

Main Commentary & Highlights

[P2] Sector and Country Exposure

[P3] Climate & ESG Profile

[P4] Carbon Sector Attribution

[P5] Carbon Quintile Performance Attribution

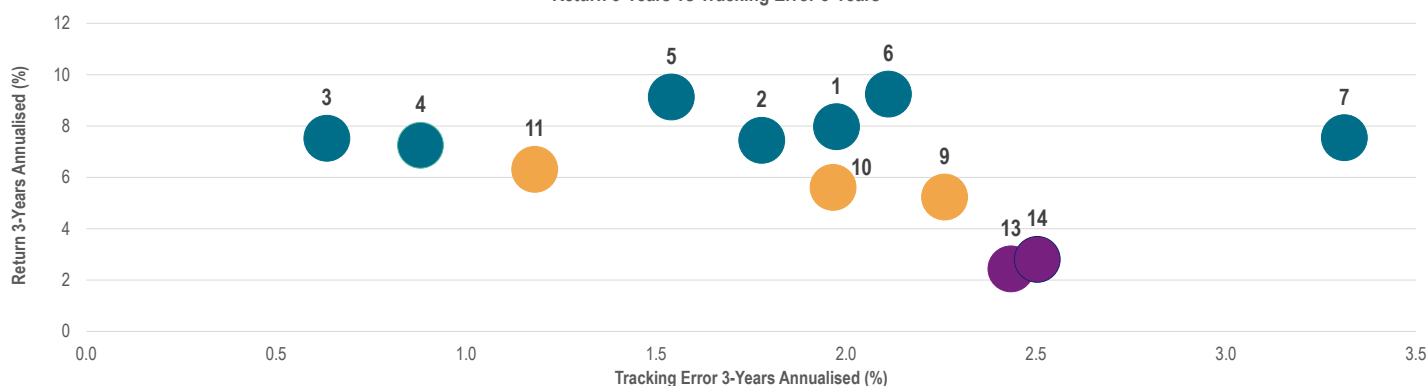
[P6] Excess Return and Tracking Error

[P7] Quarterly Insight

[P8] Further Indices

INDEX	Return 3 Months (%)	Return YTD (%)	Return 3-Years Annualised (%)	Tracking Error 3-Years Annualised (%)	Stock Count
1. S&P 500 Net Zero 2050 Paris-Aligned ESG	7.7	-21.6	8.0	2.0	314
2. S&P 500 Net Zero 2050 Climate Transition ESG	6.8	-21.6	7.4	1.8	348
3. S&P 500 Carbon Efficient	8.0	-18.1	7.5	0.6	489
4. S&P 500 Fossil Fuel Free	7.1	-19.9	7.2	0.9	488
5. S&P 500 ESG	8.3	-17.7	9.1	1.5	304
6. S&P 500 ESG Leaders	9.0	-18.4	9.2	2.1	209
7. S&P 500 ESG Elite	11.0	-18.4	7.5	3.3	96
8. S&P 500® (Parent Benchmark)	7.6	-18.1	7.7	N/A	503
9. S&P Developed Ex-K LMC Net Zero 2050 Paris-Aligned ESG	8.9	-22.4	5.2	2.3	704
10. S&P Developed Ex-K LMC Net Zero 2050 Climate Transition ESG	9.5	-21.3	5.6	2.0	758
11. S&P Developed Ex-K LMC ESG	10.7	-17.1	6.3	1.2	878
12. S&P Developed Ex-K LMC (Parent Benchmark)	9.8	-18.1	5.2	N/A	1599
13. S&P Eurozone LMC Net Zero 2050 Paris-Aligned ESG	11.0	-16.8	2.4	2.4	109
14. S&P Eurozone LMC Net Zero 2050 Climate Transition ESG	11.0	-15.2	2.8	2.5	87
15. S&P Eurozone LMC (Parent Benchmark)	12.7	-12.2	2.6	N/A	223

Return 3-Years vs Tracking Error 3-Years



INDEX:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
WACI Improvement (%)	63.0	52.9	26.1	13.3	14.9	29.6	38.1	N/A	62.3	52.7	15.1	N/A	74.4	73.5	N/A
FFR Improvement (%)	100.0	58.1	17.3	100.0	13.1	44.3	100.0	N/A	100.0	46.5	32.6	N/A	100.0	79.0	N/A
ESG Score Improvement	9.3	1.0	0.3	0.9	8.6	12.4	22.8	N/A	4.5	0.9	8.7	N/A	4.4	1.4	N/A
Temperature Alignment (Forward-Looking)	1.5°C	1.5°C	2°C	2°C	>3°C	>3°C	2°C	3°C	1.5°C	1.5°C	3°C	3°C	1.5°C	1.5°C	2°C
% (under)/over 2°C Carbon Budget	-35.8	-33.2	-0.5	-1.9	23.8	25.3	-5.9	8.2	-35.8	-35.0	15.2	11.8	-40.2	-40.9	-2.6
Physical Climate Risk Score (High 2050 Scenario)	22.9	24.4	25.9	26.4	24.0	23.6	24.1	26.9	22.6	23.7	24.4	26.3	17.7	17.0	23.1
CEaR Improvement (%) (High 2050 Scenario)	76.6	63.0	28.3	12.3	21.2	27.7	44.9	N/A	72.9	63.4	23.0	N/A	85.8	79.2	N/A
WACI Improvement (%)	49.2	41.5	21.8	7.9	18.9	30.7	18.3	N/A	45.6	39.0	13.7	N/A	59.9	45.4	N/A

Ex-K : Ex-Korea; LMC : LargeMidCap. Source for climate metrics: S&P Global Trucost. Source for ESG scores: S&P Dow Jones Indices. See definitions in Appendix [P9].

