Building carbon transition fixed income portfolios

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INTRODUCTION

In preparation for a recovery in global economic activity, governments, asset owners, investment managers and corporations are increasing their focus on reducing carbon dioxide (CO_2) emissions. Many fiscal stimulus packages have been tied to green policies, particularly with the goal of achieving net zero emissions by 2050; this is critical to meeting the Paris Agreement target of limiting global warming to well below 2 degrees Celsius (˚C), preferably to 1.5˚C, compared to pre-industrial levels.

In this environment, actively managing a carbon transition portfolio has become essential to navigate the impacts of climate-driven technology and policy changes on portfolio performance. In terms of policy, as we outlined in our climate policy thematic article in our 2021 Long-Term Capital Market Assumptions[1], we expect policymakers to take significant actions to achieve this emissions reduction. This has material consequences for passively managed fixed income portfolios: according to a 2019 study, insurance portfolios with sovereign bond holdings that are most exposed to high-carbon industries could suffer a decline in value of up to 4%[2]. Corporate bond portfolios will also feel the impact of climate change policies. The introduction of emissions trading schemes or outright carbon taxes are likely to expose costs previously unaccounted for in an issuer's balance sheet and cash flow expectations which could in turn have material impacts on credit fundamentals and ratings.

From a technology standpoint, the increased importance of renewables will cause more assets to become stranded – from old intellectual property, such as combustion engine patents, to physical property including coal power plants and energy-inefficient real estate. This can also be an important driver of value in actively managed fixed income portfolios, where asset-heavy fixed income sectors such as utilities, energy, automotive and basic industry represent a large proportion of corporate bond indices.

Throughout the paper, we leverage the Net Zero Investment Framework put together by the Institutional Investors Group on Climate Change (IIGCC) of which J.P. Morgan Asset Management is a member. The framework serves as a comprehensive guide to help institutional investors undertake alignment of their portfolios towards net zero[3].

In this white paper, we highlight J.P. Morgan Asset Management's unique active management approach to a carbon transition investment framework for fixed income assets, that is capable of harvesting opportunities while also reducing the risks involved in the transition to a low-carbon world.

HOW WE THINK ABOUT CARBON TRANSITION PORTFOLIOS

Our carbon transition framework consists of three stages:
1) Identify and rank companies based on their carbon transition readiness
2) Construct portfolios utilising forward-looking carbon-reduction metrics, and
3) Engage with issuers who have yet to put in place appropriate climate policies.

In all three stages, we leverage the depth and expertise of our research platform as well as data from both internal and external sources, all of which is aggregated in our proprietary portfolio management system.

[1] Wu, J., Siegert, C., Aguirre, N., Juyvns, V., Lintern, T., Mandel, B. "Weighing the investment implications of climate change policy," J.P. Morgan Asset Management 2021 Long-Term Capital Market Assumptions.

[2] Battiston, S., Jakubik, P., Monasterolo, I., Riahi, K. and van Ruijven, B. "Climate risk assessment of sovereign bonds' portfolio of European insurers," European Insurance and Occupational Pension Authority (EIOPA) Financial Stability Report (December 2019).

[3] IIGCC, "Paris Aligned Investment Initiative: Net Zero Investment Framework for Consultation" (August 2020).

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IDENTIFY: RANKING COMPANIES BASED ON THEIR CARBON TRANSITION READINESS

Our framework considers the contribution of a company to global warming through direct emissions (Scope 1) and indirect emissions (Scope 2). We also consider Scope 3 emissions qualitatively, although the relatively low level of consistent reporting across fixed income issuers does not currently allow us to include this metric in the overall CO2 emissions calculation for our bond portfolios (**EXHIBIT 1**)

EXHIBIT 1: UNDERSTANDING THE THREE SCOPES FOR EMISSIONS[4]

Scope 1	Scope 2	Scope 3
Direct emissions generated on site, for example at company facilities or via company vehicles	**Indirect emissions** generated from electricity purchased or used by an organisation	All other emissions that are **related** to an organisation's activities, but not **under its direct control** - for example because they are generated by suppliers, or because they are associated with the use of a company's products (e.g. cars).

Sources: J.P. Morgan Asset Management. For illustrative purposes only.

