels of tracking error (Low, Medium and High) compared to their parent index as well as different level of carbon footprint (Low, Medium and High) per asset class.

[16] BNPP AM Carbon Footprint data using scope 1 & 2 GHG emissions.[17] Climate Transition Benchmarks (CTB) and Paris Aligned Benchmarks (PAB) are indices of equities or corporate bonds which aim to assist in meeting the decarbonisation objectives set by the European Union's Sustainable Finance Action Plan.

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Figure B: Traditional reference benchmark

REFERENCE BENCHMARK	WEIGHT
Fixed income	
Bloomberg Euro Aggregate Index	60
Euro Goverment Bond	44
Euro Corporate Bond	16
Equity	
MSCI World Developed Countries	40

Source: BNP Paribas Asset Management, as of 30 November 2023

Figure C: Investment universe of funds considered

Investment Universe in this case study	CO_2 Reduction	Tracking Error[19]
Fixed income		
Euro Government Bond		
Euro Government Bond - ESG	Low	Low
Euro Government Bond - Green bonds	High	High
Euro Corporate Bond		
Euro Corporate Bond - ESG	Medium	Medium
Euro Corporate Bond - PAB[18]	High	Medium
Euro Corporate Bond - Green bonds	High	High
Equity		
Global Equity		
MSCI World - ESG	Medium	Medium
MSCI World - PAB[18]	High	High
MSCI World - Low Carbon	High	High

Source: BNP Paribas Asset Management as of 30 November 2023

[18] Paris Aligned Benchmark. [19] Ex-ante tracking error: the range of low-medium-high in this exercise in relation to the reference benchmark is defined for fixed income as low ≤ 20bp, medium from > 20bp to ≤ 50bp and high > 50 bp. For equity low is ≤ 100bp, medium is from > 100bp to ≤ 300bp and high is > 300bp.

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Based on our optimisation, we built a portfolio comprising a mix of funds with various levels of tracking error and CO_2 footprint reduction per asset class.

The proposed portfolio allows us to meet the two objectives as:

- The ex-ante tracking error with the reference multi-asset benchmark is contained at 72bp.
- The carbon footprint of the portfolio is at 38.5 compared to 108.7 at the start of the pathway, a reduction of 64.6%. It is also 33.6% below the current required level in the pathway (58).

Figure D: Optimised portfolio

Proposed portfolio	CO_2 reduction	Tracking Error[20]	Weight
Fixed income			***60%***
Government EUR			***42%***
Euro Government Bond - ESG	Low	Low	42%
Corporate IG Euro			***18%***
Euro Corporate Bond - ESG	Medium	Medium	10%
Euro Corporate Bond - PAB	High	Medium	8%
Equity			***40%***
MSCI World - ESG	Medium	Medium	40%

Source: BNP Paribas Asset Management as of 30 November 2023

This strategy is dynamic. It follows the tracking error and carbon footprint of the underlying funds to meet a portfolio-level objective. If the portfolio's carbon footprint were to rise above the decarbonisation target, we would seek to re-allocate into funds with a low carbon footprint to reduce the carbon

[20] Ex-ante tracking error: the range of low-medium-high in this exercise in relation to the reference benchmark is defined for fixed income as low ≤ 20bp, medium from > 20bp to ≤ 50bp and high > 50 bp. For equity low is ≤ 100bp, medium is from > 100bp to ≤ 300bp and high is > 300bp.

footprint to the set target. However, this may increase the tracking error. The aim is to find the trade-off between the required level of risk and CO_2 footprint reduction.

Case study 2: Core multi-asset portfolio with temperature alignment

Here, we aim to build a multi-asset core portfolio with two objectives: the minimisation of risk against a traditional benchmark and the minimisation of the implied temperature rise.

To evaluate the implied temperature rise of the portfolio, we selected two relevant metrics:

- The Implied Temperature Rise (ITR). Our objective is to build a portfolio limiting the temperature increase below 2°C at 1.75°C (based on IPCC)
- The indicators from our BNPP AM NZ:AAA methodology. Our objective is to have a minimum of 75% of the investments in companies Achieving, Aligned or Aligning to net zero.

