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# MSCI Climate Paris Aligned Indices: Reduced Carbon Footprint for Core Equities

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SPDR has partnered with MSCI to launch a suite of ETFs that track the MSCI Climate Paris Aligned indices. The methodology behind these indices has historically led to superior climate metrics and improved ESG scores, and with no detriment to performance and often lower investment risk.

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## Decarbonisation and Reduced Physical Climate Risk

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Investors are under increasing pressure to align their investment strategies with the decarbonisation pathways needed to limit the global temperature increase to 1.5°C, as targeted by the Paris Agreement. One way to achieve this goal is to overweight companies on a credible decarbonisation path or those offering green solutions, while reducing exposure to companies that are poorly positioned for transition, thus limiting exposure to physical risks.

An effective way to adopt these criteria is with MSCI Climate Paris Aligned indices. SPDR has partnered with MSCI on four of these indices — World, US, Europe, Japan — in its new suite of climate ETFs. These ETFs offer a cost-efficient vehicle that allows investors to take a more active stance in combating climate change.

MSCI Climate Paris Aligned indices align with TCFD\* recommendations. The indices also substantially reduce the carbon footprint (including Scope 3 product and supply-chain emissions) and elevate the weights of companies with substantiated reduction targets while reducing physical climate risk exposure (based on the MSCI Climate Value-at-Risk model). The carbon footprint will be reduced by 10% year on year.

The impact of this methodology can be seen in superior climate metrics. The following back-tested data show that, for each of the climate indices, the lower carbon footprint has been achieved without a significant impact on investment risk or returns.

For more information on the investment case for adopting a Paris Aligned benchmark, and a summary of the methodology, please visit [ssga.com/ClimateETFs](https://ssga.com/ClimateETFs).

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\* Task Force on Climate-Related Financial Disclosures.

## MSCI World Climate Paris Aligned Index

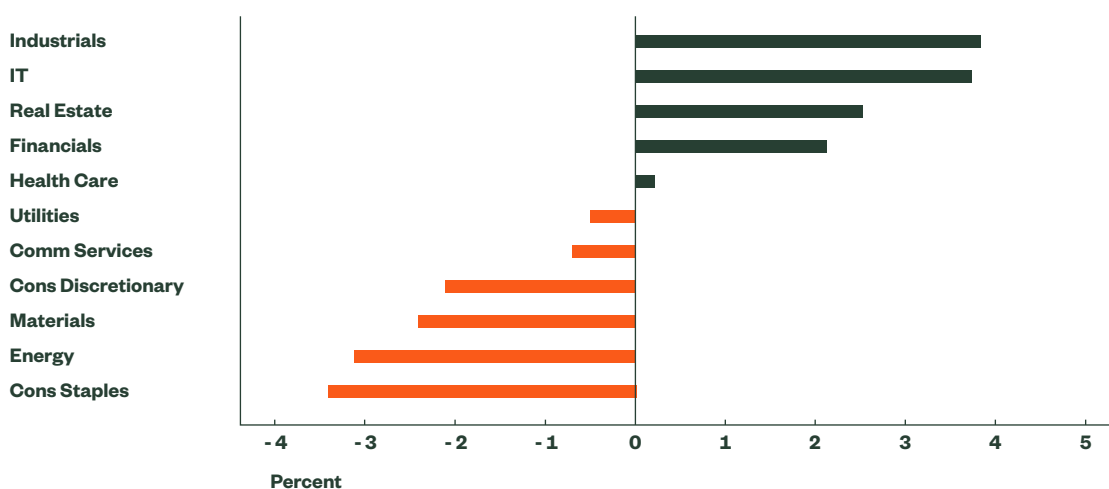
MSCI World Climate Paris Aligned Index reduces the number of stocks by more than half with an impact on sector exposure (as shown below) and a small overweight to Europe versus other regions (not shown). Returns are higher over the full period with similar volatility and a relatively low tracking error to the parent index. The carbon emission statistics are far superior.

Figure 1  
Index Characteristics

	Climate Paris Aligned Index	Parent Index
Number of Stocks*	655	1,546
P/E*	20.4	20.1
Yield (%)*	2.2	2.3
Tracking Error (%)	1.1	—
Annual Turnover (%)**	11.7	1.8

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. \*Monthly Averages. \*\*Annualised one-way index turnover over index reviews.