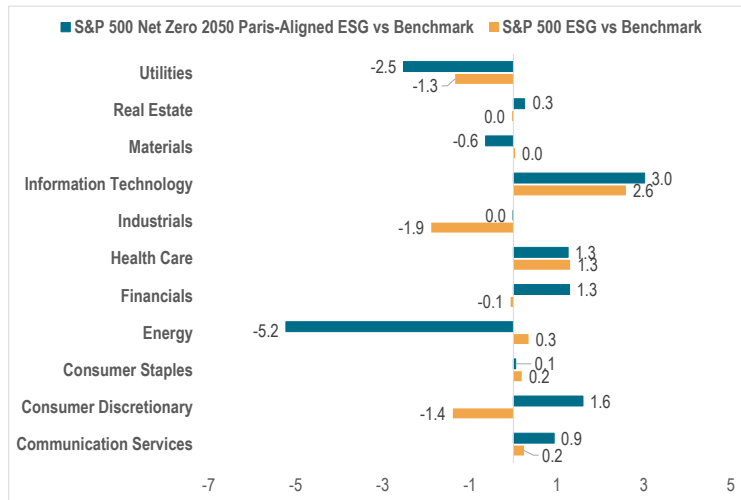
COMMENTARY

- Return Performance:**
 - The S&P 500 ESG and the S&P 500 ESG Elite indices outperformed their benchmark by +0.7% and +3.4%; respectively. The S&P 500 ESG Index benefitted from: 1) a positive Allocation Effect from its under-weight in Consumer Discretionary, which underperformed S&P 500 by -17.7%; 2) positive Selection Effects in Financials and Consumer Discretionary. The S&P 500 ESG Elite index benefitted from very strong Selection Effects in Info Tech and Consumer Discretionary.
 - An underweight in the strongly-performing Energy sector this quarter drove most of our reported **Climate-focused** indices to underperformance in Q4, although there were also negative stock-level contributions within Consumer Discretionary.
- Return vs Tracking Error:** Over the last three years, the S&P 500 Carbon Efficient index had the lowest tracking error (0.6%), while the more selective S&P 500 ESG Elite had the highest tracking error (3.3%).
- Point-in-Time Carbon Reduction ≠ Alignment with the Paris Agreement's Goals:**
 - S&P 500 ESG index reduced WACI by 14.9% as of 31 December 2022. This is just **point-in-time**, however. Temperature Alignment considers a **forward-looking** transition pathway assessment. Based on this assessment, the S&P 500 ESG is **only** aligned with **>3 °C** scenario and is **over its 2 °C Carbon budget by 24%**. An overweight in the Energy sector is the primary detractor from 2 °C budget (see [P2] for more details on sector exposures);
 - Only the Paris-Aligned ESG index family aligns with 1.5 °C scenario:** its S&P 500 variant is **under its 2 °C Carbon budget by -36%**.
- Quarterly Insight:** This quarter we are taking a closer look at the performance attribution of the S&P 500 ESG Index: **Does a higher sustainability profile mean higher returns?** (see [P7]).

RESOURCES

[Schrodinger's Carbon: Intensity and Paris Alignment, blog by Maya Beyhan](#)

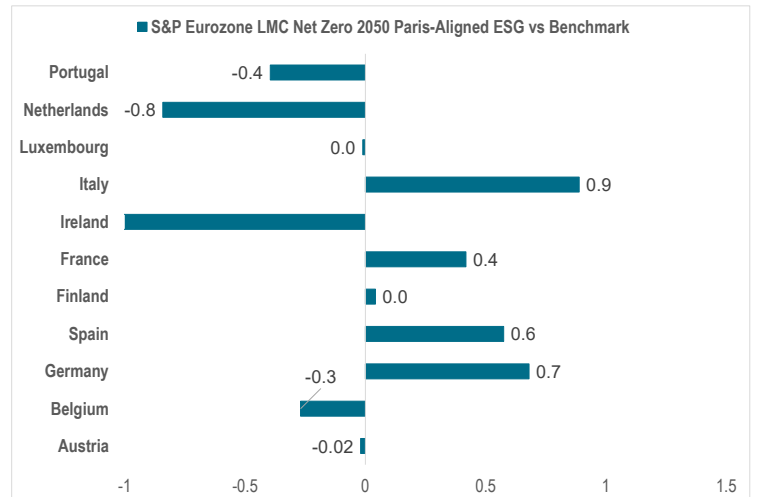
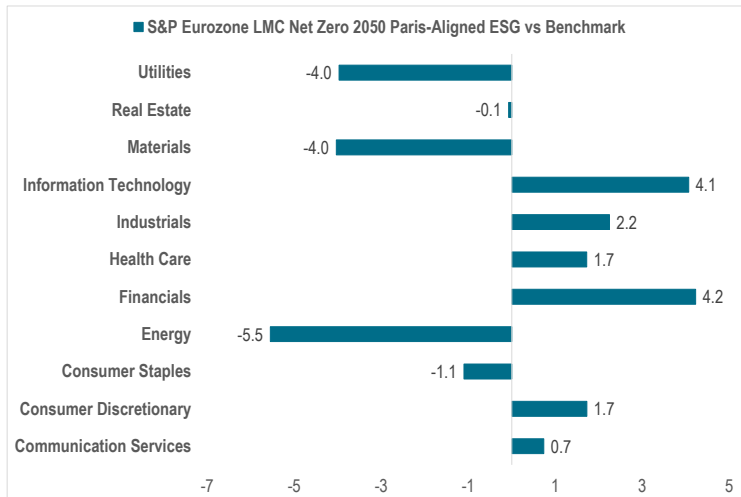
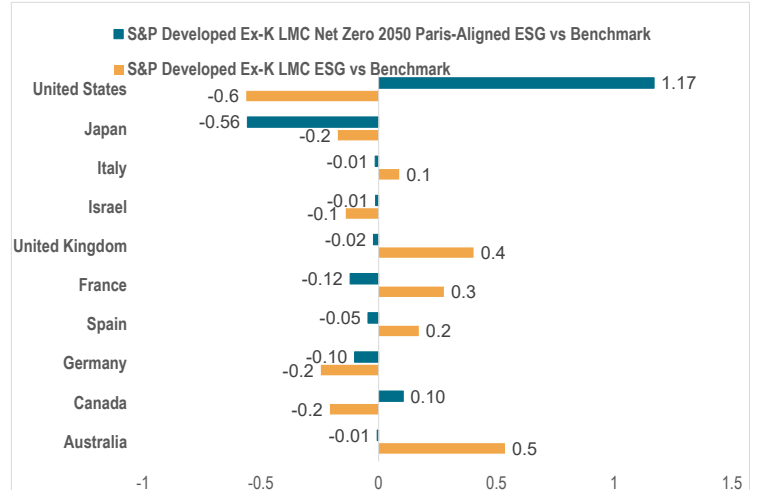
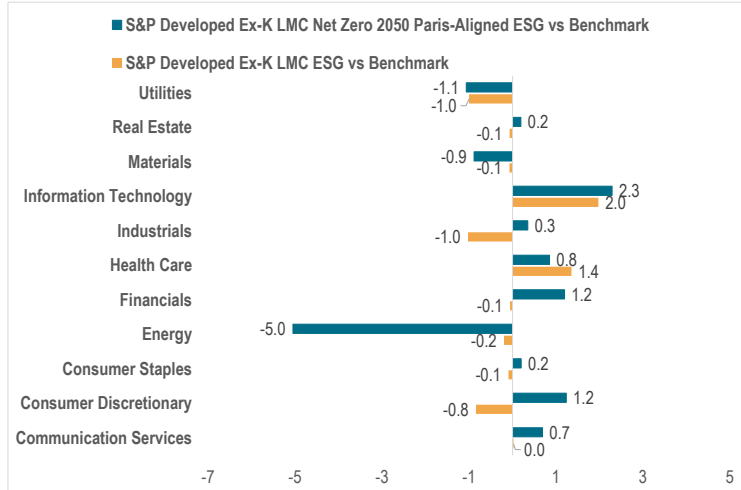
Active Weights - Sector Exposure (%)



"Greener" sectors such as Information Technology and Healthcare tend to be overweighted, whereas Carbon intensive sectors like Utilities and Energy typically under-weighted:

- S&P Paris-Aligned ESG indices hold no exposure to Energy sector by design, whereas the S&P 500 ESG index has a slight over-weight to this sector (+0.3%);
- Consumer Discretionary is heavily under-weight in S&P ESG indices, both within the US (-1.4%) and Developed (-0.8%) exposures, whereas it has an over-weight for their S&P Paris-Aligned ESG counterparts;
 - This is particularly apparent in the S&P 500 ESG with an under-weight of -1.4%, driven by deletion of Tesla from the index.

