



► Consultation on potential enhancements to the MSCI ESG Indexes

February 2020

This consultation may or may not lead to the implementation of any or all of the proposed changes in the highlighted or any other MSCI indexes. Consultation feedback will remain confidential. MSCI may publicly disclose feedback if specifically requested by specific market participants. In that case, the relevant feedback would be published together with the final results of the consultation.

Proposed Enhancements to MSCI ESG Indexes

MSCI is proposing a series of methodology changes aiming to enhance the climate risk profile and bring greater consistency to its ESG Indexes.

| No. | Proposed Enhancements | Impacted Methodologies |
|-----|--|--|
| 1 | Introduce a screen for companies involved in Thermal Coal and/or Unconventional O&G businesses with an aim to improve the climate risk profile of the ESG Indexes. | 1. MSCI SRI 2. MSCI ESG Leaders 3. MSCI ESG Focus 4. MSCI ESG Universal |
| 2 | Align Controversial Business Involvement Criteria across the MSCI ESG Leaders Indexes. | 1. MSCI ESG Leaders |
| 3 | Cap maximum issuer weight in SRI and ESG Leaders Indexes with an aim to bring greater consistency in security weighting. | 1. MSCI SRI 2. MSCI ESG Leaders |

MSCI invites feedback from market participants on or before February 28,2020, and will announce the results of the consultation on or before March 31,2020.

The Climate Profile of ESG Indexes

This presentation may contain analysis of historical data, which may include hypothetical, backtested or simulated performance results. There are frequently material differences between backtested or simulated performance results and actual results subsequently achieved by any investment strategy. The analysis and observations in this presentation are limited solely to the period of the relevant historical data, backtest or simulation. Past performance – whether actual, backtested or simulated – is no indication or guarantee of future performance. None of the information or analysis herein is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision or asset allocation and should not be relied on as such.

What we know: climate change risk is real

FACT

IMPACT ON THE PLANET

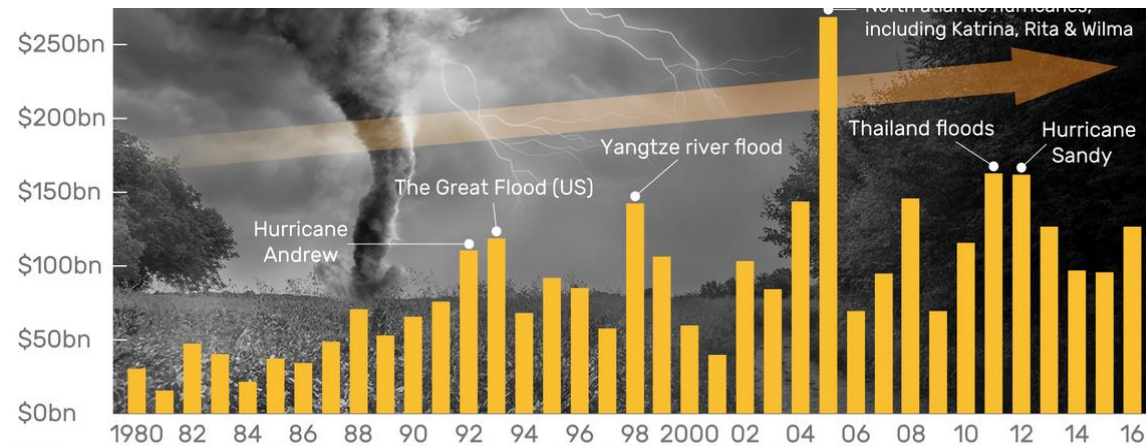
- Sea level is set to continue to rise at a faster rate than over the last 40 years¹
- Polar **ice sheets** have been melting & **glaciers** have receded in most parts of the world. ¹
- The past five years are, collectively, the **warmest years in the modern record** ²

FACT

IMPACT ON THE ECONOMY

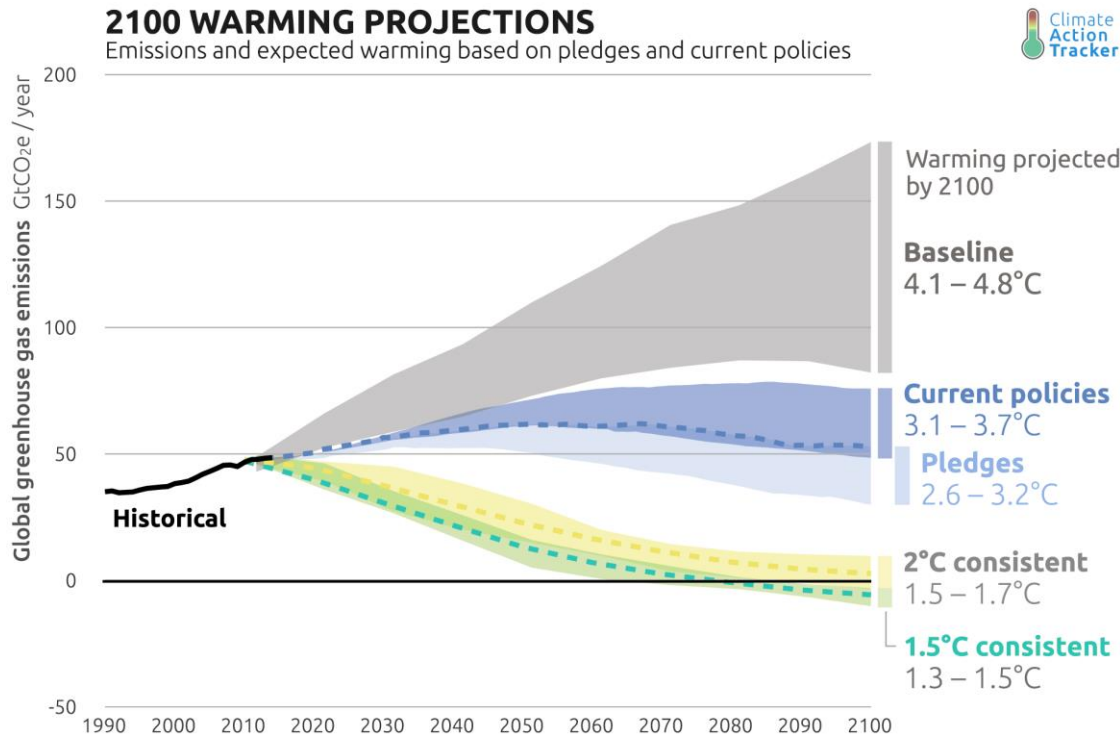
- Since 1950, economic damages due to climate-related disasters have increased by **more than 10 times**³
- In a high warming scenario, global economic losses due to physical damages are projected to be **more than 7% of GDP by 2100**⁴

Increased frequency of physical risk events:



Source: <http://edu.bankofengland.co.uk/knowledgebank/climate-change-what-are-the-risks-to-financial-stability/>

From climate change to climate risk



Physical risk

- Extreme weather events
- Changing climate conditions

Transition risk

- Disruptive technologies
- Climate policies
- Stranded assets

Climate transition – potential financial impact for institutional investors

COMMODITIES

Falling Chinese Coal Consumption and Output Undermine Global Market

<http://www.wsj.com/articles/chinas-coal-consumption-and-output-fell-last-year-1424956878>

RWE Writes Down \$4.5 Billion as Power-Plant Earnings Drop

<http://www.bloomberg.com/news/articles/2014-01-28/rwe-writes-down-4-5-billion-as-power-plant-earnings-drop>

The sun shines on the solar industry's quest for 'grid parity'

<http://www.ft.com/intl/cms/s/0/1446e2ac-bffa-11dc-8052-0000779fd2ac.html#axzz3VV3Hko00>

GDF Suez writes off €14.9bn as value of power plants falls

<http://www.ft.com/intl/cms/s/0/6005636c-9f8c-11e3-94f3-00144feab7de.html>

POSSIBLE RISKS



1. POTENTIAL SEVERITY OF FINANCIAL IMPACT



25 Trillion USD of assets at risk¹

2. FINANCIAL IMPACT MAY OCCUR SOONER THAN EXPECTED



Since 2010, coal demand is continuously declining²

3. MANY INDUSTRIES MAY BE AFFECTED INDIRECTLY



The entire fossil fuel value chain is exposed to high risks³

4. SOME FINANCIAL IMPACTS ARE ALREADY VISIBLE



GE cut 12,000 jobs due to decreasing demand for fossil fuel power plants⁴

Sources:

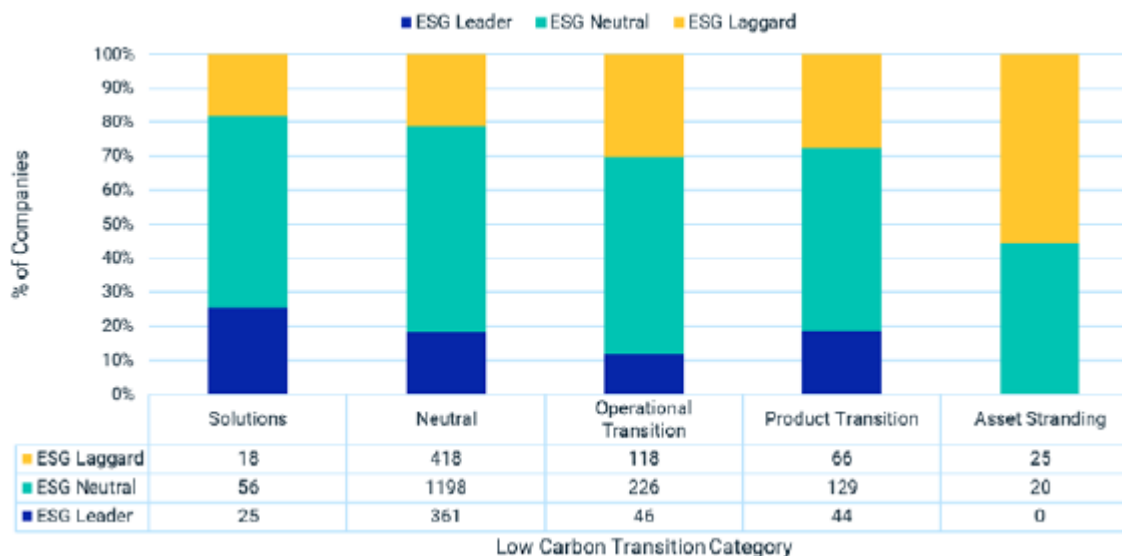
1. Carbon Tracker 2020 vision: why you should see peak fossil fuels coming.
2. <https://www.iea.org/newsroom/energynapshots/world-total-coal-production-1971-2016.html>
3. MSCI ESG Research
4. General Electric: 10K, 2018

► Incorporating Climate Risk in ESG Indexes

- Carbon footprint of ESG Indexes may be significantly higher than their market cap-weighted parent indexes.
- This level of carbon footprint is not aligned with some recent ESG and Climate benchmark labeling requirements.
- Climate Risk consideration is increasingly becoming a regulatory requirement and may be a significant short-term risk for some investors.
- Climate Risk may be combined with investor's ESG integration strategies.
- Some institutional ESG investors are seeking greater climate awareness to support their use of ESG Indexes.

