Climate change is one of the greatest challenges of our time according to the United Nations Commission on Sustainable Development. The IPCC, which represents 195 nations, has reiterated the need to limit production of CO2 and other greenhouse gases to prevent a rise in atmospheric temperatures. As a result, institutional investors may need to consider how climate change may present risks and opportunities and how to manage carbon exposure in their portfolios. The MSCI Global Low Carbon Target Indexes are designed to underweight companies with significant carbon emissions and fossil fuel reserves relative to the broader market.

INDEX OBJECTIVES

The MSCI Global Low Carbon Target Indexes are designed to reflect a lower carbon exposure than that of the broad market by overweighting companies with low carbon emissions (per dollar of sales) and those with low potential carbon emissions (per dollar of market capitalization). The indexes are designed to achieve 0.3% (30 basis points) ex ante tracking error target while minimizing the carbon exposure relative to their parent indexes.

KEY BENEFITS

- Designed to reduce carbon footprint compared to the broader benchmark
- Innovative approach designed to reduce carbon exposure with low tracking error by re-weighting securities in the index
- Help investors manage two dimensions of carbon risk:
  - Long term: Underweights the energy-related assets most vulnerable to stranding
  - Short term: Aims to minimize tracking error relative to the parent standard indexes

STRANDED ASSETS:

The concept of stranded assets is becoming increasingly prevalent in investment thinking. There is growing realization of the tension between the global energy industry’s fossil fuel reserves and the quantity of carbon emissions that will bring about a transformational change in our climate. The global accord from Copenhagen which aspires to limit the global rise in surface temperature to 2 degree celsius would constrain fossil fuel consumption to around half of current reserves. However, considerable investment is currently focused on finding additional new reserves. As a result, companies in the sector may face increasing headwinds in the longer term.
MSCI Global Low Carbon Target Indexes address two dimensions of carbon exposure: emissions and reserves

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<th>DEFINITION</th>
<th>WHY IS IT RELEVANT?</th>
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<td>Carbon Emissions</td>
<td>• Direct and Indirect (Scope 1+2) CO₂ emissions</td>
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<td></td>
<td>• Identify long-lived assets that are most vulnerable to stranding</td>
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<td></td>
<td>• Measure company’s current contribution to climate change</td>
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<td>Fossil Fuel Reserves</td>
<td>• Coal: Proven and Probable</td>
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<td></td>
<td>• Oil &amp; Gas: Proven</td>
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METHODOLOGY

Objective
• Minimize the carbon exposure (emission intensity and reserves relative to market cap) while constraining the ex ante tracking error to the benchmark to a 30bps target

Parent Index
• Any MSCI market cap weighted index

Exclusion
• No Exclusions

Optimization/Weighting
• Minimize the emission intensity, subject to the given constraints
• Minimize the reserves relative to market cap, subject to the given constraints
• Ex ante tracking error (TE) to Benchmark: specified target (default: 30 bps)
• Turnover constraint: <10% semi-annual
• Sector constraints: < 2% under- or over-weight, no constraint on energy
• Country constraints: < 2% under- or over-weight
• Model: Barra GEM3

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