

Using PACTA with the NZAOA Target Setting Protocol

A guide for Asset Owners
and Asset Managers

October 2024





Table of Contents

Authors and Acknowledgments	3
Introduction	4
The Role of Target Setting	6
Assessing Portfolios with PACTA	8
NZAOA Target Setting Protocol.....	11
Using PACTA for NZAOA TSP	13
PACTA Insights.....	19
Limitations	20
Tools and Resources.....	23

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Disclaimer

This document provides one interpretation of how the PACTA (Paris Agreement Capital Transition Assessment) tool can be utilized in alignment with the Net-Zero Asset Owner Alliance (NZAOA) Target Setting Protocol. It offers guidance and examples based on publicly available methodologies to assist asset owners in aligning their portfolios with climate goals.

However, this document is not exhaustive, and the recommendations herein should not be considered as a definitive or sole approach for compliance. For the most accurate and up-to-date information, users must refer to the original NZAOA Target Setting Protocol and related official publications. Asset owners and managers should ensure that they consult the full scope of the official guidelines to tailor their strategies to their specific needs and requirements.

About PACTA: The Paris Agreement Capital Transition Assessment (PACTA) is an open-source and free of charge methodology & software application that enables users to measure the alignment of financial portfolios with climate scenarios.

About RMI: RMI is an independent, nonpartisan, nonprofit that transforms global energy systems through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all.

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Introduction

About PACTA

RMI's [Paris Agreement Capital Transition Assessment \(PACTA\)](#) is a unique, **open-source methodology and software tool** for **measuring climate alignment of financial portfolios** designed with and for financial institutions. It provides a powerful, forward-looking approach to assessing how well portfolios are positioned to support the transition to a low-carbon economy across a set of key climate-relevant sectors, a critical factor in minimizing global temperature rises.

Key differentiators of the PACTA methodology



Five-year forward-looking metrics to evaluate company action in the decisive decade



Real asset insights derived from **capex** and production plans

Financial use cases enabled



Assess portfolio alignment against multiple climate scenarios



Set climate **strategies** and **targets**



Engage directly with clients' investment plans



Manage transition **risk** exposure

PACTA Is Forward-Looking

PACTA compares what needs to happen in **climate-relevant sectors** in order to minimize global temperature rises with financial institutions' exposure to companies in these sectors. It uses a **dynamic, forward-looking approach**, based on the 5-year production plans of companies in a financial institution's portfolio.

The methodology measures alignment per sector or per technology, **ensuring sector-specific needs are included**. For example, some sectors need to move more quickly than others; some need to reform (such as power generation); and others need to phase out (for instance, fossil fuels).

PACTA Uses Bottom-Up Data

PACTA uses bottom-up, **asset-based company-level production data** based on physical assets in the real economy, which is aggregated up to company level.

Company production data is attributed to **financial portfolios**, which can be either investments in listed equity, corporate bonds, and funds, or corporate loans.

Scenario data lays out the decarbonization paths that need to occur for different technologies and sectors in order to be aligned with a specific climate temperature.

About The NZAOA and the Target Setting Protocol

The Net Zero Asset Owners Alliance (NZAOA) is an investor-led initiative committed to **transitioning their investment portfolios to net zero greenhouse gas emissions by 2050**. In April 2024, the alliance released its fourth version of the Target Setting protocol, expanding its coverage to new financial assets and **highlighting the role asset managers play in the asset owners' commitments**. The new protocol affirms the NZAOA's ambition towards their climate goals.

The Target Setting Protocol is a framework that guides NZAOA's members on how to set targets at different levels, to support the transition of their investment portfolios to net-zero GHG by 2050, aligned with a 1.5°C limit on global temperature rise. This commitment is rooted in the latest scientific insights, particularly from the IPCC, and is designed to balance environmental goals with the practicalities of a just economic transition.

To achieve this, **members must set and publicly disclose intermediate targets every five years, report annually on progress**, and embed these goals within a broader Environmental, Social, and Governance (ESG) strategy. The protocol promotes transparency and accountability, outlining specific requirements for members, including target-setting, progress reporting, and adherence to Alliance positions.

By following this protocol, members can contribute to real-world emissions reductions while navigating the complexities of aligning investment strategies with both scientific imperatives and the realities of global economic transitions.

About this Guidance Document

This document aims to support Asset Owners and Asset Managers, in effectively utilizing the PACTA for Investors tool within the framework of the Net Zero Asset Owners Alliance Target-Setting Protocol. By providing clear explanations, practical examples, and visualizations, it aims to illustrate how PACTA can be applied to assess the alignment of investment portfolios, with net-zero targets, and how to interpret the metrics provided in the interactive report.

This document provides a summary of the PACTA methodology, and the main components of the fourth edition of the NZAOA target setting protocol. The document also provides illustrated guidance on how to utilize PACTA for a particular use case at the time of its publication. The document does not offer financial, legal, or any other professional advice, and should not be used as such. This document does not replace any existing guidance provided by the NZAOA.

The Role of Target Setting

The transition to a net-zero economy is one of the most pressing challenges of our time in tackling climate change and its effects. It necessitates a united effort across all sectors, particularly the financial industry, which holds a crucial role in directing financial resources towards facilitating this shift.

Targets are integral to the development and implementation of effective transition plans for every organization. Targets provide a clear path to achieving mid- and long-term goals set out by the Paris Agreement and other climate-related commitments. They serve as both a goal and a benchmark that should be integrated into a company's strategy to translate them into specific, and actionable steps that organizations can take to reduce their emissions and align with the global objective of limiting global temperature rise to 1.5°C above pre-industrial levels.

For asset owners and asset managers, establishing clear and measurable targets is a fundamental step in aligning their portfolios with the global objective of achieving net-zero greenhouse gas (GHG) emissions by 2050. This process is not merely a technical task but a strategic imperative that ensures their investment strategies are in line with the broader movement toward a low-carbon economy. Through defining concrete targets, asset owners and managers can mitigate their exposure to climate-related risks and seize opportunities in the growing green economy.