MSCI ESG Ratings* and Climate Risk

- Low Carbon Transition Category - groups companies in five categories that highlight the predominant risks and opportunities they are most likely to face in the transition
- ESG Leader Stocks (AAA and AA Rated) are present in 4 out of 5 categories
- ESG indexes focusing on overweight exposure to ESG Leader stocks may also be potentially over exposed to climate-related risks through transition companies.
- ESG indexes may also be under exposed to Solutions companies which are ESG Neutral or ESG Laggards.

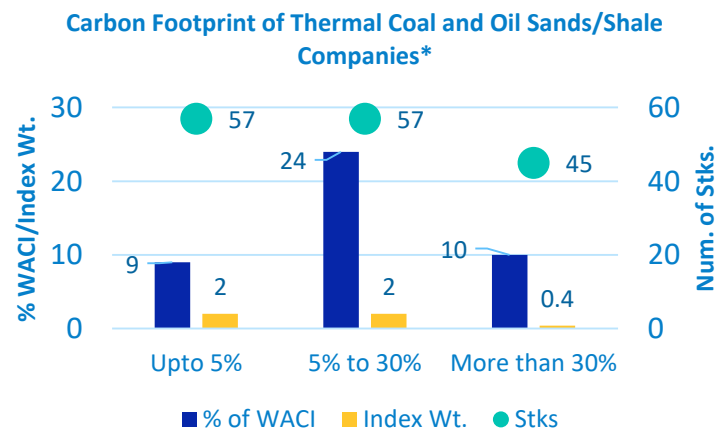


MSC ACWI as of 29th June 2019

Carbon Footprint and Fossil Fuel Mix

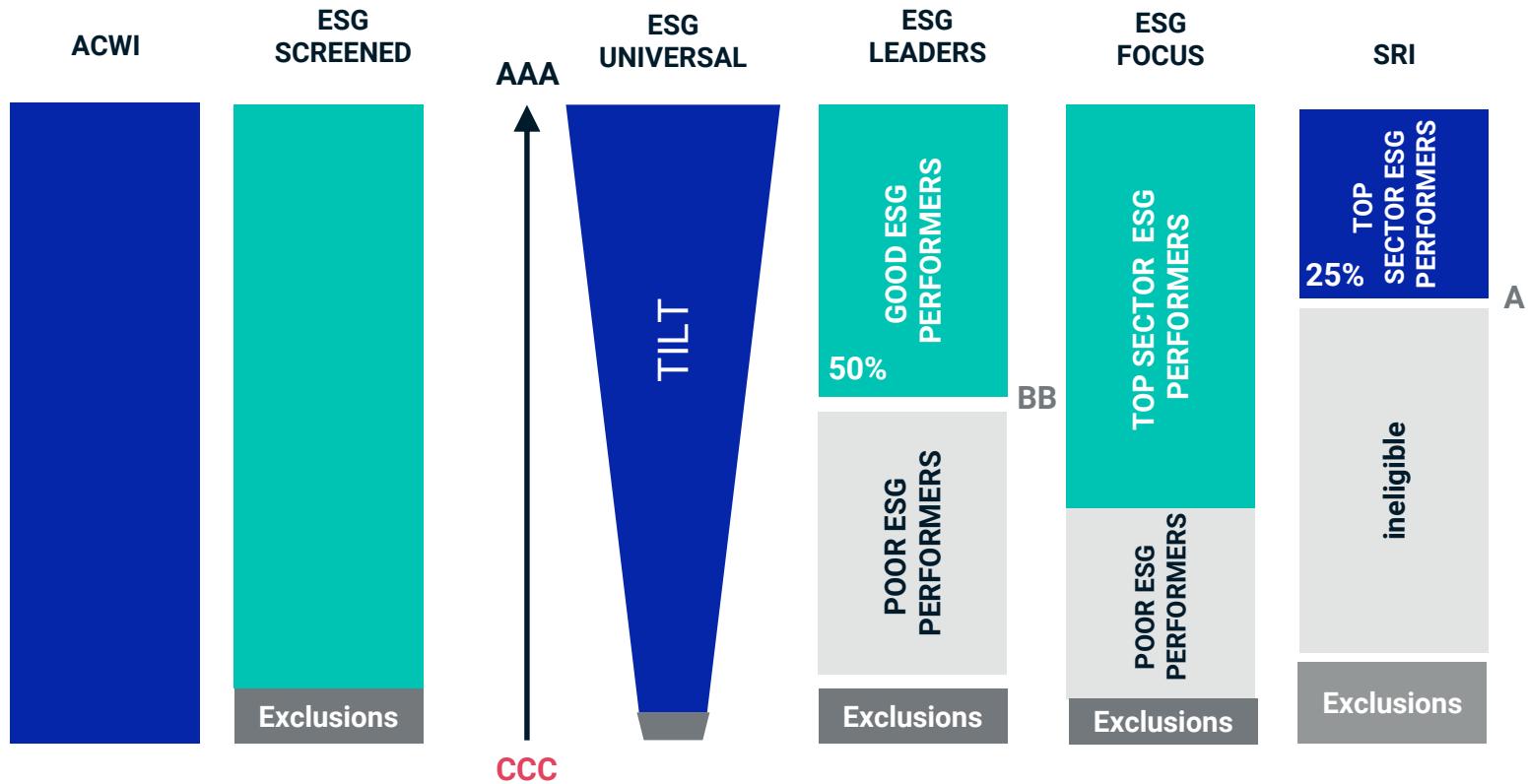
- Thermal Coal and Oil Sands/Oil Shale produce more carbon dioxide per unit of energy than other fossil fuels.
- Extraction and refining of Thermal Coal and Oil Sands are more carbon intensive than other fossil fuels.
- Exclusion of companies involved in Thermal Coal and Oil Sands business from an index lowered the index's footprints in simulated back-tests.
- Companies involved in extraction of thermal coal and oil sands/shale and also power generation from thermal coal are exposed to significant climate risk.

| Fuel | CO ₂ Content ¹ (kg per GJ) |
|------------------------|--|
| Oil Sand and oil shale | 106.7 |
| Thermal Coal | 96.4 |
| Metallurgical Coal | 94.6 |
| Crude Oil | 73.3 |
| Natural Gas | 56.1 |



MSCI ESG INDEXES

INDEXES THAT USE THE ESG RATING



Climate Profile of Select MSCI ESG Indexes

The climate profile¹ of select MSCI ESG Indexes are assessed on the following metrics.

| | Climate Metrics | World SRI | World Leaders | World ESG Focus | World ESG Universal |
|---|---|----------------|---------------|-----------------|---------------------|
| Carbon Footprint – Lower than the Parent | Carbon Emission Intensity | ✓ ² | ✗ | ✓ | ✗ |
| | Potential Emission Intensity | ✓ | ✓ | ✗ | ✓ |
| Risk of Stranded assets exposure – Lower weight than the Parent | Index Weight in Companies with Fossil Fuel (FF) Reserves | ✗ | ✓ | ✗ | ✓ |
| | More than 5% revenue from Thermal Coal and Unconventional O&G | ✓ | ✓ | ✓ | ✓ |
| Climate Solutions – Higher than the Parent | Weighted Average Green Revenue ³ | ✓ | ✓ | ✓ | ✓ |
| | Index Weight in companies with Green Revenue > 20% | ✓ | ✓ | ✓ | ✓ |
| Transition Risk – Lower than the parent | Index Weight in Transition Companies | ✗ | ✗ | ✗ | ✗ |

1 – Index constituents as of 29th May 2019, climate metric data as of 30th April 2019. Calculation details can be seen in appendix.

2- ✓ : ESG Index is better than the market cap index by at least 20%; ✗ : ESG Index is worse than the market cap index

3 – All revenues derived from any of the five clean tech themes including alternative energy, energy efficiency, green building, pollution prevention, or sustainable water.

ESG Index methodology enhancements proposal

| ESG Index | ESG Approach | ESG Objective | Enhancement Proposals | Rationale for Proposal |
|---------------|-----------------------------|--|---|---|
| ESG SRI | Integration + Values | Combines best in class selection with values-based screens | <ul style="list-style-type: none"> Exclude companies involved in thermal coal and unconventional oil and gas businesses Exclude companies with FF Reserves. | <ul style="list-style-type: none"> FF exclusion divests from companies at risk of stranded assets. Power generation companies which do not own reserves can escape FF screen. |
| ESG Leaders | Integration | Simple and transparent ESG integration through best in class approach | <ul style="list-style-type: none"> Exclude companies involved in thermal coal and unconventional oil and gas businesses | <ul style="list-style-type: none"> Relatively fewer exclusions Exclusions do not interfere with the overall ESG profile of the ESG index. |
| ESG Focus | Integration | Optimized exposure to positive ESG factors while maintaining risk and return characteristics similar to parent index | | |
| ESG Universal | Integration | Dynamic ESG integration in a broad and diversified index | <ul style="list-style-type: none"> Overlay Climate Change Index methodology | <ul style="list-style-type: none"> Reweighting constituents is aligned with the index objective. |

Proposed Methodology Enhancements

To propose a set of exclusions¹ which –

- Help reduce index carbon footprint and exposure to stranded assets.
- Are sensible and consistent with ESG objective of the index
- Would likely not cause deterioration in overall ESG profile of the index
- Would likely not cause significant changes in the composition of the index