These metrics are only applied to corporate issuers at this stage. It should be noted that the set objectives will not allow the portfolio to be aligned with a net zero trajectory. However, the underlying investments will contribute to achieving global net zero goals. The combination of both KPIs (NZ:AAA & ITR) sets up a credible framework to engage with companies to reduce their carbon emissions.

We used a reference multi asset benchmark made up 60% of Bloomberg Euro Aggregate Index and 40% of MSCI World Developed Countries for our optimisation exercise. We considered an investment universe of a broad range of funds for which we know their levels of ex-ante tracking error (low to high) compared to their parent index, as well the level of their ITR and NZ:AAA exposure (from low to high).

THE COMBINATION OF BOTH KPIS (NZ:AAA & ITR) SETS UP A CREDIBLE FRAMEWORK TO ENGAGE WITH COMPANIES TO REDUCE THEIR CARBON EMISSIONS

Figure E: Traditional reference benchmark

Reference benchmark	Weight
Fixed income	
Bloomberg Euro Aggregate Index	60%
Equity	
MSCI World Developed Countries	40%

Source: BNP Paribas Asset Management

Based on our optimisation, we built a portfolio comprising a mix of funds with various levels of tracking error and of ITR and NZ:AAA exposure:

Figure F: Optimised portfolio

Proposed portfolio	Weight	ITR[21]	NZ:AAA[22]	Tracking error[23]
Bonds 60%				
Government EUR 42%				
Euro Government Bond - ESG	42%	N.A.	N.A.	Low
Corporate IG Euro 18%				
Euro Corporate Bond - ESG #1	10%	Medium	Medium	Medium
Euro Corporate Bond - ESG #2	8%	Medium	Medium	Medium
Equities 40%				
MSCI World - Low Carbon	25%	Low	High	High
MSCI USA - ESG	10%	Medium	Medium	High
MSCI Europe - Low Carbon	5%	Medium	High	High

Source: BNP Paribas Asset Management as of 30 November 2023

[21] In this exercise, we define low ITR as below 1.5°C, medium as between 1.5°C and 2°C and high as above 2°C.

[22] In this exercise, we define low-level NZ:AAA alignment as below 50%, medium as between 50% and 70% and high as above 70%.

[23] Ex-ante tracking error: the range of low-medium-high in this exercise in relation to the reference benchmark is defined for fixed income as low ≤ 20bp, medium from > 20bp to ≤ 50bp and high > 50 bp. For equity low is ≤ 100bp, medium is from > 100bp to ≤ 300bp and high is > 300bp.

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The proposed portfolio meets the two objectives as:
The ex-ante tracking error with the reference multi-asset benchmark is contained at 1.83%.

For the transition metrics:

- The average ITR is 1.75°C compared to 2.08°C for the traditional benchmark, well below 2°C
- The exposure to the NZ:AAA is 75% compared to 61.9% for the traditional benchmark, with the main difference being concentrated in the 2nd "A" ('Aligned' to net zero) issuers (see Figure G). There is 9% of additional investment in issuers committed to and assessed at below 1.5°C compared to the benchmark.

This strategy is dynamic as it follows the tracking error and transition metrics of the underlying funds to meet an objective at portfolio level. If metrics change, the portfolio needs to be rebalanced. The idea in this exercise is to build a portfolio that is better able to mitigate risk and benefit from carbon transition opportunities.