The NZAOA's target-setting protocol provides a framework for members to establish intermediate targets, which serve as milestones on the path to 2050. Intermediate targets allow for regular assessment and recalibration, ensuring that portfolios remain on track to achieve long-term decarbonization goals.

Setting targets also serves as a powerful signal to the market, as they incentivize companies in carbon-intensive sectors to evaluate their strategy and aim for adopting sustainable practices and adapting their business model. This signal not only supports the decarbonization of the real economy but also fosters the development of innovative climate solutions, which can benefit investors as growth and market adoption of these solutions represent investment opportunities. Moreover, publicly disclosed targets contribute to transparency and accountability. They allow stakeholders, such as investors, customers, and regulators, to monitor progress and hold organizations accountable for their commitments. This transparency builds trust and enhances the credibility of climate action, which is essential for mobilizing broader support for the transition.

In addition to the role that target setting plays in driving decarbonization, it is a tool for managing climate-related risks. The transition to a low-carbon economy will potentially generate changes in the regulatory landscape, market dynamic and also consumer preferences. Financial institutions who have set clear targets and established a transition plan, will be better equipped to face those changes, as they have a clear understanding of their exposures to climate risks, and a roadmap to adjust their investments in response to evolving risks and opportunities created by the transition. For instance, setting sector-specific targets allows for a focused approach on identifying low-carbon technologies opportunities and also engaging with companies using high-carbon technologies to support them in their business adaptation.

Targets are also a basis to engage in the dialogue with investee companies with the aim to encourage them to define and implement clear transition plans which align with a 1.5°C pathway. This proactive engagement not only promotes portfolio alignment, but also amplifies the impact of investments, contributing to a broader systemic change.

Finally, in an investment landscape that increasingly demands the integration of sustainability considerations, credible targets enable financial institutions on one side to demonstrate their commitment to responsible investment practices, attracting investors who prioritize sustainability. On the other end, they also position the financial institution to comply with emerging regulatory requirements, therefore, reducing regulatory risk.

In summary, setting targets plays a crucial role in the strategy for any organization contributing to the global transition to a low-carbon economy. Targets offer a clear direction, allowing investors to manage risks, seize opportunities, and foster meaningful change in the real economy. Integrating target setting into their investment processes enables financial institutions to fulfill their fiduciary responsibilities and actively contribute to the collective effort to achieve a sustainable future.

Box 1. Beyond target setting

When defining a climate target, it's essential to grasp the specific climate challenges and how your investments relate to them. PACTA can assist financial institutions in assessing their portfolio's exposure to various sectors and the potential associated climate transition risks. Here are key questions investors can explore using their PACTA results:

1. What are the most critical sectors for my portfolio?
Understanding the materiality of each sector in terms of assets under management and CO2 emissions is crucial. Even if certain investments appear small in monetary value, their impact can be significant if they're in high-emission sectors. Refer to Sections 2.2 and 2.3 of the interactive report for detailed insights.
2. How are investee companies performing compared to their sector targets?
Evaluate sector performance by examining physical emission intensity for the most significant sectors. Section 3.3 of the interactive report offers a comprehensive analysis. Additionally, the technology mix can provide initial insights into investee companies' exposure to various technologies. As part of the transition, companies are expected to increasingly adopt low-carbon technologies; see Section 3.1 for more information.
3. How can investee companies transition to reduce future CO2 emissions?
Identify technology gaps within each sector to align with necessary scenarios and determine the pace at which these gaps should be closed. This information forms a critical foundation for engagement discussions with corporations. For more in-depth insights, refer to Section 3.2 of the interactive report.

Assessing Portfolios with PACTA

RMI's Paris Agreement Capital Transition Assessment (PACTA) is a free and open-source methodology and software tool that assesses the alignment of investment portfolios to climate change scenarios across a set of climate-critical sectors and technologies. The tool was conceived to support investors in aligning their portfolios with the global goal of limiting climate change. As the world moves towards a low-carbon economy, it is more important than ever to understand how investments impact the climate and support the transition. PACTA offers investors the insights they need to navigate the complex landscape in eight of the most climate-relevant sectors for the climate transition. This enables investors to make decisions that not only align with their financial goals but also align with global climate ambition.



A Forward-Looking Approach

One of the key features of PACTA is its forward-looking approach. Unlike traditional methods that rely on historical emissions data, PACTA evaluates the alignment of investment portfolios with the necessary transitions in climate-relevant sectors by examining the five-year production plans of portfolio companies. This dynamic approach allows asset owners and managers to anticipate and adjust to the rapidly changing landscape of climate action, focusing on what needs to happen in the future rather than just analyzing past performance.

Sector and Technology-Specific Insights

PACTA's strength lies in its ability to measure alignment per sector or technology, recognizing that different sectors have varying roles in the transition to a sustainable economy. For instance, while power generation needs to undergo significant reform to reduce carbon emissions, other sectors, such as fossil fuels, need to phase out entirely. PACTA takes this into account by providing sector-specific insights, helping investors understand which parts of their portfolio are most at risk from climate transition, and which are best positioned to benefit from it. This targeted analysis ensures that investors can tailor their strategies to the unique needs of each sector, maximizing both impact and returns.

Bottom-Up Data for Real Economy Insights

The methodology is grounded in bottom-up, asset-based company-level data. This means that PACTA relies on companies' physical production data, which are then aggregated to assess the portfolio's overall alignment with climate scenarios. This detailed, real-world data, sourced from business intelligence data providers, is critical for accurately attributing a company's climate impact to the financial portfolios that hold investments in these companies, whether in listed equity, corporate bonds, or funds.

Unique Strengths of PACTA

PACTA offers several unique strengths that make it an invaluable tool for financial institutions:

- **Five-Year Forward-Looking Metrics:** By focusing on a decisive timeframe, PACTA enables asset owners and managers to evaluate and respond to company actions during this critical decade for climate action.
- **Real Asset Insight:** The tool derives insights from capital expenditure (capex) and production plans, providing a grounded perspective on a company's future impact.
- **Open Source:** PACTA is an open-source tool, making it accessible and adaptable for a wide range of users, fostering transparency and collaboration in the pursuit of climate goals.