Active Weights - Country Exposure (%)



RESOURCES

[S&P Paris-Aligned and Climate Transition \(PACT\) Indices Methodology](#)

[S&P PACT Indices Target Sector Neutrality, blog by Ben Leale-Green](#)

[S&P ESG Index Series Methodology](#)

[The \(Re\)Balancing Act of the S&P 500 ESG Index, blog by Margaret Dorn](#)

[P1] Main Commentary & Highlights

[P2] Sector and Country Exposure

ESG & Climate Performance

[P4] Carbon Sector Attribution

[P5] Carbon Quintile Performance Attribution

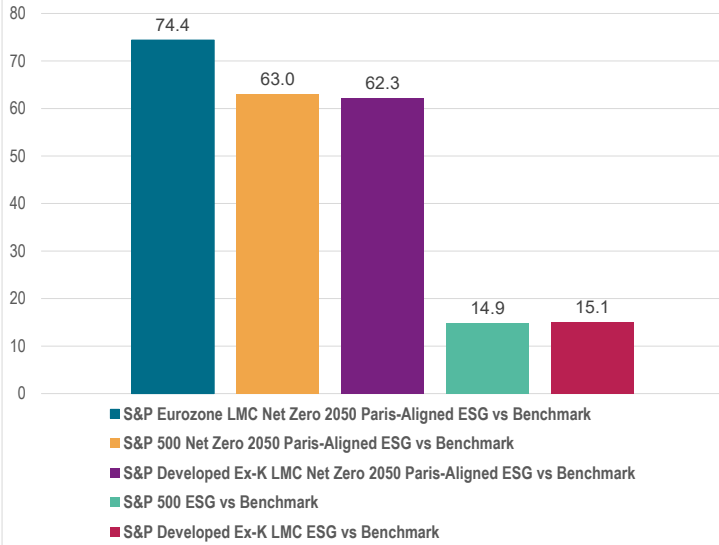
[P6] Excess Return and Tracking Error

[P7] Quarterly Insight

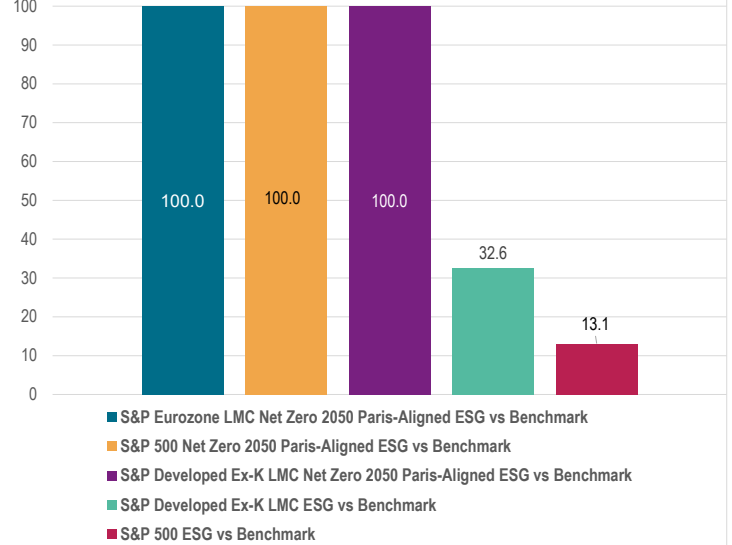
[P8] Further Indices

Climate & ESG Performance Improvement vs Parent Index

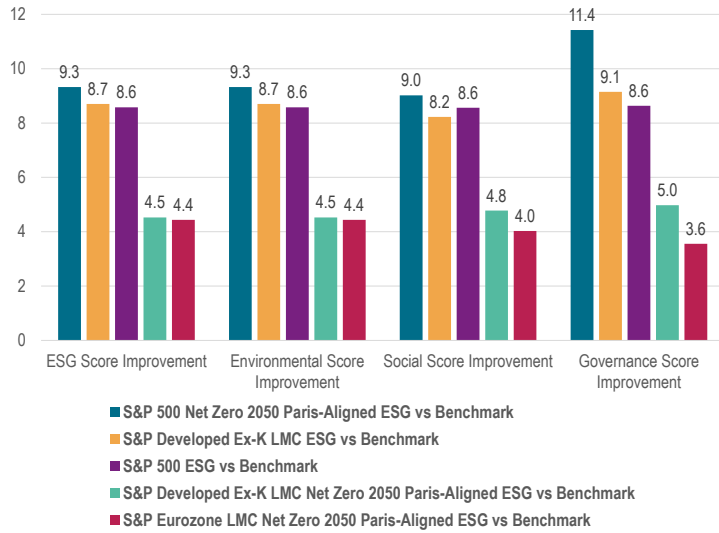
Reduction in Carbon Intensity vs Parent Index (%)



Reduction in Fossil Fuel Reserves vs Parent Index (%)



Improvement in ESG Scores vs Parent Index



ESG ≠ Climate:

S&P Paris-Aligned ESG: Significant improvements in Climate metrics with a considerable increase in ESG score.

S&P ESG: Material improvements in ESG score with only modest enhancements in Climate metrics.

- Compared to S&P ESG indices, S&P Paris-Aligned ESG indices achieved larger improvements in Climate metrics relative to their parent benchmarks;
- S&P ESG indices achieved material improvements in ESG scores, but with typically modest enhancements in Carbon Footprint. This offers reminder that ESG indices do not prioritize climate goals over other factors, including Social and Governance as well as other Environmental elements not linked to the climate.
- Within the ESG score, the largest improvements for all the examined indices are in their Governance score; i.e. the "G" of ESG;
- Environmental scores are higher than Social and Governance, across all the flagship ESG Climate and Core ESG indices.

Carbon Footprint and ESG Scoring Summary

	WACI (tCO2e/\$M Revenues)	FFR (tCO2e/\$M Invested)	ESG Score	Environmental Score	Social Score	Governance Score
1. S&P 500 Net Zero 2050 Paris-Aligned ESG	76.1	0.0	77.8	82.0	70.4	76.1
2. S&P 500 Net Zero 2050 Climate Transition ESG	96.7	227.5	69.5	74.0	59.1	70.4
3. S&P 500 Carbon Efficient	151.8	449.1	68.8	73.4	59.2	69.7
4. S&P 500 Fossil Fuel Free	178.1	0.0	69.5	74.2	59.6	70.1
5. S&P 500 ESG	174.8	472.1	77.1	81.5	67.6	76.2
6. S&P 500 ESG Leaders	144.5	302.9	80.9	85.7	71.5	79.4
7. S&P 500 ESG Elite	127.2	0.0	91.3	92.5	88.5	88.5
8. S&P 500® (Parent Benchmark)	205.4	543.4	68.5	73.0	59.0	69.4
9. S&P Developed Ex-K LMC Net Zero 2050 Paris-Aligned ESG	79.4	0.0	76.9	80.0	70.6	75.4
10. S&P Developed Ex-K LMC Net Zero 2050 Climate Transition ESG	99.6	685.2	73.3	76.5	65.3	73.3
11. S&P Developed Ex-K LMC ESG	178.8	863.0	81.1	83.5	74.8	79.4
12. S&P Developed Ex-K LMC (Parent Benchmark)	210.5	1280.4	72.4	75.2	65.7	71.9
13. S&P Eurozone LMC Net Zero 2050 Paris-Aligned ESG	55.3	0.0	91.4	91.0	90.5	89.0
14. S&P Eurozone LMC Net Zero 2050 Climate Transition ESG	57.3	290.8	88.3	89.1	87.7	84.7
15. S&P Eurozone LMC (Parent Benchmark)	215.9	1386.0	86.9	87.0	86.9	83.0

Source for WACI and FFR: S&P Trucost. ESG scores range: 0-100. Source: S&P Dow Jones Indices. See definitions in Appendix [P9].

