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WORKING PAPER

BEYOND NET ZERO: HOW TO MOBILIZE PASSIVE INVESTING TOWARDS PARIS ALIGNMENT WITH A FOCUS ON THE UNITED STATES

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EXECUTIVE SUMMARY

Highlights

- Although many investors have made net-zero commitments to reduce greenhouse gas (GHG) emissions, the Paris Agreement encompasses more than emissions reductions, establishing goals and a vision for a decarbonized, climate-resilient, inclusive, and equitable global economy.
- Our Paris-aligned passive investing framework considers the principles of mitigation and resilience, just transition, and do no harm. Using this framework, we analyzed the 35 largest, most popular U.S. sustainable funds and EU Paris-Aligned Benchmark (PAB) funds.
- We found significant gaps in U.S. Paris-aligned passive funds. Few funds incorporate 1.5°C emissions pathways and a just transition in portfolio construction.
- Many funds include fossil fuel exclusions, but most do not consider deforestation, physical climate risks and resilience, climate governance and lobbying, or a just transition. In addition, EU PAB-labeled indexes and products need to integrate robust mitigation metrics to align with 1.5°C emissions pathways.
- Only 6 of the 21 asset managers running 35 funds expect companies to align with a 1.5°C trajectory in stewardship policies.
- We recommend that investors, companies, and regulators encourage the growth and transparency of Paris-aligned passive products by improving the availability of high-quality data and the transparency of methodology and stewardship.

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Working Papers contain preliminary research, analysis, findings, and recommendations. They are circulated to stimulate timely discussion and critical feedback, and to influence ongoing debate on emerging issues.

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Context

Although many investors have made net-zero commitments to reduce carbon emissions, the Paris Agreement encompasses more than just emissions reductions. It establishes goals and a vision for building a decarbonized, climate-resilient, inclusive, and equitable global economy. Climate change is not only an environmental issue but also a social issue that affects racial equity, human rights, health, access to resources, and jobs, with negative impacts disproportionately hitting the most marginalized groups. The Paris Agreement specifically calls for consideration to be given to a just transition, obligations on human rights, gender equality, the empowerment of women, and intergenerational equity.

In the United States, low sustainability rigor, or "greenwashing," is one of the major challenges for adopting "sustainable investing," including investments that align with the Paris Agreement. The asset management industry lacks a consistent set of standards or principles for sustainable investing, and some investors do not have confidence that products labeled as sustainable or environmental, social, and governance (ESG) are truly sustainable (Quinson 2021). Only US$48.6 billion of assets under management (AUM), or less than 1 percent of U.S. passive equity funds, consider ESG factors and criteria to align with the Paris Agreement (Bryan et al. 2020). Box ES-1 provides definitions for the passive and active investment products used in this paper.

Box ES-1 | **Active versus Passive Investment Products**

In active management, portfolio managers select investment products (such as stocks and bonds) with the goal of "beating the market," or getting better returns than certain standard benchmarks. These products, which hold fewer investments, typically have larger fees to pay for their analysis and technology resources.[a]

Passively managed products refer to any rules-based, transparent, and investable strategy that does not involve handpicking investments to outperform benchmarks. Index investing is the purest form of passive investing and aims to match the performance of benchmark indexes.[b] Some investors may consider certain rules of passively managed products as active components and thus consider them as hybrid, such as factor-based smart beta funds. In this working paper, we still consider them as passively managed products using the definition above.

Sources: a. FINRA 2022; b. CFA Institute 2022.

U.S. policies and regulations can have a significant impact on sustainable investment, particularly with regard to retirement plans. Although a rule proposed by the U.S. Department of Labor in 2020 would have set barriers for retirement plans from considering ESG factors when selecting investment products, it was later revised in 2021 by the current administration to clarify that ESG factors can be considered. In addition, the revision removed a significant barrier to offering ESG-themed investments as default investment options in retirement plans (DOL 2020, 2021). It will be important to incorporate climate-related risks, opportunities, and impacts into fiduciary duty definitions in order to have a lasting impact.

About This Working Paper

The first objective of this paper is to provide a framework for Paris-aligned passive investing despite the lack of a standard Paris-aligned definition in the U.S. passive equity fund market. The framework includes guidance for specific investment criteria in passive investing products for Paris alignment across the themes of climate mitigation and resilience, a just transition, and do no harm (Table ES-1). We developed these criteria by evaluating existing Paris Agreement–related frameworks, taxonomies, data sources, and principles and by conducting expert consultations. We did not design the framework to include an exhaustive and ideal list of criteria but to be comprehensive and evolve based on the latest climate science, data availability, and best practices. In the framework, we chose to use 1.5°C pathways for criteria to better align with the Paris Agreement and widely adopted net-zero commitments by 2050.

The second objective of this paper is to analyze how existing U.S. sustainably labeled funds and EU PAB-labeled funds perform against the framework. We included a sample of the 35 largest, most popular funds measured by AUM and fund inflow and EU PAB-labeled funds. We used each fund's prospectus, index methodology, and stewardship documentation to understand its individual fund investment strategy. We then classified the funds into the following five categories based on their investment focus and universe, and we created a set of metrics to evaluate the extent to which the funds met the criteria.

Table ES-1 | **Paris-Aligned Framework for Developing Passive Equity Products**

SUBTHEME	CRITERIA
MITIGATION AND RESILIENCE	
Greenhouse gas (GHG) emissions reductions	**1. Portfolio decarbonization** ▪ The product should achieve annual sectoral decarbonization targets for sectors where such targets are available and must meet minimum ambition indicated by sector-specific methods for 1.5°C pathways. ▪ Sectoral decarbonization targets should be absolute GHG emissions or intensity metrics based on physical output unless justifiable exceptions are provided. ▪ For all other sectors combined, the index should achieve at least a 4.5% reduction in absolute GHG emissions on average per annum in line with or beyond the 1.5°C pathway for decarbonization from the Intergovernmental Panel on Climate Change. **2. Constituent decarbonization** ▪ The product should overweight constituent companies that set and publish validated 1.5°C aligned targets for GHG emissions reductions towards the goal of 100% portfolio coverage by 2040. **3. High climate impact sector** ▪ The product should maintain aggregated exposure to high climate impact sectors that are at least equivalent to the underlying investible universe. ▪ High climate impact sectors include (NACE classification) agriculture, forestry, and fishing; mining and quarrying; manufacturing; electricity, gas, steam, and air- conditioning supply; water supply, sewerage, waste management, and remediation activities; construction; wholesale and retail trade and repair of motor vehicles and motorcycles; transportation and storage; and real estate activities. **4. Fossil fuel exclusion** ▪ The product should exclude companies that are making capital expenditures to develop new oil and gas fields, new unabated natural gas plants, new coal mines, new unabated coal plants, or coal mine extensions. **5. Deforestation exclusion** ▪ The product should exclude companies with one or more major deforestation incidents in the past year.
Physical climate risks and resilience	The product should overweight companies that ▪ disclose the resilience of their business strategies under different climate-related scenarios (including 2°C degree or higher temperature scenarios); and/or ▪ derive 50% or more of their revenue from climate-resilient solutions (according to the screening criteria outlined in the EU taxonomy technical annex for substantial contribution to adaptation activities).
Climate governance and lobbying	The product should overweight companies that meet any of the following 6 criteria for climate governance and lobbying, in proportion to how many they meet. **Climate governance** ▪ The company's board has clear oversight of climate change. ▪ The company's executive remuneration scheme incorporates climate change performance elements. ▪ The board has sufficient capabilities/competencies to assess and manage climate-related risks and opportunities. **Climate lobbying** ▪ The company has at least a Paris-aligned climate lobbying position, and all of its direct lobbying activities are aligned with this. More ambitious positions are encouraged. ▪ The company has at least Paris-aligned lobbying expectations for its trade associations, and it discloses its trade association memberships. More ambitious positions are encouraged. ▪ The company has a process to ensure its trade associations lobby in accordance with the Paris Agreement. More ambitious positions are encouraged.