Our preferred metric for fixed income carbon transition portfolios normalises CO2 emissions for each issuer's revenues, so as to arrive at a carbon intensity metric measured in "tons CO2 equivalent/USDm" (tCO2e/USDm). This measure is in line with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.[5]

As put forward in J.P. Morgan Asset Management's recent white paper on the integration of environmental, social and governance (ESG) factors into investment decisions[6], we evaluate the relative materiality of carbon emissions for each of the sectors in a carbon-transition portfolio. It is important to note that when looking at carbon intensity, we do not apply blanket exclusions to high-emitting sectors or companies. Our approach is to engage and allow all sectors and issuers to be part of the solution; they all play a crucial role within a functioning economy (**EXHIBIT 2**).

EXHIBIT 2: RELATIVE MATERIALITY OF CARBON EMISSIONS ACROSS FIXED INCOME SECTORS

Materiality in constructing a carbon-aware fixed income portfolio

Source: J.P. Morgan Asset Management.

At the same time, not all current carbon emissions contribute equally to investment risk, and carbon intensity, as a metric, has numerous limits. Financial institutions, for example, have low Scope 1 and 2 carbon intensities, given the sector's low carbon footprint. Yet bank lending to high-emitting sectors, such as utilities, has an indirect, multiplier effect on carbon intensity that manifests only in future years.

Similarly, sub-sectors such as auto parts, electrical components and energy-related segments—including drilling, storage and transportation—might feature a high revenue dependence from fossil fuels, while having a relatively low tCO2e/USDm intensity. Therefore, it is important to complement historical carbon intensity with a qualitative overlay and a forward-looking approach.

Forward-looking carbon footprint commitments by companies or governments are ultimately the most important factor in achieving net zero emissions. These can take different forms with varying levels of commitment. Our approach to assessing the strength of a company's commitment comprises of both quantitative and qualitative factors:

- **Quantitative:** One of the main issues with quantitative data is its availability, transparency and consistency. We use external data validators, such as the Science-Based Targets Initiative (SBTi) and the Transition Pathway Initiative, to identify companies with strict commitments, and the Sustainalytics Controversy Score to flag those situations where a company's behaviour is at odds with its stated policy. As data and disclosures evolve across governments and companies, so too will the quantitative metrics we are using in our framework.

[4] In the late 1990s, the Greenhouse Gas Protocol was established to set accounting standards to measure and manage greenhouse gas (GHG) emissions and encourage companies to report on their emissions via a corporate responsibility report. The GHG Protocol defined three key "scopes" for categorising emissions.

[5] Task Force on Climate-related Financial Disclosures, "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures," (2017): pp. 42-44.

[6] Building stronger portfolios: ESG integration - Investment led, expert driven", J.P. Morgan Asset Management (July 2020).

- **Qualitative:** The input of our credit analysts is crucial in determining the strength of a company's forward-looking targets. It is all the more important in fixed income where data can be more limited, particular in sectors with lower percentages of publicly listed companies. In this regard, we employ the full breadth of J.P. Morgan Asset Management's equity and fixed income research capabilities and tools to augment our coverage and refine our approach. Qualitative factors such as linkage to management compensation, capex committed and management track-record are some of the important forward-looking indicators in our analysis. Strong engagement with management is also a crucial part of this evaluation.

The combination of the two factors results in a "very strong", "strong", "weak", "very weak" qualification for the forward looking commitment of a company. This is then used as a key input in order to actively identify bond issuers that add the most value in carbon transition portfolios. We provide an example of this framework by looking at a company with a "very strong" forward looking commitment in our opinion, Enel.

ENEL

- **Company overview:** One of the largest energy utility companies in Europe, headquartered in Italy.
- **Sector:** Utilities: Carbon intensity is very material given the sector's role in supplying power to consumers and industries. Electricity and heat generation for example have accounted for 24% of total GHG emissions in the last decade[7].
- **Scope 1 & 2 carbon intensity (historical):** 3rd quartile in EUR corporates utilities, 4th quartile in GBP corporates utilities.
- **Scope 3 emissions:** Company discloses and sets explicit scope 3 targets but disclosure is low and inconsistent across the sector with only 43% of the GBP utilities universe disclosing Scope 3 & only 23% disclosing both upstream and downstream emissions[8].
- **Forward-looking commitments:** "very strong"
  - Quantitative: 1.5°C target set and approved by the SBTi.
  - Qualitative: Management deeply committed to de-carbonising their operations with all but essential capital expenditure dedicated to renewables and carbon emission targets well integrated into the company's strategy.
- **Conclusion:** Include in carbon transition portfolio due to very strong forward-looking commitment despite historically high carbon intensity linked to their legacy coal business.

The securities above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell.