[P1] Main Commentary & Highlights

[P2] Sector and Country Exposure

[P3] ESG & Climate Profile

Carbon Sector Attribution

[P5] Carbon Quintile Performance Attribution

[P6] Excess Return and Tracking Error

[P7] Quarterly Insight

[P8] Further Indices

- In the below analysis, we ran a Carbon Sector Attribution, where we show the relative contribution of sector and stock-level weightings in the improvement in Weighted Average Carbon Intensity (WACI) in S&P Dow Jones' flagship Core ESG and ESG Climate indices compared to their parent benchmarks, showing the contribution of each sector to the improvement in Weighted Average Carbon Intensity (WACI);
- For example, when an ESG Climate index under-weights a carbon-intensive sector versus its parent benchmark, this analysis shows the impact of that "bet" on index's relative WACI, in the form of Allocation Effect;
- Then within each sector, we also report the company-level Selection Effect. Combining the Sector Allocation and Company Selection effects gives the Total Effect, which is equal to the total reduction in WACI relative to parent benchmark (see [P3] for Climate Profile).

Carbon Sector Attribution

Index: S&P 500 Net Zero 2050 Paris-Aligned ESG Parent Benchmark: S&P 500	WACI (tCO2e/\$M Revenues)		Attribution Analysis (As a % of Benchmark)		
	Index	Benchmark	Sector Allocation	Company Selection	Total Effect
Totals/Averages	75.36	216.67	44.66	20.56	65.22
Communication Services	3.08	2.72	0.89	0.02	0.91
Consumer Discretionary	5.05	10.65	0.22	2.81	3.03
Consumer Staples	15.29	13.67	0.01	(0.71)	(0.71)
Energy	0.00	42.67	14.46	0.00	14.46
Financials	1.13	6.29	0.37	2.51	2.88
Health Care	7.07	6.87	0.99	0.16	1.14
Industrials	17.26	19.39	(0.01)	1.25	1.24
Information Technology	12.14	11.56	3.19	0.56	3.75
Materials	4.55	25.05	0.59	8.69	9.28
Real Estate	3.33	3.05	0.13	0.01	0.14
Utilities	6.46	74.74	23.82	5.26	29.09

Index: S&P 500 ESG Parent Benchmark: S&P 500	WACI (tCO2e/\$M Revenues)		Attribution Analysis (As a % of Benchmark)		
	Index	Benchmark	Sector Allocation	Company Selection	Total Effect
Totals/Averages	173.14	216.67	14.72	5.37	20.09
Communication Services	2.85	2.72	0.19	(0.02)	0.18
Consumer Discretionary	11.22	10.65	(0.70)	(0.97)	(1.67)
Consumer Staples	15.75	13.67	0.02	(0.80)	(0.77)
Energy	45.25	42.67	(0.94)	0.09	(0.85)
Financials	1.05	6.29	(0.06)	2.40	2.34
Health Care	7.21	6.87	1.03	0.10	1.13
Industrials	19.42	19.39	0.09	(1.87)	(1.79)
Information Technology	11.43	11.56	2.03	0.59	2.61
Materials	28.28	25.05	(0.11)	(1.35)	(1.46)
Real Estate	3.55	3.05	(0.02)	(0.25)	(0.27)
Utilities	27.14	74.74	13.19	7.44	20.63

Index: S&P Developed Ex-K LMC Net Zero 2050 Paris-Aligned Parent Benchmark: S&P Developed Ex-K LMC	WACI (tCO2e/\$M Revenues)		Attribution Analysis (As a % of Benchmark)		
	Index	Benchmark	Sector Allocation	Company Selection	Total Effect
Totals/Averages	89.83	216.54	22.71	36.01	58.72

Index: S&P Developed Ex-K LMC ESG Parent Benchmark: S&P Developed Ex-K LMC	WACI (tCO2e/\$M Revenues)		Attribution Analysis (As a % of Benchmark)		
	Index	Benchmark	Sector Allocation	Company Selection	Total Effect
Totals/Averages	175.89	216.54	10.30	8.48	18.77

Index: S&P Eurozone LMC Net Zero 2050 Paris-Aligned ESG Benchmark: S&P Eurozone LMC	WACI (tCO2e/\$M Revenues)		Attribution Analysis (As a % of Benchmark)		
	Index	Benchmark	Sector Allocation	Company Selection	Total Effect
Totals/Averages	55.30	215.90	35.35	32.70	68.04

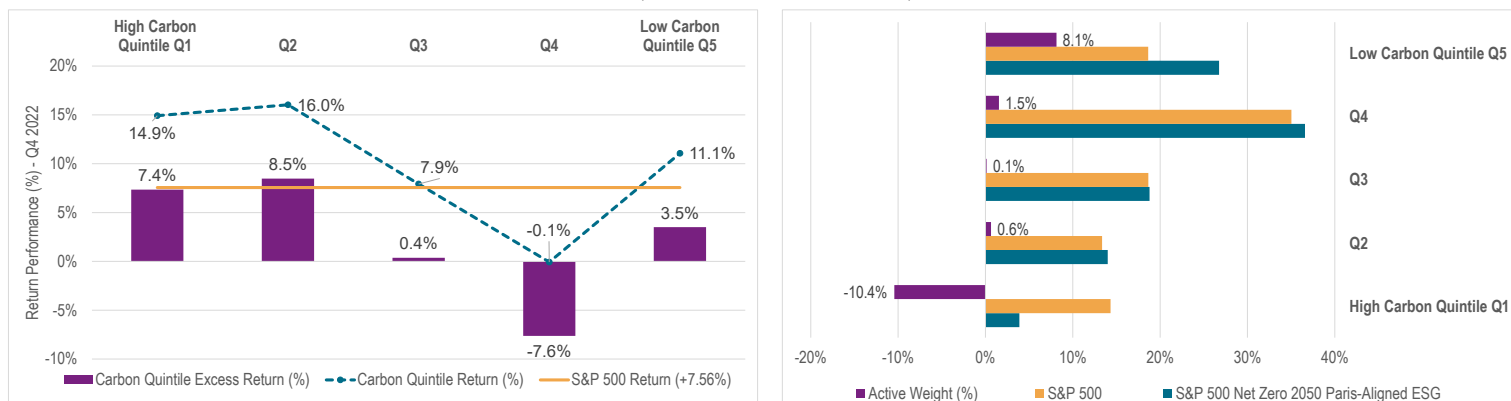
Source for WACI: S&P Trucost. Analysis carried out with S&P Capital IQ Pro.
Ex-K: Ex-Korea; LMC: LargeMidCap. See definitions in [Appendix \[P9\]](#).

COMMENTARY

- The S&P 500 Net Zero 2050 Paris Aligned ESG reduced WACI by 65% relative to its parent benchmark S&P 500. Out of this 65%, c. 45% came from Sector Allocation Effect;
- **Under-weighting Utilities** and holding **no exposure to Energy** contributed most to index's relative carbon footprint;
- The S&P 500 ESG reduced WACI by 20% versus S&P 500. Sector Allocation Effect accounted for 15% of the reduction;
- Similar to Net Zero 2050 Paris Aligned ESG, under-weighting Utilities contributed most to index's relative carbon footprint differential;
- However, **under-weighting Consumer Discretionary** and **over-weighting Energy** sectors detracted from the index's relative carbon footprint improvement.