Table ES-1 | **Paris-Aligned Framework for Developing Passive Equity Products (Cont.)**

SUBTHEME	CRITERIA
JUST TRANSITION	
Workforce practices	The product should overweight companies that either • have commitments in line with the International Labour Organization's just transition principles or the Business Pledge for Just Transition and Decent Green Jobs; or • commit to paying a living wage to all employees throughout the supply chain, even in countries without legal minimum wage requirements or where minimum wage is not a living wage.
Diversity, equity, and inclusion	The product should overweight companies that • have released the gender and race/ethnicity demographics of their board of directors, executives, senior management, and workforce; • have released a diversity, equity, and inclusion goal that can be quantified and tracked by external stakeholders; or • have released promotion rates, recruitment data, retention rates, and pay equity data by employees' gender and race/ethnicity.
DO NO HARM	
Human rights exclusion	The product should exclude companies that are found or estimated to be in violation of • the United Nations Global Compact principles; • the Organization for Economic Co-operation and Development's Guidelines for Multinational Enterprises; or • the UN Guidelines for Business on Human Rights.
Controversial weapons exclusion	The product should exclude companies involved in any activities related to controversial weapons as referred to in international treaties and conventions, UN principles, and, where applicable, national legislation.
Tobacco exclusion	The product should exclude companies involved in the cultivation and production of tobacco.

Note: NACE = Nomenclature des Activités Économiques dans la Communauté Européenne (Statistical Classification of Economic Activities in the European Community).

Source: Authors.

Fund category:

- **Broad ESG (12 funds):** Funds that consider general ESG factors in their selection process and have a diverse investment universe.
- **Diversified climate (5 funds):** Funds that focus on climate issues and apply weighting factors on a diverse investment universe across different industries.
- **Thematic climate (7 funds):** Funds that focus on specific climate-related themes (e.g., renewable and clean energy) and as a result have a sector-focused investment universe.
- **Social/impact (6 funds):** Funds that focus on social outcomes or intend to generate positive social and environmental impact.
- **EU PAB labeled (5 funds):** Funds that meet the minimum requirements of the EU PAB label.

Evaluation metric:

- **Aligned:** The fund fully aligns with the criteria.
- **Partially aligned:** The fund aligns with part of the criteria, but not all of them.
- **None:** The fund did not include any of the criteria.
- **Not applicable:** The criteria are not applicable to the fund.

Key Findings

Across all 35 funds, none was fully aligned with the criteria in our framework (Figure ES-1). Although EU PAB-labeled funds are the only types of funds in our sample with Paris-aligned investment objectives, the lack of fully aligned funds illustrates that most U.S. sustainable or ESG funds do not consider the Paris Agreement in their investment strategies, and Paris-aligned criteria are not innately ingrained or assumed within these funds.

Figure ES-1 | Fund Evaluation Result against the Paris-Aligned Framework by Fund Category

Notes: ESG = environmental, social, and governance; GHG = greenhouse gas; PAB = Paris-Aligned Benchmark.
Source: Authors.

Figure ES-1 | **Fund Evaluation Result against the Paris-Aligned Framework by Fund Category**

Notes: ESG = environmental, social, and governance; GHG = greenhouse gas; PAB = Paris-Aligned Benchmark.

Source: Authors.

Mitigation and Resilience

Few of the sustainable investing passive funds analyzed incorporate mitigation and resilience into portfolio construction. Only 17 percent, or 6, of the 35 funds analyzed incorporate GHG emissions reduction targets into portfolio construction. All 6 align with the revised EU Benchmark Regulation, but they use economic intensity targets to achieve self-decarbonization of at least 7 percent annually. However, a fund can achieve such targets without actual emissions reduction if the underlying economic metric (e.g., enterprise value plus cash) rises or by simply shifting portfolio weights from carbon-intensive sectors (e.g., utility) to less carbon-intensive ones (e.g., information technology). This type of overall approach and metric is less robust than the sector-based approach using absolute emissions targets or physical intensity targets proposed in the framework. As a result, they are rated as "partially aligned." These funds are also the only types of funds to seek increased exposure in constituent companies that set emissions reduction targets or maintain exposure to high climate impact sectors.

A considerable number of funds include some form of fossil fuel exclusion, but most funds do not consider a deforestation exclusion, physical climate risks and resilience, or climate governance and lobbying in portfolio construction. In our sample, 71 percent, or 25, of the 35 funds include some form of fossil fuel exclusion, ranging from a coal/tar sands exclusion to outright rejection of the fossil fuel industry, but only 2 of the 35 funds include a deforestation exclusion. Twenty-one of the 35 funds fail to meet the criteria on physical climate risks and resilience, with EU PAB-labeled funds faring comparatively better by integrating the issue into portfolio construction on a partially aligned basis. Most thematic climate funds are partially aligned largely due to their investment objective to focus on sectors that develop climate solutions. Additionally, there is a lack of attention to climate governance and lobbying, which only two funds consider.

Just Transition

Although no climate–focused fund integrates the just transition theme into its portfolio construction, some broad ESG and social/impact funds do but with significant variance. Social outcome-focused funds tend to have more comprehensive frameworks that integrate working conditions; a living wage; and diversity, equity, and inclusion metrics. Nine out of 12 broad ESG funds embrace social factors in their methodology, often excluding and penalizing companies with controversies against International Labour Organization standards.

Do No Harm

Do no harm exclusions are broadly considered across all types of funds, with weapons and tobacco exclusions being the most prevalent; however, none of the diversified climate or thematic climate funds incorporates exclusions for human rights violations. There is a broad consensus among 86 percent, or 30, of the 35 sustainable investing passive funds to include weapons and tobacco exclusions. Of the 23 funds in the broad ESG, social/impact, and EU PAB-labeled categories, 91 percent, or 21 funds, consider exclusion of human rights violators.

Investment Stewardship

Asset managers often argue that beyond security selection, investment stewardship is a core component of maximizing long-term shareholder value for clients and often considers ESG risks and opportunities; however, tangible action is rare within stewardship guidelines. In the sample of 35 funds, there are 21 unique asset managers, some of whom manage multiple funds. Only around 14 of these 21 asset managers have public stewardship information available. Although asset managers publicly have reiterated their climate commitments, tangible action is rare within stewardships guidelines. Only six managers state in their stewardship policies or guidelines that they expect companies to align with climate change below a 1.5°C trajectory in alignment with the Paris Agreement.

Implications and Recommendations

- Gaps in data availability and quality at the constituent company level can make it difficult to develop an index or products using the various criteria proposed in the framework.
- The revised EU Benchmark Regulation, as well as its labeled indexes and products, should be enhanced to create funds that are Paris aligned across all criteria.
- U.S. asset managers and index providers should work together to create funds that meet the criteria that we outlined for Paris alignment.

- Financial regulators should take steps to encourage the growth and improve the transparency of sustainable investing, particularly in the United States.
- Asset managers and index providers should provide greater transparency and better disclosures of their methodologies in prospectus and publicly accessible documents because it is not clear how ESG factors are considered and weighted in the security selection process.
- Passive fund managers should integrate the Paris Agreement into their stewardship process and make the process publicly available.
- Asset owners, including retirement plan administrators, should encourage asset managers and index providers to more closely align with the Paris Agreement.
- Asset owners should expect higher numbers of tracking errors when benchmarking Paris-aligned passive products against traditional market capitalization benchmarks and consider using PABs.

1. INTRODUCTION

Governments, regulators, companies, and investors have prioritized achieving the targets of the 2015 Paris Agreement. To achieve the agreement's goal of limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C, all actors in the global political and economic system will need to be involved, including the private finance sector (UNFCCC 2015).

Sustainable investing in the private finance sector has exploded during the past decade, increasing from US$13.6 trillion of assets under management (AUM) in 2011 to $35.3 trillion AUM in 2020 in key economies (GSIA 2012, 2021). The increasing popularity has facilitated the product development of different investment strategies, including environment, social, and governance (ESG); impact; sustainable thematic; and socially responsible investing (O'Dwyer 2021). Although these strategies vary in terms of asset class and investment thesis, this working paper targets one of the largest investment products in the market: passive index-tracking public equity funds.

Passive equity funds have grown in popularity in the United States over the last decade, with $6.2 trillion AUM at the end of 2020, or $0.9 trillion more than U.S. active equity funds (Bloomberg Intelligence 2021). Passive products have gained market share from 42 percent in 2015 to 54 percent in 2020 because of the wide acceptance of the efficient market hypothesis, the relatively lower costs, and the evidence of underperformance of active managers (Anadu et al. 2020; Bloomberg Intelligence 2021). However, of the U.S. passive equity funds, only $48.6 billion AUM, or less than 1 percent, consider ESG factors and criteria to align with the Paris Agreement (Bryan et al. 2020). Most funds merely reflect the market segments around which they are built, with no consideration for ESG factors or criteria to align with the Paris Agreement.

