Transition Finance – Data Landscape

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Agenda

1. Overview of Data Landscape

2. Reference Points – Benchmarking, Frameworks

3. Examples of Implementation – High Level Metrics to Granular Data
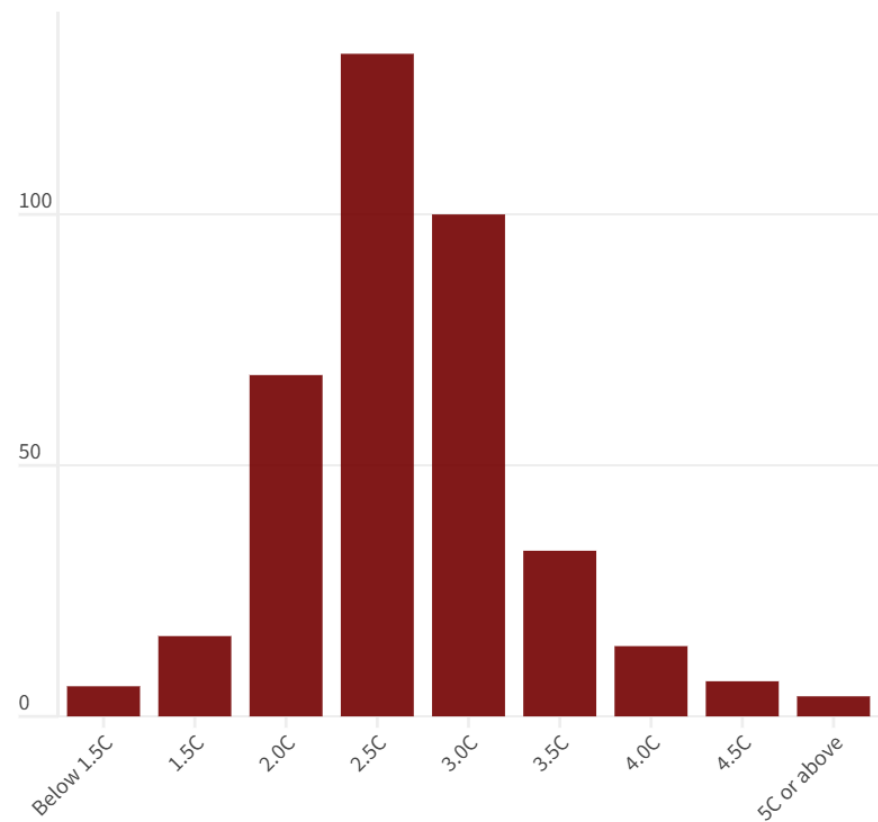
4. What's Next?

The Current Landscape

Climate Remains in Focus – The Pessimistic View

How much will global temperatures rise above pre-industrial levels this century (in °C)?
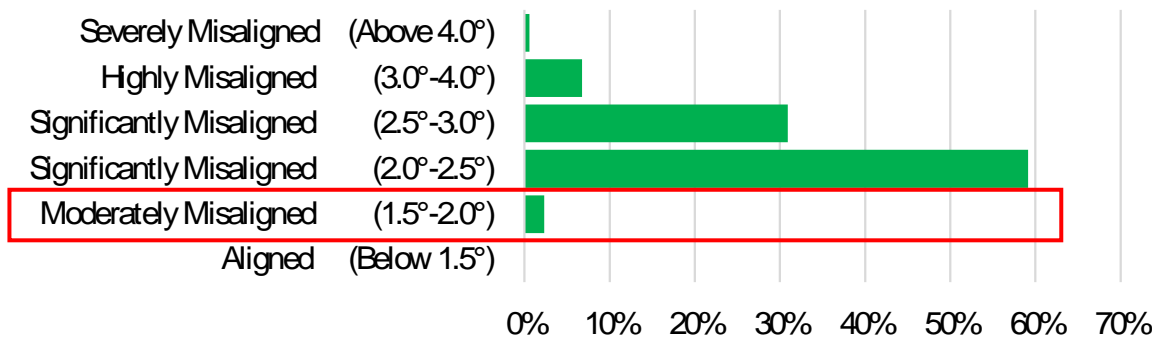
■ Count of answers given by IPCC climate experts

Source: The Guardian • Graph: Earth.Org

Implied Temperature Rise of Morningstar's Overall Fund Universe

Severely Misaligned	(Above 4.0°)		
Highly Misaligned	(3.0°-4.0°)		
Significantly Misaligned	(2.5°-3.0°)		
Significantly Misaligned	(2.0°-2.5°)		
Moderately Misaligned	(1.5°-2.0°)		
Aligned	(Below 1.5°)		

