



Your success. Our priority.

Decarbonising portfolios

Aligning net zero pathways in corporate credit portfolios

For professional investors only

24 November 2021

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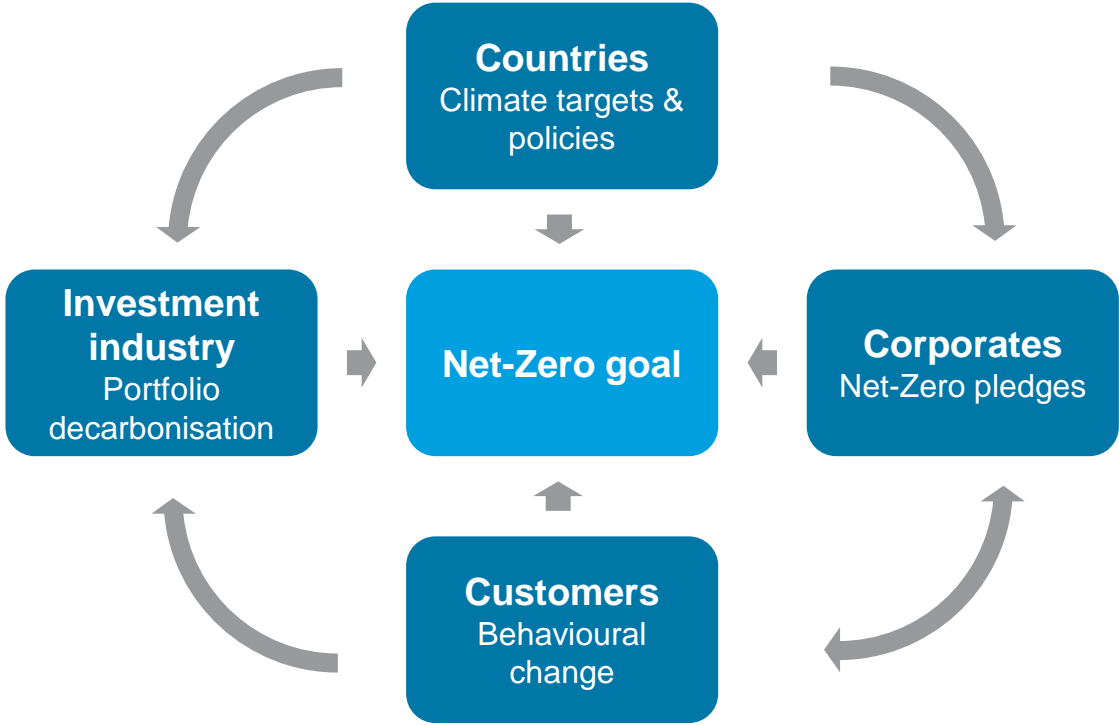
Asset Owners

- 220 net zero asset managers with US\$57 trillion AUM commit to investing aligned with net zero by 2050
- 61 asset owners with US\$10 trillion AUM signed up to the Net Zero Asset Owners Alliance which commits to establishing intermediate targets every five years