Creating affordable, Paris-aligned passive investment products that consider material ESG factors and climate risks will shift capital toward a Paris-aligned future and can provide better risk-adjusted returns for investors, including people saving for their retirement. More than $1.5 trillion in passive equity assets are owned by U.S. defined-benefit and defined-contribution retirement plans (Walker 2019). However, less than 3 percent of 401(k) plans—a major type of defined contribution plan in the United States—offer an ESG fund, and only 0.1 percent of total plan assets are in those funds (*Wall Street Journal* 2021). Although retirement plans are not required to consider climate change or ESG factors as part of the investment process, there is growing evidence that passive ESG and fossil-free funds do not have financial trade-off in the returns of their traditional non-ESG counterparts and may outperform (Belsom and Lake 2021; Bullard 2020; Morgan Stanley 2019; Whelan et al. 2021; Zhou et al. 2020).

This working paper provides a framework for Paris-aligned passive investing, which currently lacks a standard market definition. Section 2 presents the context for sustainable investing products, their opportunities, and the challenges in the United States. Section 3 then describes the approach of developing the Paris-aligned framework and data for analyzing a small sample of sustainable funds. In Section 4, we use the approach and data to analyze the performance of these funds against the framework, and Sections 5 and 6 discuss the key takeaways, implications, and recommendations.

2. CONTEXT

2.1 The Sustainable Investing Landscape in the United States

Sustainable investing is an investment approach that uses nonfinancial performance data, particularly ESG factors, in the investment process. There are various strategies for implementing sustainable investing in portfolio construction and management, including negative screening, positive screening, ESG integration, impact investing, and shareholder engagement (Lewis et al. 2016). Most sustainable funds in the United States are diversified funds that maintain a broad exposure to the market and can use a combination of the above strategies in the security selection and portfolio construction process.

Several challenges surround the adoption of passive sustainable investing in the United States, including low sustainability rigor ("greenwashing"), compromises to financial return, and cost concerns:

- Some investors do not have confidence that products labeled as sustainable or ESG are truly sustainable (Quinson 2021). The concern cannot be easily allayed because the industry in the United States lacks a consistent set of standards or principles for "sustainable investing."
- There is a common, long-held perception among some investors that sustainable investing diminishes returns relative to traditional investment strategies.
- Although passively managed products are already much cheaper than actively managed products, existing passive ESG funds are, on average, more expensive than their traditional counterparts.[1] Additional costs associated with passive ESG products (e.g., building and/or licensing ESG indexes, sourcing ESG data, and employing specialized ESG investment talent), combined with their smaller fund sizes, may lead to higher expense ratios (Johnson and DiBenedetto 2021).

In March 2021, the U.S. Securities and Exchange Commission (SEC) proposed a rule to enhance and standardize climate-related disclosures by public companies for investors. This rule can help address the greenwashing issues, particularly those related to climate. The proposed rule includes mandatory disclosures for GHG emissions metrics and qualitative disclosures similar to the recommendations by the Task Force on Climate-Related Financial Disclosures (SEC 2022). It will provide greater climate transparency, data availability, and consistent and comparable information to investors, including index providers and fund sponsors that develop passive investment products.

Sustainable investing in the United States is susceptible to volatile regulatory developments, particularly with regard to retirement plans. A 2020 U.S. Department of Labor (DOL) proposed rule would have set barriers for retirement plan administrators from considering ESG factors when selecting investment products, but it was later revised in 2021 by the subsequent administration (Table 1). The revised rules proposed in 2021 clarify that ESG factors can be considered and are subject to the same fiduciary principles embodied in the duties of loyalty and prudence. The new ruling also removes a significant barrier to plans to offer ESG-themed investments as default options for automatic enrollment plans, known as qualified default investment alternatives (DOL 2020, 2021). The 2020 proposed regulation had a negative impact on advancing sustainable investing because retirement plan fiduciaries were concerned about the significant additional risk of liability if ESG factors were considered. It shows the important impact of policy and regulation and that positive regulations can help the market just as much as negative regulations can impede it (Dial et al. 2021).

Table 1 | **DOL Proposed Rules on ESG Investments and Proxy Voting by Employee Benefit Plans**

2020	2021
• Retirement plan assets may not be enlisted in pursuit of other social or environmental objectives. If the fiduciaries are willing to accept lower returns and greater risk in favor of nonpecuniary (nonfinancial) benefits, it will be in violation of the Employee Retirement Income Security Act. • Nonpecuniary funds are not allowed to be the "default" option, even if selected using objective risk-return criteria. • In the "tiebreaker" test—where if two investment opportunities are equal in terms of risk and financial return, the nonpecuniary investment can be a deciding factor—the U.S. Department of Labor believes these "economically distinguishable" opportunities are rare. This rule would also impose more stringent documentation on plan administrators in terms of having to provide evidence of the financial value of sustainable investing funds.	• Climate change and other environmental, social, and governance (ESG) factors can be financially material; in those cases, considering them will lead to better risk-adjusted returns. • The tiebreaker test will permit fiduciaries to consider collateral benefits as a tiebreaker in some circumstances, including noneconomic benefits. • Special documentation will not be required for applications of the tiebreaker provision. • Qualified default investment alternatives may include consideration of ESG factors.

Sources: DOL 2020, 2021.

2.2 Paris-Aligned Investing Is More than Net-Zero Investing

Although many companies and financial institutions have organized their net-zero commitments to reduce GHG emissions, the Paris Agreement encompasses more than just emissions reductions. Climate change is ultimately a social issue that disproportionately impacts the most marginalized groups, negatively affecting racial equity, health, and access to resources and jobs. The Paris Agreement establishes goals and a vision of building a decarbonized, climate-resilient, inclusive, and equitable global economy. It specifically calls for "taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs," and it considers "obligations on human rights, the right to health, the rights of Indigenous Peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity" (UNFCCC 2015).

3. APPROACH

3.1 Paris-Aligned Framework for Passive Equity Investing

3.1.1 Sources, principles, and assumptions

The purpose of the Paris-aligned framework for passive equity investing ("the framework") is to provide a standard approach for evaluating, comparing, and/or constructing passive equity products that are aligned with the goals of the Paris Agreement. The framework presents a set of minimum criteria for passive equity products to be considered Paris aligned. These criteria are designed to inform the selection and weighting of underlying companies in an index. This framework was created to enhance the transparency of an index and its underlying companies with regard to Paris alignment.

To develop the minimum criteria for this framework, we reviewed existing literature on Paris alignment, climate resilience, and a just transition. Our review focused on analytical and principles-based resources that can help align investments with the goals of the Paris Agreement and a just transition. Materials reviewed included investment frameworks, benchmarks, principles, and tools that were publicly available and published by March 2021 (Box 1).

Box 1 | **Key Sources Used to Develop Criteria**

- Climate Change and the Just Transition: A Guide for Investor Action (Principles for Responsible Investment)
- Climate Resilience Principles (Climate Bonds Initiative)
- Climate Transition Benchmark and Paris-Aligned Benchmark (European Union)
- Core Labour Standards (International Labour Organization; ILO)
- Declaration on the Rights of Indigenous Peoples (United Nations)
- Financial Sector Science-Based Targets Guidance (Science Based Targets initiative)
- Gender Equality Scorecard (Equileap)
- Guidelines for Business on Human Rights (United Nations)
- Guidelines for the Evaluation of Workers' Human Rights and Labour Standards (Committee on Workers' Capital)
- Net Zero Company Benchmark (Climate Action 100+)
- Net Zero Investment Framework (Institutional Investors Group on Climate Change)
- Occupational Health and Safety Standards (ILO)
- Racial Justice Scorecard (As You Sow)
- Transition Pathways Initiative Methodology and Indicators Report (Transition Pathways Initiative)
- Workplace Diversity, Equity, and Inclusion Disclosure Scorecard (As You Sow)

We used the following principles and assumptions to guide criteria development, in addition to expert consultation:

PRINCIPLES

- **Fit for purpose:** There is a clear relationship between the criteria and Paris alignment.
- **Evidence based:** Criteria for alignment are consistent with the best available science, literature, and guidance on achieving the goals of the Paris Agreement in a manner that supports a just and resilient transition.
- **Broadly applicable:** Criteria should be globally applicable and feasible in the context of passive investing in public equities.
- **Objectively assessable:** Subjective judgment is not required to determine if a criterion is met.