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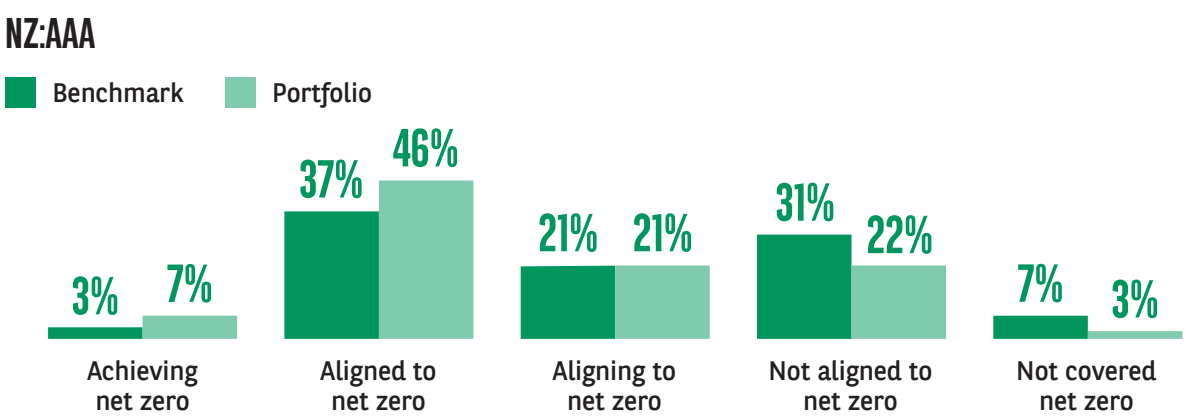
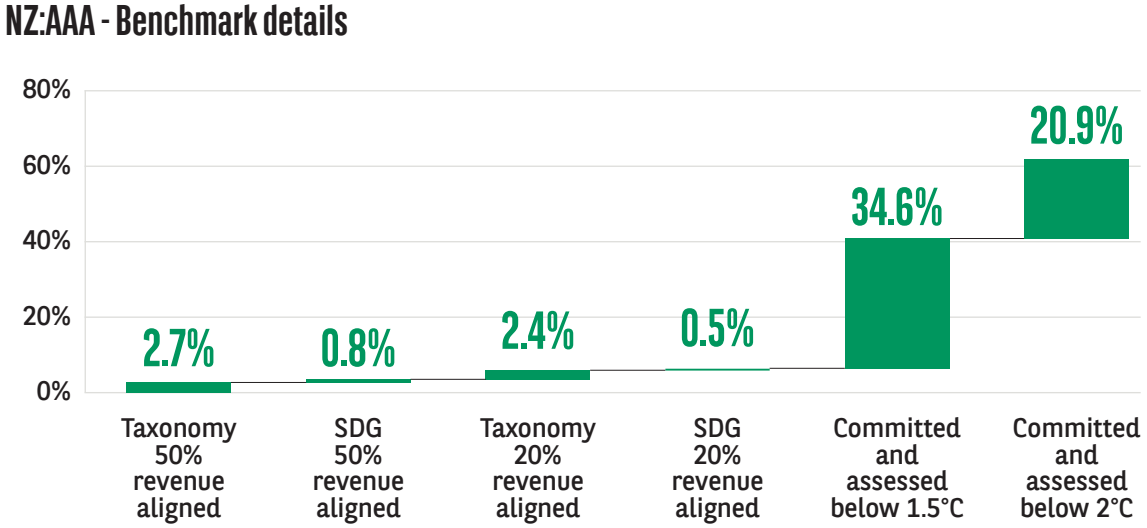
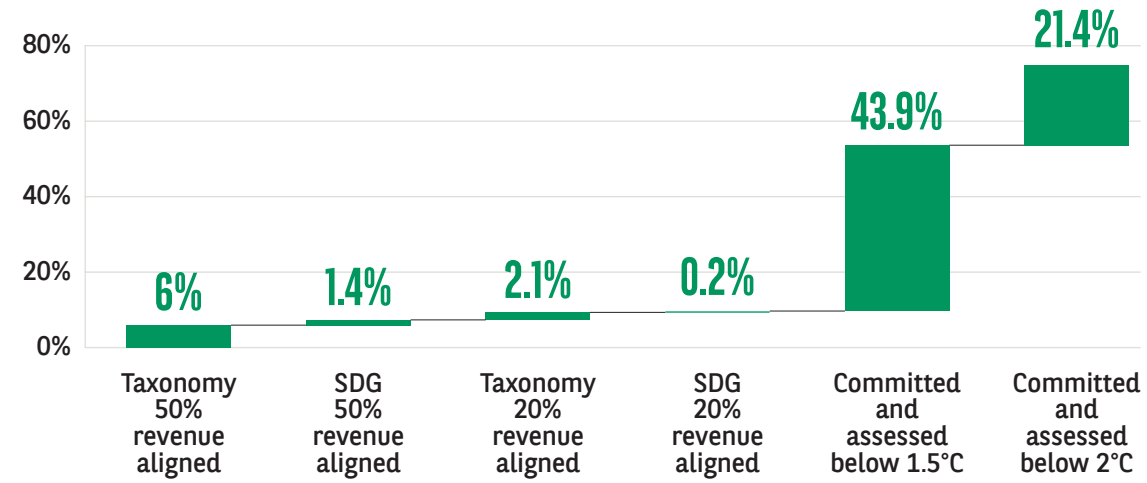
THE IDEA IN THIS EXERCISE IS TO BUILD A PORTFOLIO THAT IS BETTER ABLE TO MITIGATE RISK AND BENEFIT FROM CARBON TRANSITION OPPORTUNITIES