CONSTRUCT: BUILDING CARBON-TRANSITION PORTFOLIOS UTILISING FORWARD-LOOKING METRICS

Our carbon-transition portfolios are constructed with three objectives in mind: to reduce carbon intensity by at least 30% relative to the broad investment universe; to reduce annual carbon intensity by 7%; and setting a five-year carbon reduction target.

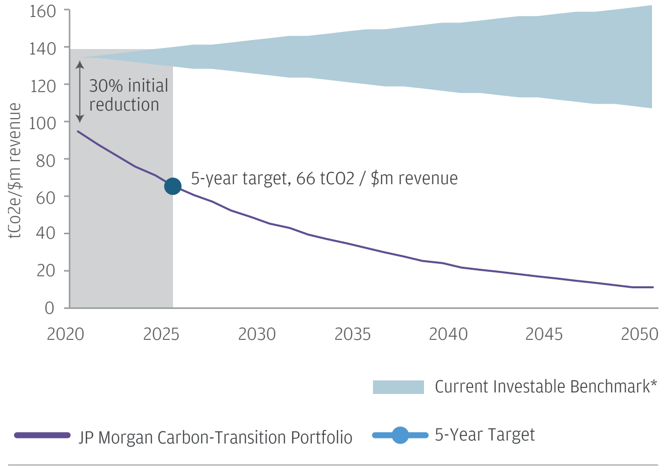
1. **A 30% reduction in the portfolio carbon intensity relative to an appropriate broad investment universe:** Ideally, this is implemented during the initial portfolio construction process but a more gradual approach can be used for fully-invested "buy and maintain" portfolios with realised gain and loss budgets. This target is consistent with the European Union (EU) Technical Expert Group (TEG) recommendation for EU Climate Transition benchmarks and allows for a broad opportunity set across different issuers. Should the investable universe allow for a more incisive 50% reduction (aligned with the EU TEG's EU Paris-Aligned framework) without reducing diversification, then we would be happy to accommodate this.
2. **A 7% annual carbon intensity reduction:** This goal recognises that two companies may have identical footprints today but may have completely different strategies in the future. The target allows the portfolio to reach net-zero carbon emissions status by 2050, and is informed by forward-looking carbon intensity indicators, such as the Science-Based Initiative's five-year de-carbonisation targets and feedback from our research and Investment Stewardship teams. In order to meet the 7% annual goal, we would continually monitor issuers' carbon emissions data to ensure the portfolio remains on track, while also engaging with companies when necessary. Furthermore, we would use the allowed turnover budget to decrease carbon intensity, where appropriate.
3. **A five-year cumulative carbon reduction target:** Typically issuers release carbon emissions data on an annual basis. While monitoring and engaging with issuers on a regular basis is crucial, we would set a five-year target to measure the cumulative carbon reduction target in the portfolio. This medium-term yardstick allows us to avoid excess turnover and to account for the long-dated nature of many of the carbon-generating assets; for example, power plants may have residual lives well in excess of shorter-term carbon reduction measures. Furthermore, a five-year target smooths out the short-term fluctuations in currency and commodity prices that may otherwise dilute the meaning of the tCO2e/USDm carbon intensity indicator.

The estimated carbon reduction that results from applying our objectives to a portfolio can be seen in **EXHIBIT 3**.

[7] Source: United Nations Environment Programme "Emissions Gap Report" (9 December 2020). https://www.unenvironment.org/emissions-gapreport-2020

[8] Source: MSCI and Bloomberg Barclays GBP corporate universe (30 September 2020)

EXHIBIT 3: ESTIMATED CARBON REDUCTION IN A CARBON TRANSITION PORTFOLIO USING OUR THREE PORTFOLIO CONSTRUCTION OBJECTIVES



Source: J.P. Morgan Asset Management. Scope 1 and 2 carbon emissions considered.
*For illustrative purposes only.

Targets can be further discussed and refined depending on client requirements.