- In the below analysis, we slice up the parent benchmark universe into five Carbon quintiles from High Carbon to Low Carbon, based on each quintile's Weighted Average Carbon Intensity (WACI);
- We then run a Brinson Attribution to measure the Allocation Effect of over/under-weighting a given Carbon Quintile versus the parent benchmark;
- For example, if the High Carbon Quintile, Q1, is under-weight in a given ESG Climate index versus its parent benchmark and if this quintile portfolio under-performed the parent benchmark, it would mean that this "bet" contributed negatively to the index's relative performance;
- Similarly, if the Low Carbon Quintile, Q5, is overweight and the quintile portfolio under-performed the parent benchmark, this would imply that such overweight detracted from the index's relative performance.

Carbon Quintile Performance Attribution: Q4 2022



Carbon quintiles are determined using the Weighted Average Carbon Intensity. This is the index weighted average of individual company intensities (operational and first-tier supply chain emissions over revenues).

Source for Carbon scores: S&P Global Trucost. Analysis carried out using S&P Capital IQ Pro.

Brinson Attribution by Carbon Quintiles

Index: S&P 500 Net Zero 2050 Paris-Aligned ESG Benchmark: S&P 500	Index	Benchmark	Attribution		
	Average Weight	Average Weight	ALLOCATION EFFECT	SELECTION EFFECT	TOTAL EFFECT
Totals/Averages	100.00%	100.00%	(0.59%)	0.70%	0.12%
High Carbon Quintile Q1	3.89%	14.33%	(0.71%)	(0.25%)	(0.95%)
Q2	13.99%	13.35%	0.08%	0.17%	0.25%
Q3	18.78%	18.65%	(0.01%)	(0.72%)	(0.73%)
Q4	36.58%	35.04%	(0.18%)	1.24%	1.07%
Low Carbon Quintile Q5	26.76%	18.63%	0.22%	0.26%	0.48%

Index: S&P 500 ESG; Benchmark: S&P 500	Index	Benchmark	Attribution		
	Average Weight	Average Weight	ALLOCATION EFFECT	SELECTION EFFECT	TOTAL EFFECT
Totals/Averages	100.00%	100.00%	(0.20%)	0.91%	0.71%
High Carbon Quintile Q1	11.61%	14.33%	(0.17%)	0.03%	(0.14%)
Q2	13.78%	13.35%	0.04%	(0.09%)	(0.06%)
Q3	17.39%	18.65%	(0.01%)	(0.67%)	(0.68%)
Q4	36.62%	35.04%	(0.12%)	1.21%	1.09%
Low Carbon Quintile Q5	20.59%	18.63%	0.06%	0.44%	0.50%

COMMENTARY

- In Q4 2022, the **High Carbon Quintile Q1 outperformed the S&P 500 by 7.4%**;
- The S&P 500 Net Zero 2050 Paris Aligned ESG index **under-weighted this carbon quintile by -10.4%**;
- This positioning **detracted** from its relative performance versus the S&P 500;
- In Q4 2022, the **Low Carbon Quintile Q5 outperformed S&P 500 by 3.5%**;
- Both the S&P 500 Net Zero 2050 Paris Aligned ESG and S&P 500 ESG **over-weighted this carbon quintile**; by +8.1% and +2.0%; respectively;
- This **contributed** positively to the relative index performance versus the S&P 500.
- A similar analysis for a longer time horizon, using ESG quintiles, can be found on [P7].
- For further details on this analysis, please refer to the blog "[Connecting Climate Goals with Relative Index Returns](#)".

[P1] Main Commentary & Highlights

[P2] Sector and Country Exposure

[P3] ESG & Climate Performance

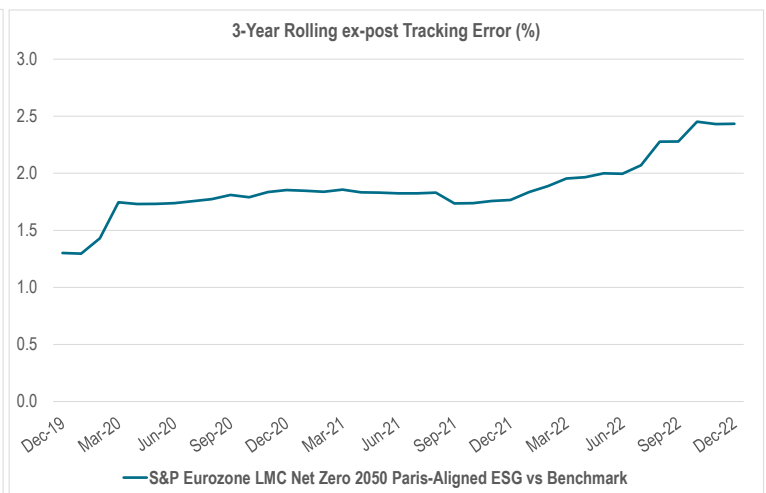
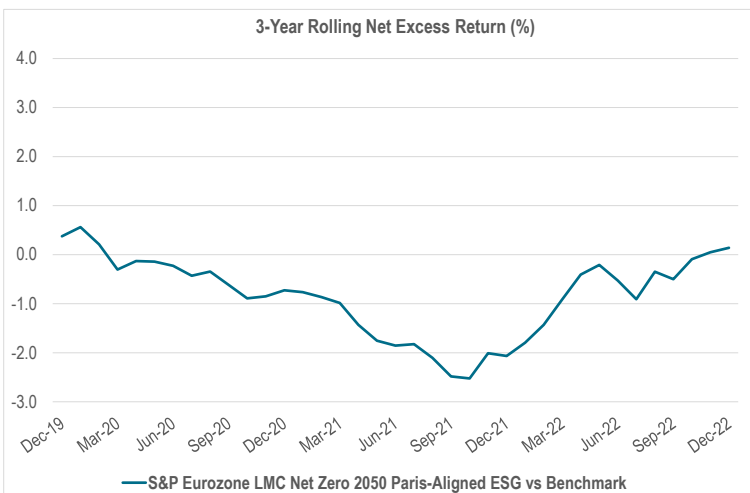
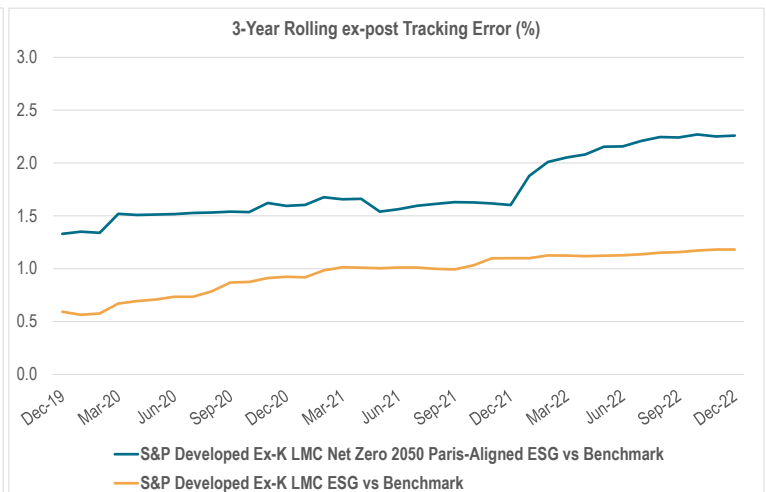
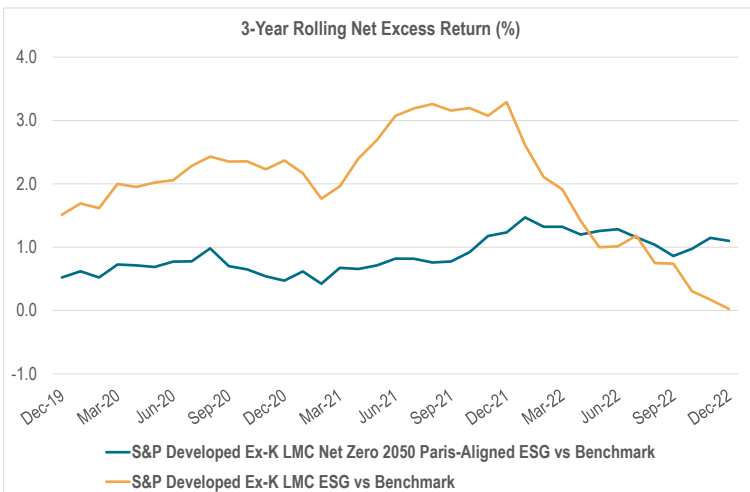
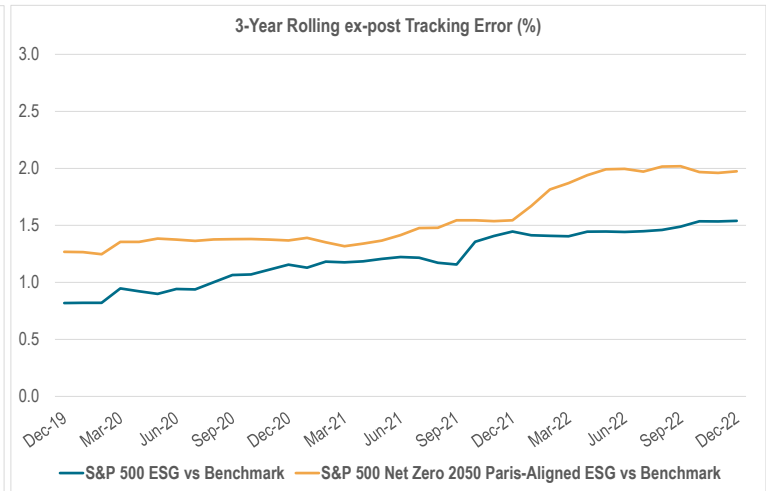
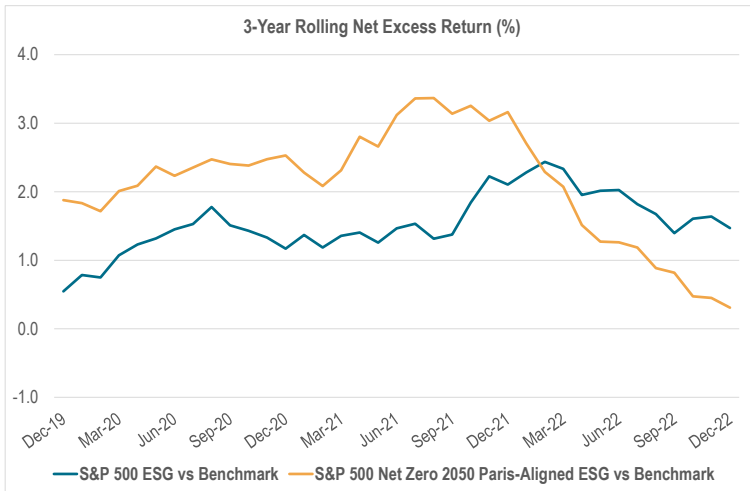
[P4] Carbon Sector Attribution