Empowering Decision-Makers

For asset owners and managers, PACTA is a strategic resource that empowers them to make informed decisions about their portfolios. By using PACTA, financial institutions can identify the sectoral gaps in the portfolio to align their investments with the pathways needed to achieve a sustainable, net-zero future, positioning themselves as leaders in the global transition to a low-carbon economy.

PACTA results provide helpful insights to inform your **portfolio construction** and support decision-making to define **sectoral allocation** and **set targets** based on your company's production plans, leading to a realistic climate strategy.

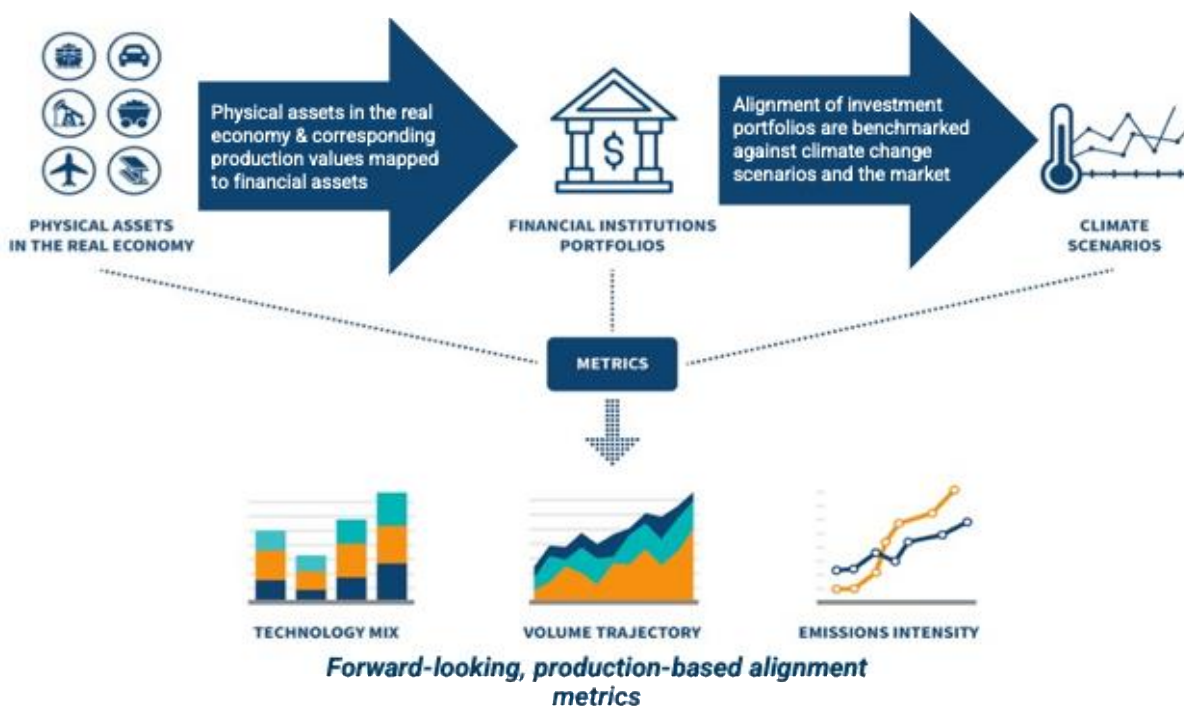


Figure 1: The PACTA Approach

How To Get Started: Generating Your PACTA Results

RMI offers a free-to-use web platform for investors to analyze their investment portfolios with the PACTA methodology. Getting started with [PACTA for Investors](#) is straightforward. Create an account on the free-to-use Transition Monitor platform if you haven't already (accessible at <https://platform.transitionmonitor.com/>). Once logged in, simply upload your portfolio following the instructions provided on the platform. After that, review the audit file, available in the portfolio tab, to ensure the uploaded information is accurate. It is recommended to review the share of holdings included in the analysis and confirm that there are no incorrect ISINs. Some additional validations that are recommended are the number of holdings uploaded and included for the analysis, as well as the USD value of the portfolio.¹

Finally, on the results tab click on PACTA report next to the name of your portfolio to generate your results!

The system will automatically map your portfolio data to a rich database of company-level production and emissions information, applying the PACTA methodology. Your interactive report will show how your portfolio aligns with key climate scenarios, comparing the companies' five-year forward-looking production plans to global sector pathways.

¹ Investments made in other currencies will be converted to USD, using the exchange rate available for the 31st of December of the year of the data stamp, as presented when uploading the portfolio.

NZAOA Target Setting Protocol

The Alliance's commitment is a proactive strategy to mitigate climate change risks and foster a sustainable economy while maximizing real-economy outcomes. Guided by scientific findings, including those from the Intergovernmental Panel on Climate Change (IPCC), the Alliance members set goals that aim to reflect both the urgency of the climate crisis and the realities of the global economy. This dual focus ensures that financial institutions not only aim for net-zero portfolios but should also support the transition to a net-zero world. In this context, the Target Setting Protocol is the document that governs and provide guidance on how Alliance members should set their intermediate climate targets to put their investment portfolios on a path to achieve the Alliance's net zero greenhouse gas emissions goal. The document presents the guidelines to report to the Alliance and introduces the requirements to report under four different approaches: Engagement targets, sector targets, sub-portfolio targets, and climate solutions investment targets. According to the Alliance, these approaches intend to address the challenge of reducing GHG emissions while having a real-world impact on a global, diversified investment portfolio.

Structured and Transparent Target-Setting

To achieve their long-term commitment, Alliance members are required to establish intermediate targets every five years in line with the Paris agreement Article 4.9 cycle, specifying a five-year cycle of 2025, 2030, 2035, etc. These targets are aligned with the latest available science and are designed to drive real-world emissions reductions. The Target-Setting Protocol provides a structured framework for setting these goals, requiring members to publicly disclose their targets and report on their progress annually. This transparency not only holds members accountable but also fosters trust and engagement with stakeholders, including policymakers, businesses, and the public.