Figure 2  
Active Sector Exposure



Source: MSCI Indices, monthly data for the period 29 November 2013 to 31 December 2021.

Figure 3  
Index Performance

Returns	Climate Paris Aligned Index (%)	Parent Index (%)
1 Year	22.4	22.3
3 Year	23.7	22.3
5 Year	17.0	15.6
Total Period	12.9	11.4
Sharpe Ratio	0.9	0.8

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. Gross returns annualised in USD. Past performance is not an indicator of future results. It is not possible to invest directly in an index.

Figure 4  
Carbon Emissions Statistics

	Climate Paris Aligned Index	Parent Index
<b>Climate Footprint</b>		
Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	9.0	61.0
Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	29.0	158.0
Wtd Avg Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	34.0	130.0
<b>Exposure to Asset Stranding Risks</b>		
Potential Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	0.0	1,087.0
Fossil Fuel Reserves %	0.3	4.5

Source: MSCI Indices, as of 31 December 2021.

## MSCI USA Climate Paris Aligned Index

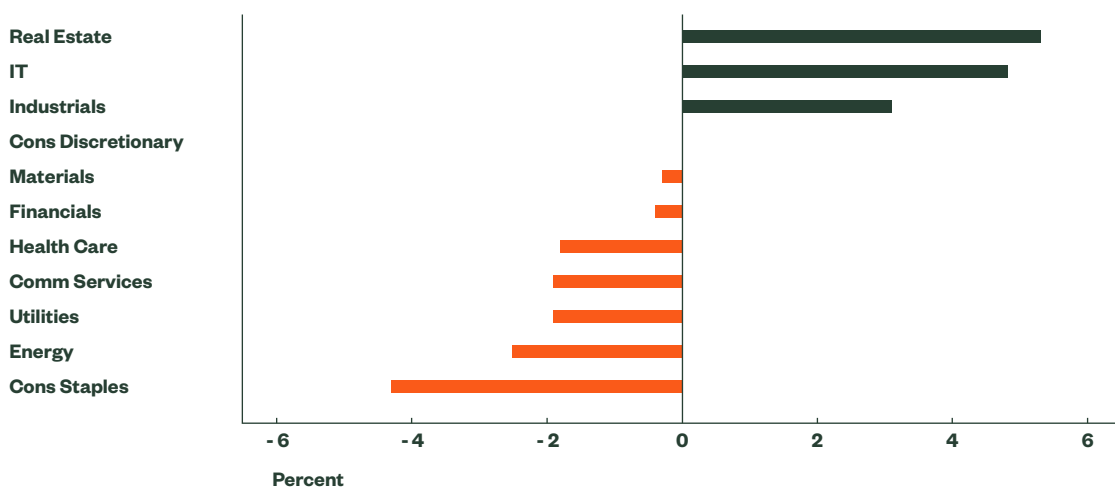
MSCI USA Climate Paris Aligned Index has a large overweight in real estate and IT, offset by underweights in energy and consumer staples. The index returns for the full period are ahead of the parent index and show improved risk/reward. The carbon emission statistics are superior.

Figure 5  
Index Characteristics

	Climate Paris Aligned Index	Parent Index
Number of Stocks*	308	628
P/E*	23.0	22.3
Yield (%)*	1.7	1.9
Tracking Error (%)	1.6	—
Annual Turnover (%)**	12.0	1.8

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. \*Monthly Averages. \*\*Annualised one-way index turnover over index reviews.

Figure 6  
Active Sector Exposure



Source: MSCI Indices, monthly data for the period 29 November 2013 to 31 December 2021.

Figure 7  
Index Performance

Returns	Climate Paris Aligned Index (%)	Parent Index (%)
1 Year	25.1	27.0
3 Year	28.3	26.6
5 Year	20.9	18.7
Total Period	17.2	15.1
Sharpe Ratio	1.2	1.0

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. Gross returns annualised in USD. Past performance is not an indicator of future results. It is not possible to invest directly in an index.

Figure 8  
Carbon Emissions Statistics

	Climate Paris Aligned Index	Parent Index
<b>Climate Footprint</b>		
Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	7.0	41.0
Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	38.0	150.0
Wtd Avg Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	50.0	125.0
<b>Exposure to Asset Stranding Risks</b>		
Potential Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	0.0	413.0
Fossil Fuel Reserves %	0.1	3.4

Source: MSCI Indices, as of 31 December 2021.