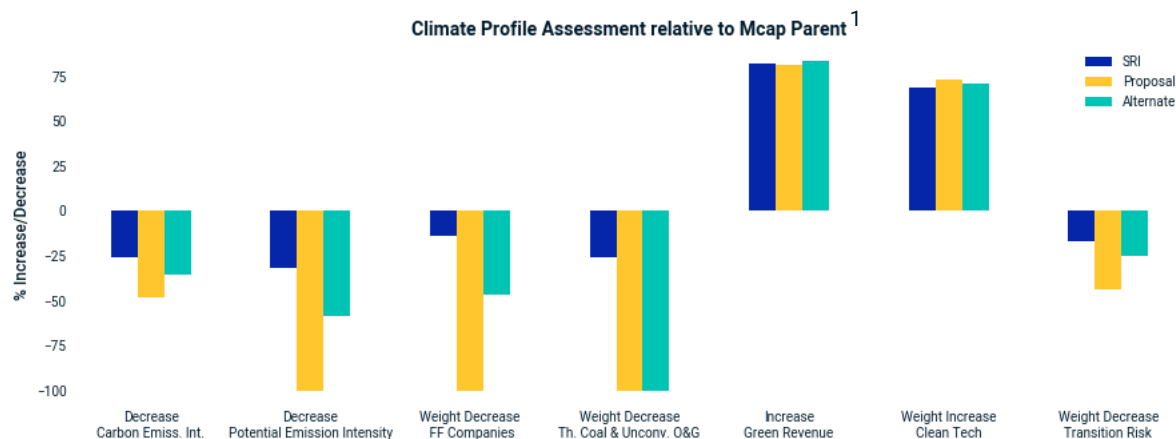
| ESG Index | Enhancements ² | Thermal Coal (Mining and Sale) + Unconventional Oil & Gas (Extraction) ² | Thermal Coal (Power Generation) | Ex Fossil Fuel Reserves | Overlay Climate Change Index methodology ³ |
|-------------------------|---------------------------|---|---------------------------------|-------------------------|---|
| ESG SRI | Proposal | 5% | 5% | Yes | N/A |
| | Alternate | 5% | 5% | N/A | N/A |
| ESG Leaders*/ ESG Focus | Proposal | 5% | 5% | N/A | N/A |
| | Alternate | 30% | 30% | N/A | N/A |
| ESG Universal | Proposal | N/A | N/A | N/A | Yes |
| | Alternate | 30% | 30% | N/A | N/A |

*Should ESG Leader indexes target to meet minimum standards for EU Climate Transition Benchmark⁴ ?

1. Implemented as additional screens in the above methodologies. Other aspects of index methodologies like – ranking, sorting, weighting or optimization parameters, are not changed.
2. Exact definitions of screens are provided in Appendix.
3. Reweighting constituents of ESG Universal Index following MSCI Climate Change Index methodology
4. https://ec.europa.eu/info/files/190930-sustainable-finance-teg-final-report-climate-benchmarks-and-disclosures_en

Simulated Impact of Enhancements on MSCI World SRI

The proposed exclusion screens resulted in lower exposure to risk from stranded assets while maintaining similar risk/return characteristics compared to the current indexes



Key Metrics³

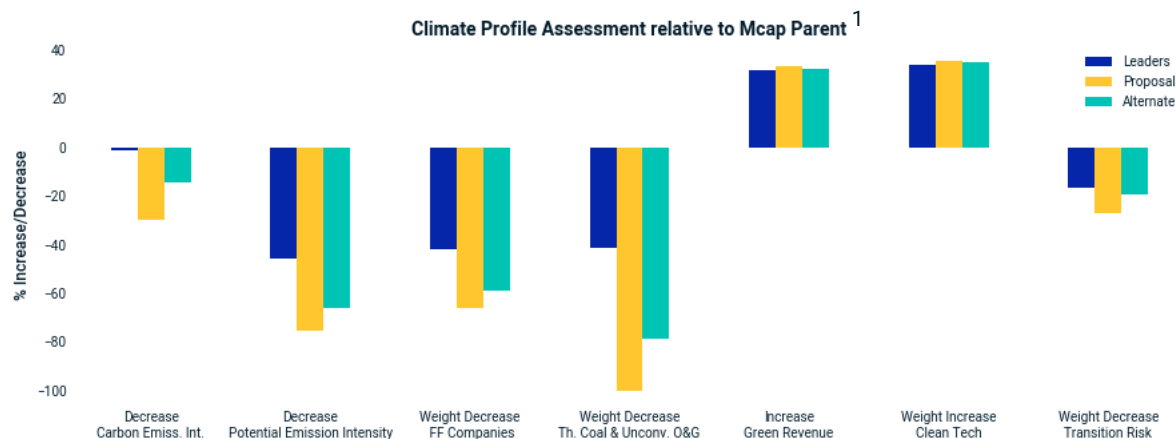
| | MSCI World Index | SRI Sim ⁴ | Proposal | Alternate |
|--------------------------------------|------------------|----------------------|----------|-----------|
| Total Return* (%) | 7.47 | 7.27 | 7.70 | 7.46 |
| Total Risk (%) | 11.62 | 11.75 | 11.70 | 11.73 |
| Tracking Error (%) | 0.00 | 2.11 | 2.20 | 2.17 |
| No of Stocks*** | 1641 | 489 | 465 | 477 |
| Turnover** (%) | 2.5 | 16.9 | 16.6 | 16.8 |
| Transition Turnover (%) ⁵ | | 10.7 | 14.7 | 12.1 |
| Included in Transition | | 37.0 | 44.0 | 36.0 |
| Deleted in Transition | | 50.0 | 73.0 | 61.0 |

ESG Metrics²

| | MSCI World Index | SRI Sim | Proposal | Alternate |
|--------------------------|------------------|---------|----------|-----------|
| ESG Score | 5.9 | 8.2 | 8.3 | 8.3 |
| ESG Leaders (AAA-AA) (%) | 26.6 | 74.7 | 76.4 | 75.5 |
| ESG Laggards (B-CCC) (%) | 7.8 | 0.0 | 0.0 | 0.0 |
| ESG Trend Positive (%) | 14.6 | 15.5 | 14.9 | 14.6 |
| Environmental Score | 5.4 | 6.5 | 6.6 | 6.6 |

Simulated Impact of Enhancements on MSCI World ESG Leaders

Both proposed and alternate exclusion screens resulted in lower exposure to climate risk while maintaining similar risk/return characteristics compared to the current indexes



Key Metrics³

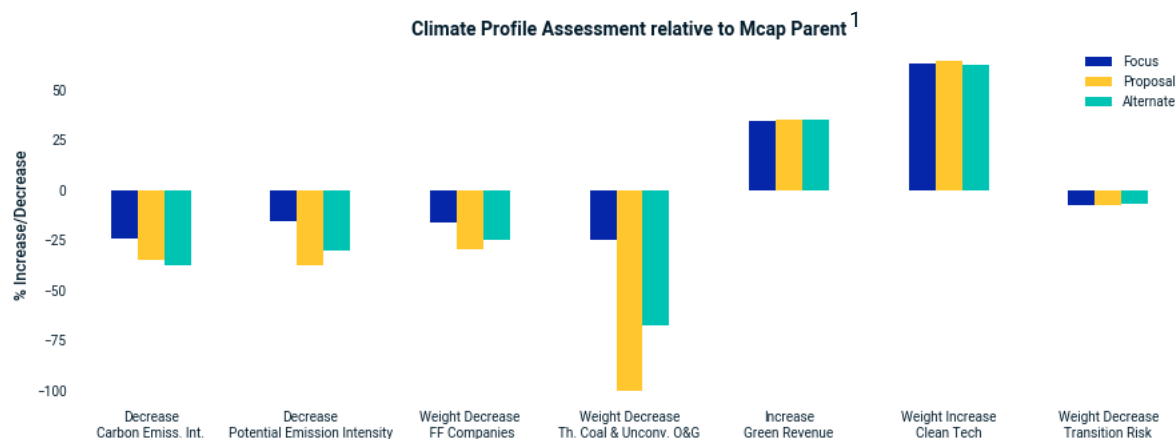
| | MSCI World Index | ESG Leaders Sim ⁴ | Proposal | Alternate |
|--------------------------------------|------------------|------------------------------|----------|-----------|
| Total Return* (%) | 7.47 | 7.63 | 7.95 | 7.91 |
| Total Risk (%) | 11.62 | 11.75 | 11.81 | 11.72 |
| Tracking Error (%) | 0.00 | 1.31 | 1.44 | 1.38 |
| No of Stocks*** | 1641 | 1009 | 973 | 993 |
| Turnover** (%) | 2.5 | 18.5 | 18.5 | 18.9 |
| Transition Turnover (%) ⁵ | | 5.8 | 8.5 | 8.5 |
| Included in Transition | | 42.0 | 51.0 | 50.0 |
| Deleted in Transition | | 72.0 | 98.0 | 97.0 |

ESG Metrics²

| | MSCI World Index | ESG Leaders Sim | Proposal | Alternate |
|--------------------------|------------------|-----------------|----------|-----------|
| ESG Score | 5.9 | 7.1 | 7.1 | 7.2 |
| ESG Leaders (AAA-AA) (%) | 26.6 | 44.5 | 44.4 | 44.7 |
| ESG Laggards (B-CCC) (%) | 7.8 | 0.0 | 0.0 | 0.0 |
| ESG Trend Positive (%) | 14.6 | 15.6 | 15.1 | 15.8 |
| Environmental Score | 5.4 | 6.0 | 6.1 | 6.1 |

Simulated Impact of Enhancements on MSCI World ESG Focus

The proposed exclusion screens resulted in lower exposure to risk from stranded assets while maintaining similar risk/return characteristics compared to the current indexes