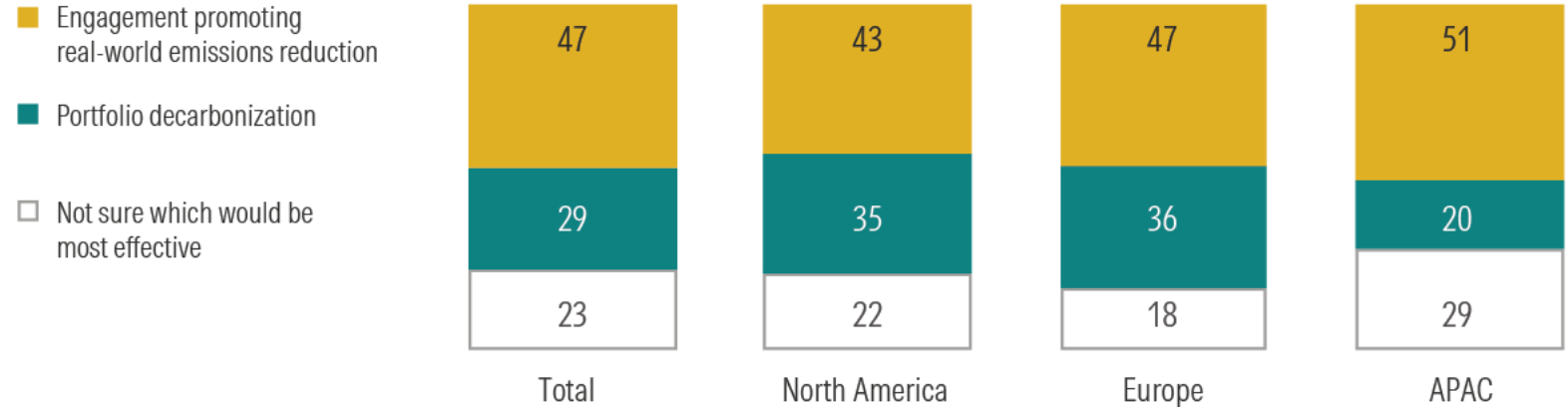0%   10%   20%   30%   40%   50%   60%   70%

<3% of mutual funds are aligned to 2˚C and 30% have strong management scores

Engagement leads over portfolio decarbonization, but uncertainty remains

Nearly half of asset owners (47%) surveyed chose engagement as a means for promoting real-world emissions reduction through their investments.

The remaining 29% chose portfolio decarbonization, and nearly one in four (23%) stated they were not sure which would be most effective.

■ Engagement promoting real-world emissions reduction

■ Portfolio decarbonization

□ Not sure which would be most effective

	Total	North America	Europe	APAC
Engagement promoting real-world emissions reduction	47	43	47	51
Portfolio decarbonization	29	35	36	20
Not sure which would be most effective	23	22	18	29

Examples of Implementation – Asset Managers

Remain Aligned to NZAM goals, Climate Action 100 + IIGCC

Further embed climate data into direct engagement activities

Key driver for fund labelling/disclosure requirements

2030 Group Wide alignment targets for in-scope AUM (reducing emissions intensity)

2050 target to achieve net zero on 100% AUM

How has the data landscape to support transition assessments changed?

1

Emphasis has moved from **backward** looking (carbon footprint) to **forward** looking (capex, implied temperature rise, transition VAR)

2

More **standardisation** and **reference points** to help target setting and progress tracking. (IIGCC NZIF 2.0, enhanced estimation models, transition benchmarks)

3

Increased scrutiny on and availability of **transition plan disclosures**. Examples - TPT framework, corporate disclosure requirements (e.g Singapore)

4

Enhanced data on **stewardship outcomes** via platforms like Climate Action 100+. Financial Institutions including in own reporting

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From high level metrics to granular datasets

Low Carbon Transition Research

Assess companies' transition plans and progress toward stated GHG reduction commitments by evaluating:

- The quality and ambition of their GHG reduction targets

- Short-term investment plans, climate governance, product decarbonization strategy, and GHG emissions reduction policy for Supply Chain

- Expected emissions compared with multiple climate scenarios

Multiple top-line signals and over 200 data points:

- Value-at-Risk (including Policy and Market)