ASSUMPTIONS

- **Investments should align with the goals of the Paris Agreement.** Article 2.1 of the Paris Agreement includes the specific goals: "This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by
  - holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
  - increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and
  - making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development" (UNFCCC 2015).
- **Climate change is an environmental, social, and economic issue.** Climate change is ultimately a social issue that affects equity, people's health, and access to resources, jobs, justice, and so forth; however, certain social groups are particularly vulnerable to climate change. The Paris Agreement specifically calls for consideration of the imperatives of a just transition and equity (UNFCCC 2015). To do so, the framework aims to incentivize companies to advance social equity and inclusion by promoting decent work, fair labor standards, access to basic services and opportunities, and human rights, which are included as criteria in the just transition theme of the framework.
- **Investments should avoid doing harm.** Investing in companies that violate global standards could have harmful environmental and social effects. The framework takes precautionary consideration and includes a few exclusion criteria in the do no harm theme.
- **Climate science, practices, and standards are evolving.** The framework was developed based on the most up-to-date climate science, practices, and standards. However, these will evolve as we gain

better knowledge, understanding, and data over time. Contingent on available resources after the first phase of this project, the framework will aim to include a periodic review process to ensure that it is aligned with technological, market, and methodological progress, particularly updates from the Intergovernmental Panel on Climate Change.

- **Passive equity investing uses a rules-based approach that often occurs through investments in index-linked products.** These products use a set of rules to determine which securities are included, which are excluded, and how securities are weighted. The framework includes criteria as rules for product construction and evaluation.

3.1.2 The Framework

The framework includes three major themes: mitigation and resilience, just transition, and do no harm (Table 2). Each theme has several subthemes and includes a detailed description of the criteria. All subthemes have a corresponding criterion, except for GHG emissions reduction, which has five criteria. We included two industry-specific exclusions, controversial weapons and tobacco, in the do no harm theme based on the revised EU Benchmark Regulation and common practices in the ESG investment products (EU 2019).

Table 2 | **Paris-Aligned Framework for Developing Passive Equity Products**

SUBTHEME	CRITERIA	INCLUSION RATIONALE
MITIGATION AND RESILIENCE		
Greenhouse gas (GHG) emissions reductions	**1. Portfolio decarbonization** • The product should achieve annual sectoral decarbonization targets for sectors where such targets are available and must meet minimum ambition indicated by sector-specific methods for 1.5°C pathways. • Sectoral decarbonization targets should be absolute GHG emissions or intensity metrics based on physical output unless justifiable exceptions are provided. • For all other sectors combined, the index should achieve at least 4.2% reduction in absolute GHG emissions on average per annum in line with or beyond the 1.5°C pathway for decarbonization from the Intergovernmental Panel on Climate Change (IPCC).	This criterion uses sectoral benchmarks to capture material differences in decarbonization pathways across sectors. This improves scientific robustness and incentive optimality. Current sectoral decarbonization pathways are available for some carbon-intensive sectors and industries. There can be limited availability for other sectors. A 4.2% reduction in absolute GHG emissions aligns with 1.5°C scenarios with no or low overshoot from the Model for the Assessment of Greenhouse Gas Induced Climate Change, version 6, used by the IPCC Special Report on Global Warming of 1.5°C.[a]
	2. Constituent decarbonization • The product should overweight constituent companies that set and publish validated 1.5°C aligned targets for GHG emissions reductions towards the goal of 100% portfolio coverage by 2040.	This criterion was adapted from EU climate benchmarks and aligned with the Science Based Targets initiative's Portfolio Coverage Approach for financial institutions.
	3. High climate impact sector • The product should maintain aggregated exposure to high climate impact sectors that is at least equivalent to the underlying investable universe. • High climate impact sectors include (NACE classification) agriculture, forestry, and fishing; mining and quarrying; manufacturing; electricity, gas, steam, and air-conditioning supply; water supply, sewerage, waste management and remediation activities; construction; wholesale and retail trade and repair of motor vehicles and motorcycles; transportation and storage; and real estate activities.	This criterion was adapted from the EU Benchmark Regulation to prevent a fund from moving out of a high climate impact sector to ensure that climate transitioning investors maintain their influence via engagement and voting.
	4. Fossil fuel exclusion • The product should exclude companies that are making capital expenditures to develop new oil and gas fields, new unabated natural gas plants, new coal mines, new unabated coal plants, or coal mine extensions.	This exclusion is adapted from the International Energy Agency's Net Zero Pathway.[b]
	5. Deforestation exclusion • The product should underweight or exclude companies with at least one major deforestation incident in the past year.	According to a report from the Co-sponsored Workshop on Biodiversity and Climate Change by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and IPCC, deforestation results in the loss and degradation of carbon- and species-rich ecosystems, and biodiversity protection is a critical component of climate change mitigation.[c]

Table 2 | **Paris-Aligned Framework for Developing Passive Equity Products (Cont.)**

SUBTHEME	CRITERIA	INCLUSION RATIONALE
MITIGATION AND RESILIENCE (CONT.)		
Physical climate risks and resilience	The product should overweight companies that • disclose the resilience of their business strategies under different climate-related scenarios (including 2°C or higher temperature scenarios); and/or • derive 50% or more of their revenue from climate-resilient solutions (according to the screening criteria outlined in the EU taxonomy technical annex for substantial contribution to adaptation activities).	Companies disclosing detailed assessments of their resilience under different climate scenarios could be more resilient. Improved exposure to potential climate change opportunities can help advance the development and deployment of climate solutions.
Climate governance and lobbying	The product should overweight companies that meet any of the following 6 criteria, in proportion to how many they meet: **Climate governance** • The company's board has clear oversight of climate change. • The company's executive remuneration scheme incorporates climate change performance elements. • The board has sufficient capabilities/competencies to assess and manage climate-related risks and opportunities. **Climate lobbying** • The company has at least a Paris-aligned climate lobbying position and all of its direct lobbying activities are aligned with this. More ambitious positions are encouraged. • The company has at least Paris-aligned lobbying expectations for its trade associations, and it discloses its trade association memberships. More ambitious positions are encouraged. • The company has a process to ensure its trade associations lobby in accordance with the Paris Agreement. More ambitious positions are encouraged.	Enhanced climate governance improves a company's climate resilience and governance and enables sufficient attention and scrutiny to climate as a financial risk and opportunity, according to the World Economic Forum.[d] These indicators are drawn from Climate Action 100+.[e]
JUST TRANSITION		
Workforce practices	The product should overweight companies that • have commitments in line with the International Labour Organization's just transition principles or the Business Pledge for Just Transition and Decent Green Jobs; or • commit to paying a living wage to all employees throughout the supply chain, even in countries without legal minimum wage requirements or where the minimum wage is not a living wage.	The Global Living Wage Coalition provides the definition for a living wage.
Diversity, equity, and inclusion	The product should overweight companies that • release the gender and race/ethnicity demographics of their board of directors, executives, senior management, and workforce; • release a diversity, equity, and inclusion goal that can be quantified and tracked by external stakeholders; or • release promotion rates, recruitment data, retention rates, and pay equity data by employees' gender and race/ethnicity.	The measure of responsible restructuring for a just transition with indicators is adapted from the Equileap Gender Scorecard and As You Sow's Workplace Diversity, Equity, and Inclusion Disclosure Scorecard and its Racial Justice Scorecard.[f]
DO NO HARM		
Human rights exclusion	The product should exclude companies that are found or estimated to be in violation of • the United Nations Global Compact principles; • the Organization for Economic Co-operation and Development's Guidelines for Multinational Enterprises; or • the UN Guidelines for Business on Human Rights.	This exclusion is adapted from the minimum standard for the EU Paris-Aligned Benchmark (PAB) and the Climate Transition Benchmark (CTB) by December 31, 2022.

Table 2 | **Paris-Aligned Framework for Developing Passive Equity Products (Cont.)**

SUBTHEME	CRITERIA	INCLUSION RATIONALE
Weapons exclusion	The product should exclude companies involved in any activities related to controversial weapons as referred to in international treaties and conventions, UN principles, and, where applicable, national legislation.	This exclusion is adapted from the minimum standard for the EU PAB and CTB by December 31, 2022.
Tobacco exclusion	The product should exclude companies involved in the cultivation and production of tobacco.	This exclusion is adapted from the minimum standard for the EU PAB and CTB by December 31, 2022.

Note: NACE = Nomenclature des Activités Économiques dans la Communauté Européenne (Statistical Classification of Economic Activities in the European Community).

Sources: a. SBTi 2019; b. IEA 2021; c. Pörtner et al. 2021; d. WEF 2019; e. Climate Action 100+ 2021; f. Equileap 2020; As You Sow n.d.a, n.d.b.