Key Metrics³

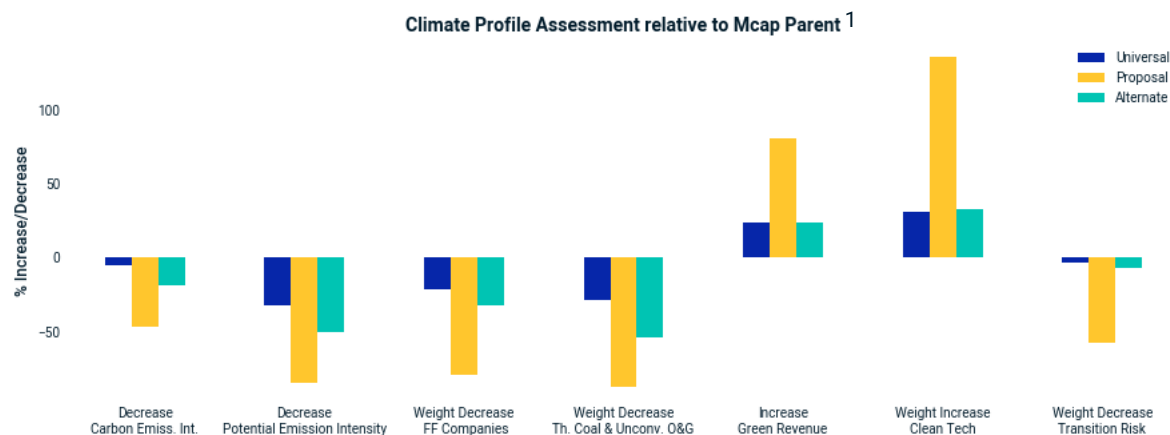
| | MSCI World Index | MSCI World ESG Focus Index | Proposal | Alternate |
|-------------------------------------|------------------|----------------------------|----------|-----------|
| Total Return* (%) | 7.50 | 7.70 | 7.7 | 7.80 |
| Total Risk (%) | 11.60 | 11.80 | 11.8 | 11.80 |
| Tracking Error (%) | 0.00 | 0.60 | 0.60 | 0.60 |
| No of Stocks*** | 1641 | 492 | 504 | 492 |
| Turnover** (%) | 2.5 | 29.2 | 29.5 | 29.2 |
| Included in Transition ⁴ | | 55.0 | 54.0 | 53.0 |
| Deleted in Transition | | 53.0 | 47.0 | 57.0 |

ESG Metrics²

| | MSCI World Index | MSCI World ESG Focus Index | Proposal | Alternate |
|--------------------------|------------------|----------------------------|----------|-----------|
| ESG Score | 5.9 | 7.4 | 7.3 | 7.4 |
| ESG Leaders (AAA-AA) (%) | 26.6 | 55.8 | 53.6 | 55.6 |
| ESG Laggards (B-CCC) (%) | 7.8 | 1.4 | 1.4 | 1.4 |
| ESG Trend Positive (%) | 14.6 | 14.6 | 14.8 | 14.7 |
| Environmental Score | 5.4 | 6.1 | 6.1 | 6.1 |

Simulated Impact of Enhancements on MSCI World ESG Universal

The proposed exclusion resulted in lower exposure to climate risk. The alternate proposal resulted in improvement in exposure to climate opportunities. Both 'proposal' and 'alternate' indexes maintained similar risk/return and ESG profile compared to the current index.



Key Metrics³

| | MSCI World Index | MSCI World ESG U Index | Proposal | Alternate |
|--------------------------------------|------------------|------------------------|----------|-----------|
| Total Return* (%) | 7.47 | 7.42 | 8.08 | 7.62 |
| Total Risk (%) | 11.62 | 11.63 | 11.73 | 11.58 |
| Tracking Error (%) | 0.00 | 0.70 | 1.29 | 0.80 |
| No of Stocks*** | 1641 | 1597 | 1528 | 1564 |
| Turnover** (%) | 1.7 | 13.6 | 12.6 | 12.0 |
| Transition Turnover (%) ⁴ | | 5.2 | 12.6 | 5.4 |
| Deleted in Transition | | 55.0 | 65.0 | 88.0 |

ESG Metrics ²

| | MSCI World Index | MSCI World ESG U Index | Proposal | Alternate |
|--------------------------|------------------|------------------------|----------|-----------|
| ESG Score | 5.9 | 6.6 | 6.7 | 6.6 |
| ESG Leaders (AAA-AA) (%) | 26.6 | 43.1 | 44.4 | 43.4 |
| ESG Laggards (B-CCC) (%) | 7.8 | 3.0 | 2.7 | 2.8 |
| ESG Trend Positive (%) | 14.6 | 16.1 | 14.6 | 16.1 |
| Environmental Score | 5.4 | 5.8 | 6.0 | 5.8 |

Proposed Enhancement of ESG Leaders' Exclusions Screens

► Basis for ESG Leaders Screen Migration

- **Objective:**
To migrate the old exclusions screens to align with the new framework with the least (or most reasonable) turnover
- **Possible Advantages of Migration to New Framework**
 - ✓ Clearer focus on the intent of exclusion (primary vs. secondary involvement – e.g., Tobacco producer vs. retailer)
 - ✓ Would remove over-exclusion in certain screens to align with the primary objective of the index, which is focused on Integration



Proposed Enhancement

- **Main Proposal:**

Use One Restriction Level below SRI¹ to be in line with the Integration objective but acknowledge screen-specific relevance and/or sensitivity.

| Screen | SRI (Reference) | Proposed |
|---------|------------------------|------------------------|
| Tobacco | Highly Restrictive | Moderately Restrictive |
| Alcohol | Moderately Restrictive | Least Restrictive |

- **Alternate Proposal:**

Use Least Restrictive² across all screens, on the bases of the following:

- 1) Keep the exclusions at minimum to focus on the Integration objective
- 2) In line with the intent of the existing criteria (focused on ≥50 primary involvement for most screens), which is beyond Least Restrictive

Summary of Proposal

Main Proposal: One Restriction level below SRI (except CW & Nuclear Weapons)

Alternate Proposal: Least Restrictive across all screens (except CW)

| Screen | Current ESG Leaders | SRI (Reference) | Proposal | Alternate |
|-----------------------|---|-----------------|-------------------|-----------|
| Alcohol | ≥ 50 or \$ 1B Producer | Moderate | Least | Least |
| Gambling | ≥ 50 or \$ 1B Operations & Support | Moderate | Least | Least |
| Nuclear Power | ≥ 50 or 6000 MW Utility; Key Suppliers ¹ | Moderate | Least | Least |
| Controversial Weapons | Most Restrictive / Zero Tolerance | | | |
| Conventional Weapons | ≥ 50 or \$ 1B Weapons & Components | Moderate | Least | Least |
| Nuclear Weapons | All Weapons Systems & Components | High | High ² | Least |
| Civilian Firearms | ≥ 50 or \$ 100M Producer | High | Moderate | Least |
| Tobacco | ≥ 50 or \$ 1B Producer | High | Moderate | Least |

Simulated Impact of Proposed Screens on MSCI World

| Screen | ESG Leaders | | Proposal: Relative to SRI | | Alternate: Least Restrictive | |
|-----------------------|-------------|--------------|---------------------------|--------------|------------------------------|--------------|
| | Count | Weight | Count | Weight | Count | Weight |
| Alcohol | 15 | 1.18% | 15 | 1.18% | 15 | 1.18% |
| Gambling | 18 | 0.38% | 15 | 0.28% | 15 | 0.28% |
| Nuclear Power | 24 | 2.14% | 30 | 2.07% | 30 | 2.07% |
| Controversial Weapons | 5 | 0.92% | 5 | 0.92% | 5 | 0.92% |
| Conventional Weapons | 10 | 1.61% | 12 | 1.22% | 12 | 1.22% |
| Nuclear Weapons | 25 | 3.17% | 17 | 2.02% | 8 | 0.76% |
| <i>All Weapons</i> | 26 | 3.21% | 20 | 2.19% | 17 | 1.60% |
| Civilian Firearms | 1 | 0.12% | 0 | 0% | 0 | 0% |
| Tobacco | 6 | 0.94% | 6 | 0.94% | 6 | 0.94% |
| OVERALL | 85 | 7.28% | 86 | 6.66% | 83 | 6.08% |

Proposals 1 & 2 are identical

Proposals 1 & 2 are different

Simulated Impact – VBE Migration (Proposal)

| Screen | Delete | Add |
|-----------------------|-------------------|------------------|
| Alcohol | - | - |
| Gambling | - | 1 (0.05%) |
| Nuclear Power | 10 (1.58%) | - |
| Controversial Weapons | - | - |
| Conventional Weapons | - | - |
| Nuclear Weapons | - | - |
| <i>All Weapons</i> | - | - |
| Civilian Firearms | - | - |
| Tobacco | - | - |
| OVERALL | 10 (1.58%) | 1 (0.05%) |

| Deletes (Nuclear Power) | Country | Weight |
|-------------------------|---------|--------|
| DTE Energy | USA | 0.11% |
| Dominion Energy | USA | 0.30% |
| Iberdrola | Spain | 0.27% |
| Pinnacle West Capital | USA | 0.05% |
| Public Service Ent Grp | USA | 0.15% |
| RWE Stamm | Germany | 0.07% |
| Edison International | USA | 0.10% |
| Southern Company | USA | 0.28% |
| E. ON | Germany | 0.11% |
| Xcel Energy | USA | 0.15% |

| Adds (Gambling) | Country | Weight |
|--------------------|-----------|--------|
| Aristocrat Leisure | Australia | 0.05% |

Simulated Impact – VBE Migration (Alternate)

| Screen | Delete | Add |
|-----------------------|-------------------|------------------|
| Alcohol | - | - |
| Gambling | - | 1 (0.05%) |
| Nuclear Power | 10 (1.58%) | - |
| Controversial Weapons | - | - |
| Conventional Weapons | - | 1 (0.55%) |
| Nuclear Weapons | - | 1 (0.55%) |
| <i>All Weapons</i> | - | 1 (0.55%) |
| Civilian Firearms | - | - |
| Tobacco | - | - |
| OVERALL | 10 (1.58%) | 2 (0.60%) |

| Deletes (Nuclear Power) | Country | Weight |
|-------------------------|---------|--------|
| DTE Energy | USA | 0.11% |
| Dominion Energy | USA | 0.30% |
| Iberdrola | Spain | 0.27% |
| Pinnacle West Capital | USA | 0.05% |
| Public Service Ent Grp | USA | 0.15% |
| RWE Stamm | Germany | 0.07% |
| Edison International | USA | 0.10% |
| Southern Company | USA | 0.28% |
| E. ON | Germany | 0.11% |
| Xcel Energy | USA | 0.15% |

| Adds (Gambling) | Country | Weight |
|--------------------|-----------|--------|
| Aristocrat Leisure | Australia | 0.05% |

| Adds (Weapons) | Country | Weight |
|---------------------|---------|--------|
| United Technologies | USA | 0.55% |

Proposed Capping of Maximum Weight in ESG Leader and SRI Indexes

Maximum Constituent Weight in ESG Leader and SRI Indexes

- ESG Leaders and SRI Indexes include constituents at large weight.
- Large constituent weights exposes indexes to potentially stock specific volatility, concentration risk, replication challenges and also excessive turnover

| ESG Leaders Index | Max. Weight | SRI Index | Max. Weight |
|-------------------|-------------|-----------|-------------|
| EM | 9.0 | EM | 16.5 |
| North America | 7.0 | World | 9.12 |
| EMU | 5.4 | EMU | 8.8 |
| USA | 7.4 | USA | 15.4 |
| Switzerland | 36.7 | ACWI | 8.2 |

Methodology Proposal to Cap Max Issuer Weight

MSCI Proposes to cap the maximum issuer weight in ESG leaders and SRI Indexes.