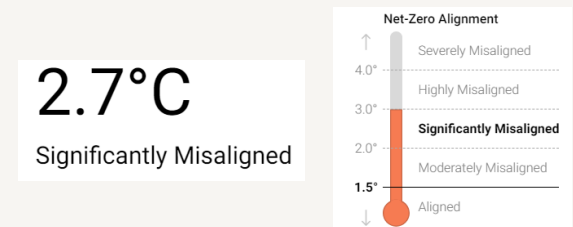- Performance Implied Temperature Rise
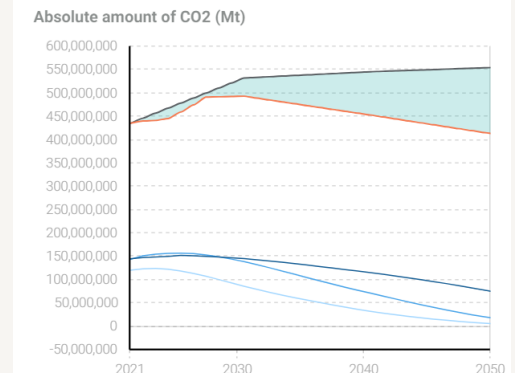
- Management Score

Management

	Very Weak	Weak	Average	**Strong**	Very Strong
	0	25	45	55	75	100
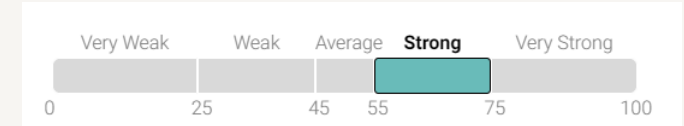
Value at Risk

	VaR (USD)	VaR Relative To EVIC
Policy	21,000 M	11%
Market	75 M	0%
Total VaR	21,075 M	11%

Performance ITR

2.7°C
Significantly Misaligned

Net-Zero Alignment

↑ Severely Misaligned
4.0° Highly Misaligned
3.0° **Significantly Misaligned**
2.0° Moderately Misaligned
1.5° Aligned
↓

Scenario Analysis

Expected Emissions Projections Overview by Scenario

Absolute amount of CO_2 (Mt)

Performance Implied Temperature Rise

> Cumulative emission overshoot/undershoot from now until 2050 based on **actual company practices.**
> It's expressed in terms of the Implied Temperature Rise (ITR): What would global temperatures rise to if the whole economy had the same % of misaligned emissions out to the year 2050.

CO_2

Baseline Emission Trajectory

Expected Emissions Trajectory

Issuer's Net-Zero Budget

Expected Emissions Gap

% Gap ➡ Implied Temperature Rise

2.6°C

Today
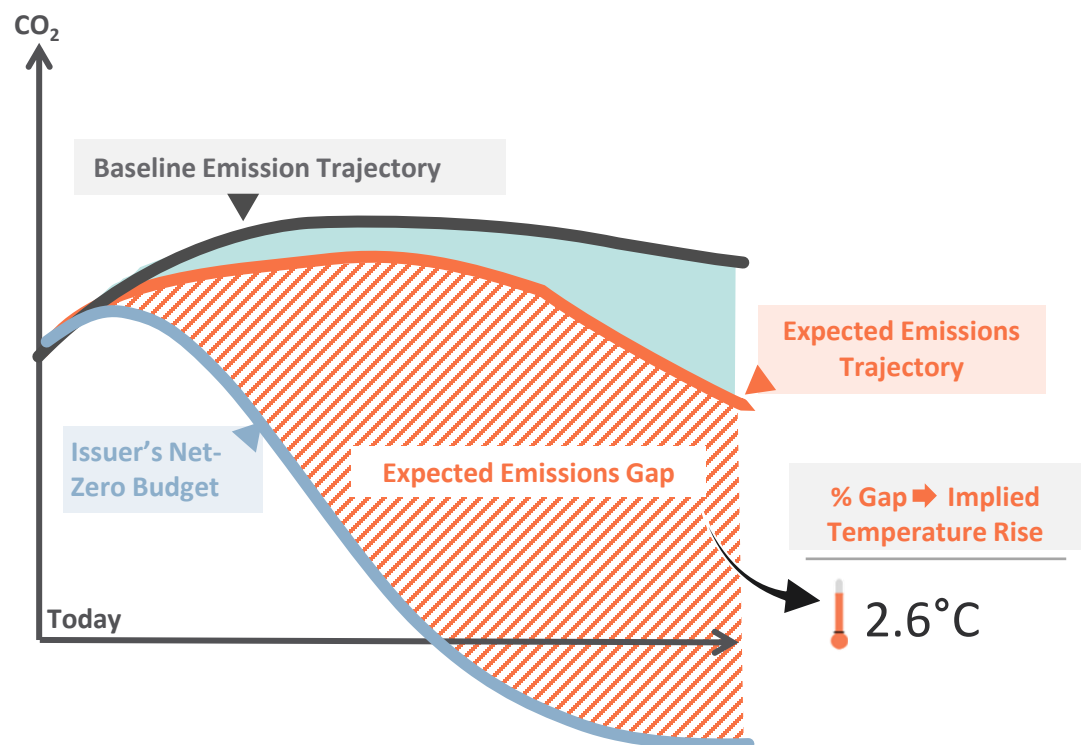
Ambition Temperature Score

Cumulative emission overshoot/undershoot from now until 2050 based on **stated company targets.**
If the company met its stated targets, what would its temperature alignment be?