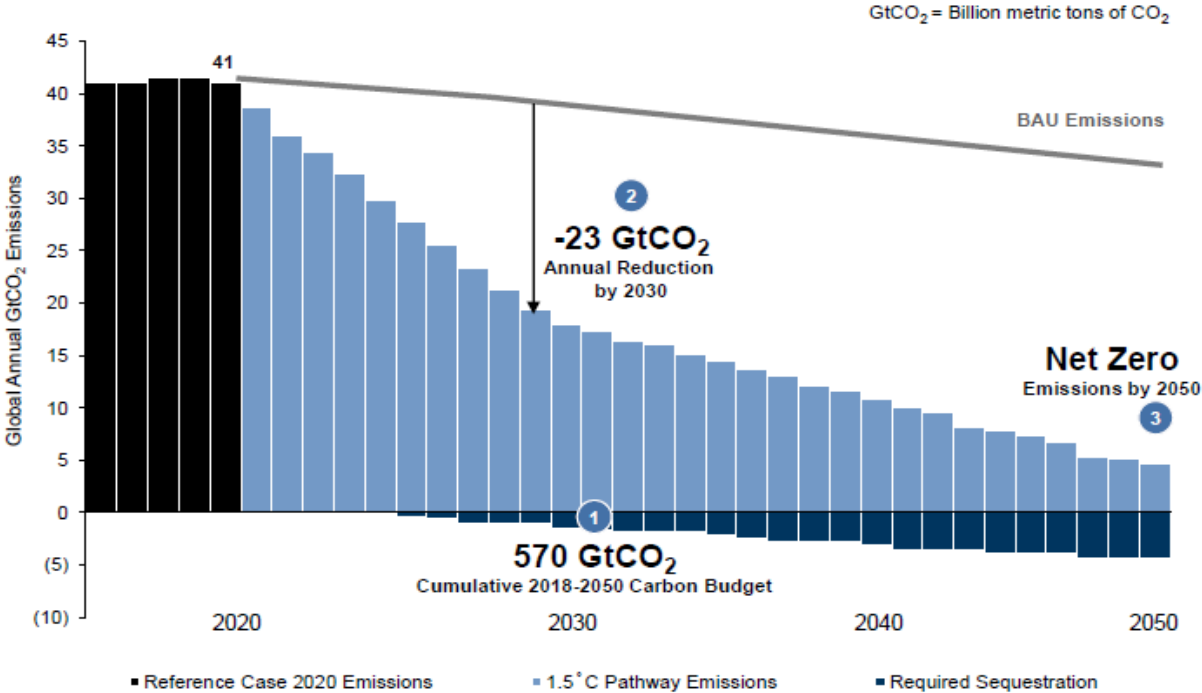
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The Four Forces driving us to Net Zero: Reinforcing each other



What it takes to achieve Net Zero

Radical sector decarbonisation, Now!



Source: IEA, as at May 2021.

Interim targets

Sovereign targets

	% global emissions	Net Zero target	Interim emissions reduction targets			
		Year	Target	Year	Baseline	Implied annual change going forward*
UK	1%	2050	-78%	2035	1990	-5.5%
EU	8%	2050	-55%	2030	1990	-4.0%
US	15%	2050	-50%	2030	2005	-4.8%
Japan	3%	2050	-46%	2030	2013	-4.0%
Canada	2%	2050	-40%	2030	2005	-4.5%
China	30%	2060	Peak emissions	2030	2005	
India	7%	n/a	-33% (intensity)	2030	2005	

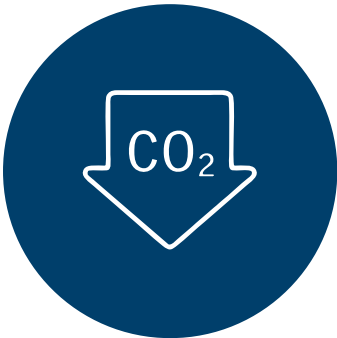
Source: Columbia Threadneedle Investments, as at March 2021.

In highlighted countries that announced higher targets in 1Q21. * MS estimations: implied annual change from 2018-2030