- In the SRI and ESG Leaders indexes, the selected constituents are weighted in proportion of the market capitalization.
- Capping Proposal – The maximum weight of an issuer would be capped as follows
 - Max issuer weight in ESG Leaders and SRI Index $< 5\%$, if the largest issuer weight in parent index is less than 10%
 - Max issuer weight in ESG Leaders and SRI Index = largest issuer weight in parent index, if the largest issuer weight in parent index is more than to 10%
 - The excess weight of the largest issuer is distributed among rest of the index constituents in proportion of their weight in the pre-capping index.
 - The distribution of excess weight doesn't take into account the sector neutrality of ESG Leaders and SRI indexes

Proposal – MSCI EM ESG SRI Capped (1/2)

Capping of maximum issuer weight resulted in a more diversified index, similar ESG profile, lower turnover and lower return compared to the parent index.*

Key Metrics

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) SRI Index | EM SRI 5% Capped |
|-----------------------|--|---|---------------------|
| Total Return* (%) | 3.36 | 5.50 | 4.31 |
| Total Risk (%) | 15.68 | 14.14 | 14.16 |
| Return/Risk | 0.21 | 0.39 | 0.30 |
| Sharpe Ratio | 0.15 | 0.32 | 0.23 |
| Active Return (%) | 0.00 | 2.14 | 0.94 |
| Tracking Error (%) | 0.00 | 5.24 | 5.41 |
| Information Ratio | NaN | 0.41 | 0.17 |
| Historical Beta | 1.00 | 0.85 | 0.85 |
| No of Stocks*** | 903 | 179 | 179 |
| Turnover** (%) | 6.9 | 10.8 | 9.9 |
| Price To Book*** | 1.6 | 2.0 | 1.9 |
| Price to Earnings*** | 13.9 | 15.8 | 15.8 |
| Dividend Yield*** (%) | 2.6 | 2.8 | 2.8 |

Period: 30-May-2014 to 28-Jun-2019

* Gross returns annualized in USD

** Annualized one-way index turnover over index reviews

*** Monthly averages

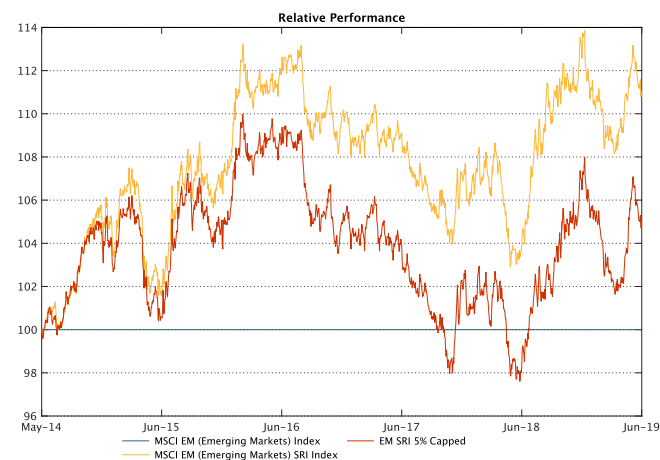
The definitions of all statistical parameters are available in the Appendix

Performance (%)

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) SRI Index | EM SRI 5% Capped |
|-------|--|---|---------------------|
| YTD | 10.76 | 8.23 | 8.22 |
| 1 Yr | 3.83 | 10.33 | 9.85 |
| 3 Yr | 12.45 | 12.01 | 10.99 |
| 5 Yr | 2.96 | 4.91 | 3.74 |
| 10 Yr | NaN | NaN | NaN |

Gross returns in USD for the period ending 28-Jun-2019

Returns are annualized for periods longer than one year



Proposal – MSCI EM ESG SRI Capped(2/2)

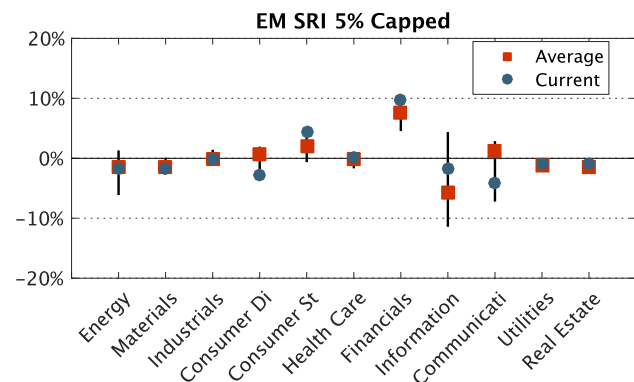
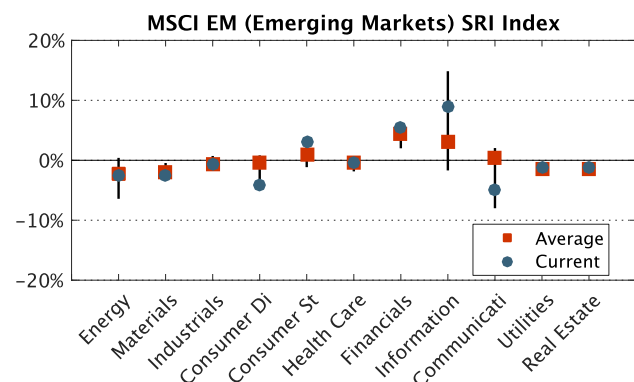
| Issuer above 5% in EM SRI | Weight |
|---------------------------|--------|
| Taiwan Semiconductor Mfg | 16.4% |

Concentration Metrics*

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) SRI Index | EM SRI 5% Capped |
|---------------------------|--|--|------------------|
| Concentration | | | |
| Avg No of Stocks | 903 | 179 | 179 |
| Effective No of Stocks** | 134 | 32 | 72 |
| Parent Index Coverage (%) | 100.0 | 22.4 | 22.4 |
| Top 10 Sec Wt (%) | 21.5 | 35.3 | 27.7 |

ESG Metrics

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) SRI Index | EM SRI 5% Capped |
|--------------------------|--|--|------------------|
| Integration | | | |
| Key Integration Metrics | | | |
| ESG Score | 4.3 | 6.8 | 6.7 |
| ESG Leaders (AAA-AA) (%) | 10.1 | 43.6 | 36.0 |
| ESG Laggards (B-CCC) (%) | 23.4 | 0.0 | 0.0 |
| ESG Trend Positive (%) | 11.5 | 5.3 | 6.0 |
| ESG Trend Negative (%) | 6.7 | 4.1 | 4.6 |
| ESG Pillars | | | |
| Environmental Score | 4.6 | 5.4 | 5.6 |
| Social Score | 4.6 | 5.7 | 5.4 |
| Governance Score | 3.9 | 5.0 | 4.9 |



*Monthly Average

**Effective number of stocks (EN) is a measure of Index concentration and ranges between 1 (for a single stock) and the number of stocks in the Index (for an equal-weighted index). Generally, the lower the EN, the more concentrated an Index.

Proposal – MSCI EM ESG Leaders Capped(1/2)

Capping of maximum issuer weight resulted in a more diversified index, similar ESG profile , similar turnover and slightly lower return compared to the parent index.*

Key Metrics

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) ESG Leaders Index | EM ESG Leaders 5% Capped |
|-----------------------|--|---|-----------------------------|
| Total Return* (%) | 3.36 | 5.77 | 5.44 |
| Total Risk (%) | 15.68 | 15.19 | 14.89 |
| Return/Risk | 0.21 | 0.38 | 0.37 |
| Sharpe Ratio | 0.15 | 0.31 | 0.30 |
| Active Return (%) | 0.00 | 2.41 | 2.07 |
| Tracking Error (%) | 0.00 | 2.60 | 2.69 |
| Information Ratio | NaN | 0.93 | 0.77 |
| Historical Beta | 1.00 | 0.96 | 0.94 |
| No of Stocks*** | 903 | 391 | 391 |
| Turnover** (%) | 6.9 | 12.6 | 12.6 |
| Price To Book*** | 1.6 | 1.9 | 1.8 |
| Price to Earnings*** | 13.9 | 15.5 | 15.1 |
| Dividend Yield*** (%) | 2.6 | 2.5 | 2.6 |

Period: 30-May-2014 to 28-Jun-2019

* Gross returns annualized in USD

** Annualized one-way index turnover over index reviews

*** Monthly averages

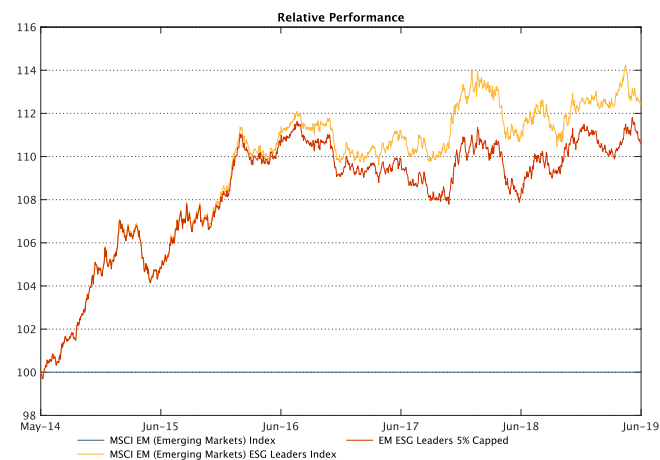
The definitions of all statistical parameters are available in the Appendix