CO_2

Expected Emissions Trajectory

Ambition Emissions Projection

% Gap ➡ Ambition Temperature Score

1.9°C

Issuer's Net-Zero Budget
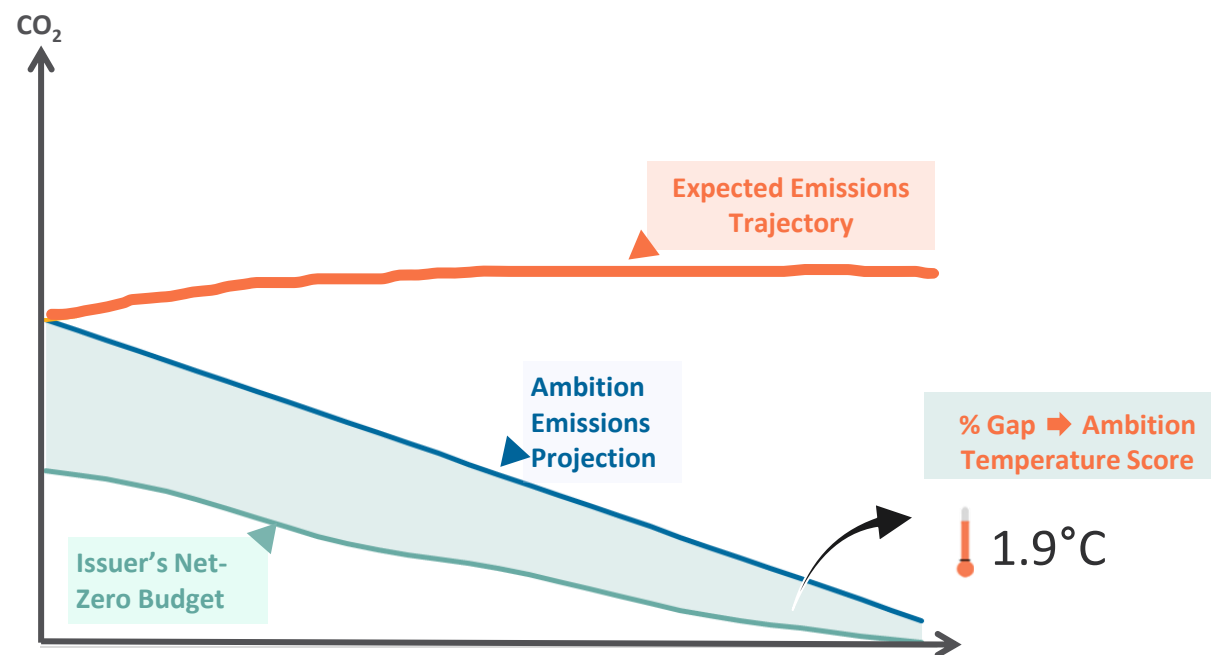
# Assessing credibility of climate commitments

- For example, **Bayer AG**, a German pharmaceutical company, shows close alignment between ambition (1.9°C) and performance (2.0°C), supported by strong governance and transparency—an encouraging sign of credible progress.