1. Analytics



Data lake



Models

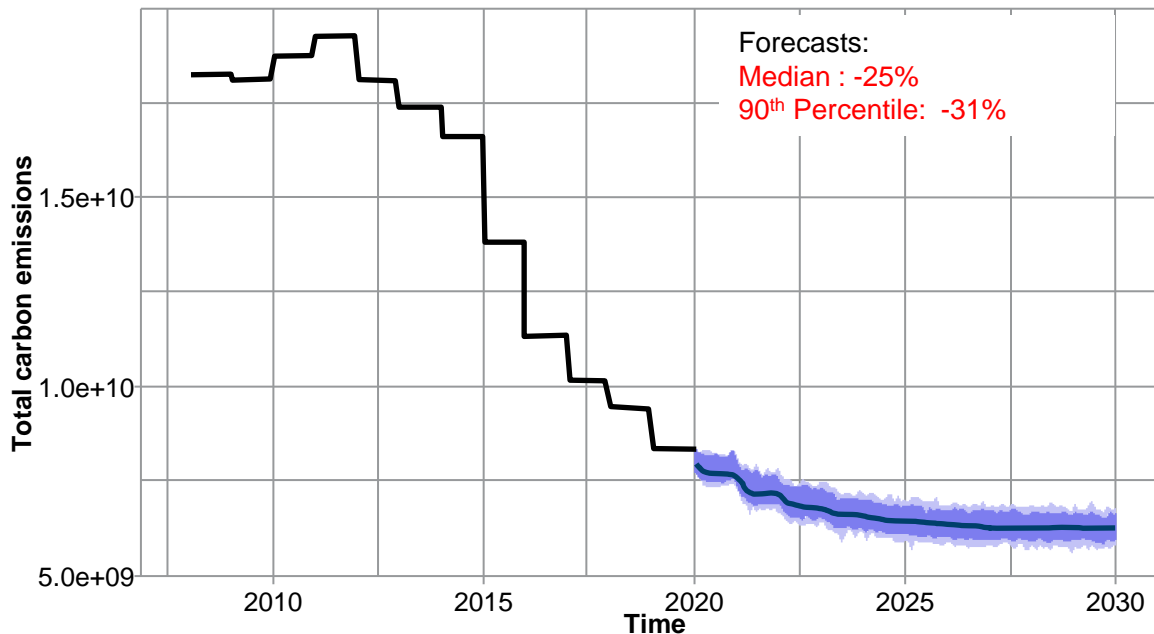


Analysis

Example

Evaluating the natural rate of decline

Total carbon emissions NNAR forecasts



- Example: Global Investment Grade Credit Portfolio
- Across 100,000 scenarios*, 2025 forecasts indications

Median Forecast Scenario:

- 25% natural decline in total carbon emissions

90th Percentile

- 31% natural decline in total carbon emissions

Source: Columbia Threadneedle Investments, as at April 2021. For illustrative purposes only.

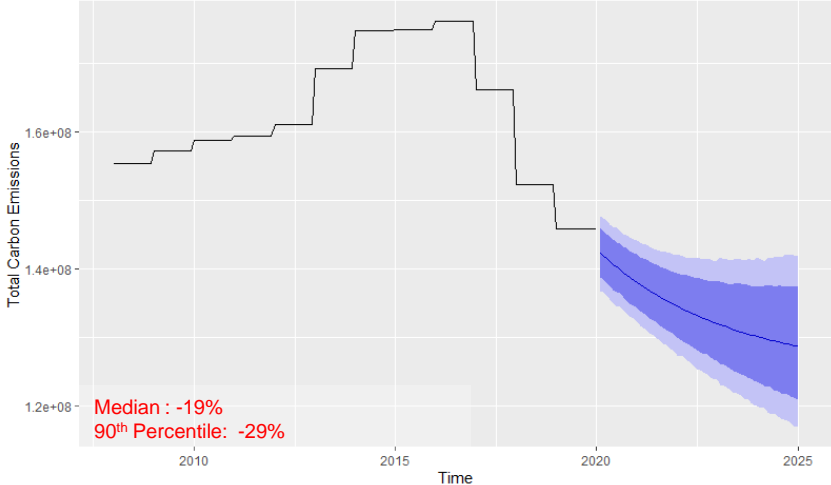
Using +10 years data (MSCI, CDP, Bloomberg) for +8800 companies and mapped to existing portfolios. Ran a Neural Network model, using +50 input variables and 100,000 scenarios