## MSCI Europe Climate Paris Aligned Index

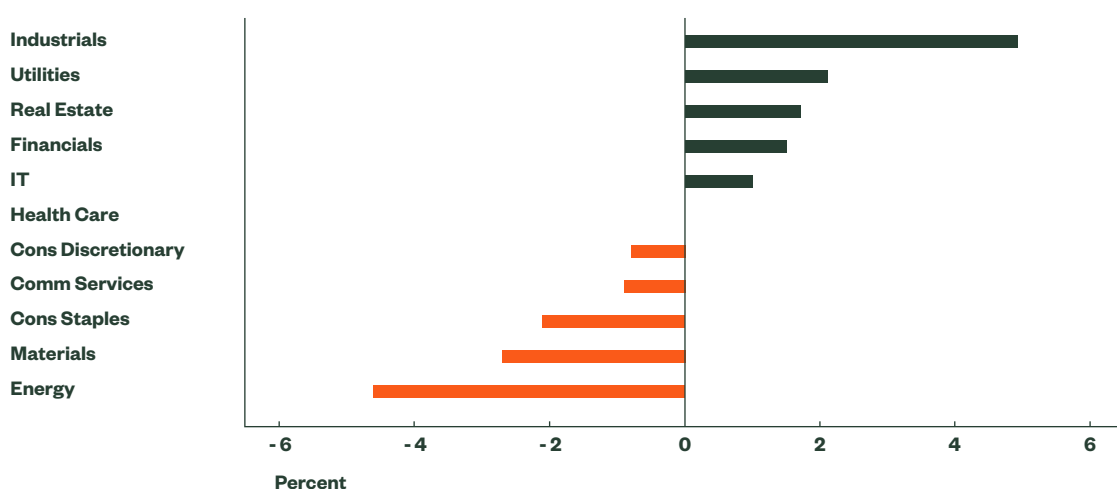
MSCI Europe Climate Paris Aligned Index has a large overweight in industrials offset by the underweight in energy (as shown below). Among the country exposures (not shown) is an overweight to France and underweights to UK and Germany. Compared with the other three regions, tracking error to the parent index is slightly higher. Returns have been better than the parent index but with slightly higher volatility. There is significant difference between the carbon emissions of the two European indices featured.

Figure 9  
Index Characteristics

	Climate Paris Aligned Index	Parent Index
Number of Stocks*	269	432
P/E*	18.9	18.1
Yield (%)*	3.0	3.3
Tracking Error (%)	2.0	—
Annual Turnover (%)**	11.6	1.8

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. \*Monthly Averages. \*\*Annualised one-way index turnover over index reviews.

Figure 10  
Active Sector Exposure



Source: MSCI Indices, monthly data for the period 29 November 2013 to 31 December 2021.

Figure 11  
Index Performance

Returns	Climate Paris Aligned Index (%)	Parent Index (%)
1 Year	17.2	17.0
3 Year	18.5	15.6
5 Year	12.6	10.8
Total Period	7.5	5.8
Sharpe Ratio	0.3	0.5

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. Gross returns annualised in USD. Past performance is not an indicator of future results. It is not possible to invest directly in an index.

Figure 12  
Carbon Emissions Statistics

	Climate Paris Aligned Index	Parent Index
<b>Climate Footprint</b>		
Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	18.0	102.0
Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	38.0	163.0
Wtd Avg Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	50.0	124.0
<b>Exposure to Asset Stranding Risks</b>		
Potential Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	0.0	2505.0
Fossil Fuel Reserves %	0.0	6.6

Source: MSCI Indices, as of 31 December 2021.