- Contrast that with **Duke Energy,** an American utilities company. Its ambition temperature score is a promising 1.8°C, but its performance ITR is 2.3°C, a wider gap that suggests its current practices haven't caught up with its goals.
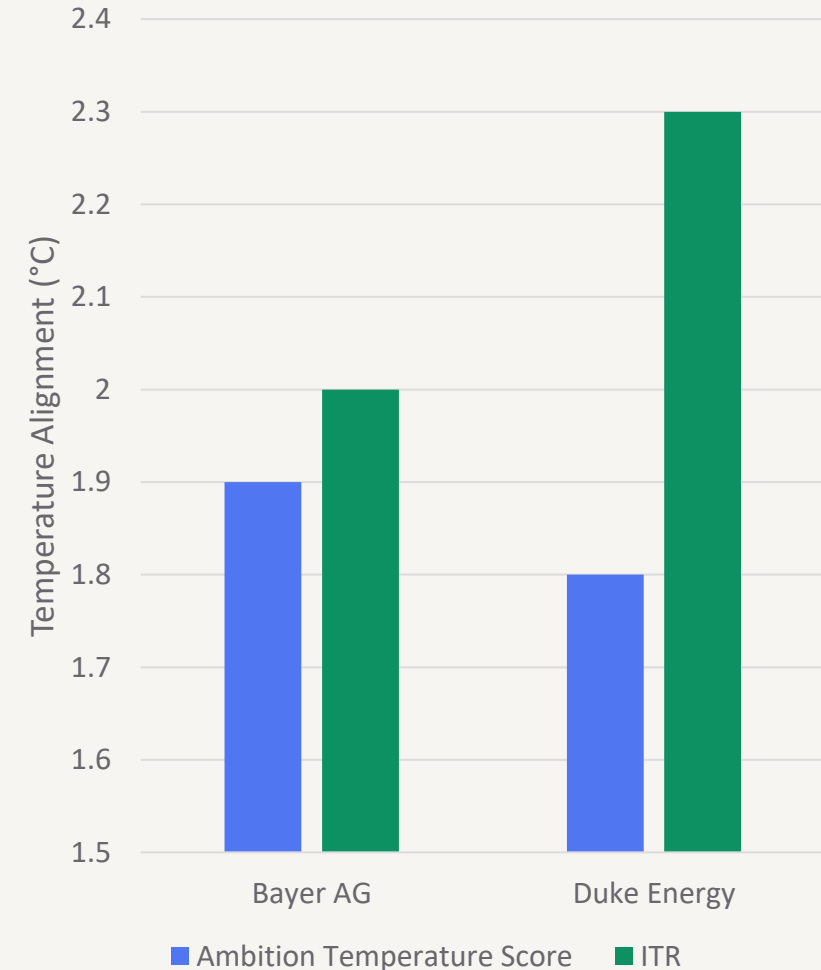
Investment Alignment

Forward-looking technology share data to estimate the impact of current CapEx on future alignment
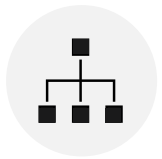
Technology shares = % of production capacity from different technology types

Driven by aggregating asset/project level data

Covering 9 critical high emitting sectors

9 Critical high emitting sectors

- Oil and gas extraction (upstream)
- Coal mining
- Power generation
- Light-duty vehicle manufacturing
- Heavy-duty vehicle manufacturing
- Aviation industry
- Shipping industry
- Cement manufacturing
- Steel manufacturing

Example: Policy Value at Risk

Different scenario assumptions show a range of possible Value at Risk for this company, which has an Implied Temperature Rise of 2.2C.

- IPR RPS shows an orderly scenario where performance standards and subsidies are the main drivers of decarbonisation.

- IEA NZE represents an orderly scenario with higher carbon pricing mechanisms driving change (rising to an average of USD$250/tCO2 in advanced economies by 2050).

- IPR FPS represents a disorderly scenario with delayed and highly varied policies.

- IEA STEPS is based on currently stated policies in place, with no assumptions that they will change.

Even in a hot house world, this company faces 14% of its Value at Risk, relative to its EVIC.
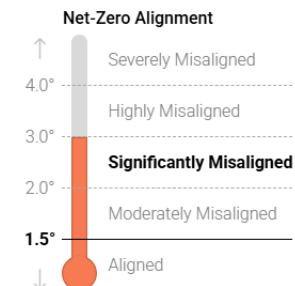