Evaluating the natural rate of decline

By sector

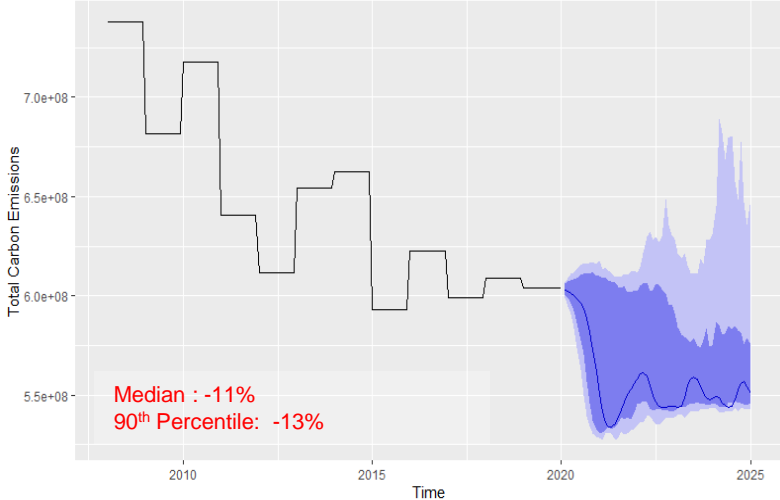
Utilities

Utilities: Total Carbon Emissions NNAR Forecasts



Energy

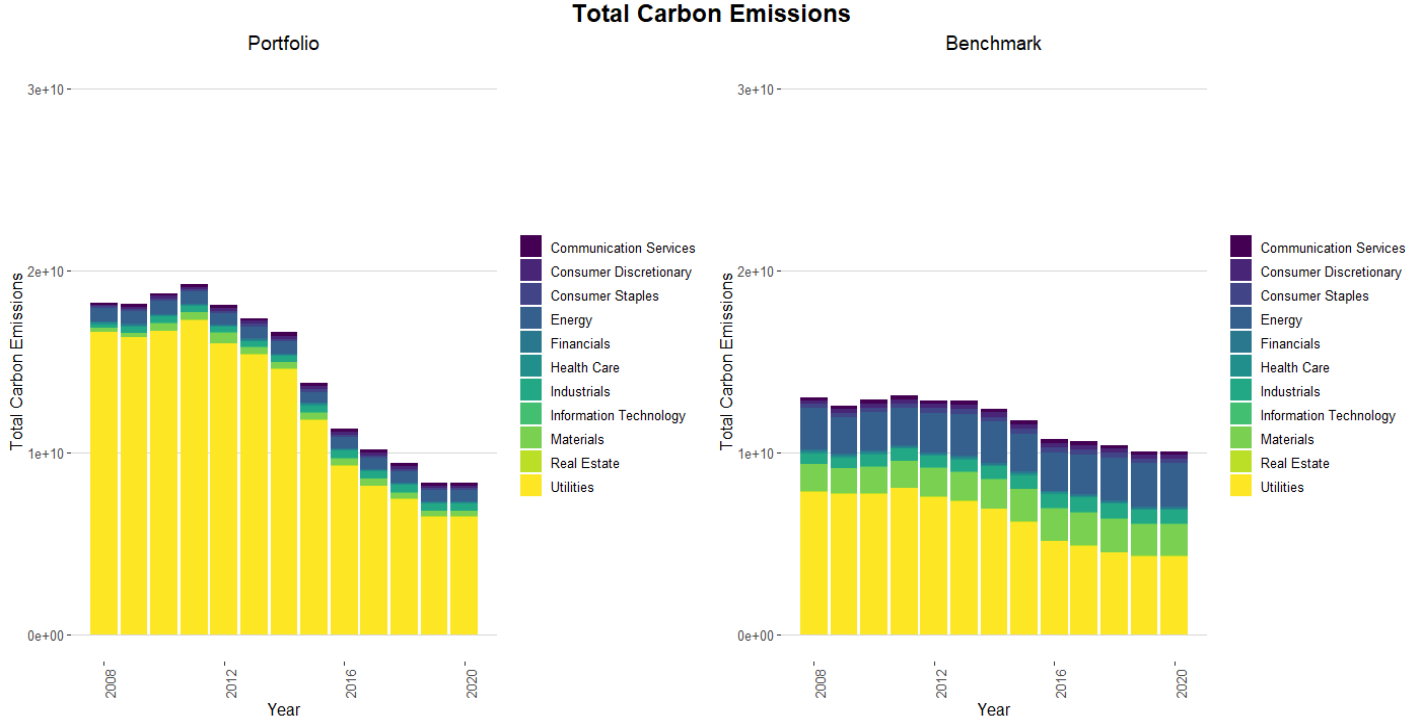
Energy: Total Carbon Emissions NNAR Forecasts