3.2 Fund Analysis

3.2.1 The sample

We applied our framework to 35 passive equity investment products in the United States and European Union to assess the degree to which these funds align with the Paris Agreement. Since the European Union issued its regulation on PABs in November 2019, there are a few products aligned with the regulation offered outside the United States, which we also included in the sample for analysis and comparison purposes. We used three criteria related to a passive equity product—size, popularity, or name—to identify the sample. We included funds that met any of the following three criteria:

- **Size:** The 20 largest products measured by AUM as of December 2020 from Morningstar sustainable investment funds.
- **Popularity:** The 20 most popular products measured by one-year or three-year fund net flow as of December 2020 from Morningstar sustainable investment funds.
- **Name:** Any funds with names containing *SDG*, *Sustainable Development*, *Impact*, *Social*, *Just*, *Carbon*, *Fossil Free*, or *Climate* in the United States, and any funds with names containing *Paris*.

We identified 35 passive equity products using the above criteria after removing duplicated products (Table 3). These include products that belong to both the 20 largest and 20 most popular products. Although offered by different companies, some products used the same underlying index and were essentially identical in terms of portfolio composition. We excluded smaller funds of those using the same underlying index. Some products used the same index family from an index provider but focused on a different geographic area. Since these products used identical criteria to construct portfolios, we excluded smaller funds.

We classified each fund into one of five different categories based on its investment focus and investment universe (Table 4). The classification of funds by similar characteristics and investment focus provides a lens to spot patterns between groups and points of divergence among funds of the same category. As we will discuss in Section 4, there are distinct patterns and common coverage gaps between groups based on their approaches to Paris alignment, with common coverage gaps towards the framework.

The five categories we used, and their definitions, are as follows:

- **Broad ESG:** Funds that use general ESG factors in their selection process and have a diverse investment universe.
- **Diversified climate**: Funds that focus on climate issues and apply weighting factors on a diverse investment universe across different industries.
- **Thematic climate:** Funds that focus on specific climate-related themes (e.g., renewable and clean energy) and as a result have a sector-focused investment universe.
- **Social/impact:** Funds that focus on social and impact issues and consider them across a broad investment universe.
- **EU PAB labeled:** Funds that meet the minimum requirements of the EU PAB label.

Table 3 | **Passive Equity Investment Products Included in the Analysis**

NAME	TICKER	INDEX	FUND SIZE (US$, BILLIONS)
iShares ESG Aware MSCI USA ETF	ESGU	MSCI USA Extended ESG Focus Index	16.182
Vanguard FTSE Social Index I	VFTNX	FTSE4Good U.S. Select Index	12.034
iShares Global Clean Energy ETF	ICLN	S&P Global Clean Energy Index	5.577
iShares ESG Aware MSCI EAFE ETF	ESGD	MSCI EAFE Extended ESG Focus Index	5.203
Calvert U.S.Large Cap Core Rspnb Idx I	CISIX	Calvert U.S. Large-Cap Core Responsible Index	4.053
Vanguard ESG U.S. Stock ETF	ESGV	FTSE U.S. All Cap Choice Index	4.011
Xtrackers MSCI USA ESG Leaders Eq ETF	USSG	MSCI USA ESG Leaders Index	3.452
Invesco Solar ETF	TAN	MAC Global Solar Energy Index	3.377
iShares MSCI USA ESG Select ETF	SUSA	MSCI USA Extended ESG Select Index	3.028
iShares MSCI KLD 400 Social ETF	DSI	MSCI KLD 400 Social Index	2.997
First Trust NASDAQ® Cln Edge® GrnEngyETF	QCLN	NASDAQ Clean Edge Green Energy Index	2.777
Invesco WilderHill Clean Energy ETF	PBW	WilderHill Clean Energy Index	2.459
Invesco Water Resources ETF	PHO	Nasdaq OMX Water Index	1.522
SPDR® S&P 500 Fossil Fuel Rsrv Free ETF	SPYX	S&P 500 Fossil Fuel Free Index	1.057
ALPS Clean Energy ETF	ACES	CIBC Atlas Clean Energy Index	1.012
Nuveen ESG Large-Cap Value ETF	NULV	TIAA ESG USA Large-Cap Value Index	0.877
iShares MSCI Global Impact ETF	SDG	MSCI ACWI Sustainable Impact Index	0.435
FlexShares STOXX U.S. ESG Impact ETF	ESG	STOXX®USA ESG Impact Index	0.168
Inspire Small/Mid Cap ESG ETF	ISMD	Small/Mid Cap Impact Equal Weight Index	0.0929
Adasina Social Justice All Cap Global ETF	JSTC	Adasina Social Justice Index	*
Impact Shares NAACP Minority Empwrmt ETF	NACP	Morningstar Minority Empowerment Index	0.027
Impact Shares YWCA Women's Empwrmt ETF	WOMN	Morningstar® Women's Empowerment Index	0.016
Impact Shares Sus Dev Gls Glb Eq ETF	SDGA	Morningstar® Societal Development Index	0.005
Amundi Euro ISTOXX Clim Paris Ali PAB IE Cap	PABZ (EUR)	EURO iSTOXX Ambition Climat PAB Index	*
Amundi MSCI Europe Clim Paris Aligned PAB ETF DR	PABE (EUR)	MSCI EUROPE Climate Change Paris Aligned Select Index	*
Lyxor S&P 500 ParisAlignedClimate (EUPAB) (DR) USD	PABU	S&P 500 Paris-Aligned Climate Net Total Return Index	*
Franklin STOXX Europe 600 Paris AlignedClimate EUR	PARI (EUR)	STOXX® Europe 600 Paris-Aligned Benchmark Index	*
iShares S&P 500 Paris Aligned Climate UCITS ETF	UPAB	S&P 500 Paris-Aligned Climate Sustainability Screened Index	*
Etho Climate Leadership U.S. ETF	ETHO	Etho Climate Leadership Index—United States	0.219
VanEck Vectors Low Carbon Energy ETF	SMOG	MVIS Global Low Carbon Energy Index	0.294

Table 3 | **Passive Equity Investment Products Included in the Analysis (Cont.)**

NAME	TICKER	INDEX	FUND SIZE (US$, BILLIONS)
JPMorgan Carbon Transition U.S. Eq ETF	JCTR	JPMorgan Asset Management Carbon Transition U.S. Equity Index	0.025
BlackRock U.S. Carbon Transition Readiness ETF	LCTU	Russell 1000 Index	*
SPDR MSCI ACWI Low Carbon Target ETF	LOWC	MSCI ACWI Low Carbon Target Index	0.793
U.S. Vegan Climate ETF	VEGN	Beyond Investing U.S. Vegan Climate Index	0.047
Goldman Sachs JUST U.S. Large Cap Eq ETF	JUST	JUST U.S. Large Cap Diversified Index	0.220

Notes: * = information not available. Assets under management as of December 31, 2020.

Source: Authors.

Table 4 | **Passive Equity Investment Products Grouped by Fund Category**

BROAD ESG	DIVERSIFIED CLIMATE	THEMATIC CLIMATE	SOCIAL/IMPACT	EU PAB LABELED
TOTAL: 12	TOTAL: 5	TOTAL: 7	TOTAL: 6	TOTAL: 5
iShares ESG Aware MSCI USA ETF	SPDR® S&P 500 Fossil Fuel Rsrv Free ETF	iShares Global Clean Energy ETF	iShares MSCI Global Impact ETF	Amundi Euro ISTOXX Clim Paris Ali PAB IE Cap
Vanguard FTSE Social Index I	Etho Climate Leadership U.S. ETF	Invesco Solar ETF	Inspire Small/Mid Cap ESG ETF	Amundi MSCI Europe Clim Paris Aligned PAB ETF DR
iShares ESG Aware MSCI EAFE ETF	JPMorgan Carbon Transition U.S. Eq ETF	First Trust NASDAQ® Cln Edge® GrnEngyETF	Adasina Social Justice All Cap Global ETF	Lyxor S&P 500 ParisAlignedClimate (EUPAB) (DR) USD
Calvert U.S. Large Cap Core Rspnb Idx I	BlackRock U.S. Carbon Transition Readiness ETF	Invesco WilderHill Clean Energy ETF	Impact Shares NAACP Minority Empwrmt ETF	Franklin STOXX Europe 600 Paris AlignedClimate EUR
Vanguard ESG U.S. Stock ETF	SPDR MSCI ACWI Low Carbon Target ETF	Invesco Water Resources ETF	Impact Shares YWCA Women's Empwrmt ETF	iShares S&P 500 Paris Aligned Climate UCITS ETF
Xtrackers MSCI USA ESG Leaders Eq ETF		ALPS Clean Energy ETF	Impact Shares Sus Dev Gls Glb Eq ETF	
iShares MSCI USA ESG Select ETF		VanEck Vectors Low Carbon Energy ETF		
iShares MSCI KLD 400 Social ETF				
Nuveen ESG Large-Cap Value ETF				
FlexShares STOXX U.S. ESG Impact ETF				
U.S. Vegan Climate ETF				
Goldman Sachs JUST U.S. Large Cap Eq ETF				

Notes: ESG = environmental, social, and governance; PAB = Paris-Aligned Benchmark.