Implied Temperature Rise ⓘ

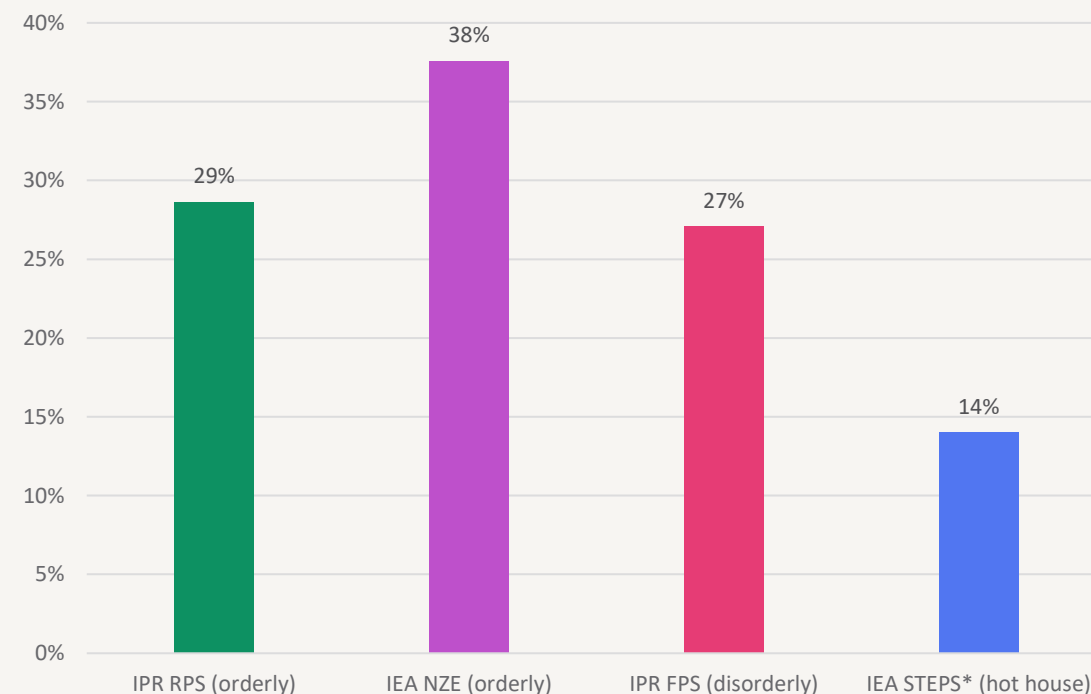## 2.2°C

Significantly Misaligned

Updated: Feb 04, 2025
Base Year: 2021

View Methodology

Net-Zero Alignment

↑ Severely Misaligned
4.0°
Highly Misaligned
3.0°
Significantly Misaligned
2.0°
Moderately Misaligned
1.5°
↓ Aligned

Policy Value at Risk Relative to EVIC by Scenario

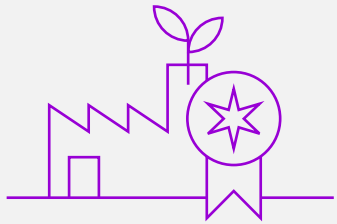| Scenario	Value
IPR RPS (orderly)	29%
IEA NZE (orderly)	38%
IPR FPS (disorderly)	27%
IEA STEPS* (hot house)	14%

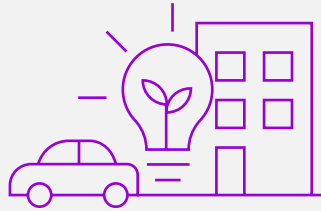# Reference Points – Benchmarks and Frameworks

Morningstar Low Carbon Transition Leaders Indexes
Index objectives

Identify Climate Transition Leaders

- Uses Sustainalytics Management Scores to identify companies taking real action beyond commitments
- Considers inputs such as Carbon price integration, GHG incentive plans, Carbon Targets

Highlight Green Revenue

- Emphasizes companies exposed to positive climate transition solutions
- Tilts weights towards companies with green revenue such as renewable energy, green transportation, green real estate, and energy efficiency

Materially Lower Carbon Footprint

- Identifies companies that have a lower carbon intensity relative to their sector peers
- Tilts weights towards companies reporting Scope 1,2, and 3 emissions
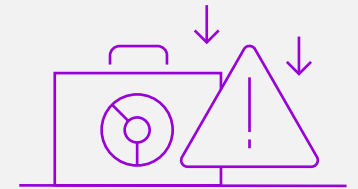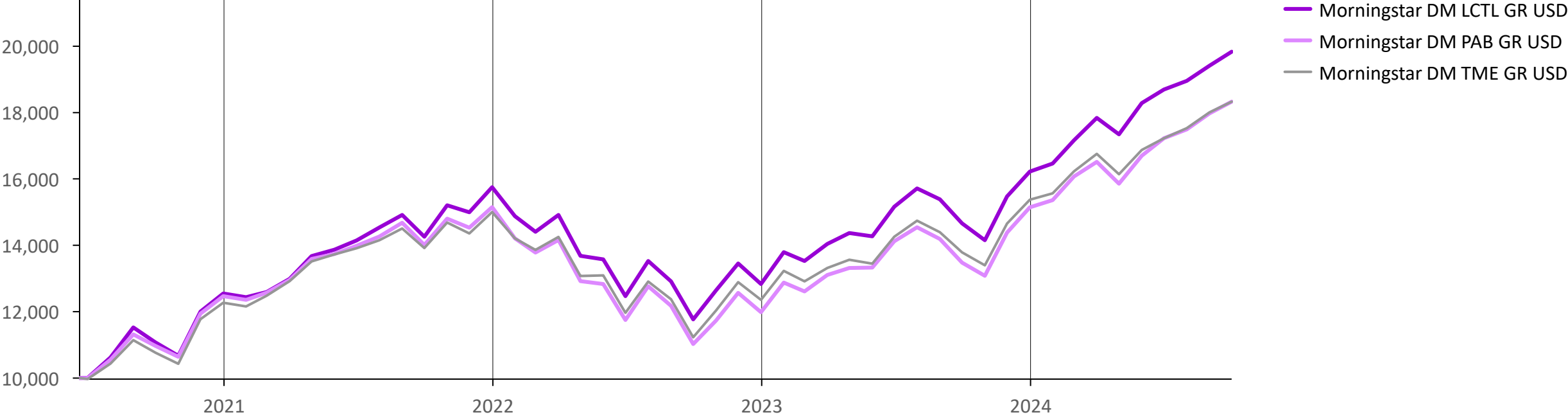
Broad Market, Best-in-Class Exposure