[P5] Carbon Quintile Performance Attribution

Excess Return and Tracking Error

[P7] Quarterly Insight

[P8] Further Indices



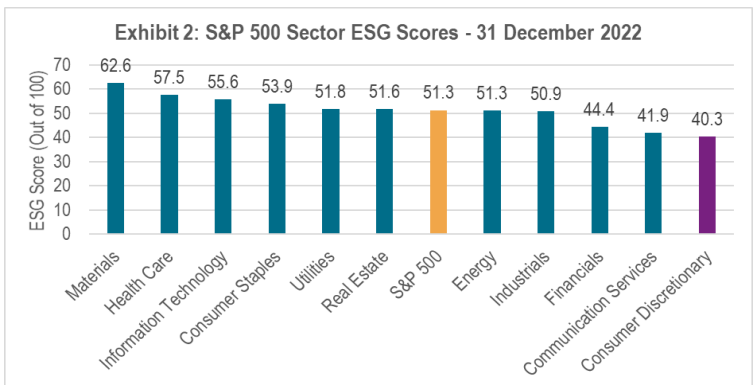
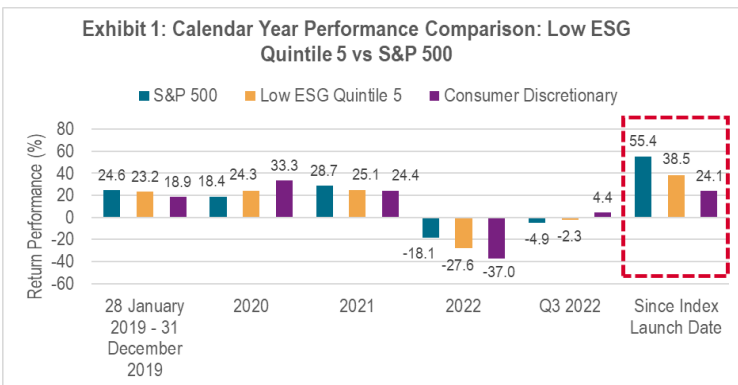
Launch Date for S&P Net Zero 2050 Paris-Aligned ESG Indices is Jun 01, 2020. The index Backward Data Assumption Date is Mar 31, 2020. Launch Date for S&P 500 ESG Index is Jan 28, 2019. The index Backward Data Assumption Date is May 3, 2010. Launch Date for S&P Developed ex-K LMC ESG Index is Mar 22, 2019. All information for an index prior to its Launch Date is hypothetical back-tested, not actual performance, based on the index methodology in effect on the Launch Date. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. This back-tested data may have been created using a "Backward Data Assumption". For more information on "Backward Data Assumption" and back-testing in general, please see the [Performance Disclosure](#).

RESOURCES

[Explaining the Outperformance of Net Zero Indices, blog by Ben Leale-Green and Barbara Velado](#)

This Quarter, as the S&P 500 ESG Index approaches its third year (launched on 28 January 2019), we investigate the impact of its improved sustainability profile on its return performance, for the full live history.

- In our analysis, we ranked each S&P500 security according to their ESG scores, and then sliced up the underlying benchmark universe into **five** quintile portfolios, from highest to lowest, each with an equal number of benchmark constituents. This is not a one-time exercise as the quintile portfolios are reconstituted annually, in line with the update of ESG scores.
- Highlight #1: Companies with the lowest ESG scores (i.e. the Low ESG Quintile 5) underperformed S&P 500 by -16.9% since January 2019 (Exhibit 1).**



Source: S&P Global and S&P Dow Jones Indices LLC. Data as of December 2022. The S&P 500 ESG Index was launched on January 28, 2019. Analysis carried out using S&P Capital IQ Pro. Chart is provided for illustrative purposes.