The figures below only represent exposure to corporate issuers, they exclude sovereign bonds.

Figure G: Split between the various categories of our NZ:AAA framework







Source: BNP Paribas Asset Management as of 30 November 2023

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Case study 3: Satellite thematic portfolio investing in climate solution providers

Here, we aim to optimise a multi-asset portfolio based on two objectives: the minimisation of risk against a traditional benchmark and the maximisation of the exposure to companies contributing to the net zero transition through their products and services. For the latter, we aim to maximise:

- The portfolio's exposure to green bonds
- The portfolio's alignment to SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation, and Infrastructure) and/or SDG 11 (Sustainable Cities and Communities).

The SDG exposure is computed by assessing the underlying economic activities of each issuer. These are expressed and aggregated using the underlying revenue details of each company.

We used a reference multi asset benchmark made up 60% of Bloomberg Euro Aggregate Index and 40% of MSCI World Developed Countries as a starting point. We considered a broad universe of funds to create our portfolio; no restrictions were applied to the fund selection.

However, we can see that most funds offering exposure to solution providers are thematic equity funds. This explains why these strategies should be used as a satellite investment vehicle. We focused on climate solutions funds targeting companies contributing to the transition to a low-carbon economy through their products and services and that can benefit from this transition.

Figure H: Traditional reference benchmark

REFERENCE BENCHMARK	WEIGHT
Fixed income	
Bloomberg Euro Aggregate Index	60%
Equity	
MSCI World Developed Countries	40%

Source: BNP Paribas Asset Management as of 30 November 2023

Figure I: Optimised portfolio

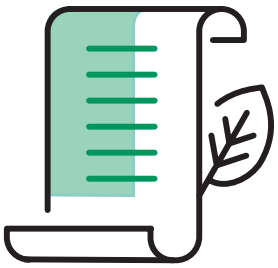
FUND	WEIGHT [24]
Fixed income	60%
Euro Aggregate Green Bond	33%
Euro Corporate Green Bond	16.5%
Global Green Bond	10.5%
Equity	40%
Climate Solutions Fund #1	12%
Climate Solutions Fund #2	12%
Climate Solutions Fund #3	12%
Climate Solutions Fund #4	4%

Source: BNP Paribas Asset Management as of 30 November 2023

The Environmental, Social and Governance (ESG) criteria used for this portfolio increased from 20% to 82.1% (green parts in figure K) either via green bonds or SDG alignment.

- 100% of fixed income is invested in green bonds
- 22.1% of the revenue of the underlying companies is aligned or potentially aligned to SDGs 7, 9 or 11. The exposure comes entirely from the equity part, meaning that 55% of the revenues in this solution, within the equity pocket, are aligned to SDG 7, 9 or 11.

While this thematic portfolio significantly increases its exposure to investment supporting the climate transition, it also keeps the risk contained against its benchmark. Our aim is to provide the flexibility to find the best risk/ESG solution for our clients.