Source: Authors.

3.2.2 Applying the framework to the sample

To assess each fund's alignment with the Paris-aligned framework developed in this paper, we used the fund's prospectus, index methodology, and stewardship documentation to understand its investment strategy. These documents were used to better understand the investment process and how ESG or sustainable thematic issues were evaluated within the fund, if applicable.

After collecting detailed information on each fund for various Paris-aligned criteria themes and subthemes, we created a set of metrics to evaluate the extent to which the funds met the theme's criteria:

- **Aligned:** The fund fully aligns with the criteria.
- **Partially aligned:** The fund aligns with part of the criteria, but not all.
- **None:** The fund did not include any of the criteria.
- **Not applicable:** The criteria are not applicable to the funds.

After evaluating the funds and how they matched up to the framework, we contacted the asset managers to the best of our ability to validate the data collected. We sent e-mails to general corporate e-mail addresses for 8 asset managers managing 14 funds and to personal corporate e-mail addresses for 13 asset managers managing 21 funds. We received feedback from 4 asset managers managing 4 funds.

3.3 Limitations

For this working paper, we did not analyze the actual performance of a fund manager or an index provider in constructing a fund or index against the framework; this would have required an evaluation of its constituent companies against the Paris-aligned framework. Instead, we evaluated the fund's methodology and investment criteria, which describes how constituent companies are selected and weighted. This is because we designed the framework to inform the constructing of a passive fund rather than to evaluate constituent companies. We assess the degree of Paris alignment within each fund using its methodology and investment criteria, which provide sufficient information for the assessment. In addition, evaluating constituent companies would require collecting data from thousands of companies, which is beyond the scope of this research.

We did not consider components of ESG scores or ratings against the framework when evaluating a fund. A company's ESG score is a numerical measure of its ESG performance by a third-party provider of reports and ratings. An ESG score considers a multitude of factors related to ESG issues, which could include certain themes of the framework but also unrelated themes. However, the methodologies underlying these ESG scores do not make their criteria, weighting, assumptions, and methodologies publicly available, so we could not include this information (Walter 2020). This could result in undervaluation since a fund may consider some framework criteria in the ESG scores.

Lastly, the sample selection for the fund analysis had a cutoff date of December 31, 2020, because the research process for this working paper started in the first half of 2021. Sustainable investing is a fast-growing area, and an increasing number of products are being offered in the market. Although we could not include new products offered in 2021 in our sample, our framework can assess their Paris alignment.

4. ANALYSIS

We analyzed our sample based on the three main themes in our Paris-aligned framework—mitigation and resilience, just transition, and do no harm—along with the stewardship policies pursued by asset managers. Across all 35 funds, none was fully aligned with the criteria in our framework. This illustrates that most sustainable funds do not consider the Paris Agreement in their investment strategies as Paris-aligned criteria are not innately ingrained or assumed within these funds. Appendix A includes an analysis by fund.

4.1 Mitigation and Resilience

Only 17 percent, or six, of the 35 sustainable investing passive funds analyzed incorporate GHG emissions reduction targets into portfolio construction (Figure 1). Five of the 6 funds are exclusively EU PAB funds, and the remaining one, JPMorgan Carbon Transition U.S. Equity ETF, aligns with the EU Climate Transition Benchmark. All of them use the GHG emissions economic intensity metric of GHG emissions divided by enterprise value plus cash (EVPC) to achieve self-decarbonization of at least 7 percent annually. However, a fund can achieve the target without actual emissions reduction if EVPC rises. This metric is less robust than absolute GHG emissions or GHG emissions physical intensity metrics used in the framework. Some ESG indexes include GHG emissions and intensity data in their methodologies, but they do not use them to set any emissions reduction plan or meet an annual decarbonization target.

EU PAB-labeled funds are the only type of funds in our sample to seek an increased exposure in constituent companies that set emissions reduction targets or maintain exposure to high climate impact sectors, the latter being required by the EU climate benchmark regulation. Although no EU PAB-labeled fund fully aligns with constituent emissions reduction criteria, other types of funds do not consider these targets at all. Some EU PAB-labeled funds do a better job in these two criteria, showing there is considerable variability within the Paris-labeled funds and significant room for improvement.

In our sample, 71 percent, or 25, of the 35 funds include some form of fossil fuel exclusion, ranging from a coal/tar sands exclusion to outright rejection of the fossil fuel industry. However, only five funds fully align with the criteria, excluding companies with capital expenditures for new fossil fuel exploration and unabated coal and natural gas power generation, but they apply more stringent standards and exclude entire fossil fuel–related industries. No fund or index has an approach excluding capital expenditures for new fossil fuel exploration.

Fourteen funds are partially aligned, excluding specific types of the more carbon-intensive forms of fossil fuels, such as coal/tar sands, but not comprehensively. An additional six climate-focused funds that implicitly exclude fossil fuels by only focusing on specific industries, such as renewable energy or water, are rated as “not applicable.” The remaining 10 funds provide no exclusion on fossil fuels, particularly those funds in the social/impact category.

Most funds do not consider the deforestation exclusion, physical climate risks and resilience, or climate governance and lobbying in portfolio construction. Only 2 of the 35 funds include deforestation exclusions, and 1 of them is a social/impact fund, Adasina Social Justice All Cap Global ETF. Twenty-one of the 35 funds fail to meet the criteria on physical climate risks and resilience, with EU PAB-labeled funds faring comparatively better by integrating the issues in their portfolio construction, although only on a partially aligned basis. Most thematic climate funds are also partially aligned largely due to their investment objective to focus on sectors that develop climate solutions. Additionally, there is a lack of attention on climate governance and lobbying as only two funds explicitly consider it in their methodologies.

4.2 Just Transition

No climate-focused funds integrate the just transition theme into portfolio construction, but some broad ESG and social/impact funds do with significant variance (Figure 2). Social or impact-focused funds have the most comprehensive frameworks, integrating working conditions, a living wage, and diversity, equity, and inclusion (DEI) metrics. Nine out of 12 broad ESG funds embrace social factors in their methodology, often excluding and penalizing companies with controversies against International Labour Organization (ILO) standards. However, there is significant variance within funds of the same category in terms of alignment with the criteria, with one fund being fully aligned and others missing all the criteria.

In our sample, 15 of the 35 funds are partially aligned or better on the Workforce Practices subtheme. Whereas most of them consider ILO principles such as the labor rights of freedom of association, collective bargaining, and freedom from discrimination, only four evaluated the subject of living wages. When considering working conditions, some funds use lenient measures of generic labor disputes and workplace safety controversies and not the more robust standard laid out by the ILO. We rate those funds as being “partially aligned.” Specifications on living wages are largely absent and often are limited to the lower standard of minimum wages. Only one fund in our sample, Goldman Sachs JUST U.S. Large Cap, incorporates both living wages and ILO labor standards into its ranking methodology and is rated as “aligned.”

