

The role of corporate bonds in funding the green transformation

Building a low-carbon world with AI credit portfolios



Christian Kopf

Head of Fixed Income
Union Investment

Climate change has become a factor that is impossible to ignore for any long-term investor. The war in Ukraine has further increased the pressure to become less dependent on fossil fuels. Analysis of carbon data by artificial intelligence (AI) can provide valuable assistance when it comes to staying on top of greenhouse gas emissions in a portfolio.

How likely is it that a company will hit its greenhouse gas emissions targets in the coming years? And how do these companies ultimately

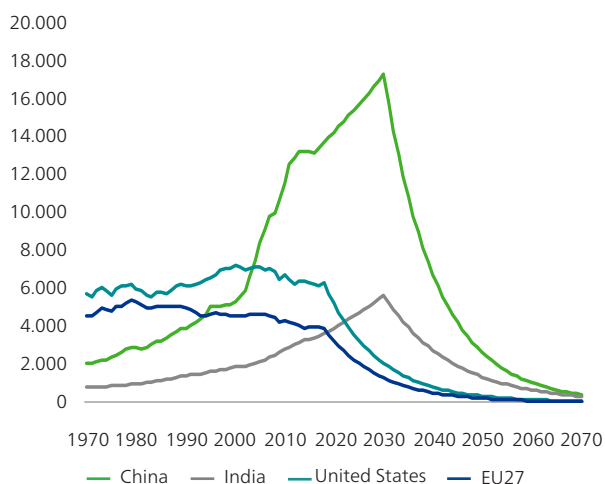
perform? These are questions of decisive importance to investors with a long-term focus, not least because the war in Ukraine has shown that Europe is still highly dependent on fossil fuels despite years of efforts to reduce their use. Phasing out fossil fuels requires substantial investment in renewable and climate-friendly technologies – a trend that has been gaining traction for some time, driven by efforts such as the global pledge to reach climate neutrality that was made at the climate summit in Glasgow.

Measurable progress identified

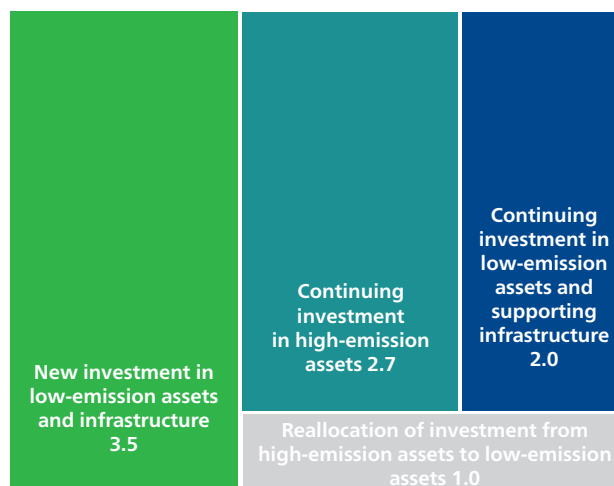
Consequently, it is important to invest capital precisely in those companies that use low-carbon technologies or contribute noticeably to the reduction of carbon emissions – or companies that are in the process of transforming to meet these requirements. An approach based on artificial intelligence, such as that used by Union Investment, can help to generate a better investment performance and build a more carbon-efficient portfolio – including in the corporate bond segment. The road to climate neutrality in a fixed-income portfolio is a challenging one. Investors are faced with a wide variety of data sources and a broad spectrum of data quality. At the same time, data in this flood of information can be disparate and inconsistent or may be available for a limited historical period only. This makes it more difficult to specifically identify companies that are making demonstrable and steady progress

Huge investment required to meet the targets of the Paris agreement

Achieving the 1.5°C target will be very challenging
Greenhouse gas emissions (million tonnes)



Huge investment required
Annual investment (US\$ billion)



in their efforts to decarbonise. But these are precisely the companies that are key for an investment strategy seeking to tap into the upside potential of the transition to a greener economy. The successful identification of companies that can demonstrate measurable progress not only improves the carbon footprint of the portfolio but also strengthens the performance prospects over the long term, because lower costs will be incurred in connection with carbon pricing, making the business model more future-proof.