Performance (%)

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) ESG Leaders Index | EM ESG Leaders 5% Capped |
|-------|--|---|-----------------------------|
| YTD | 10.76 | 10.54 | 10.08 |
| 1 Yr | 3.83 | 5.22 | 6.06 |
| 3 Yr | 12.45 | 12.86 | 12.40 |
| 5 Yr | 2.96 | 5.27 | 4.94 |
| 10 Yr | NaN | NaN | NaN |

Gross returns in USD for the period ending 28-Jun-2019

Returns are annualized for periods longer than one year



Proposal – MSCI EM ESG Leaders Capped(2/2)

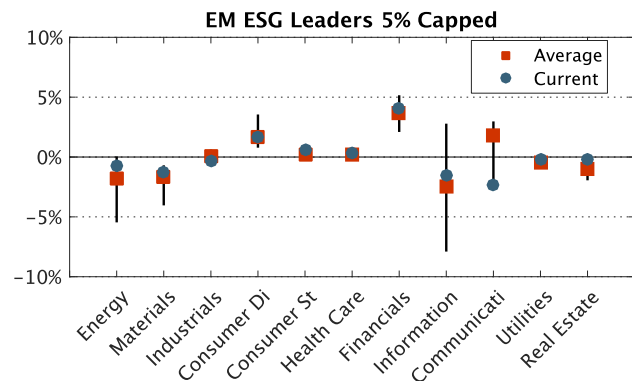
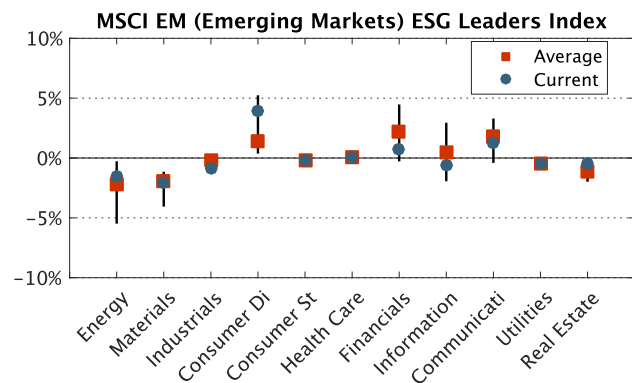
| Issuer above 5% in EM SRI | Weight |
|---------------------------|--------|
| Tencent Holdings Li (Cn) | 9.2 |
| Alibaba Group Hldg Adr | 8.6 |
| Taiwan Semiconductor Mfg | 6.8 |

Concentration Metrics *

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) ESG Leaders Index | EM ESG Leaders 5% Capped |
|---------------------------|----------------------------------|--|--------------------------|
| Concentration* | | | |
| Avg No of Stocks | 903 | 391 | 391 |
| Effective No of Stocks ** | 134 | 59 | 78 |
| Parent Index Coverage (%) | 100.0 | 50.1 | 50.1 |
| Top 10 Sec Wt (%) | 21.5 | 32.0 | 28.5 |

ESG Metrics

| | MSCI EM (Emerging Markets) Index | MSCI EM (Emerging Markets) ESG Leaders Index | EM ESG Leaders 5% Capped |
|--------------------------------|----------------------------------|--|--------------------------|
| Integration | | | |
| Key Integration Metrics | | | |
| ESG Score | 4.3 | 5.5 | 5.6 |
| ESG Leaders (AAA-AA) (%) | 10.1 | 18.5 | 18.1 |
| ESG Laggards (B-CCC) (%) | 23.4 | 0.1 | 0.2 |
| ESG Trend Positive (%) | 11.5 | 16.9 | 14.5 |
| ESG Trend Negative (%) | 6.7 | 5.2 | 5.9 |
| ESG Pillars | | | |
| Environmental Score | 4.6 | 5.1 | 5.1 |
| Social Score | 4.6 | 5.2 | 5.2 |
| Governance Score | 3.9 | 4.3 | 4.5 |



*Monthly Average

**Effective number of stocks (EN) is a measure of Index concentration and ranges between 1 (for a single stock) and the number of stocks in the Index (for an equal-weighted index). Generally, the lower the EN, the more concentrated an Index.

Discussion Points

- Climate Profile of ESG Indexes
 - Do you think climate risk is an important concern for ESG investors ?
 - Do you agree with exclusion of thermal coal and unconventional oil and gas companies from the ESG indexes ? Are the revenue thresholds sensible ?
 - Do you agree with the proposal to divest from the Fossil Fuel companies in the SRI indexes ?
 - Are the enhancement proposals providing the right level of over weighting on solution providers and under weighting on companies facing transition risks?
 - Should the ESG indexes also exclude stocks based on Low Carbon Transition Score ?
 - Should the proposal for SRI be more broadly applied to KLD 400 ?
 - Should the proposal for ESG Leaders be more broadly applied to USA Catholic Values, USA ESG Select and other associated custom indexes?
- Controversial Business Involvement Criteria for MSCI ESG Leaders Indexes
 - Do you agree to keep the Nuclear Weapons screen at highly restrictive level (similar to SRI) given its association with Controversial Weapons?
 - Do you think it makes sense to have nuanced screens (one step below SRI) for Civilian Firearms and Tobacco?
- Capping maximum issuer weight in ESG Leaders and SRI Indexes
 - Should the maximum issuer weight be capped in SRI and ESG Leaders indexes ?
 - Should the capping be relaxed to a higher level in SRI indexes ?

Appendix

Definition of Exclusion Screens

- THERMAL_COAL_MAX_REV_PCT - The maximum percentage of revenue (either reported or estimated) greater than 0% that a company derives from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It excludes: revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading.
- GENERAT_MAX_REV_THERMAL_COAL - The maximum percentage of revenue (either reported or estimated) that a company derives from the thermal coal based power generation.
- UNCONV_OIL_GAS_MAX_REV_PCT – The maximum percentage of revenue (either reported or estimated) greater than 0% that a company derives from unconventional oil and gas. It includes revenues from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane. It excludes all types of conventional oil and gas production including Arctic onshore/offshore, deepwater, shallow water and other onshore/offshore.
- Ex FF (Ex Fossil Fuel) - This screen identifies companies, regardless of their industries, with evidence of owning fossil fuel reserves used most likely for energy applications. For high-intensity industries (belonging to Energy and Utilities GICS Sector & Diversified Metals & Mining GICS Sub-Industry), this factor flags companies with evidence of fossil fuel reserves (excluding Metallurgical Coal). For other industries, it flags companies with evidence of fossil fuel reserves (excluding Metallurgical Coal) and deriving revenue from business segments associated with energy application of fossil fuels such as Thermal Coal mining, Oil & Gas exploration & production and downstream activities e.g. refining; distribution & retail; pipeline & transportation; trading and fossil fuel- based power generation.

Methodology - ESG Universal Climate Change Overlay

| Parameter | Methodology Proposal |
|------------------------------------|---|
| Parent Index | MSCI World ESG Universal |
| Category Tilt Score | <ul style="list-style-type: none"> • Solutions = 3x • Neutral = 1x • Operational Transition = 0.667x • Product Transition = 0.333x • Asset Stranded = 0.167x |
| Relative Tilt Score | $(LCT^1 \text{ Score}) / (\text{Max. LCT Score}^2 \text{ in Category})$ |
| <i>Relative Tilt Score Floored</i> | <ul style="list-style-type: none"> • Relative Scores below 0.5 are floored at 0.5 |
| <i>Combined Score</i> | <ul style="list-style-type: none"> • Combined Score = Category Tilt Score x Relative Tilt Score |
| Weighting | <ul style="list-style-type: none"> • Parent security weights are tilted in proportion of the “Combined Score” defined above |
| Rebalance frequency | <ul style="list-style-type: none"> • Semi Annual |

Impact of Enhancement Proposal for improvement in Climate Risk Profile on Climate Profile of Select MSCI ESG Indexes

| | Climate Metrics | World SRI | World Leaders | World ESG Focus | World ESG Universal |
|---|---|----------------|---------------|-----------------|---------------------|
| Carbon Footprint – Lower than the Parent | Carbon Emission Intensity | ✓ ² | ✓ | ✓ | ✓ |
| | Potential Emission Intensity | ✓ | ✓ | ✓ | ✓ |
| Risk of Stranded assets exposure – Lower weight than the Parent | Index Weight in Companies with Fossil Fuel (FF) Tie | ✓ | ✓ | ✓ | ✓ |
| | More than 5% revenue from Thermal Coal and Unconventional O&G | ✓ | ✓ | ✓ | ✓ |
| Climate Solutions – Higher than the Parent | Weighted Average Green Revenue ² | ✓ | ✓ | ✓ | ✓ |
| | Index Weight in companies with Green Revenue > 20% | ✓ | ✓ | ✓ | ✓ |
| Transition Risk – Lower than the parent | Index Weight in Transition Companies | ✓ | ✓ | ✗ | ✓ |

1 – Index constituents as of 29th May 2019, climate metric data as of 30th April 2019. Calculation details can be seen in appendix.