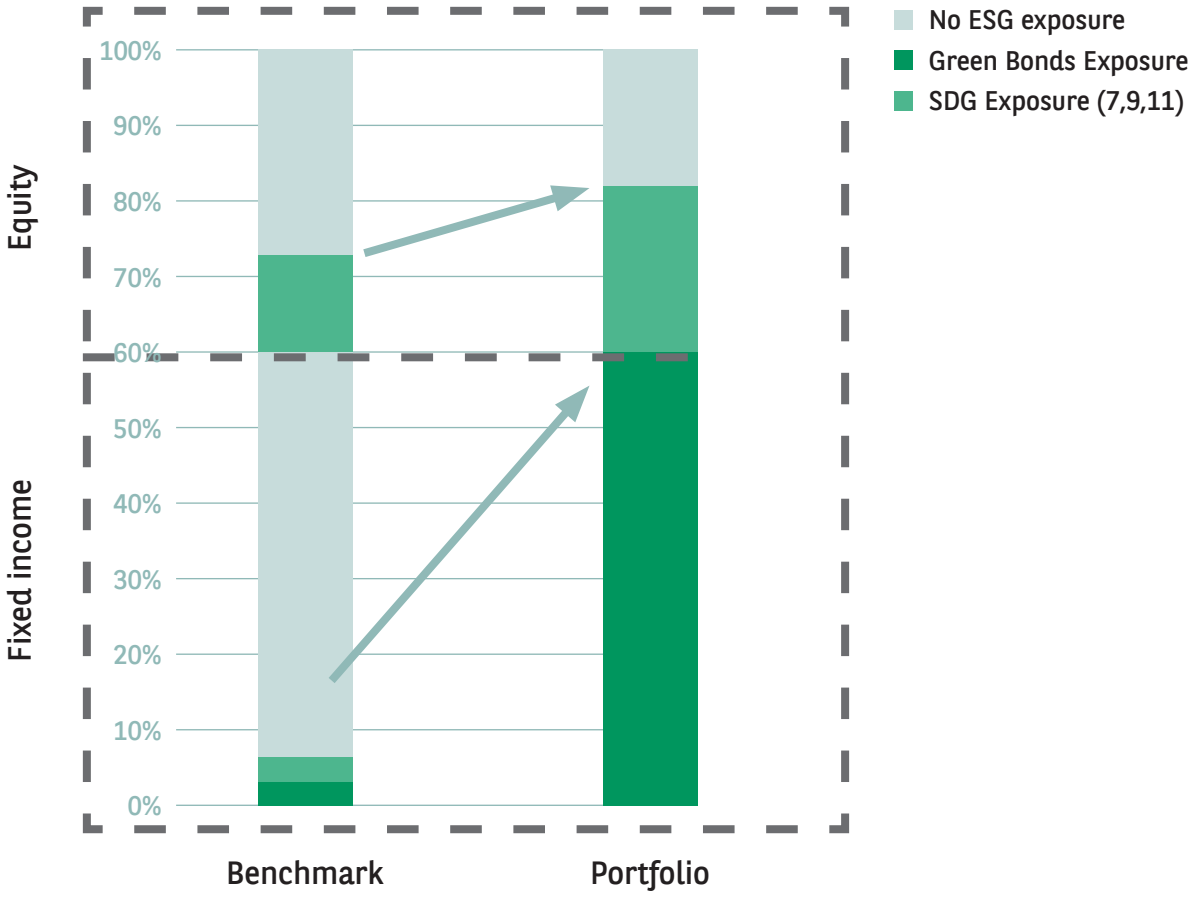


100%

OF FIXED INCOME IS INVESTED IN GREEN BONDS

[24] The maximum fund weight within the equity portfolio was limited to 30% of the equity pocket.

Figure J: ESG indicators of the proposed portfolio



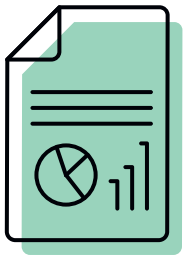
Source: BNP Paribas Asset Management as of 30 November 2023

The proposed portfolio meets the two objectives as:

The ex-ante tracking error against the multi-asset benchmark is contained at 2.82%, which is higher than in the two first case studies on core portfolios. This can be explained by the more specific ESG constraints.