- Aims to reduce tracking error to the parent benchmark, making the indexes suitable as core portfolio positions
- Maintains high-impact exposure to allow for positive engagement

MORNINGSTAR Indexes

Comparison: Morningstar Develop Markets Low Carbon Transition Leaders Index

Index Name	Return	Excess Return	Tracking Error	Correlation	Beta	Standard Deviation	Sharpe Ratio	Max Drawdown	Down Capture Ratio	Up Capture Ratio
Morningstar DM LCTL GR USD	17.46	2.04	2.15	0.99	1.03	17.02	0.88	-25.31	101.32	106.40
Morningstar DM TME GR USD	15.41	0.00	0.00	1.00	1.00	16.42	0.79	-25.14	100.00	100.00
Morningstar DM PAB GR USD	15.33	-0.09	1.79	0.99	1.03	16.97	0.77	-27.23	103.73	101.89

Time period: 07/01/2020 to 09/30/2024

The Net Zero Investment Framework is the most widely used guide by investors to set targets and produce related net zero strategies and transition plans.

NZIF 2.0 Alignment Outcomes and Criteria

NZIF define 5 alignment categories that give an indication of strategy alignment to a net zero pathway.

The criteria feeding these alignment categories are a set of ten backward, current, and forward-looking criteria speaking to the following disclosure themes.

Alignment categories
NZIF consistently uses five categories of alignment, representing progressive steps towards alignment with a net zero pathway. Investors can use these to evaluate where investments are on this progression and by extension, a forward-looking nuanced understanding of their portfolio alignment (when investments are aggregated). The five categories are:

1

'Not aligning'
Refers to assets without a commitment to decarbonise in a manner consistent with achieving global net zero.

2

'Committed to aligning'
Refers to assets with a long term decarbonisation goal consistent with achieving global net zero by 2050

3

'Aligning to a net zero pathway'
Refers to assets with emissions performance not equal to a contextually relevant net zero pathway. However, importantly they have science-based targets[48] and a decarbonisation plan, and are thus ready to transition

4

'Aligned to a net zero pathway'
Refers to assets which have science-based targets, a decarbonisation plan, and current absolute or emissions intensity at least equal to a relevant net zero pathway. This category broadly signifies that transition risk is being managed at an asset level

5

'Achieving net zero'
Typically, this refers to when assets meet all relevant criteria and have an emissions performance at net zero which can be expected to continue.[49]

Criteria underpinning alignment assessment

Key ✅ Green ticks represent when a criterion is required to be fulfilled for a particular alignment category to be obtained.

Criteria	Committed to aligning	Aligning to a net zero pathway	Aligned to a net zero pathway	Achieving net zero
Asset with emissions intensity required by the sector and regional pathway for 2050 and whose operational model will maintain this performance.				✅
Emissions performance: Current absolute or emissions intensity is at least equal to a relevant net zero pathway.[65]			✅	✅
* Capital allocation alignment: A clear demonstration that capital expenditures are consistent with a relevant net zero pathway.			✅	✅
* Decarbonisation plan: A quantified set of measures exists to achieve short and medium term science-based targets by reducing GHGs and increasing green revenues, when relevant.		✅	✅	✅
Disclosure: Disclosure of operational scope 1, 2 and material scope 3 emissions.		✅	✅	✅
Targets: Short and medium term science-based targets to reduce GHG emissions.		✅	✅	✅
Ambition: A long term goal consistent with the global goal of achieving net zero by 2050.	✅	✅	✅	✅

* Additional alignment criteria that a corporate within a high impact material sector needs to meet.

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Emissions Performance

Emissions performance must be met for a company to be considered Aligned to a net zero pathway or Achieving net zero.

Criteria	Description	Data Point Name	Data Point Description	Field Value*	Recommended Rule
Emissions performance	Current absolute or emissions intensity is at least equal to a relevant net zero pathway	GHG Emissions Target Progress – Raw Score-NZIF	Assesses whether a company is on track to meet its stated GHG reduction targets. It must have a stated GHG reduction target to be evaluated.	100	The score must be 100, indicating that the company's GHG emissions progress is in line with or exceeds its stated GHG target.

*Users may wish to adjust this threshold or supplement with own research.