Fortunately, artificial intelligence offers a solution. There are systematic approaches and methods that can be useful for an active investment manager when it comes to analysing and processing climate-related data. Union Investment has chosen a path that goes beyond a commitment to excluding coal from the portfolio. ESG analysts and quantitative analysts have worked together, using quantitative methods and artificial intelligence, to create a dashboard that provides a well-structured overview of how likely it is that a company will make a meaningful contribution to the decarbonisation of the economy. To this end, Union Investment uses a proprietary tool called MALINA, short for 'machine learning for investment applications'. The analysis draws on data from multiple providers, a strategy that has been adopted deliberately in order to obtain a well-founded, broad-based assessment of as many transformation candidates as possible. The use of different providers helps to close gaps in the coverage and compare different positions. Around 9,000 companies are now covered, of which a respectable 1,680 have committed to self-imposed climate targets. In addition, a broad universe of

issuers and the inclusion of different emissions standards (scopes 1, 2 and 3) result in a rising level of complexity.

Human-machine interaction

Good research starts with a broad and deep data set, but it does not end there. Some questions can only be answered properly through qualitative analysis. Union Investment has therefore assembled a large ESG team that collaborates with the portfolio managers to ultimately decide how companies should be assessed in terms of sustainability. The analysis of such complex data is a task that is ideally suited to combining the strengths of human and artificial intelligence. This helps to reduce complexity and facilitates well-founded investment choices, for example in constructing a portfolio of corporate bonds that generates a viable investment return while also making a positive contribution to the sustainable transformation of the economy.

The fund managers can use MALINA to calculate and closely monitor the transformation paths of companies. Important investment signals can be derived from information such as the average growth rate of the companies' carbon emissions and their definition and achievement of carbon emission reduction targets. In addition, the actual current trajectory of carbon emissions can be compared against the target trajectory in order to review forecasts or the fulfilment of targets. Regional and sector-specific effects can be determined and taken into account as an additional assessment factor, depending on the data available for a company.

This helps to identify companies that have clearly embarked on a transformation journey towards lower greenhouse gas emissions – be it as an individual company, more broadly across the company's customer base, or as a catalyst for change in the wider economy. Integrating this approach with the proprietary sustainability platform SIRIS makes it possible to verify whether a company is on track to meet the Paris climate goals. It also means that outliers – both positive and negative – can be spotted quickly. This facilitates a targeted selection of securities that are outperforming a benchmark index that is based on the achievement of the Paris climate goals (Paris-aligned benchmark). A passively managed, exchange-traded fund (ETF) primarily uses reallocations to steadily reduce the carbon footprint of the portfolio. By contrast, MALINA makes it possible to identify companies that are actually reducing their own carbon emissions. This approach does not yield immediate carbon emission reductions, but it gives investors the opportunity to support companies as they transition to business practices with a smaller greenhouse gas footprint. The ultimate objective is to achieve a much greater climate impact and thereby generate added value compared with the benchmark and the wider market. In an ideal scenario, active security selection can also take account of differences in the valuation of bonds. For example, bonds with a high ESG score (i.e. an above-average sustainability rating) are valued more highly than conventional bonds at present. However, this is not yet the case for other factors such as carbon emissions. In essence, it takes more than simple lists of exclusion criteria to achieve the best possible investment out-

come. A forward-looking approach, which assesses where companies that currently have a demonstrably poor carbon emissions performance will be in five years' time, is therefore much more promising.

There are various levels. Pure play companies generate 100 per cent of their revenue from products that promote the achievement of the SDGs. One example is Vertex Pharmaceuticals, a US biopharmaceutical company that develops medication for treating various serious illnesses. But companies that are future-proofing their ope-

rations and investing in sustainable business areas where they see economic potential in products and technologies that promote SDG attainment can also be attractive investment targets. These SDG transitioners, which include speciality chemicals firm DSM, are increasingly focusing on sustainable solutions such as biofuels.

A special role is played by companies whose contribution to achievement of the SDGs can barely be measured in terms of revenue, or not at all, but are making a visible difference (SDG absolute impact).

They include telecommunications giant Orange, which provides mobile phone services in Africa and thereby supports the region's development.

Whether Industry 4.0 or the UN SDGs, active management and careful analysis of the companies that make suitable candidates for a themed fund are crucial to unearthing the hidden treasures and investing at an early stage in these companies with their innovative business models.

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Contact: Union Investment Institutional GmbH, Weissfrauenstrasse 7, 60311 Frankfurt/Main, Germany, tel. +49 69 2567-7652
Unless otherwise stated, all information, descriptions and explanations are dated **23 June 2022**.

Contact:

Karsten Holetzek, Senior Client Relationship Manager at Union Investment, tel: +49 69 2567-2551, karsten.holetzek@union-investment.com

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