For the criteria (as depicted in figure J):

- The average exposure of the portfolio to green bonds is 60% compared to 3.3% for the benchmark
- The alignment to the three specific SDGs (7, 9 and 11) is 22.1% compared to 16.7% for the benchmark
- The portfolio exposure to SDGs or green bonds is 82.1% compared to 20% for the benchmark.



THE PORTFOLIO EXPOSURE TO SDGs OR GREEN BONDS IS

82.1%

CONCLUSION

Achieving net zero emissions requires a collective commitment and effort from many stakeholders including governments, industries, companies, investors, communities and individuals to mitigate climate change and ensure a sustainable future.
Companies can contribute to the net zero transition by reducing their carbon footprint. They can do this by optimising their operations, implementing energy-efficient practices, using clean technologies and employing sustainable practices throughout their supply chain and manufacturing processes. Some companies can also contribute by developing new low-carbon solutions, products and services.

Investors can play a crucial role in driving the transition to a net zero economy by:

- Allocating capital to companies that integrate climate change considerations in their business strategy and align their operations with global net zero objectives
- Financing low-carbon projects and companies that provide climate solutions through their products and services
- Engaging with companies to encourage them to set ambitious emissions reduction targets, disclose their climate-related risks and integrate sustainability into their business strategies.

To make their journey towards net zero investing a success, investors should set clear objectives and priorities and specify measurable targets in line with science-based pathways and the timeframe for achieving them. Appropriate key performance indicators integrated into the investment decision-making process will help investors effectively implement deliver on their net zero investment strategy, as well as assess, monitor, and report on progress.

Investors have several approaches at their disposal to implement their net zero strategies. These will play different roles in addressing climate risks and opportunities within the investment portfolio and have different impacts on the risk-return profile and sector exposure of the investment portfolio.

Investors should therefore carefully consider their investment priorities and constraints and employ an approach that best supports a net zero transition strategy in the context of their fiduciary duties.

Asset managers also can contribute to the global effort to achieve net zero emissions by developing and offering products and solutions that enable investors to align their investment objectives with environmental sustainability goals and support the transition to a net zero emissions economy.

BNP Paribas Asset Management is committed to partnering with its clients on their net zero goals. Our Solutions & Client Advisory team has developed an internal approach and tools to better support investors in setting their net zero objectives, providing the flexibility to address each investor's specific needs, constraints and requirements.

ABOUT THE CONTRIBUTORS

Thibaud Clisson
Climate Change Lead, Senior ESG Analyst

Thibaud joined the ESG research team of BNPP AM in 2009. He is the climate change lead for BNP Paribas AM and is responsible for ESG integration in Real Assets. He also covers the energy and utilities sectors. He is a member of the Scientific Committee of the Euronext Low Carbon indexes, of the TPI Strategic Advisory Committee as well as a member of the EU Policy Working Group.

Prior to joining the firm, he spent two years working at GDF Suez in France as a business analyst.

Thibaud holds a Master's degree in Management from the SKEMA Business School, Lille, France (2008) and a Master's degree in Corporate Social Responsibility from the Gustave Eiffel Business School at Paris-Est Créteil Val-de-Marne University, France (2009). He then went on to complete an Executive Master's in Energy Management (EMEM) from the ESCP Europe, Paris (2017). He is an EFFAS CESGA (Certified ESG Analyst) certificate holder. Thibaud is based in Nanterre.

Sophie Debehogne
Client Solutions Manager, Head of Sustainable Solutions

Sophie has been a Senior Client Solutions Manager within the Solutions & Client Advisory team at BNP Paribas Asset Management since 2011. She is responsible for advising and constructing customised solutions for institutional clients: corporate, insurers and pension funds. She covers various types of solutions ranging from sustainable investment solutions, fiduciary management, multi asset and risk overlay strategies to single asset class solutions requiring a tailor-made approach. She actively contributes to the development of our sustainable solution framework in collaboration with our Sustainability Centre.

Sophie joined Fortis Investments, a predecessor of BNPP AM,

in 1996. As Head of Strategy and Development for two years, her team's main responsibilities were M&A activities, development of the strategic business plan and internal consulting missions. Prior to that, she joined Fortis Investments' asset allocation team as Product Specialist in charge of promoting a large range of products (commodities, structured products, GTAA overlay, diversified funds) to institutional investors.