- Highlight #2: Consumer Discretionary was a big driver for the Low ESG Quintile's return performance.**
 - As shown in Exhibit 1, in 2020, when the Low ESG Quintile 5 outperformed S&P 500, so did Consumer Discretionary. A similar observation exists for Q3 2022. In all the other years, where the Low ESG Quintile 5 underperformed S&P 500, Consumer Discretionary did too.
 - Exhibit 2 shows the sector breakdown for ESG scores. **Consumer Discretionary has the lowest ESG score among all the sectors. 40.8% of Consumer Discretionary companies within S&P 500 are in the Low ESG Quintile 5.**

- Highlight #3: Underweighting the Low ESG Quintile 5 contributed to S&P 500 ESG's relative performance.**
 - The Low ESG Quintile 5 underperformed S&P 500 by -16.9% (Exhibits 3 and 4), and the S&P 500 ESG Index underweighted this ESG quintile by -10.2% (Exhibit 4), which contributed to the relative index performance.

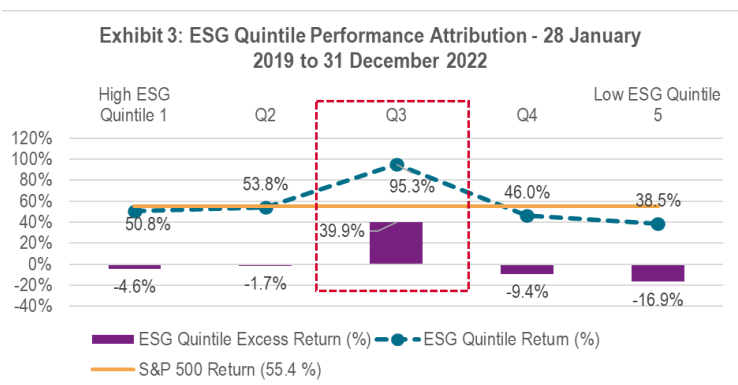


Exhibit 4: ESG Quintile Attribution – January 28, 2019-December 31, 2022

Quintile	S&P 500 ESG Index		S&P 500			Attribution		Total Effect (%)
	Average Weight (%)	Return (%)	Average Weight (%)	Return (%)	ESG Score	Allocation Effect (%)	Selection Effect (%)	
Totals/Averages	100	64.57	100	55.42	48.61	2.86	6.29	9.16
High ESG Quintile 1	22.91		19.72	50.82	72.07	0.09	-0.21	-0.12
Q2	24.21		19.24	53.75	55.76	-0.14	0.56	0.42
Q3	23.13		20.07	95.31	47.92	0.78	2.4	3.17
Q4	18.4		19.33	46.02	39.95	0.13	1.38	1.51
Low ESG Quintile 5	11.35		21.53	38.54	29.39	2	2.18	4.18

Source: S&P Global and S&P Dow Jones Indices LLC. Data from January 28, 2019, to December 31, 2022. ESG quintiles are determined using the ESG scores. Analysis carried out using S&P Capital IQ Pro. Chart is provided for illustrative purposes.

- Highlight #4: Companies with the highest ESG scores (i.e. the High ESG Quintile 1) underperformed S&P 500 by -4.6% (Exhibit 4).** The overweight in the High ESG Quintile 1 detracted from the relative index performance, as this quintile underperformed S&P 500.

- Highlight #5: The ESG Quintile 3, which had a similar ESG score as S&P 500 (Exhibit 4) but which had the lowest ESG Momentum, outperformed S&P 500 by +40% (Exhibits 3 and 4).** ESG Momentum is defined as the change in the ESG score of a company from January 2019 to December 2022.

RESOURCES

[Using Indices to Help Align ESG Goals and Values](#)

[S&P 500 Decarbonisation: Drawing the Path to Net-Zero](#)

Source: S&P Dow Jones Indices. Data as of December 31, 2022.

- [\[P1\] Main Commentary & Highlights](#)
- [\[P2\] Sector and Country Exposure](#)
- [\[P3\] ESG & Climate Performance](#)
- [\[P4\] Carbon Sector Attribution](#)
- [\[P5\] Carbon Quintile Performance Attribution](#)
- [\[P6\] Excess Return and Tracking Error](#)
- [\[P7\] Quarterly Insight](#)
- Further Indices**

To supplement our headline indices shown on [P1], below we give information on broader S&P Dow Jones Core ESG, ESG Climate and thematic indices.

INDEX	Return 3 Month (%)	Return YTD (%)	Return 3 Years Annualised (%)	Tracking Error 3 Years Annualised (%)	Stock Count
1. S&P 500 Sustainability Screened	6.5	-21.4	7.5	1.4	452
2. S&P 500 ESG Tilted	8.2	-18.6	8.0	1.3	451
3. S&P 500 Net Zero 2050 Paris-Aligned Sustainability Screened	6.4	-22.5	8.2	2.7	333
4. S&P 500® (Parent Benchmark)	7.6	-18.1	7.7	N/A	503
5. S&P Europe LargeMidCap Net Zero 2050 Paris-Aligned ESG	8.9	-13.0	3.6	3.0	248
6. S&P Europe LargeMidCap (Parent Benchmark)	9.5	-9.7	3.5	N/A	446
7. S&P Europe 350 Fossil Fuel Free	9.5	-11.2	3.3	1.5	348
8. S&P Europe 350 (Parent Benchmark)	9.7	-8.6	3.9	N/A	362
9. Dow Jones Sustainability Eurozone	15.2	-12.0	1.6	3.5	89
10. S&P Eurozone BMI (Parent Benchmark)	12.6	-12.8	2.5	N/A	100
11. Dow Jones Sustainability World	12.2	-15.6	5.6	4.1	332
12. S&P Global Clean Energy	4.0	-4.8	21.0	27.5	96
13. S&P Global BMI (Parent Benchmark)	9.9	0.0	0.0	N/A	13883
14. S&P/ASX 200 ESG	9.3	1.7	5.3	2.3	86
15. S&P/ASX 200 (Parent Benchmark)	9.4	-1.1	5.6	N/A	201
16. S&P/B3 Brazil ESG	-7.4	-11.5	-9.2	6.5	161
17. S&P Brazil BMI (Parent Benchmark)	-1.8	0.1	-3.0	N/A	210
18. S&P BOCHK China Hong Kong GBA Net Zero 2050 Climate Transition	12.7	-21.9	-5.1	1.3	178
19. S&P China-Hong Kong GBA (Parent Benchmark)	11.4	-21.9	-6.1	N/A	311
20. S&P/TSX Composite ESG	5.5	-6.6	5.1	2.6	123
21. S&P/TSX Composite (Parent Benchmark)	6.0	-5.8	7.5	N/A	236
22. S&P Developed Ex-North America & Korea LargeMidCap ESG	17.1	-13.5	1.8	1.0	560
23. S&P EPAC Ex-Korea LargeMidCap (Parent Benchmark)	16.9	-14.6	1.3	N/A	1031

GBA: Greater Bay Area.