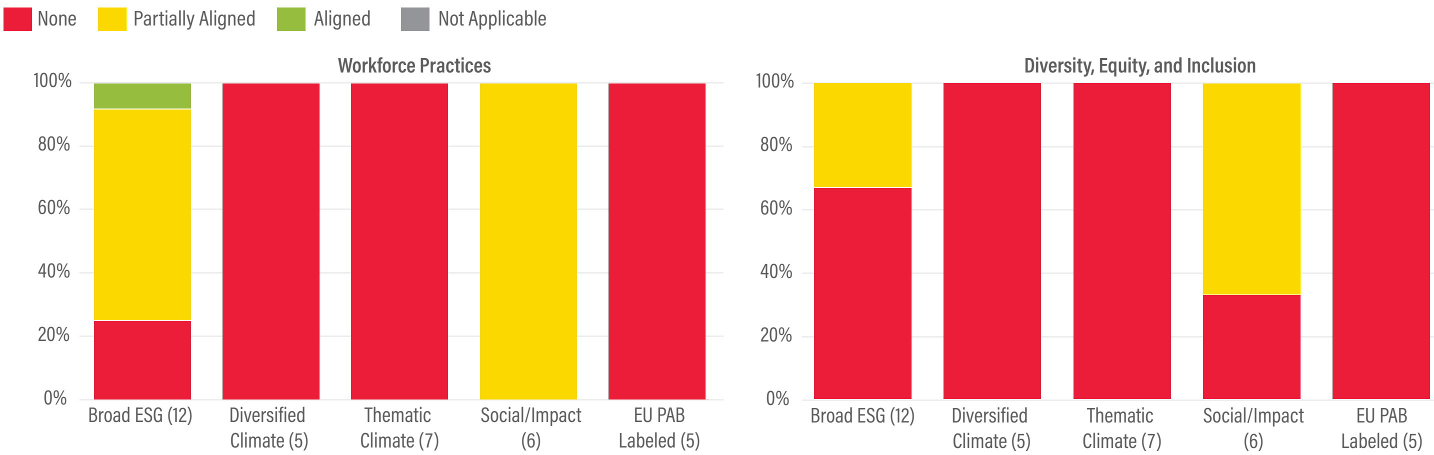
Just eight funds are partially aligned in favoring companies that meet DEI requirements. Funds took different approaches in favoring companies on DEI issues: some decided to exclude companies that did not have diversity policies in place, and others overweighted companies based on diversity programs and gender representation in leadership positions.

Figure 1 | **Fund Evaluation Result for the Mitigation and Resilience Theme by Category**

Note: ESG = environmental, social, and governance; GHG = greenhouse gas; PAB = Paris-Aligned Benchmark. The number of funds in each category is included in parentheses.

Source: Authors.

Figure 2 | **Fund Evaluation Result for the Just Transition Theme by Category**



Notes: ESG = environmental, social, and governance; PAB = Paris-Aligned Benchmark.

Source: Authors.

4.3 Do No Harm

Most funds, regardless of type, considered do no harm exclusions, with weapons and tobacco exclusions being the most prevalent (Figure 3). There is a broad consensus among 86 percent, or 30 of the 35 sustainable investing passive funds, to include weapons and tobacco exclusions. Seven of them are thematic climate funds without explicit exclusionary policies. Their investment universes focus on a specific thematic sector or industry and implicitly exclude companies in weapons and tobacco industries.

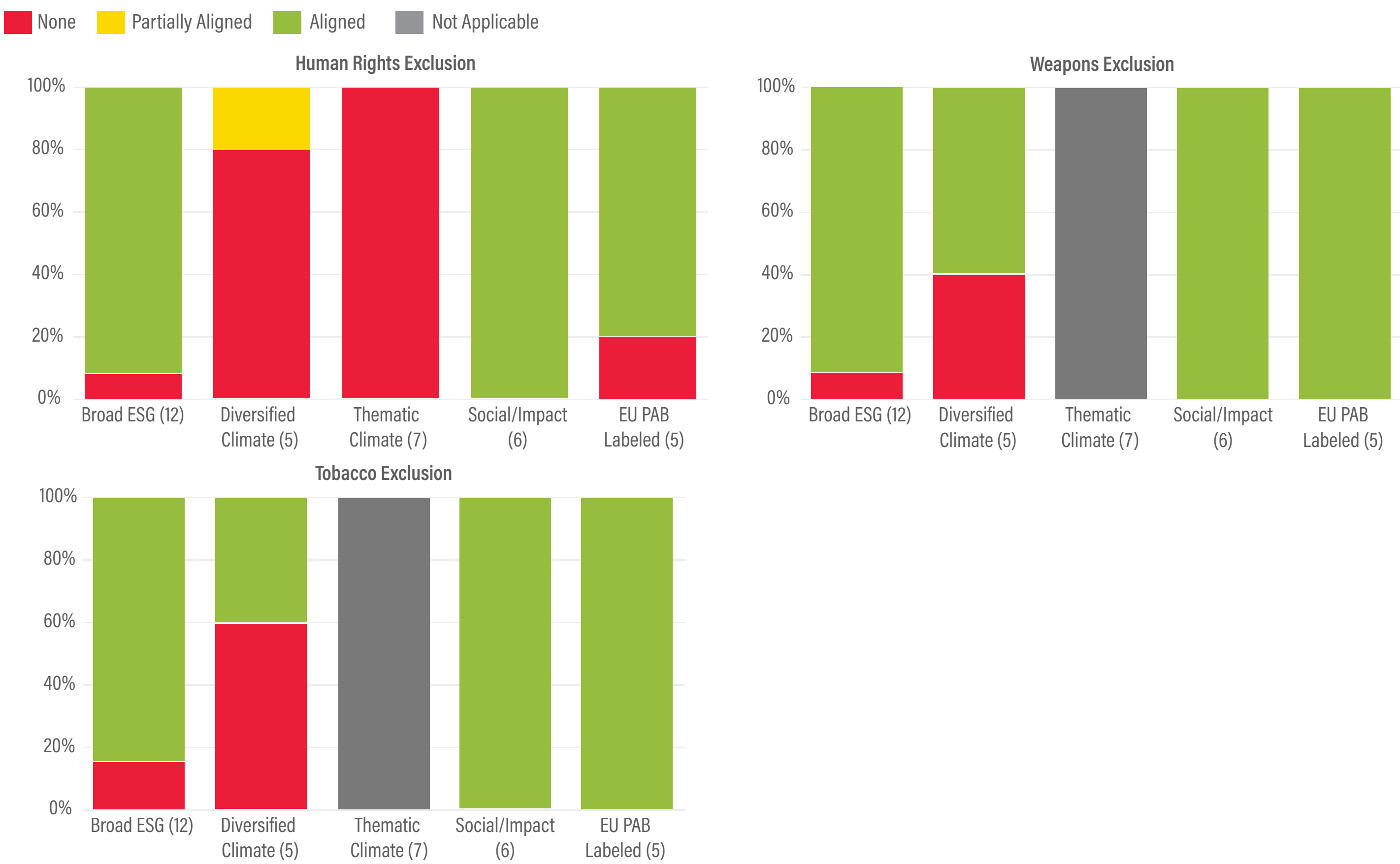
None of the diversified climate and thematic climate funds incorporate exclusions for human rights violations. Conversely, 91 percent, or 21, of the 23 funds in the broad ESG, social/impact, and EU PAB-labeled categories consider exclusion of human rights violators. We believe this is a serious gap in climate funds' coverage because many climate solution industries have supply chains or operations in emerging markets, which are prone to human rights violations.

4.4 Stewardship

Asset managers often argue that beyond security selection, investment stewardship is a core component of maximizing long-term shareholder value for their clients and often includes engagement on ESG risks and opportunities. Since the most popular sustainable investing passive funds fall short of Paris alignment in terms of index construction, we looked deeper and analyzed the asset manager's investment stewardship strategy and activities beyond rules-based criteria.

Although asset managers have reiterated their climate commitments publicly, tangible action is rare within stewardship guidelines. In the sample of 35 funds, there are 21 unique asset managers as some of them manage multiple funds. Only around 14 of these 21 asset managers have public stewardship information available (Table 5).[2] Only six managers state in their stewardship policy or guidelines that they expect companies to align with climate change below a 1.5°C trajectory in alignment with the Paris Agreement. Although three additional asset managers mention the importance of the Paris Agreement as part of their sustainability of stewardship report's context, this commitment is not included in their proxy voting guidelines or engagement guidance to follow through on these commitments. However, as we publish this report, we recognize that some may have updated both their proxy voting guidelines or engagement guidance to better align with the Paris Agreement or net-zero goals.

Figure 3 | Fund Evaluation Result for the Do No Harm Theme by Category



Notes: ESG = environmental, social, and governance; PAB = Paris-Aligned Benchmark. Thematic climate funds would meet the exclusionary criteria because of their sector-focused universe selection despite not explicitly outlining such criteria in their funds and are thus rated as "not applicable."

Source: Authors.