2 - ✓ : ESG Index is better than the market cap index by at least 20%; ✗ : ESG Index is worse than the market cap index; – : ESG index is similar to the market cap index

ESG Exclusions Framework(1/2)

The standard screens are based on MSCI ESG Research's Exclusions framework and can be used to implement values-based exclusions in indexes in a simple and consistent manner.

| Screen | Factor | Most Restrictive / Zero Tolerance | Highly Restrictive | Moderately Restrictive | Least Restrictive | |
|--------------------------------|---------------------------------|-----------------------------------|--------------------|------------------------|-------------------|--------------|
| FREQUENTLY USED SCREENS | | | | | | |
| Alcohol | Producer | ● | ● | ≥ 5% | ≥ 10% | |
| | Distributor | ● | | | | |
| | Retailer | ● | ≥ 5% | | ≥ 15% | |
| | Supplier | ● | | | | |
| | Licensor | ● | | | | |
| | Ownership Of/By | ● | | | | |
| Civilian Firearms | Producer: Automatic | ● | ● | | ● | |
| | Producer: Semi-Automatic | ● | ● | ≥ 5% | ● | |
| | Producer | ● | ● | ≥ 5% | ≥ 15% | AND ≥ 10% |
| | Producer: Ammunition | ● | ● | | | |
| | Retailer and Distributor | ● | | | | |
| | Ownership Of/By | ● | | | | |
| Conventional Weapons | Conventional Weapons Systems | ● | ● | | | |
| | Conventional Weapons Components | ● | ≥ 5% | ≥ 5% | ≥ 15% | |
| | Support Systems and Services | ● | | | | |
| | Ownership Of/By | ● | | | | |
| Gambling | Operations | ● | ● | ≥ 5% | ≥ 10% | |
| | Support | ● | ≥ 5% | | ≥ 15% | |
| | Licensor | ● | | | | |
| | Ownership Of/By | ● | | | | |

Restriction Levels

Absolute Tie vs. Revenue Threshold*

ESG Exclusions Framework(2/2)

| Screen | Factor | Most Restrictive / Zero Tolerance | Highly Restrictive | Moderately Restrictive | Least Restrictive | |
|--------------------------------|--|-----------------------------------|--------------------|------------------------|-------------------|---|
| FREQUENTLY USED SCREENS | | | | | | |
| Nuclear Power | Utility | ● | ● | ≥ 5% | ≥ 15% | Generation / Installed Capacity / Revenue ≥ 10% |
| | Supplier | ● | | | | |
| | Ownership Of/By | ● | | | | |
| Nuclear Weapons | Warheads & Missiles | ● | ● | | ● | ● |
| | Intended-use Components | ● | ● | | ● | ● |
| | Nuclear Exclusive Delivery Platforms | ● | ● | | ● | |
| | Nuclear Weapons Support Services | ● | ● | | | |
| | Dual-use Components | ● | ● | | | |
| | Dual-use Delivery Platforms | ● | ● | | | |
| | Components of Nuclear Exclusive Delivery Platforms | ● | ● | | | |
| | Components of Dual-use Delivery Platforms | ● | | | | |
| | Ownership Of/By | ● | | | | |
| Tobacco | Producer | ● | ● | ≥ 5% | | ≥ 10% |
| | Distributor | ● | | | | |
| | Retailer | ● | | ≥ 5% | ≥ 15% | |
| | Supplier | ● | | | | |
| | Licensor | ● | | | | |
| | Ownership Of/By | ● | | | | |

Example of Revenue Screen: Alcohol



Revenue
Alcohol

Any Tie

- Producer
- Distributor
- Retailer
- Supplier
- Licensor
- Ownership

**Alcohol
Producer OR**

5% Aggregate
Revenue

5% Production
Revenue OR
15% Aggregate
Revenue

10% Production
Revenue



| | | | | | | | |
|---------|-----------------|---|---|------|------|-------|-------|
| Alcohol | Producer | • | • | | ≥ 5% | | ≥ 10% |
| | Distributor | • | | | | | |
| | Retailer | • | | ≥ 5% | | ≥ 15% | |
| | Supplier | • | | | | | |
| | Licensor | • | | | | | |
| | Ownership Of/By | • | | | | | |

| | |
|---|-------------------|
| • | Absolute tie |
| % | Revenue threshold |

Example of Non-Revenue Screen: Animal Welfare



Non-Revenue Animal Welfare

Any Tie

- Non-medical Testing
- Medical Testing
- Factory Farming
- Licensed Breeder
- Licensed Exhibitor
- Ownership Of
- Ownership By

Non-medical Testing
OR
 Medical Testing
OR
 Factory Farming
OR
 Licensed Breeder
OR
 Licensed Exhibitor

Non-medical Testing
OR
 Medical Testing
OR
 Factory Farming

Non-medical Testing

Absolute Tie

| | | | | | |
|----------------|---------------------|---|---|---|---|
| Animal Welfare | Non-medical Testing | • | • | • | • |
| | Medical Testing | • | • | • | |
| | Factory Farming | • | • | • | |
| | Licensed Breeders | • | • | | |
| | Licensed Exhibitor | • | • | | |
| | Ownership Of/By | • | | | |

| | |
|---|-------------------|
| • | Absolute tie |
| % | Revenue threshold |

Deletions¹ from MSCI World SRI – Enhancement Proposal for improvement in Climate Risk Profile

| Security Name | Country | GICS Sector | Weight (%) |
|--------------------------|----------------|-------------|------------|
| TOTAL | FRANCE | Energy | 1.24% |
| CONOCOPHILLIPS | USA | Energy | 0.68% |
| SUNCOR ENERGY | CANADA | Energy | 0.49% |
| WEC ENERGY GROUP | USA | Utilities | 0.25% |
| PIONEER NATURAL RES | USA | Energy | 0.25% |
| WOODSIDE PETROLEUM | AUSTRALIA | Energy | 0.23% |
| REPSOL | SPAIN | Energy | 0.23% |
| EQUINOR | NORWAY | Energy | 0.19% |
| FORTIS | CANADA | Utilities | 0.16% |
| HESS | USA | Energy | 0.16% |
| CMS ENERGY CORP | USA | Utilities | 0.16% |
| FRANCO-NEVADA CORP | CANADA | Materials | 0.14% |
| SSE | UNITED KINGDOM | Utilities | 0.14% |
| MARATHON OIL CORP | USA | Energy | 0.12% |
| DEVON ENERGY CORP | USA | Energy | 0.12% |
| STERIS | USA | Health Care | 0.11% |
| FACTSET RESEARCH SYSTEMS | USA | Financials | 0.11% |
| NOBLE ENERGY | USA | Energy | 0.11% |
| NISOURCE (NEW) | USA | Utilities | 0.10% |
| TECK RESOURCES B | CANADA | Materials | 0.10% |
| EDP ENERGIAS DE PORTUGAL | PORTUGAL | Utilities | 0.09% |
| TOKYO GAS CO | JAPAN | Utilities | 0.09% |
| ENCANA CORP | CANADA | Energy | 0.09% |
| CENOVUS ENERGY | CANADA | Energy | 0.09% |
| GALP ENERGIA SGPS B | PORTUGAL | Energy | 0.08% |
| OMV AG | AUSTRIA | Energy | 0.07% |
| OSAKA GAS CO | JAPAN | Utilities | 0.07% |
| KEPPEL CORP | SINGAPORE | Industrials | 0.06% |
| VERMILION ENERGY | CANADA | Energy | 0.03% |
| TOHO GAS CO | JAPAN | Utilities | 0.03% |
| PRAIRIESKY ROYALTY LTD | CANADA | Energy | 0.03% |

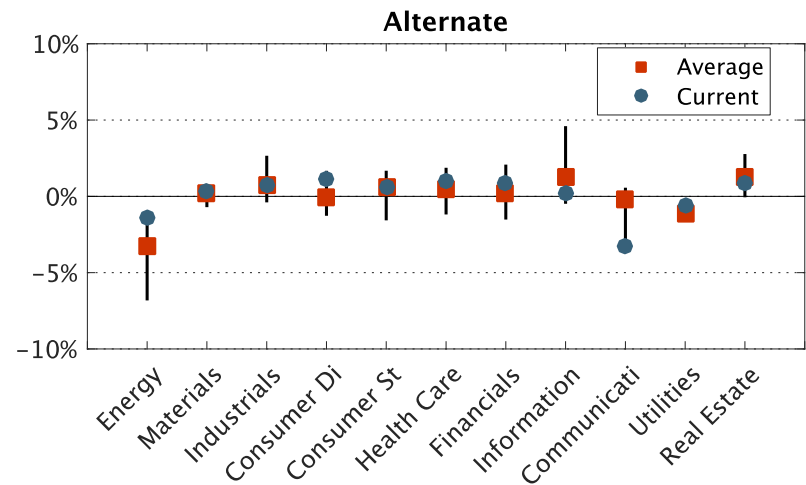
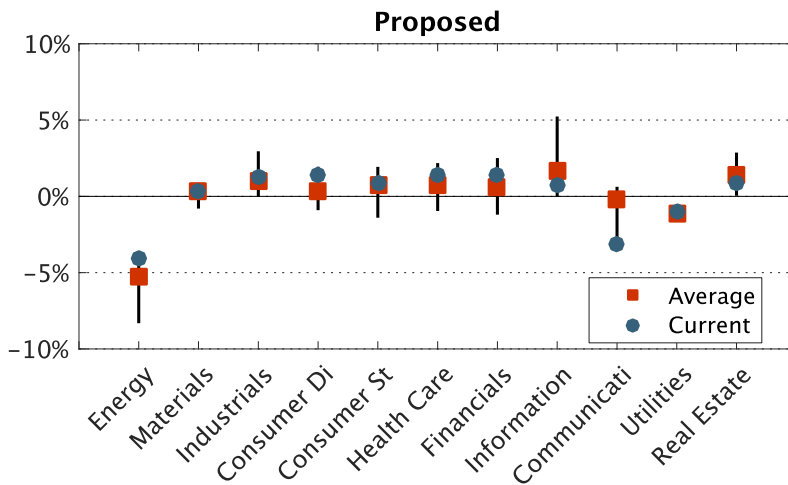
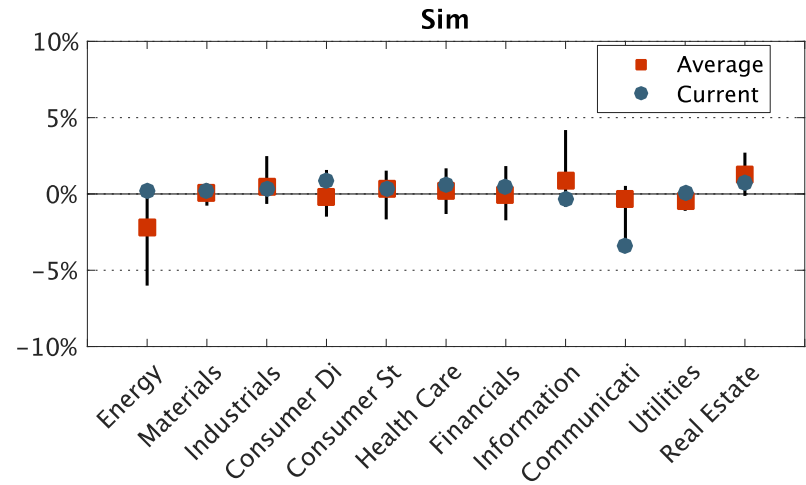
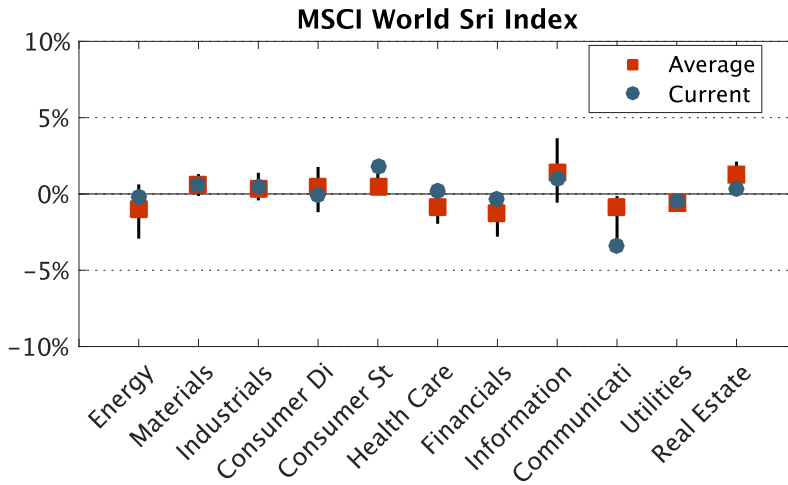
Deletions¹ from MSCI World ESG Leaders– Enhancement Proposal for improvement in Climate Risk Profile