INDEX:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
WACI Improvement (%)	30.1	17.3	63.9	N/A	60.3	N/A	13.0	N/A	42.6	N/A	33.6	-30.5	N/A	9.1	N/A	0.6	N/A	45.3	N/A	26.1	N/A	10.0	N/A
FFR Improvement (%)	100.0	28.3	100.0	N/A	100.0	N/A	99.0	N/A	50.1	N/A	67.5	100.0	N/A	8.3	N/A	89.2	N/A	-11.4	N/A	85.9	N/A	13.0	N/A
ESG Score Improvement	1.4	14.3	5.9	N/A	3.8	N/A	0.6	N/A	9.8	N/A	30.6	-12.0	N/A	6.5	N/A	-9.3	N/A	-3.9	N/A	10.5	N/A	7.3	N/A
Temperature Alignment (Forward-Looking)	3°C	3°C	1.5°C	3°C	1.5°C	3°C	2°C	2°C	3°C	2°C	3°C	2°C	3°C	>3°C	>3°C	>3°C	>3°C	1.5°C	3°C	3°C	>3°C	3°C	3°C
% (under)/over 2°C Carbon Budget	2.5	17.9	-35.9	8.2	-32.4	0.3	-11.9	-0.5	5.7	-6.8	9.7	-4.0	10.8	65.9	83.6	48.7	44.2	-47.4	8.7	6.0	26.2	10.7	12.4
Physical Climate Risk Score (High 2050 Scenario)	25.7	24.9	22.7	26.9	19.2	23.6	22.0	23.5	23.4	28.0	21.7	38.8	27.7	26.8	26.5	33.2	41.1	33.2	29.9	24.4	28.5	25.8	25.9

Source for climate metrics: S&P Global Trucost. Source for ESG scores: S&P Dow Jones Indices. See definitions in [Appendix \[P9\]](#).

RESOURCES

- [How Does the S&P Europe 350 ESG Index Work?, blog by Barbara Velado](#)
- [Resilience to Rising Carbon Prices: Do Eurozone S&P PACT Indices Stand the Test?, blog by Barbara Velado](#)
- [Carbon Pricing, In Various Forms, Is Likely To Spread In The Move To Net Zero](#)

GENERAL DISCLAIMER

© 2022 S&P Dow Jones Indices. All rights reserved. S&P, S&P 500, S&P 500 LOW VOLATILITY INDEX, S&P 100, S&P COMPOSITE 1500, S&P 400, S&P MIDCAP 400, S&P 600, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, S&P TARGET DATE INDICES, S&P PRISM, S&P STRIDE, GICS, SPIVA, SPDR and INDEXOLOGY are registered trademarks of S&P Global, Inc. ("S&P Global") or its affiliates. DOW JONES, DJ, DJIA, THE DOW and DOW JONES INDUSTRIAL AVERAGE are registered trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P Global, Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other investment product or vehicle. S&P Dow Jones Indices LLC is not a tax advisor. A tax advisor should be consulted to evaluate the impact of any tax-exempt securities on portfolios and the tax consequences of making any particular investment decision. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice. Closing prices for S&P Dow Jones Indices' US benchmark indices are calculated by S&P Dow Jones Indices based on the closing price of the individual constituents of the index as set by their primary exchange. Closing prices are received by S&P Dow Jones Indices from one of its third party vendors and verified by comparing them with prices from an alternative vendor. The vendors receive the closing price from the primary exchanges. Real-time intraday prices are calculated similarly without a second verification.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related information and other analyses, including ratings, research and valuations are generally provided by licensors and/or affiliates of S&P Dow Jones Indices, including but not limited to S&P Global's other divisions such as S&P Global Market Intelligence. Any credit-related information and other related analyses and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. Any opinion, analyses and rating acknowledgement decisions are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Dow Jones Indices does not assume any obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P Dow Jones Indices LLC does not act as a fiduciary or an investment advisor. While S&P Dow Jones Indices has obtained information from sources they believe to be reliable, S&P Dow Jones Indices does not perform an audit or undertake any duty of due diligence or independent verification of any information it receives.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P Global Ratings reserves the right to assign, withdraw or suspend such acknowledgement at any time and in its sole discretion. S&P Dow Jones Indices, including S&P Global Ratings, disclaim any duty whatsoever arising out of the assignment, withdrawal or suspension of an acknowledgement as well as any liability for any damage alleged to have been suffered on account thereof. Affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, may receive compensation for its ratings and certain credit-related analyses, normally from issuers or underwriters of securities or from obligors. Such affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, reserve the right to disseminate its opinions and analyses. Public ratings and analyses from S&P Global Ratings are made available on its Web sites, www.standardandpoors.com (free of charge), and www.ratingsdirect.com and www.globalcreditportal.com (subscription), and may be distributed through other means, including via S&P Global Ratings publications and third-party redistributors. Additional information about our ratings fees is available at www.standardandpoors.com/usratingfees.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.

The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a trademark of S&P and MSCI. Neither MSCI, S&P nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

ASX, ALL ORDINARIES are trademarks of ASX Operations Pty Ltd. and have been licensed for use by S&P Dow Jones Indices.

B3 is a trademark of B3 S.A. - Brasil, Bolsa, Balcão and has been licensed for use by S&P Dow Jones Indices.

S&P Global, provides the data that powers the globally recognized Dow Jones Sustainability Indices, S&P 500 ESG Index, and others in the S&P ESG Index Series. Each year, S&P Global conducts the Corporate Sustainability Assessment, an ESG analysis of over 7,300 companies. The CSA has produced one of the world's most comprehensive databases of financially material sustainability information, and serves as the basis for the scores that govern S&P DJ ESG indices.

APPENDIX

WACI: Weighted Average Carbon Intensity. The index weighted average of individual company intensities (operational and first-tier supply chain emissions per USD revenues).

FFR: Fossil Fuel Reserves. The carbon footprint that could be generated if the proven and probable fossil fuel reserves owned by index constituents were burned per USD 1 million invested.

Physical Climate Risk Score: This dataset provides company level physical risk scores reflecting exposure to climate hazards across scenarios and time periods. For more information please go to:

[https://www.marketplace.spglobal.com/en/datasets/physical-risk-\(148\)](https://www.marketplace.spglobal.com/en/datasets/physical-risk-(148))

CEaR: Carbon Earnings at Risk. Financial metric: % EBITDA at Risk. This dataset helps to understand and assess the potential impact to a company's earnings today if the company has to pay a future price for their greenhouse gas emissions. For more information please go to: [https://www.marketplace.spglobal.com/en/datasets/trucost-carbon-earnings-at-risk-\(184\)](https://www.marketplace.spglobal.com/en/datasets/trucost-carbon-earnings-at-risk-(184))

WAECI: Weighted Average Environmental Cost Intensity. This dataset helps to assess environmental costs across key dimensions such as carbon emissions, land, water, air pollutants, and waste disposal, natural resource and water use. For more information please go to: [https://www.marketplace.spglobal.com/en/datasets/trucost-environmental-\(46\)](https://www.marketplace.spglobal.com/en/datasets/trucost-environmental-(46))

PERFORMANCE DISCLOSURE/BACK-TESTED DATA

Please refer to the methodology for any particular index for more details about that index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at www.spdji.com. Past performance of the Index is not an indication of future results. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate S&P DJI's ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used.

Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices maintains the index and calculates the index levels and performance shown or discussed but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

Sign up to our [Weekly Index Strategy Update Call](#)

Check out our dedicated regional and specialist monthly dashboards:

Regional Reports	Focused & Risk Reports
U.S.	S&P 500 Factors
Europe	U.S. Sectors
Asia	U.S. Industries
Australia & NZ	U.S. Equal Weight
India	Dispersion
Canada	Risk & Volatility
Latin America	Kensho New Economies (Quarterly)

To sign up to our other dashboards, please use [this link](#).