Table 5 | Climate-Related Stewardship Policies by Asset Managers

	ASKS FOR TCFD DISCLOSURE	PARIS ALIGNED (1.5°C)	SCIENCE-BASED TARGETS	CLIMATE IS A STEWARDSHIP PRIORITY
Adasina	Not Available	Not Available	Not Available	Not Available
ALPS	Not Available	Not Available	Not Available	Not Available
Amundi	None	None	None	Yes
Beyond Investing	Not Available	Not Available	Not Available	Not Available
BlackRock	Yes	Yes	Yes	Yes
Calvert	None	Yes	Yes	Yes
Etho	Yes	None	None	Yes
First Trust	Not Available	Not Available	Not Available	Not Available
Northern Trust	Yes	Yes	Yes	Yes

Table 5 | **Climate-Related Stewardship Policies by Asset Managers (Cont.)**

	ASKS FOR TCFD DISCLOSURE	PARIS ALIGNED (1.5°C)	SCIENCE-BASED TARGETS	CLIMATE IS A STEWARDSHIP PRIORITY
Franklin	None	None	None	None
Goldman Sachs	None	None	None	None
Impact Shares	Not Available	Not Available	Not Available	Not Available
Inspire	Not Available	Not Available	Not Available	Not Available
Invesco	Yes	Yes	Yes	Yes
JPMorgan	None	None	None	Yes
Lyxor	Yes	Yes	None	Yes
Nuveen	None	Yes	Yes	Yes
State Street	None	None	None	Yes
VanEck	None	None	None	None
Vanguard	Yes	None	None	None
Xtrackers	None	None	None	None

Note: TCFD = Task Force on Climate-Related Financial Disclosures. Not Available means no stewardship policy was found.

Source: Authors.

5. IMPLICATIONS AND RECOMMENDATIONS

Our analysis reveals that existing passive ESG and sustainable investment funds do not meet the requirements of Paris-aligned investing. Although the feat seems to naturally fall in the hands of asset managers, a broad variety of stakeholders have a responsibility to hasten the transition to widely accepted Paris-aligned investing.

Gaps in data availability and quality at the constituent company level can make it difficult to develop an index or products using the various criteria proposed in the framework. Such concerns over data availability and quality issues are not limited to emissions data; they also involve data for criteria on the just transition and do no harm exclusions. Without high-quality data, it would be challenging to develop the desired indexes and products. There can be significant differences between data directly disclosed by issuers and data estimated by third-party data providers; this can cause asset managers and index providers to operate from and make false assumptions. We hope that data disclosure and collection will be improved as Paris-aligned investing continues to gain traction. Asset managers, owners, and index providers can also play an important role by engaging with and incentivizing companies to be more transparent.

The revised EU Benchmark Regulation and its labeled indexes and products should be enhanced to create funds that are Paris aligned across all criteria. Although EU PAB funds perform the best against the Paris-aligned framework developed in this paper, they use economic intensity targets that may not lead to the mitigation efforts needed to achieve the Paris Agreement goals. Instead, they should use a sector-based approach with absolute GHG emissions or intensity metrics. In addition, the revised EU Benchmark Regulation does not consider deforestation, climate governance and lobbying, and a just transition, which are integral parts of the Paris Agreement goals.

U.S. asset managers and index providers should work together to create funds that meet the Paris-alignment criteria. Major index providers already have experience in developing EU PAB-labeled indexes, and asset managers have offered investment products based on these indexes in the European region. Only one of them—JPMorgan

Carbon Transition U.S. Equity ETF—was offered in the United States at the time of this analysis. Index providers can enhance their methodologies and create more robust indexes and products with asset managers, particularly for the U.S. market.

Financial regulators should take steps to encourage the growth and improve the transparency of sustainable investing, particularly in the United States. Currently, ESG and Paris-aligned data gaps create challenges that can quickly result in greenwashing claims. As our analysis indicates, sustainable funds have big discrepancies in terms of their issue coverage even though they often market themselves under the same sustainability-linked terms. Regulators can require firms that use ESG-related fund names to disclose the criteria used in choosing such labels via detailed reporting, uniform standards, and clear communication. We believe that the proposed rule on climate-related disclosures by the SEC will likely foster rapid change and improve disclosure of metrics and data of and by issuers.

Asset managers and index providers should provide greater transparency and better disclosures of their methodologies in prospectus and publicly accessible documents as it is not clear how ESG factors are considered and weighted in the security selection process. Improved messaging should also be considered, not only for sophisticated institutional investors but also for retail investors and civil society, each of whom are increasingly looking to align their investments with sustainable goals and voicing their preferences to their retirement administrators and pension funds.

Passive fund managers should integrate the Paris Agreement in their stewardship process and make the process publicly available. The largest passive managers have the scale to drive shareholder support for ESG-related shareholder resolutions with their heavyweight holdings, but very few asset managers truly codify the need for rapid action to align with the Paris Agreement in their proxy voting guidelines. It is recommended that asset managers develop more detailed and clear stewardship policies that call on portfolio companies to create a climate transition plan that aligns with a 1.5°C pathway and set science-based emissions targets.

Asset owners, including retirement plan administrators, should encourage asset managers and index providers to more closely align with the Paris Agreement. As shown by our analysis, there is notable variance in terms of Paris alignment among sustainable funds and their indexes, including consequential differences in stewardship policies between asset managers. Asset owners should perform rigorous due diligence in selecting the index, the fund, and the asset manager because publicly available methodologies and stewardship policies may not provide sufficient information. Simultaneously, asset owners can demand that index providers and asset managers create robust products that are Paris aligned and channel capital towards them.

Asset owners should expect higher tracking errors when benchmarking Paris-aligned passive products against traditional market capitalization benchmarks and consider using Paris-Aligned Benchmarks. Major incumbent stock market indexes are not on a Paris-aligned pathway; for example, Standard & Poor's 500 Index has a temperature rating of 3°C (SBTi 2021). As a result, higher tracking errors are extremely likely when passive funds incorporate a rigorous Paris-aligned framework. Thus, rather than using traditional market indexes as benchmarks, asset owners should determine which benchmarks and corresponding tracking errors are more relevant and instead use sustainability-themed indexes, which are better suited for Paris-aligned portfolios (Funk 2021; Santodomingo 2018).

6. CONCLUSION AND NEXT STEPS

Public equity markets that are aligned with the Paris Agreement are essential if the world is set to limit warming to 1.5°C. Although passive investing is not a sufficient solution for Paris alignment, it is a necessary condition in shifting all capital flows in a sustainable direction. Paris-aligned investing is more than GHG mitigation. It includes shifting investment toward climate solutions that generate the real-economy impact necessary to prepare economies and communities against the rising threat of climate change and brings a more just and equitable world. But for this to happen, a drastic increase in the quality and size of Paris-aligned passive equity investing is needed.

APPENDIX A: FUND EVALUATION RESULT AGAINST THE PARIS-ALIGNED FRAMEWORK FOR PASSIVE EQUITY PRODUCTS

Please click here to download table.

ABBREVIATIONS

AUM	assets under management
CTB	Climate Transition Benchmark
DEI	diversity, equity, and inclusion
DOL	U.S. Department of Labor
ESG	environmental, social, and governance
ETF	exchange-traded fund
EVPC	enterprise value plus cash
GHG	greenhouse gas
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
PAB	Paris-Aligned Benchmark
S&P 500	Standard & Poor's 500 Index
SEC	U.S. Securities and Exchange Commission
TCFD	Task Force on Climate-Related Financial Disclosures

ENDNOTES

1. For example, DWS's Standard & Poor's 500 Index (S&P 500) ESG exchange-traded fund (ETF) offers a net expense ratio of 0.1 percent, one of the lowest expense ratios for any ESG fund, whereas BlackRock's iShares Core S&P 500 ETF has a net expense ratio of 0.03 percent (BlackRock 2021; DWS 2021).

2. Smaller asset managers or stand-alone ETFs were more likely to not have any public information related to investment stewardship. This illustrates the challenges smaller asset managers face when it comes to developing an investment stewardship team.

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ABOUT WRI

World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity, and human well-being.

Our Challenge

Natural resources are at the foundation of economic opportunity and human wellbeing. But today, we are depleting Earth's resources at rates that are not sustainable, endangering economies and people's lives. People depend on clean water, fertile land, healthy forests, and a stable climate. Livable cities and clean energy are essential for a sustainable planet. We must address these urgent, global challenges this decade.

Our Vision

We envision an equitable and prosperous planet driven by the wise management of natural resources. We aspire to create a world where the actions of government, business, and communities combine to eliminate poverty and sustain the natural environment for all people.

Our Approach

COUNT IT

We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

CHANGE IT

We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base. Then, we work with partners to deliver change on the ground that alleviates poverty and strengthens society. We hold ourselves accountable to ensure our outcomes will be bold and enduring.

SCALE IT

We don't think small. Once tested, we work with partners to adopt and expand our efforts regionally and globally. We engage with decision-makers to carry out our ideas and elevate our impact. We measure success through government and business actions that improve people's lives and sustain a healthy environment.