Source: Columbia Threadneedle Investments, as at April 2021. For illustrative purposes only.

Evaluating the natural rate of decline

By sector level aggregates



Source: Columbia Threadneedle Investments, as at April 2021.

2. Embedded process



**Research
Intensity**



**Portfolio
Construction**

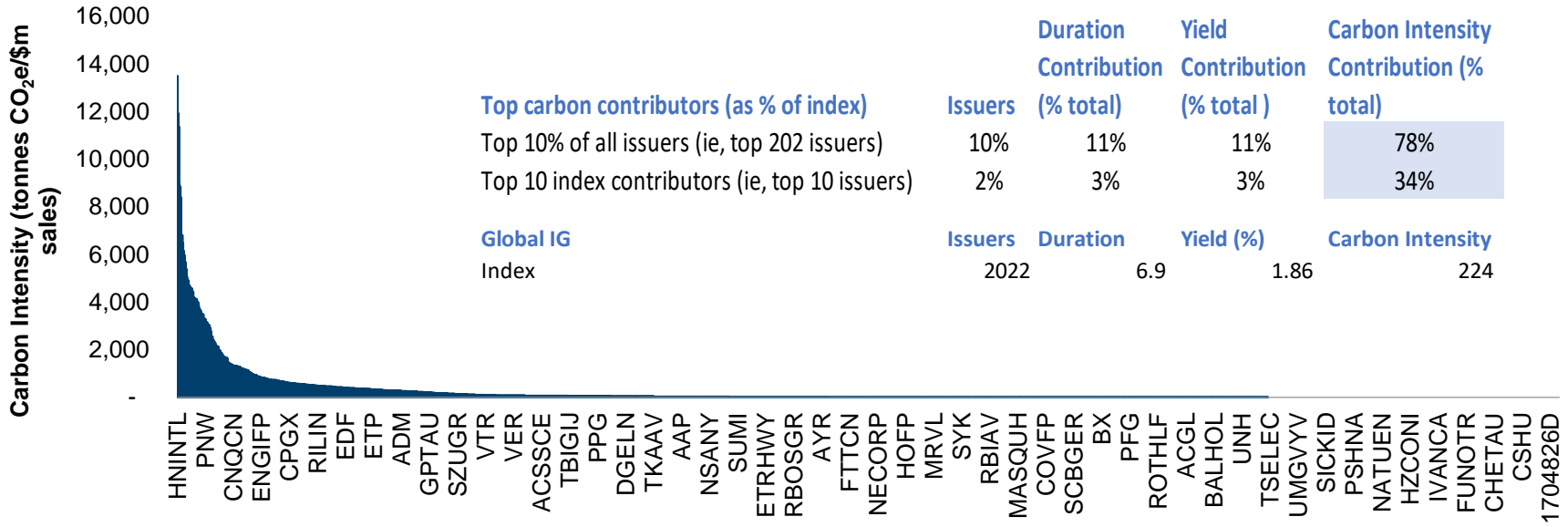


**Risk
Management**

Example

Evaluate portfolio optimisation potential

Barclay's Global IG: Tickers ranked by average carbon intensity*



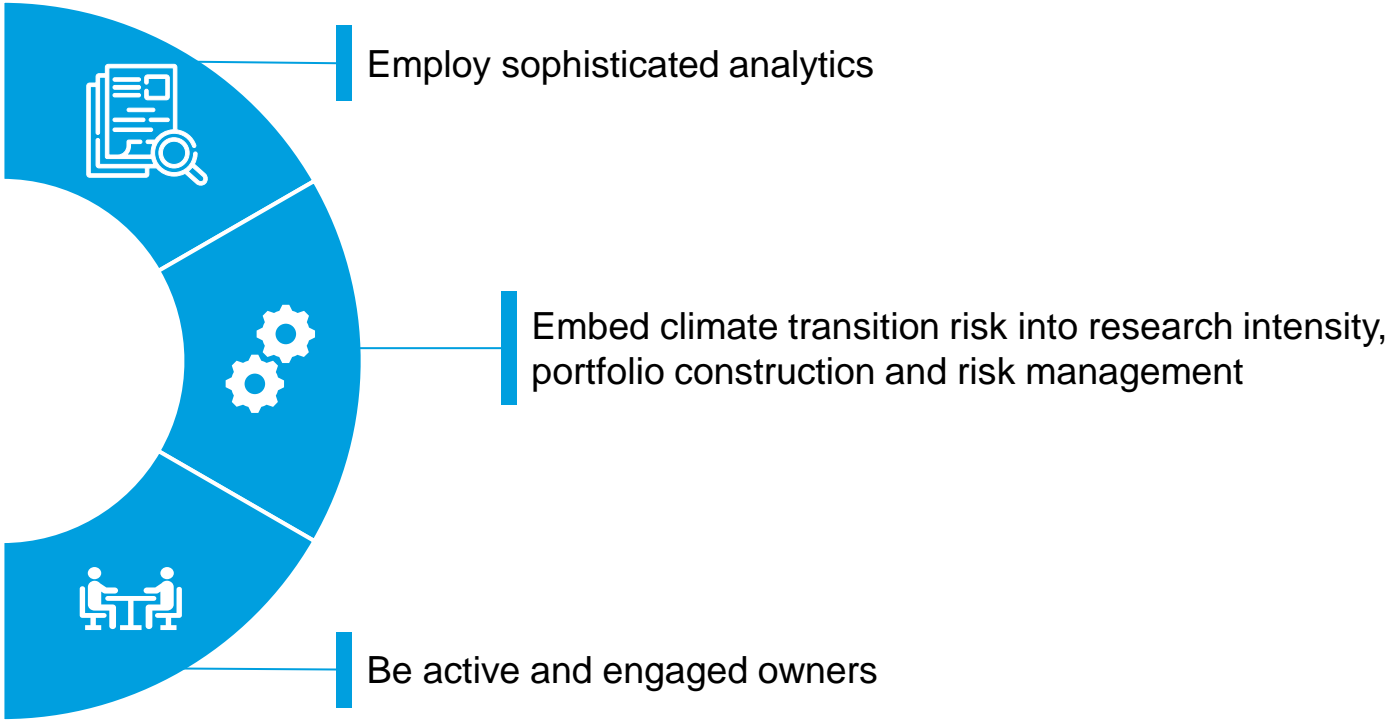
Source: Columbia Threadneedle Investments, as at 31 March 2021. Index used is the Barclays Global Corporate Index. *Analysis may be run on other measures, including Total Carbon, Carbon footprint etc. The mention of any specific stocks or bonds should not be taken as a recommendation to deal.

3. Active and engaged asset owners



- Engagement universe: 6,000+ corporate issuers
- Equity, HY, IG and RI fundamental analysts engagement is +3,000 corporates annually
- Our stewardship analysts for enhanced engagements is ~100 corporates annually

Summary



Source: Columbia Threadneedle Investments, as at September 2021.

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