Empowering a Just Transition

The Alliance recognizes that the transition to a net-zero economy must be fair and inclusive. As such, the Target-Setting Protocol emphasizes the importance of considering social impacts alongside environmental goals. By advocating for policies and corporate actions that support a just transition, the Alliance ensures that the shift to a low-carbon economy benefits all sectors of society. This holistic approach underscores the Alliance's commitment to sustainable development that leaves no one behind.

A Dynamic and Responsive Approach

The Target-Setting Protocol evolves with the changing landscape of climate science and economic conditions. By consulting with academic institutions and incorporating feedback from public dialogue, the Alliance trusts its approach remains relevant and effective. This adaptability is crucial in a world where the pace of climate action must accelerate to meet global targets.

Four-Part Target-Setting Approach

The Target setting protocol reflects an understanding of the challenges and opportunities in transitioning to a net-zero economy. By setting clear targets and emphasizing the relevance of engagement and sector-specific strategies, the Alliance provides a framework that can be used not just for asset owners but for asset managers as well to lead the way in sustainable finance.

The Alliance recommends members set targets on all four components but expects as a minimum that each Alliance member:

- Set targets on at least three target types out of four
- Set targets on engagement as this is a mandatory target type
- Report information on climate solutions investments

Engagement Targets: Recognizing that systemic change requires collective action, engagement targets focus on how members can influence companies, sectors, and asset managers to adopt and implement low-carbon strategies. This includes advocating for sector-specific decarbonization pathways and pushing for stronger climate policies and regulations.

Sector Targets: These targets link portfolio-level emissions reductions to the carbon efficiency needs of specific sectors. This approach is particularly crucial for hard-to-abate sectors like energy, industry, and transportation, which require tailored strategies to balance decarbonization with economic viability.

Sub-Portfolio Targets: Focusing on asset classes with available data and methodologies, sub-portfolio targets provide a framework for reducing emissions within specific investment categories. These targets aim to guide a reduction in the portfolio's emissions profile over time.

Climate Solutions Investment Targets: Financing the transition to a net-zero economy is a critical element of the Alliance's strategy. By setting targets for climate solutions investments, members are encouraged to allocate capital towards projects and technologies that drive the global economy towards sustainability. This not only aligns investment portfolios with net-zero goals but also accelerates the development of new markets and solutions critical for the transition.

Using PACTA for NZAOA TSP

PACTA can be a powerful tool for reporting on several elements of the NZAOA Target Setting Protocol (TSP), especially when used to track portfolio alignment with climate scenarios. By leveraging its forward-looking, production-based approach, PACTA provides actionable insights into how current and future investments align with sector-specific climate targets, which makes the results more actionable compared to tools that rely solely on historical or static data. This forward-looking analysis allows asset owners and managers to anticipate shifts in production capacity and technology, thereby aligning their strategies with the climate goals set by the NZAOA.

However, it is important to recognize that PACTA has certain limitations, which are discussed in detail in the "Limitations" chapter of this guide. These limitations should be considered when interpreting PACTA results and integrating them within the broader NZAOA framework. Despite these constraints, PACTA remains a critical tool for making informed, forward-looking decisions and aligning portfolios with net-zero goals.

The figure below summarizes how targets should be set in each approach by Alliance members according to the NZAOA TSP 4th edition.