Engagement: Assessing transition plans and SBTi readiness

- Identify companies with insufficient disclosure or weak management

- Identify which scope of emissions requires most improvement in management

- Identify specific areas for improvement and industry best practices to follow

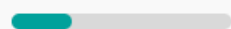- Quantify financial impact of inaction through Value at Risk

Example from Sustainalytics' NZ Transition Engagement Team

Sustainalytics' Stewardship team leveraged our management indicators in first engagement call with the company:

- The company's plan to verify its Scope 1 and 2 targets with SBTI (Science Based Targets initiative) and its plans to set Scope 3 emission reduction goals.

- Company's capital allocation to finance the net zero transition

- The Board of Directors' engagement with external stakeholders and shareholders for insights on business model transformation and climate-related issues.

NZIF Example – Holcim Ltd

Example: Holcim Ltd (1/2)

Application of our transition data

Implied Temperature Rise ⑦

1.9°C

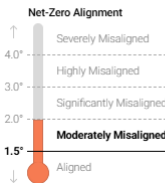Moderately Misaligned

Updated: Nov 15, 2024
Base Year: 2021

View Methodology

Net-Zero Alignment

4.0°	Severely Misaligned
3.0°	Highly Misaligned
	Significantly Misaligned
2.0°	**Moderately Misaligned**
1.5°	
	Aligned

Subindustry Ranking

Subindustry	Construction Materials
Rank	**5/90**
Percentile	**5th**

View Subindustry Distribution

1. Identify Holcim as a company in a High Impact Material Sector.

Company Information

EntityId	EntityName	Sustainalytics Subindustry	NACE Sector	High Impact Material Sector
1008288426	Holcim Ltd.	Construction Materials	F - Construction	Yes

2. Gather company-level data points from our transition research.

Input LCTR Data Points

Ambition	Targets	Disclosure	Decarbonization Plan	Capital allocation alignment				Emissions Performance	Achieving Net Zero
Net Zero and Science Alignment	Interim targets	E.1.6 - Scope of GHG Reporting	Initiatives in place to reduce emissions-LCTR	Investment Alignment - Scope 1	Investment Alignment - Scope 2	Investment Alignment - Scope 3D	Investment Alignment - 3U	GHG Emissions Target Progress	Implied Temperature Rise Score - All Scopes
TRUE	TRUE	100	TRUE	58.5	59.8	58.4	58.4	100	1.9

Example: Holcim Ltd (2/2)

Application of our transition data

3. Evaluate the company's data against the criteria using our input data.

4. Based on the criteria, assign the relevant Alignment Outcome. Note that while Holcim meets the Emissions performance criteria, it does not meet Capital allocation alignment, and therefore is considered **"Aligning to a net zero pathway"**.

Criteria Thresholds

Ambition	Targets	Disclosure	Decarbonization Plan	Capital Allocation Alignment	Emissions performance	Achieving net zero pathway
N/A	N/A	75	N/A	100	100	1.5

Evaluation of Inputs Against Criteria

Criteria

Ambition	Targets	Disclosure	Decarbonization Plan	Capital Allocation alignment	Emissions Performance	Achieving net zero pathway
TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE

Criteria	Holcim Ltd
Achieving net zero	
Emissions performance	✓
*Capital allocation alignment	
*Decarbonisation plan	✓
Disclosure	✓
Targets	✓
Ambition	✓

Criteria underpinning alignment assessment

Key ✓ Green ticks represent when a criterion is required to be fulfilled for a particular alignment category to be obtained.

Criteria	Committed to aligning	Aligning to a net zero pathway	Aligned to a net zero pathway	Achieving net zero
Asset with emissions intensity required by the sector and regional pathway for 2050 and whose operational model will maintain this performance.				✓
Emissions performance: Current absolute or emissions intensity is at least equal to a relevant net zero pathway.[65]			✓	✓
* Capital allocation alignment: A clear demonstration that capital expenditures are consistent with a relevant net zero pathway.			✓	✓
* Decarbonisation plan: A quantified set of measures exists to achieve short and medium term science-based targets by reducing GHGs and increasing green revenues, when relevant.		✓	✓	✓
Disclosure: Disclosure of operational scope 1, 2 and material scope 3 emissions.		✓	✓	✓
Targets: Short and medium term science-based targets to reduce GHG emissions.		✓	✓	✓
Ambition: A long term goal consistent with the global goal of achieving net zero by 2050.	✓	✓	✓	✓

* Additional alignment criteria that a corporate within a high impact material sector needs to meet.

What's Next?

How will the data landscape change into 2026/2027?

1

Emerging metrics like **avoided emissions** and **capex intensity**.

2

Corporate Disclosure will deepen with **ever more granular emissions data** being available to feed transition assessments.

3

Capital Allocation Alignment data will become more available and standardized.

4

Private market data coverage will expand, closing the transparency gap in non-listed assets in transition space.

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