Sophie started her career at Générale de Banque as a Financial Analyst in the asset management division before becoming an Equity Portfolio Manager specialised in technology and telecom sector funds. Sophie has over 28 years of asset management experience. She studied at the Solvay Business School and is a Financial Engineer. She is based in Brussels.

Laurent Delvenne
CFA, Portfolio Solutions Designer

Laurent Delvenne has been Portfolio Designer at BNP Paribas Asset Management since 2021. He provides strategic asset allocation advice, designs protection strategies and implements sustainable solutions for institutional clients. He analyses strategies customised to the client's needs while taking into account regulatory and ESG constraints.

Laurent joined the company as OTC Pricing Analyst in 2016. Before joining BNPP AM, Laurent was a Fixed Income Analyst intern at BNP Paribas Fortis Wealth Management in 2016. He has more than five years of experience in the asset management industry. Laurent holds a master degree in finance from the Louvain School of Management. He is a CFA Charterholder and is based in Amsterdam.

Saule Ualiyeva
Senior Strategic Marketing and Innovation Manager

Saule Ualiyeva is Senior Strategic Marketing and Innovation Manager in BNP Paribas Asset Management's Product Strategy and Strategic Marketing team. Her focus is on evaluating the

market environment and identifying strategic development opportunities to help BNPP AM differentiate itself from its competitors and better meet the needs of its clients. She actively contributes to strategic initiatives related to the development of sustainable and impact investment products, solutions and capabilities.

Saule previously held a similar position at Candriam Investors Group. From 2006 to 2016 she worked in a variety of marketing and strategic roles in the Global Marketing Department, Markets & Investment Strategy Department and Institutional Client Group at AXA Investment Managers.

Saule holds a Specialised Master's degree in International Wealth Management from ESCP Europe Business School, CAIA Certification and Certified ESG Analyst Diploma.

FURTHER READING

Further work from BNP Paribas Asset Management for investors on integrating net zero objectives into investments.

Committed to climate: Our roadmap to net zero
This paper outlines our strategy for aligning our practices and portfolios with a low carbon future.

Accelerating net zero ambition
This report highlights the concrete actions that a number of "high ambition" investors are taking to the systemic risk posed by climate change.

Aligning investments with the Paris Agreement – Frameworks for a net zero pathway
A research paper exploring various strategies for institutional investors to align their equity portoflios with pathways targeting net zero greenhouse gas emissions by 2050.

Aligning equity multifactor strategies with net zero objectives
A study of the various approaches to aligning our multifactor equity strategy with net zero objectives.

If you wish to receive a copy of any of the above-mentioned papers, please either contact your client relationship manager or send an email to am.investmentinsights@bnpparibas.com.

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Investing in emerging markets, or specialised or restricted sectors is likely to be subject to a higher-than average volatility due to a high degree of concentration, greater uncertainty because less information is available, there is less liquidity or due to greater sensitivity to changes in market conditions (social, political and economic conditions). Some emerging markets offer less security than the majority of international developed markets. For this reason, services for portfolio transactions, liquidation and conservation on behalf of funds invested in emerging markets may carry greater risk.

Environmental, social and governance (ESG) investment risk: The lack of common or harmonised definitions and labels integrating ESG and sustainability criteria at EU level may result in different approaches by managers when setting ESG objectives. This also means that it may be difficult to compare strategies integrating ESG and sustainability criteria to the extent that the selection and weightings applied to select investments may be based on metrics that may share the same name but have different underlying meanings. In evaluating a security based on the ESG and sustainability criteria, the Investment Manager may also use data sources provided by external ESG research providers. Given the evolving nature of ESG, these data sources may for the time being be incomplete, inaccurate or unavailable. Applying responsible business conduct standards in the investment process may lead to the exclusion of securities of certain issuers. Consequently, (the Sub-Fund's) performance may at times be better or worse than the performance of relatable funds that do not apply such standards.

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VIEWPOINT

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