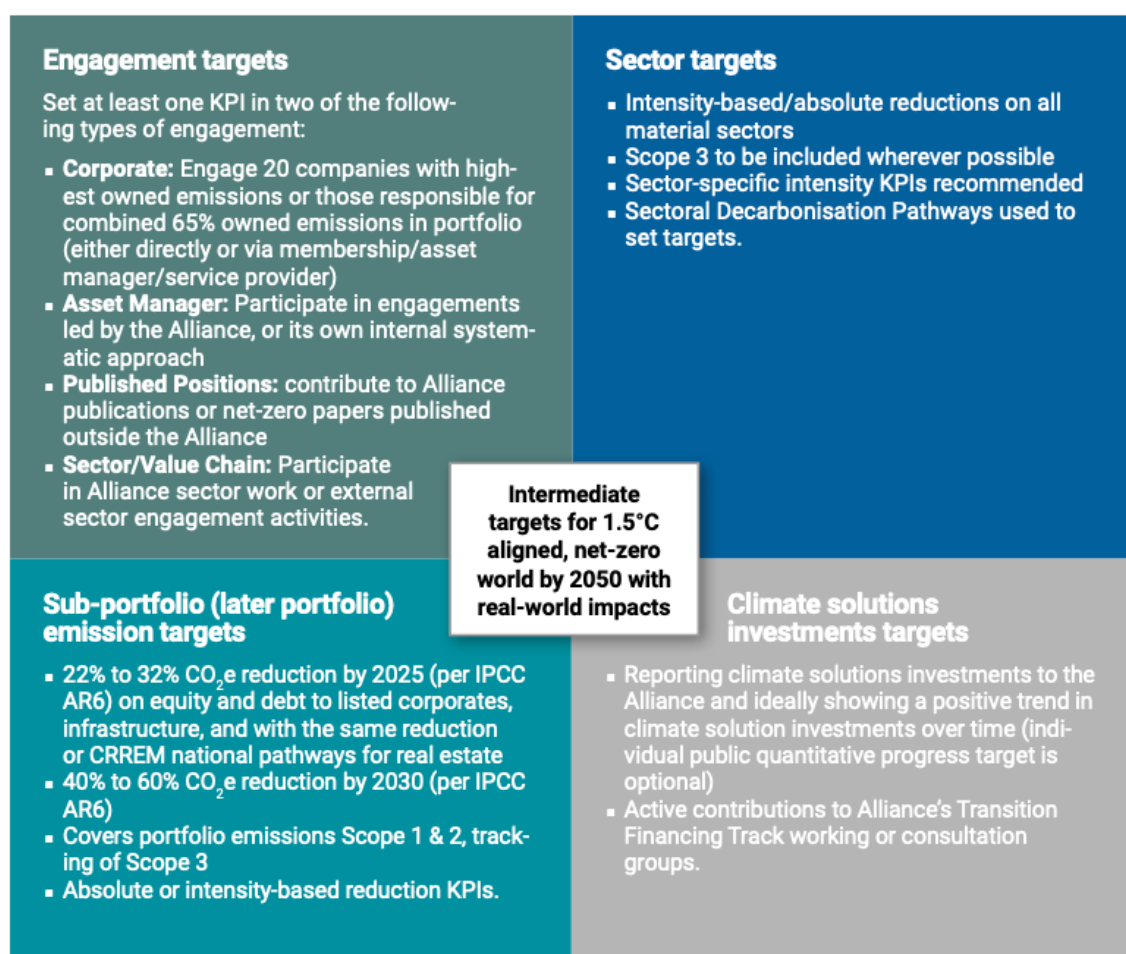


Figure 2: Summary of four-part target -setting approach (source: NZAOA TSP 4th edition)

To provide more clarity on how to use PACTA results to report under the NZAOA Target Setting Protocol, in this section a sample report will be used to explain where to find the required data for reporting under the NZAOA TSP. **A sample portfolio report can be found by clicking [HERE](#).**

Engagement Targets

The NZAOA Target Setting Protocol specifies that asset owners should engage with the top 20 companies with the highest owned emissions or those responsible for a combined 65% of portfolio emissions. Using PACTA, asset owners can effectively identify and prioritize these engagement targets based on the emissions exposure data in section 2.3 of the interactive report. The emissions presented in this section of the interactive report cover emissions scopes 1, 2 and 3.

For example, as illustrated in *Figure 3*, sectors such as coal (37%) and power (23%) contribute significantly to the overall emissions in a typical equity portfolio. These high-emission sectors are logical focal points for engagement efforts. The investor can identify the absolute emissions attributed to the portfolio by hovering over each section of the chart in the interactive report. The portfolio Audit file, also available on the platform, will support in identifying companies' sectoral classification. The colored sectors, already provide asset owners with information on which sectors require priority attention, aligning their engagement strategy with the NZAOA's goals of reducing portfolio emissions.

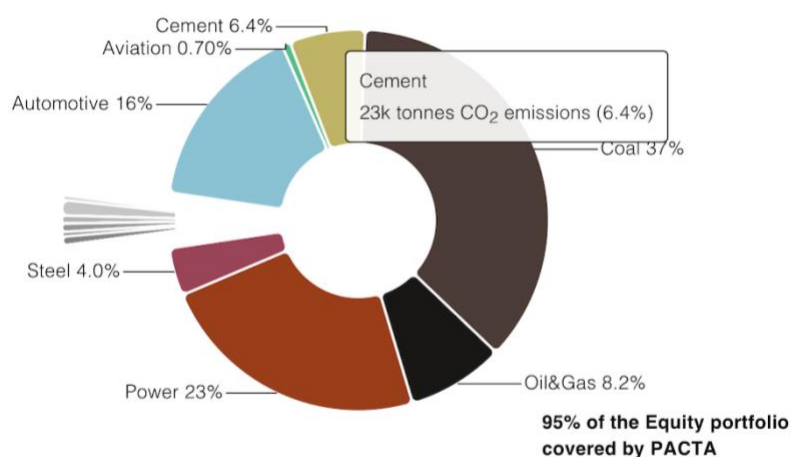


Figure 3: Portfolios absolute CO2 emissions

In the sample portfolio, the asset owner or manager could focus its engagement efforts on companies in sectors that combined represent more than 65% of portfolio emissions. For example, Coal (37%), Power (23%), and Cement (6.4%), which would already represent engagement with companies that combined represent 66.4% of portfolio emissions.

Sector Targets

The Alliance requires that members begin setting sectoral targets with the most material sectors in their portfolios². While members must account for Scope 1 and 2 emissions, the Alliance strongly recommends including Scope 3 emissions to ensure a more comprehensive approach.

Step 1: Identify Material Sectors

The first step is identifying the sectors in the investment portfolio with the highest emissions, which has already been covered in **Section 2.3** of the interactive report. As shown in *Figure 3*, the sectors contributing the most emissions in a sample portfolio are: Coal: 37%, Power 23%, Automotive: 16%, Oil and Gas: 8.2%, Cement: 6.4%, Steel: 4%.

These sectors are the primary focus for setting sectoral targets due to their significant emissions contributions.

Step 2: Identify Carbon Emission Metrics

Once the material sectors have been identified, the next step is to gather relevant carbon emissions metrics for each sector. PACTA provides production-based metrics specific to each sector, as outlined in the table below:

Production based metrics provided by PACTA by sector	
Oil and Gas	tCO ₂ e/GJ
Coal	tCO ₂ e/tonne of Coal
Power	tCO ₂ e/MWh
Automotive	tCO ₂ /Km per cars produced
Cement	tCO ₂ e/tonne of cement
Steel	tCO ₂ e/tonne of steel
Aviation	tCO ₂ /passenger km per active planes

Step 3: Analyze Emission Intensity

Section 3.3 of the interactive report provides information on the physical emission intensity of each sector within the portfolio. By hovering over the blue line in the report (see *Figure 4*),

² The Alliance includes the following sectors in the scope for sectoral targets: Oil and Gas, Utilities (Including coal), Transport, Materials, Agriculture, forestry and fisheries, Chemicals, Constructions and buildings, water utilities, and textiles and leather.

it's possible to view the estimated emission intensity for each sector, based on the production plans of the investee companies. These portfolio results are benchmarked against the IEA Net Zero Scenario 2050, represented by the green line. The gap between the blue and green lines represents the difference between the forecast portfolio emission intensities and the scenario-aligned targets.

For example, in the case of the power sector in a sample portfolio, Figure 4 shows that by 2025, the portfolio will generate 0.31 tCO₂/MWh, while the scenario target is 0.23 tCO₂/MWh. By 2028, the portfolio's projected emissions intensity decreases slightly to 0.29 tCO₂/MWh, but it still falls short of the scenario target, which requires 0.15 tCO₂/MWh by that year.