| Security Name | Country | GICS Sector | Weight (%) |
|--------------------------|-----------|------------------------|------------|
| CONOCOPHILLIPS | USA | Energy | 0.35% |
| DOMINION ENERGY | USA | Utilities | 0.30% |
| SOUTHERN COMPANY (THE) | USA | Utilities | 0.28% |
| SUNCOR ENERGY | CANADA | Energy | 0.25% |
| OCCIDENTAL PETROLEUM | USA | Energy | 0.20% |
| XCEL ENERGY | USA | Utilities | 0.15% |
| WEC ENERGY GROUP | USA | Utilities | 0.13% |
| PIONEER NATURAL RES | USA | Energy | 0.12% |
| DTE ENERGY | USA | Utilities | 0.11% |
| CLP HOLDINGS | HONG KONG | Utilities | 0.10% |
| FORTIS | CANADA | Utilities | 0.08% |
| HESS | USA | Energy | 0.08% |
| CMS ENERGY CORP | USA | Utilities | 0.08% |
| RWE STAMM | GERMANY | Utilities | 0.07% |
| DEVON ENERGY CORP | USA | Energy | 0.06% |
| MARATHON OIL CORP | USA | Energy | 0.06% |
| ALLIANT ENERGY CORP | USA | Utilities | 0.06% |
| AES CORP | USA | Utilities | 0.05% |
| NOBLE ENERGY | USA | Energy | 0.05% |
| PINNACLE WEST CAPITAL | USA | Utilities | 0.05% |
| NISOURCE (NEW) | USA | Utilities | 0.05% |
| APACHE CORP | USA | Energy | 0.05% |
| EDP ENERGIAS DE PORTUGAL | PORTUGAL | Utilities | 0.05% |
| ORIGIN ENERGY | AUSTRALIA | Energy | 0.05% |
| CENOVUS ENERGY | CANADA | Energy | 0.04% |
| ENCANA CORP | CANADA | Energy | 0.04% |
| CIMAREX ENERGY CO | USA | Energy | 0.03% |
| VERMILION ENERGY | CANADA | Energy | 0.02% |
| PRAIRIESKY ROYALTY LTD | CANADA | Energy | 0.01% |
| JARDINE CYCLE & CARRIAGE | SINGAPORE | Consumer Discretionary | 0.01% |

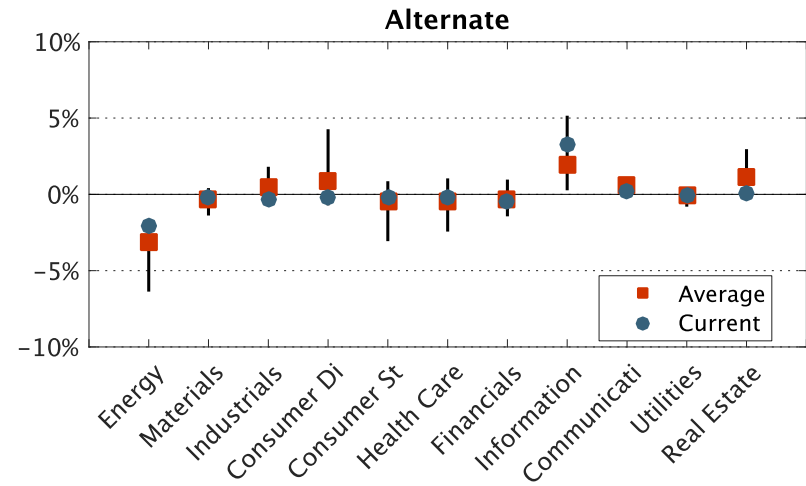
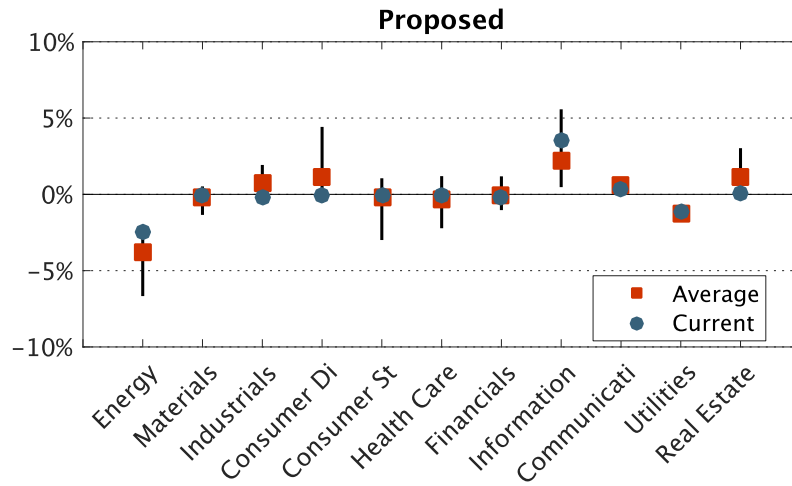
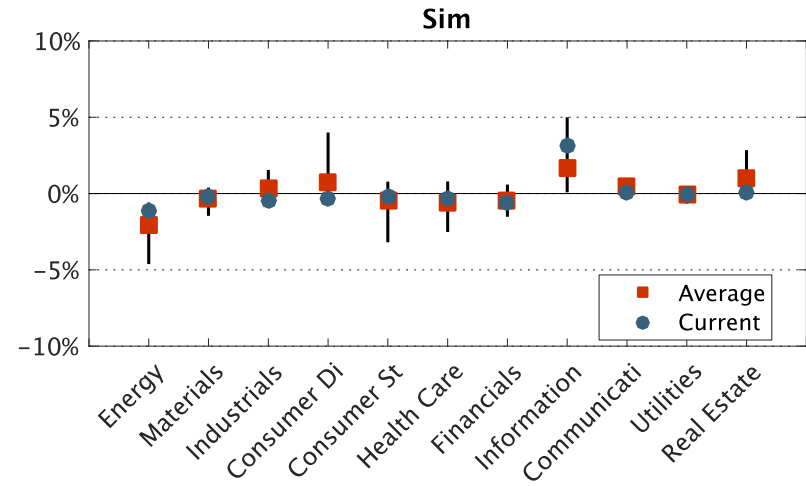
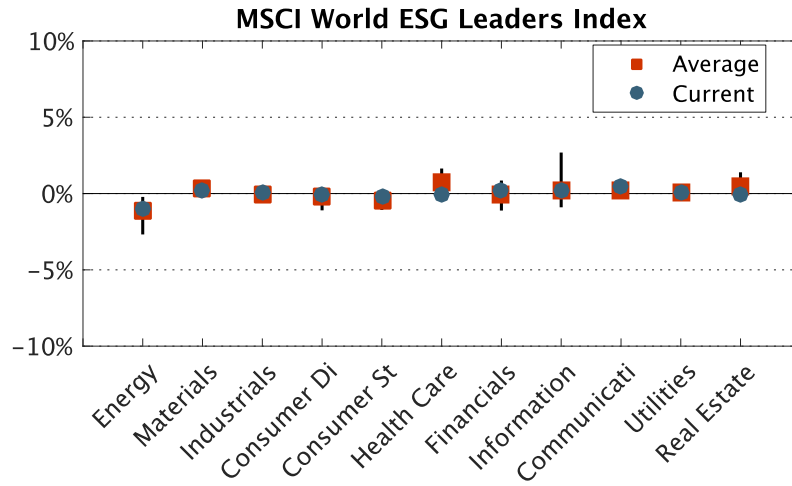
Deletions¹ from MSCI World ESG Focus Index – Enhancement Proposal for improvement in Climate Risk Profile

| Security Name | Country | GICS Sector | Weight (%) |
|------------------------|----------------|-------------|------------|
| EXXON MOBIL CORP | USA | Energy | 0.72% |
| CONOCOPHILLIPS | USA | Energy | 0.37% |
| CMS ENERGY CORP | USA | Utilities | 0.24% |
| XCEL ENERGY | USA | Utilities | 0.21% |
| SOUTHERN COMPANY (THE) | USA | Utilities | 0.21% |
| SUNCOR ENERGY | CANADA | Energy | 0.19% |
| HESS | USA | Energy | 0.18% |
| CLP HOLDINGS | HONG KONG | Utilities | 0.15% |
| DOMINION ENERGY | USA | Utilities | 0.12% |
| ENEL | ITALY | Utilities | 0.11% |
| ORIGIN ENERGY | AUSTRALIA | Energy | 0.10% |
| OCCIDENTAL PETROLEUM | USA | Energy | 0.10% |
| ANGLO AMERICAN | UNITED KINGDOM | Materials | 0.10% |
| CENOVUS ENERGY | CANADA | Energy | 0.10% |
| DEVON ENERGY CORP | USA | Energy | 0.09% |

Active Sector Exposures – SRI Indexes



Active Sector Exposures – ESG Leaders Indexes



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