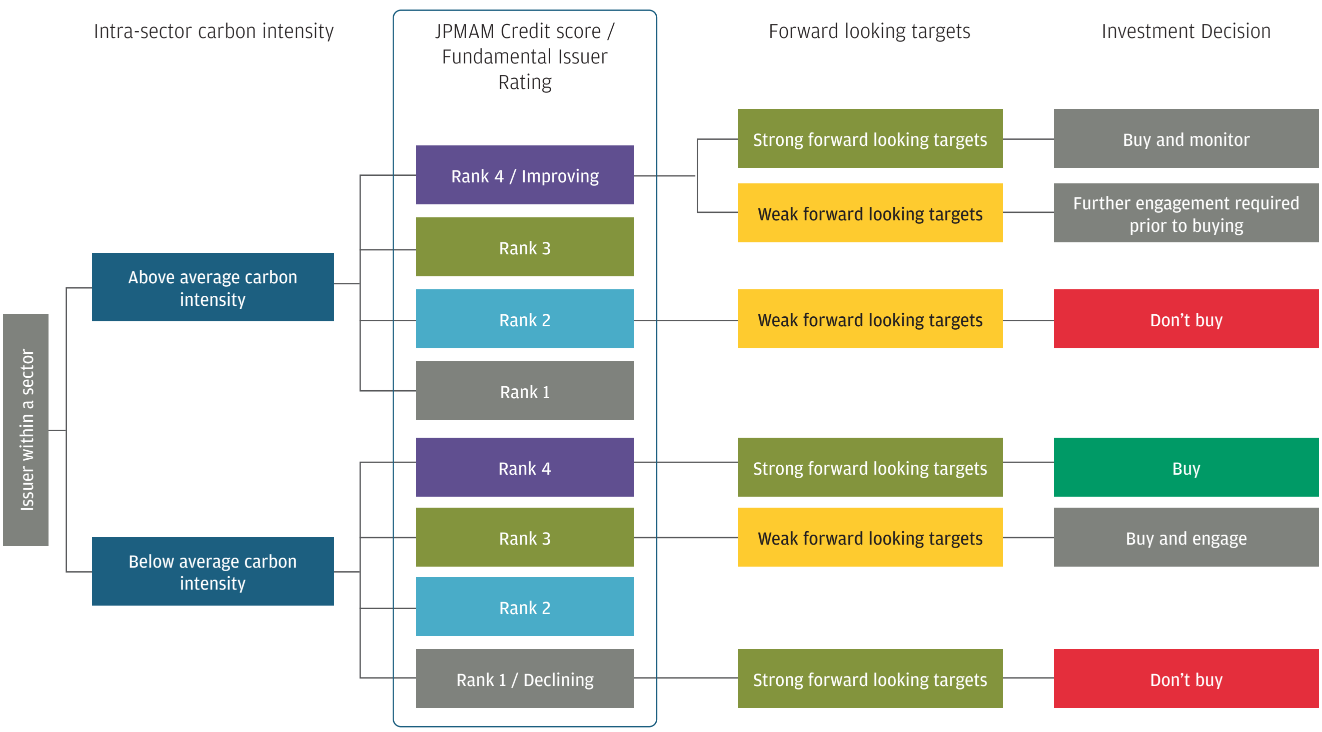
When it comes to issuer selection, we combine fundamental, quantitative and technical (FQT) inputs from our core fixed income investment process, resulting in a credit score of one to four (one: weakest, four: strongest) and a fundamental issuer rating and direction, with the two following key carbon-reduction dimensions:

1. **Intra-sector current carbon intensity:** As noted earlier, our approach is non-exclusionary, in that we do not restrict entire sectors based on their carbon intensity. We therefore consider each issuer's carbon intensity relative to the carbon intensity of its respective sector – above or below average – with percentiles used to indicate where an issuer is placed within its sector.

2. **Forward-looking carbon policy targets:** As explained in the previous section, we use quantitative and qualitative inputs to identify whether a company or government's forward looking commitments are strong or weak. This is arguably the most important component of the portfolio construction process, particularly for a Buy and Maintain portfolio, as a portfolio of companies with strong forward looking commitments should in theory align to net zero by 2050 through a reduction in carbon intensity in each company's operations.

The result is a rigorous framework for making investment decisions which is explained pictorially in **Exhibit 4**.

EXHIBIT 4: OUR GLOBAL FIXED INCOME INVESTMENT PLATFORM IS LEVERAGED TO BUILD CARBON-TRANSITION PORTFOLIOS



Source: J. P. Morgan Asset Management. For illustrative purposes only. The above decision tree is not exhaustive and should serve to show examples of different potential decisions.

The bond by bond selection process allows us to go beyond an issuer's carbon intensity and additionally take into account specific features that are embedded in the bond covenants; this can help insurance and pension funds achieve carbon-transition goals. We consider three types of securities in our carbon-transition portfolio construction process:

- Green bonds: The proceeds of these bonds are aimed at financing specific carbon-reduction projects, while benefiting from the creditworthiness of the issuer's entire balance sheet. For example, a high-polluting power company may not be investable, according to the issuer selection framework described above, but a green bond issued by the same company, and aimed at financing renewable power generating projects, could be a viable proposition. We evaluate each green bond based on its own quantifiable carbon-reduction characteristics, as well as its adherence to the Green Bond Principles framework[9], among other things. We are also exploring ways of quantifying the emissions avoided thanks to the use of green bonds at a portfolio level.
- Sustainability-linked bonds: These securities are issued for general corporate purposes, so they lack the environmental specificity of green bonds. On the other hand, they feature environmental goals in their covenant structure. For example, failure to achieve a certain renewable power generation capacity, such as 50% of the company's overall capacity by 2030, can result in financial penalties such as a coupon step-up. In this respect, and from a de-carbonisation standpoint, sustainability-linked bonds are of higher quality relative to other issues by the same company.
- Transition bonds: An emerging type of financing used in sectors which are hard to decarbonise (e.g. mining, steel, cement and shipping). Transition bonds or finance aims to fund investments that are not yet low or zero-emission but have a short-term role to play in decarbonising an activity or supporting an issuer in its transition to net zero targets. So far issuance of transition bonds has been fairly limited. Specific guidance on required disclosures for issuers looking to use transition finance was issued by ICMA in December 2020.[10]

ENGAGE: ESTABLISH A DIALOGUE WITH ISSUERS WHO HAVE YET TO PUT IN PLACE APPROPRIATE CLIMATE POLICIES

Engagement with issuers is one of the key pillars of our ESG-integrated investment process and plays an integral role in ensuring portfolios can achieve the specific carbon transition targets outlined earlier.

As fixed income investment managers, we are effectively lending money to companies on behalf of our clients. We are committed to delivering strong risk-adjusted returns for our clients and expect the issuers in which we invest to conduct business in a sustainable manner and to demonstrate high standards. We also believe that assessing the climate-related practices of issuers in which we invest is one of the drivers of long-term performance. Therefore, we take carbon transition issues into consideration, where relevant and material, alongside other market risk factors, as a fundamental part of our sound risk management and a core part of our fiduciary responsibility.

The issuers in which we invest are dependent on us for capital and therefore we believe that we can positively influence their business practices by actively engaging with them, even though, as bond investors, we do not carry voting rights. Nevertheless, we partner with our equity counterparts and the Investment Stewardship team to ensure a consistent approach to engagement with companies.

Our fixed income platform has over 65 dedicated career research analysts, giving us the scope to conduct this rigorous engagement, pressing company management and government officials on topical issues and encouraging them to adopt best practices.

Some of the key areas of engagement related to carbon transition are:

- Current carbon emissions: Scope 3 emissions are currently not considered in our quantitative carbon intensity targets, as only about 55% of the companies in our investable universe[11] disclose this metric. By actively engaging with different bond issuers we are aiming to increase Scope 3 reporting coverage, further refining our analytical framework.
- Forward-looking carbon emissions targets: The Science-Based Targets Initiative issuer coverage is relatively low, with only 15%-20% of the companies reporting their adherence to less than 2°C global warming scenarios. J.P. Morgan Asset Management's global credit research capabilities and ESG-integrated investment approach alleviate this issue by providing a qualitative insight into a given company's future plans for carbon reduction. Through engagement with companies we aim to achieve a much higher percentage of companies committing to global warming targets in the next five years and we encourage companies to comply with the Science-Based Targets Initiative.
- Sectors with higher emissions: Within the higher emitting sectors, such as basic industry, energy and utilities, we aim to have a minimum of 70% of assets invested in companies which are either already aligned, or committed to aligning, with the Paris Agreement target for limiting global warming, or with whom we are engaging to achieve a serious commitment to a 1.5°C target by 2050.

[9] "The Green Bond Principles, established by the ICMA, are voluntary process guidelines that recommend transparency and disclosure, and that promote integrity in the development of the Green Bond Market"

[10] Climate Transition Finance Handbook, December 2020. https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Climate-Transition-Finance-Handbook-December-2020-091220.pdf.

[11] Based on the Bloomberg Barclays Global Corporate universe.

CONCLUSION

Climate change has important, material effects on both insurance company and pension fund balance sheets. Our carbon reduction framework aims to reduce the climate risks to which our clients are exposed. Our portfolio construction framework leverages J.P. Morgan Asset Management's proprietary analytical resources, global research platform and Investment Stewardship team to deliver carbon transition portfolios tailored to the specific circumstances of each insurer and pension fund.

Integrating carbon transition into the investment process does not need to come at the expense of higher financial risks or lower returns. Future technological advancements and regulatory developments will require insurers and pension funds to become "carbon transition ready" and this presents opportunities to diversify risk and enhance more sustainable profitability in the future.

NEXT STEPS

For more information, contact your J.P. Morgan representative.

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