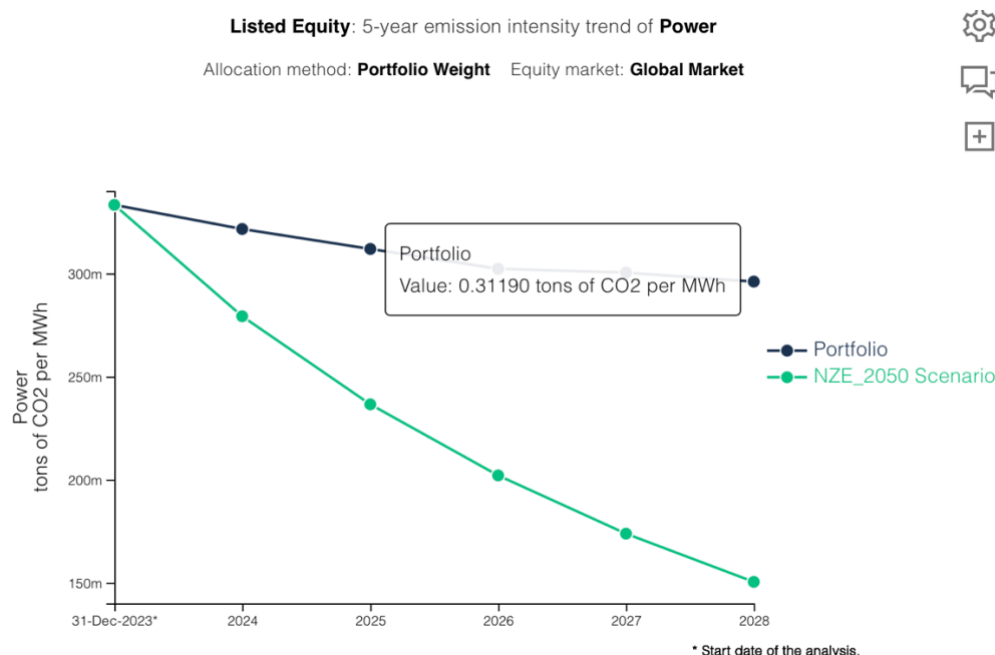


Figure 4: Current and future emission intensity for the power sector

Step 4: Setting Sectoral Emission Intensity Targets

These PACTA results, combined with data from discussions with investee companies, provide the information needed to set sectoral emission intensity targets. In cases where asset owners have additional data about future emissions reductions from investee companies, or have agreed on specific targets with these companies, the emission target can be positioned between PACTA's projected emissions and the scenario target.

For example, based on the power sector analysis, an interim target for 2025 could be set between 0.31 tCO₂/MW and 0.23 tCO₂/MW. This data can be used to drive engagement discussions with investee companies. Active follow-up discussions with investee companies would ensure measurable progress toward decarbonization. This process enables asset owners to gradually align their portfolios with the net-zero objectives outlined by the Alliance.

Step 5: Applying the Analysis to Other Sectors

The same thinking process followed to analyze the power sector can be applied to other sectors covered by the PACTA methodology. By selecting the desired sector from the dropdown menu in the interactive report, users can access sectoral emission intensity data and benchmarks for each material sector.

Sub-portfolio Emission Targets

Regarding the sub-portfolio emission targets, the Alliance sets ambitious CO₂ reduction targets for its members, expecting a 22% to 32% reduction in emissions across equities, bonds, and other financial assets by 2025, and a 40% to 60% reduction by 2030 compared to a 2019 baseline year. These targets should encompass Scope 1 and 2 emissions, and where feasible, Scope 3 emissions.

To support this approach, the Alliance provides detailed guidance on how to set sub-portfolio targets based on the asset classes in the portfolio. PACTA is equipped to provide absolute emissions data for Listed Equity and Corporate bond holdings, but not for other financial assets, due to certain limitations explained in the relevant chapter in this guide. It is relevant to note that for corporate bonds, PACTA provides absolute emissions data weighted by companies' outstanding debt as the Enterprise Value Including Cash (EVIC) data is not available for the analysis. While this is not the primary metric recommended for this type of financial asset by the TSP, it can provide insightful information.

Section 2.3 of the interactive report, titled *Absolute CO₂ Emissions*, provides insights into the current absolute emissions attributed to the portfolio. These financed GHG emissions are weighted by market capitalization and broken down by sector. To access the portfolio's absolute emissions data, users can download the data used to generate the pie chart, as presented in figure 5, and sum the values presented in Column B. In the sample portfolio example, the owned absolute emission of the portfolio totals 360,000 tons of CO₂.