## MSCI Japan Climate Paris Aligned Index

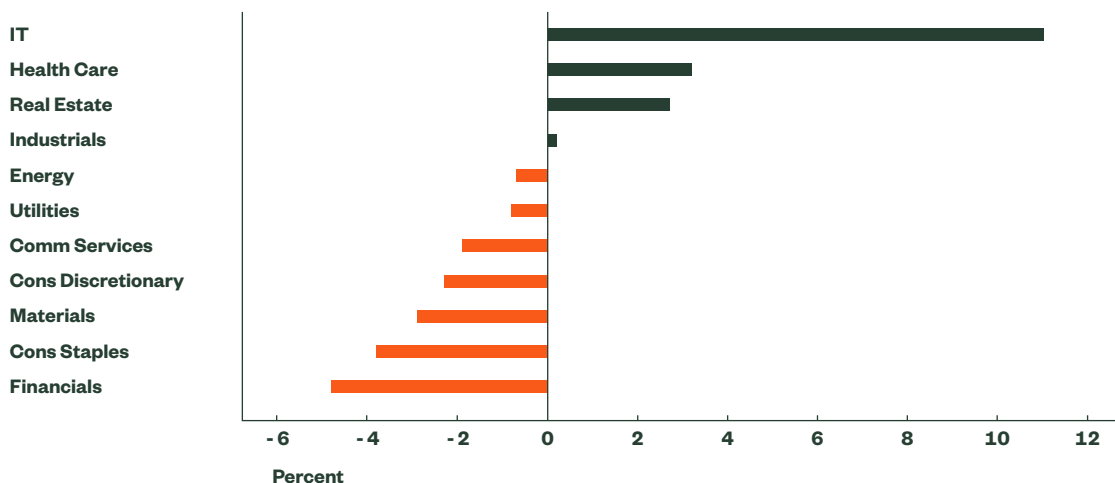
MSCI Japan Climate Paris Aligned Index removes 83 stocks, resulting in a large overweight exposure to IT. Despite producing lower returns in 2021, returns over the full period are higher than the parent index. As with all previous examples, the carbon emission statistics are far superior.

Figure 13  
Index Characteristics

	Climate Paris Aligned Index	Parent Index
Number of Stocks*	135	259
P/E*	17.3	15.7
Yield (%)*	1.9	2.1
Tracking Error (%)	1.6	—
Annual Turnover (%)**	12.6	2.1

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. \*Monthly Averages. \*\*Annualised one-way index turnover over index reviews.

Figure 14  
Active Sector Exposure



Source: MSCI Indices, monthly data for the period 29 November 2013 to 31 December 2021.

Figure 15  
Index Performance

Returns (%)	Climate Paris Aligned Index (%)	Parent Index (%)
1 Year	-1.3	2.0
3 Year	11.1	12.1
5 Year	8.6	8.9
Total Period	6.9	6.6
Sharpe Ratio	0.5	0.5

Source: MSCI Indices, for the period 29 November 2013 to 31 December 2021. Gross returns annualised in USD. Past performance is not an indicator of future results. It is not possible to invest directly in an index.

Figure 16  
Carbon Emissions Statistics

	Climate Paris Aligned Index	Parent Index
<b>Climate Footprint</b>		
Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	14.0	128.0
Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	34.0	144.0
Wtd Avg Carbon Intensity (t CO <sub>2</sub> e/\$M Sales)	38.0	72.0
<b>Exposure to Asset Stranding Risks</b>		
Potential Carbon Emissions (t CO <sub>2</sub> e/\$M Invested)	0.0	334.0
Fossil Fuel Reserves %	0.0	4.9

Source: MSCI Indices, as of 31 December 2021.

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**Glossary**

**Carbon Emissions (t CO<sub>2</sub>e/\$M Invested)** Scope 1 + Scope 2 Carbon emissions normalized for the index.

**Carbon Intensity (t CO<sub>2</sub>e/\$M Sales)** Efficiency of the index in terms of total Scope 1 and Scope 2 carbon emissions divided by total sales.

**Wtd Avg Carbon Intensity (t CO<sub>2</sub>e/\$M Sales)** Exposure to carbon intensive companies based on Scope 1 and Scope 2 emissions.

**Low Carbon Transition Score** Weighted average low Carbon Transition (LCT) score measuring companies' level of alignment to the LCT. Companies with higher LCT score are more aligned with the LCT compared to the companies with lower scores. Scores range from 0 to 10.

**Solutions (%)** Exposure to companies involved in low/zero carbon solutions that would have negative total carbon intensity and are likely to benefit in a low carbon scenario.

**Product & Operational Transition (%)** Exposure to companies with moderately to highly carbon intensive products or operations. Such companies' products or operations could go under transition in a low carbon scenario.

**Asset Stranding (%)** Exposure to companies with very high risk exposure to transition risk and may face asset stranding risk in the short to medium term.

**Potential Carbon Emissions (t CO<sub>2</sub>e/\$M Invested)** Carbon potential emissions normalized for the index.

**Fossil Fuel Reserves (%)** Exposure to companies that own proved & probable coal and/or oil and natural gas reserves used for energy purposes. The definition is based on the MSCI Global Ex-Fossil Fuel Indexes Methodology.

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