MSCI

How climate indexes...

can help institutional investors seeking to align portfolios with global temperature goals

If average temperatures continue to rise at their current rate:

10% of the world's economic value **could be lost by 2050**[1]

Sea level rise of 8 feet+ could flood coastal cities[2]

420 million* people could be exposed to extreme heat waves[3]

*Based on a 2 degree Celsius (2°C) temperature rise above mid-19th century levels.

Sources: [1] Swiss Re (Apr 2021)
[2] Nature (2017)
[3] WGI (Jan 2021)
WGII (Feb 2022)

To prevent the worst effects of climate change, we need to drive carbon emissions down to net-zero.

Source: IPCC (2021)

Net-zero targets

A clearly marked pathway for companies to reduce greenhouse gas emissions in line with the Paris Agreement goal of limiting global warming to well below 2°C, preferably no more than 1.5°C, above preindustrial levels.

Investors have a critical role to play in the transition to net-zero.

Below are five types of climate indexes from MSCI.

1 Climate Paris Aligned Indexes

Objective: Reduce carbon intensity by 50% compared with benchmark together annual decarbonization of 10%, increase weight in green solutions companies.

	Climate Paris Aligned Index	Benchmark Index
What was the historical climate performance?	**69% lower carbon emissions** than the reference index	11 tons: **MSCI ACWI Climate Paris-Aligned** Carbon dioxide equivalent (CO2e)/$ million invested	89 tons: **MSCI ACWI Index** CO2e/$M invested
Key climate feature	The Climate Paris Aligned Index's carbon intensity is at least 50% that of the benchmark.*	**Designed to align with a 1.5 °C scenario** using MSCI Climate Value-at-Risk, which provides a forward-looking, return-based assessment of how climate change could affect company valuations.	14.44%: **MSCI ACWI Index** A holder of MSCI ACWI would likely see an erosion of portfolio value by about 14.44% if the world were to decarbonize in line with a 1.5° warming scenario.**
Index performance	Value of a $1,000 investment over five years: **MSCI ACWI Climate Paris-Aligned:** $2,047; **MSCI ACWI Index:** $1,909	Five-year annualized return: 15.4% **MSCI ACWI Climate Paris-Aligned**; 13.8% **MSCI ACWI Index**	

Performance reflects $1,000 invested over a period of five years ending Sept. 30, 2021 based on return of the index over that period

The information may contain back-tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back-tested performance results and actual results subsequently achieved by any investment strategy

Source: MSCI ESG Research LLC (September 2021)

* MSCI calculates the index's carbon intensity based on tons of carbon dioxide per USD million in company enterprise value, including cash (in USD million).

** As of May 2021 semi-annual index review.

2 Climate Change Indexes

Objective: Reduce carbon emission intensity by 30% compared to benchmark, annual decarbonization of 7%, increase weight in green opportunity companies.

	Climate Change Index	Benchmark Index
What was the historical climate performance?	**62% lower carbon emissions** than reference index	34 tons: **MSCI ACWI Climate Change** CO2e/$M invested	89 tons: **MSCI ACWI Index** CO2e/$M invested
Key climate feature	The Climate Change index's carbon intensity is half that of the benchmark.	78 tons: **MSCI ACWI Climate Change** CO2e/$M sales	156 tons: **MSCI ACWI Index** CO2e/$M sales
Index performance	Value of a $1,000 investment over five years: **MSCI ACWI Climate Change:** $2,073; **MSCI ACWI Index:** $1,909	Five-year annualized return: 15.7% **MSCI ACWI Climate Change**; 13.8% **MSCI ACWI Index**	

Performance reflects $1,000 invested over a period of five years ending Sept. 30, 2021 based on return of the index over that period

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Source: MSCI ESG Research LLC (September 2021)

3 Low Carbon Target Indexes

Objective: Minimize carbon footprint by 50% based on their exposure to carbon emissions and fossil fuel reserves.

	Low Carbon Target Index	Benchmark Index
What was the historical climate performance?	**61% lower carbon emissions** than the reference index	34 tons: **MSCI ACWI Low Carbon Target** CO2e/$M invested	89 tons: **MSCI ACWI Index** CO2e/$M invested
Key climate feature	Minimize carbon intensity subject to a tracking error target of 30 basis points compared with its benchmark.	66 tons: **MSCI ACWI Low Carbon Target Index** (tons CO2e/$M sales)	156 tons: **MSCI ACWI Index** (tons CO2e/$M sales)
Index performance	Value of a $1,000 investment over five years: **MSCI ACWI Low Carbon Target:** $1,909; **MSCI ACWI Index:** $1,909	Five-year annualized return: 13.8% **MSCI ACWI Low Carbon Target**; 13.8% **MSCI ACWI Index**	

Performance reflects $1,000 invested over a period of five years ending Sept. 30, 2021 based on return of the index over that period

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Carbon footprint

Carbon footprint covers two key metrics:

- Low carbon emissions (relative to sales)
- Low potential carbon emissions (per dollar of market capitalization)

Source: MSCI ESG Research LLC (September 2021)

4 Fossil Fuels Exclusion Index

Objective: Represent broad market performance while excluding companies that own oil, gas and coal reserves.

	Fossil Fuels Exclusion Index	Benchmark Index
What was the historical climate performance?	**27% lower carbon emissions** than the reference index	59 tons: **MSCI ACWI ex Fossil Fuel** CO2e/$M invested	89 tons: **MSCI ACWI Index** CO2e/$M invested
Key climate feature	The index excludes companies with fossil fuel reserves.	MSCI: **MSCI ACWI ex Fossil Fuel** 0%	5%: **MSCI ACWI Index**
Index performance	Value of a $1,000 investment over five years: **MSCI ACWI ex Fossil Fuel:** $1,951; **MSCI ACWI Index:** $1,909	Five-year annualized return: 14.3% **MSCI ACWI ex Fossil Fuel**; 13.8% **MSCI ACWI Index**	

Performance reflects $1,000 invested over a period of five years ending Sept. 30, 2021 based on return of the index over that period

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Source: MSCI ESG Research LLC (September 2021)

5 Environment Indexes

Objective: Selects companies that derive at least 50% of their revenues from environmentally beneficial products and services.

	Environment Index	Benchmark Index
What was the historical climate performance?	**46% lower carbon emissions** than the reference index	37 tons: **MSCI Global Environment Index**	89 tons: **MSCI ACWI Index** CO2e/$M invested
Key climate feature	Green/fossil fuel-based net revenue exposure*	192.7: **MSCI Global Environment Index**	3: **MSCI ACWI Index**
Index performance	Value of a $1,000 investment over five years: **MSCI Global Environment:** $2,885; **MSCI ACWI Index:** $1,909	Five-year annualized return: 23.6% **MSCI Global Environment**; 13.8% **MSCI ACWI Index**	

Clean technology solutions (>50% revenue)

Performance reflects $1,000 invested over a period of five years ending Sept. 30, 2021 based on return of the index over that period

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Source: MSCI ESG Research LLC (September 2021)

*The ratio of the weighted average clean-technologies solutions revenue (%) or "green revenue" to the weighted average fossil fuel revenue (%), defined as the weighted average % revenue derived from any of the fossil fuel-related activities, including thermal coal mining, oil and gas extraction, thermal coal-based power generation, and oil and gas-based power generation.

Tools for addressing climate change

Investors use indexes from MSCI to help them make better informed decisions as they construct portfolios that integrate climate concerns.

Climate indexes can help investors:

- Align with global climate goals
- Capture opportunities
- Mitigate transition and physical risks
- Reduce fossil fuel exposure

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