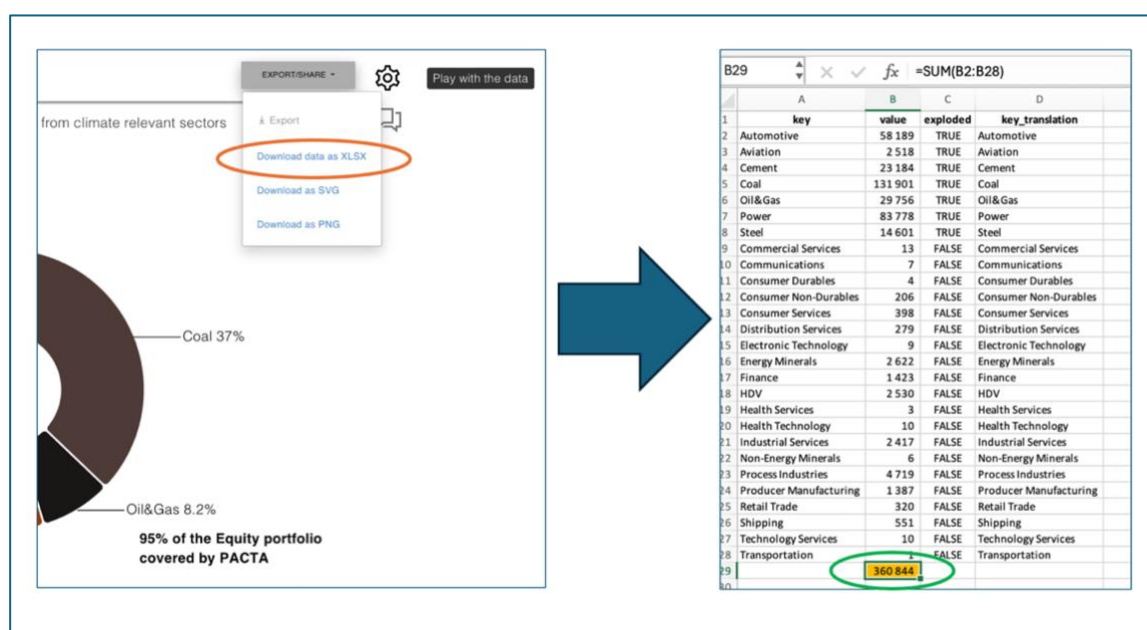


Figure 5: Current and future emission intensity for the power sector

Adjustments for Next Reporting Period

When preparing data for future reporting periods, adjustments should be made for factors such as portfolio growth and currency fluctuations. These adjustments should be made in the data before it is uploaded to the interactive report for the next period to ensure results remain accurate for the next period.

These adjustments would need to be included in the CSV document being uploaded by the financial institution to the platform for analysis. For example, any portfolio value growth or currency fluctuations should be reflected in the amount invested in each ISIN.

Climate Solutions / Investment Strategies

The Alliance acknowledges the pivotal role that climate solutions play in driving the transition to a low-carbon economy. As a result, one of the minimum expectations outlined in the protocol is that financial institutions must report their investments in climate solutions.

Section 3.1.1 of the interactive report provides a detailed breakdown of assets under management (AUM) across the analyzed sectors, further disaggregated by technology. This breakdown enables the identification of investments in low-carbon technologies. Figure 6 in the sample portfolio illustrates the technology mix across sectors.

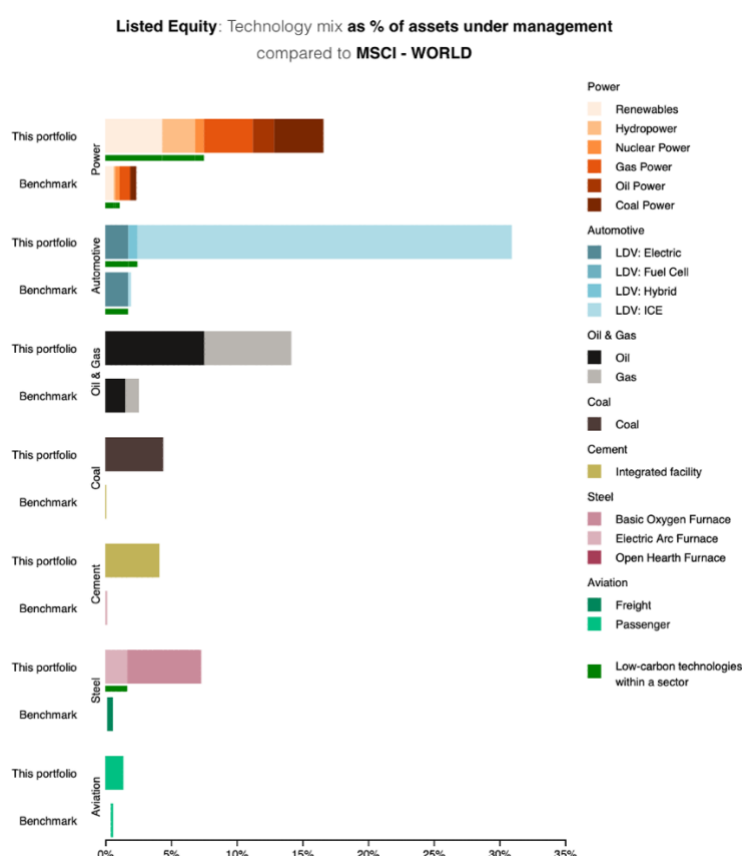


Figure 6 Portfolio technology mix

The technology mix information presented in section 3.1.1, reflects investees' production in each one of the technologies. So, while it does not precisely present the amount of investment in a specific technology, it can be used as a proxy of the green revenues, as it does reflect the

use of low-carbon technologies and high-carbon technologies by investee companies. To calculate the portion of investments in low-carbon technologies, users can download the data by clicking the gear icon in the top-right corner of the interactive chart. By summing the share of investments allocated to each technology identified as a climate solution and multiplying by the total AUM, it is possible to determine the overall share of investments supporting climate solutions. As a reminder, PACTA encompasses investments in eight climate-relevant sectors, as well as in listed equity and corporate bonds. Consequently, financial institutions will be required to incorporate their investments in climate solutions in sectors that fall outside the scope of the PACTA analysis, or in other types of financial assets.


PACTA Insights

One of the most valuable aspects of PACTA is its forward-looking, technology-specific analysis, which provides detailed insights into what needs to happen within each sector at the technology level to align with climate goals. This approach is crucial because achieving significant emissions reductions requires not only broad sectoral shifts but also the replacement of high-carbon technologies with low-carbon alternatives. The real economy transition hinges on these technological changes, making it essential to understand where portfolio companies stand in this process.

Section 3.2.1 of the interactive report, *Alignment of Production Technologies*, offers a comprehensive view of the pathways that portfolio companies must follow to stay aligned with specific climate scenarios. This technology-level data is available for sectors with well-defined technological roadmaps, such as fossil fuels, power, and aviation.



Figure 7: Investee companies' Future production by technology in the power sector



For example, in figure 7, we see the results for the power sector in the sample portfolio. The interactive report provides individual trajectory information for six key technologies within this sector: coal, oil, gas, nuclear, hydro energy, and renewables. To align with a 1.5°C scenario, the continuous line representing investee companies' current and projected production plans should lie within the dark green zone on the plot for each technology. Identifying gaps between the portfolio's technology pathway and the scenario targets helps asset managers and asset owners prioritize engagement efforts with investee companies. This information can guide discussions around supporting companies in scaling up low-carbon technologies or accelerating the phase-out of high-carbon assets.

PACTA's analysis provides portfolio results based on global climate scenarios, offering a comprehensive view of the technological pathways required to meet international climate goals. However, it is important to recognize that certain technologies may face limitations or implementation challenges in specific regions. RMI acknowledges that while the tool uses global targets, it does not account for regional, political, regulatory, or market constraints. Therefore, users should interpret technology-level results with caution and complement them with additional qualitative research to better understand how these global insights apply to local contexts and sectoral realities.

By properly leveraging these insights, investors can take a proactive role in fostering the transition to a low-carbon economy, ensuring that portfolio companies are on track to meet climate objectives.

Limitations

Base and Target Year for Reporting Purposes

While PACTA provides valuable insights by providing portfolio alignment results over a five-year horizon, there is a potential gap between PACTA's forward-looking results and the reporting cycle outlined in the NZAOA protocol, which sets targets every five years (e.g., 2025, 2030, 2035). For example, PACTA may offer results through 2029, which could differ from the exact target year of 2030 required by the protocol. However, these results, particularly for the final year of the PACTA analysis, can still be instrumental in projecting and setting targets for the subsequent reporting cycle. By taking into account PACTA's forward-looking results and supplementing this with ongoing engagement and dialogue with investee companies, asset owners and managers can make informed adjustments and align their 2030 targets with broader net-zero ambitions. This combination of forward-looking data and qualitative insights ensures that targets are both ambitious and grounded in realistic implementation plans.

Limitations on Sector Targets

Sectoral Coverage

PACTA provides insights into seven carbon-intensive sectors: coal, oil and gas, steel, cement, aviation, automotive, and power. The results are based on production metrics, as recommended by the NZAOA protocol. However, the alliance's scope extends beyond these sectors to include aluminum, shipping, agriculture, forestry, fisheries, chemicals, construction,

textiles, and leather. While these sectors are recognized as essential for climate transition by RMI, they are not yet covered within the PACTA methodology. Alliance members can report PACTA results for the sectors covered and explain any gaps in sector coverage, which in this case could be the absence of data for the other sectors. Alternatively, asset owners may supplement the analysis with data from alternative sources where PACTA does not provide coverage.

Emissions Intensity Scope

PACTA's forward-looking emissions data, as seen in Section 3.3 of the interactive reports, is derived from company-level production data. The analysis in the alignment section focuses on the most climate-relevant segments of the value chain but does not necessarily cover all emission scopes for every sector. This could result in partial coverage for certain industries or specific stages of production.

Below is the table with the scope covered for each sector

Emissions Scope covered by sector in the PACTA EI analysis	
Oil and Gas Extraction	1-3
Coal Mining	1-3
Power Generation	1
Automotive Manufacturing	3
Cement Production	1-2
Steel Production	1-2
Aviation Operators	1

Limitations Applicable to Report Sub-Portfolio Targets


Financial assets coverage

While the PACTA methodology is a powerful tool for assessing portfolio alignment with global climate scenarios, it does have certain limitations. The scope of the sub-portfolio targets, distinguishes between various asset types, such as equity, debt, and real estate, and whether investments are made directly or indirectly through funds. Currently, PACTA provides robust insights for listed equity, corporate bonds, and funds invested in these financial assets. However, it does not cover all financial asset classes, such as real estate or public debt.

Despite these limitations, PACTA remains a valuable tool for asset owners and managers by providing actionable insights that can be used to engage with investee companies and set ambitious net-zero targets for the financial assets analyzed. Users can complement PACTA's analysis with additional quantitative and qualitative research from other sources to fill any gaps to report to the alliance. It is relevant, however, to disclose clearly in the reporting what tools and methodologies were used for the reporting, and the reasoning behind the selection.

Allocation of Emissions Intensity to the Sub-portfolio

The sub-portfolio target approach prescribes specific accounting methodologies for different financial assets. For listed equity, PACTA uses a market capitalization-weighted method to



determine financed GHG emissions, which aligns with the NZAOA protocol. However, for corporate bonds, PACTA uses a different weighting approach, based on the outstanding debt of a company, rather than enterprise value (EVIC). This method measures the proportion of a company's debt held within a portfolio, allowing for a calculation of emissions intensity within bond holdings. Though different from the EVIC method, this approach still provides valuable insights into portfolio alignment and carbon exposure.

Limitations Applicable to Climate Solutions Targets

The PACTA analysis presents a proxy of green revenues of investee companies in section 3.1.1. This section offers insight into the allocation of portfolio investments across low-carbon and high-carbon technologies within different sectors. Investments in low-carbon technologies, such as renewables or electric vehicles, can be categorized as climate solutions investments for reporting purposes under the NZAOA. The PACTA analysis covers investments in eight climate-relevant sectors, in listed equity and corporate bonds. Consequently, financial institutions should incorporate their investments in climate solutions in sectors that fall outside the scope of the PACTA analysis, or in other types of financial assets to better reflect their investments in these type of assets.

Tools and Resources

This section provides essential resources to support the successful implementation of the NZAOA Target Setting Protocol (TSP) and the use of PACTA for Investors. By leveraging the documents below, asset owners and financial institutions can deepen their understanding of the methodologies, scenarios, and best practices that are critical for achieving climate alignment targets. These resources offer practical insights and technical guidance, making it easier to apply the approaches covered in this guide.

NZAOA Target Setting Protocol 4th edition:

Comprehensive guidelines for asset owners setting targets to align their portfolios with net-zero ambitions.

Background Document:

Detailed information about the TSP, including supporting context for sectoral and portfolio-level target setting.

PACTA for Investors Methodology:

A complete overview of the methodology used to assess the climate alignment of investment portfolios.

Scenario Supporting Document:

Technical documentation outlining the climate scenarios used for benchmarking and comparison.

These resources serve as a foundation for the processes outlined in this guide and provide additional context for advanced analysis and decision-making.