MSCI
ESG Research

Responding to the Call for Fossil-fuel Free Portfolios

MSCI ESG Research FAQ

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What is 'fossil-free' investing?

Students, faculty and elected officials are asking college endowments and municipal and state pension funds to limit or divest their holdings in fossil fuel companies in response to rising concerns about global warming. The atmospheric concentration of carbon dioxide has risen more than 40 percent since the start of the Industrial Revolution – reaching 400 parts per million in May 2013.[1] Products sold by fossil fuel producers are the largest source of this CO_2 emissions growth.[2]

What are 'carbon stranded' assets?

The United Nations 2009 Copenhagen Accord on climate change recognizes "the scientific view that the increase in global temperature should be below 2 degrees Celsius." This would require holding the atmospheric CO_2 level under 450 ppm. The world's fossil fuel producers have carbon reserves up to five times higher than this limit would allow. Such "unburnable" carbon could impact companies if these stranded assets are priced into market valuations.[3]

What is Carbon Tracker?

The Carbon Tracker Initiative is a project of Investor Watch, a non-profit company seeking to improve the transparency of carbon risk embedded in equity markets. Carbon Tracker has published a list of the top 100 coal companies and the top 100 oil and gas companies, assessed on the potential carbon emissions from their reserves.[4] The advocacy group 350.org has called on university endowments and government pension funds to divest holdings in companies appearing on the Carbon Tracker list.[5]

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[1] Justin Gillis, "Heat-Trapping Gases Pass Milestone, Raising Fears," *The New York Times*, May 10, 2013

[2] International Energy Agency, "Key World Energy Statistics: 2012," Paris, http://www.iea.org/publications/freepublications/publication/kwes.pdf

[3] James Leaton, "Unburnable Carbon: Are the world's financial markets carrying a carbon bubble?", Carbon Tracker Initiative, Investor Watch, London, http://www.carbontracker.org/wp-content/uploads/downloads/2012/08/Unburnable-Carbon-Full1.pdf

[4] http://gofossilfree.org/companies/

[5] http://gofossilfree.org/

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Can I adopt Carbon Tracker in a portfolio management system?

Carbon Tracker is intended to raise awareness about stranded carbon assets that present risk to markets and the scale of "unburnable carbon" listed on stock exchanges. It is *not* readily adaptable for use in a portfolio management system for the following reasons:

- Carbon Tracker is a static list. The carbon reserves data was based on reported information on proven fossil fuel reserves at the end of 2010. Verification of the stock listings of these companies and their market capitalization was completed in February 2011.
- Because of mergers and acquisitions and corporate restructuring, eight of the 200 companies identified in Carbon Tracker are no longer publicly traded, according to an analysis by MSCI ESG Research in early 2013. New listings may also affect the composition of companies eligible to appear on the Carbon Tracker list.
- While Carbon Tracker associates companies with listed stock exchanges, it does not provide any company identifiers such as CUSIPs or SEDOLs.

Does MSCI offer an index that is an alternative to Carbon Tracker?

MSCI does not offer an index equivalent to the Carbon Tracker list. However, MSCI does provide an off-the-shelf index that tracks select energy producers in the MSCI All Country World Index Investible Market Index (ACWI IMI). The MSCI ACWI Select Energy Producers IMI Index tracks companies based on their Global Industry Classification System (GICS) codes in the following sectors:

- Coal and consumable fuels
- Integrated oil & gas
- Oil & gas exploration
- Oil & gas refining and marketing

The MSCI ACWI Select Energy Producers IMI Index has a current coverage universe of 294 companies. Three of the represented sectors own fossil fuel reserves that are most applicable to the methodology set forth by Carbon Tracker. The Oil & Gas Refining and Marketing sector derives the majority of its revenues from "downstream" activities; sector companies typically do not own sufficient "upstream" reserves to report these operations separately. When the Oil & Gas Refining and Marketing sector is extracted from MSCI ACWI Select Energy Producers IMI Index, the current coverage count is reduced to 255 companies.

Companies in the MSCI ACWI Select Energy Producers IMI Index are not ranked according to the amount of owned carbon reserves. This information can be obtained and calculated separately for ranking purposes.

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What other differences are there between Carbon Tracker and the MSCI ACWI IMI and the MSCI ACWI Select Energy Producers IMI?

Of the 192 currently publicly traded companies in Carbon Tracker, 143 are included in the MSCI ACWI IMI. The matching companies in the MSCI ACWI IMI represent 95 percent of the total market capitalization of the Carbon Tracker companies, according to recent analysis by MSCI ESG Research. The Carbon Tracker companies not represented in the MSCI ACWI IMI are mainly small and micro-cap companies; each has less than 0.15 gigatons of carbon dioxide-equivalent reserves.

Consistent with the Carbon Tracker methodology, the MSCI ACWI Select Energy Producers IMI Index does not include companies primarily engaged in marketing, storage and/or transportation of fossil fuels. The MSCI ACWI Select Energy Producers IMI also does not include any steel and aluminum companies and electric utilities that own coal reserves. It should be noted that the Carbon Tracker list *does* include a small number of companies in these sectors that own metallurgical (coking) coal or combustible coal reserves. The MSCI ACWI IMI universe covers 21 developed markets and 24 emerging markets. While this represents a very high percentage of energy companies that own fossil fuel reserves on a market capitalization basis – as represented in the MSCI ACWI Select Energy Producers IMI Index– this is not a complete global coverage universe of fossil energy companies.

Has MSCI conducted a back-test of the Carbon Tracker list? [6]

MSCI has conducted a back-testing analysis of the Carbon Tracker list as well as a subset of the MSCI ACWI Select Energy Producers IMI Index. The latter analysis included all Integrated Oil and Oil & Gas Exploration companies, as defined by GICS, as well as 26 of the 34 companies represented in the Coal & Consumable Fuels sector included in this energy producers index. (The excluded companies were primarily engaged in uranium mining and ethanol fuel production.) Oil & Gas Refining and Marketing sector companies were not included in this back-testing analysis because they are not primarily engaged in developing and owning fossil fuel reserves. These exclusions reduce the analytical subset of the MSCI ACWI Select Energy Producers IMI to 247 companies.

Back-testing of this data set was performed over a time series from January 2008 through March 2013. On a market capitalization-weighted basis, these fossil fuel reserve-owning companies in the MSCI ACWI Select Energy Producers IMI ended the period with lower returns relative to the MSCI ACWI IMI. The companies in the Select Energy Producers IMI outperformed the MSCI ACWI IMI at the beginning of the time series, with a peak in June 2008 as crude oil prices approached an all-time high of $147 per barrel, and began to underperform in early 2012 as oil prices dropped back below $100 per barrel.

[6] There are frequently material differences between back-tested or simulated performance results and actual results subsequently achieved by any investment strategy. The analysis and observations in this report are limited solely to the period of the relevant historical data, back-test or simulation. Past performance -- whether actual, back-tested 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.

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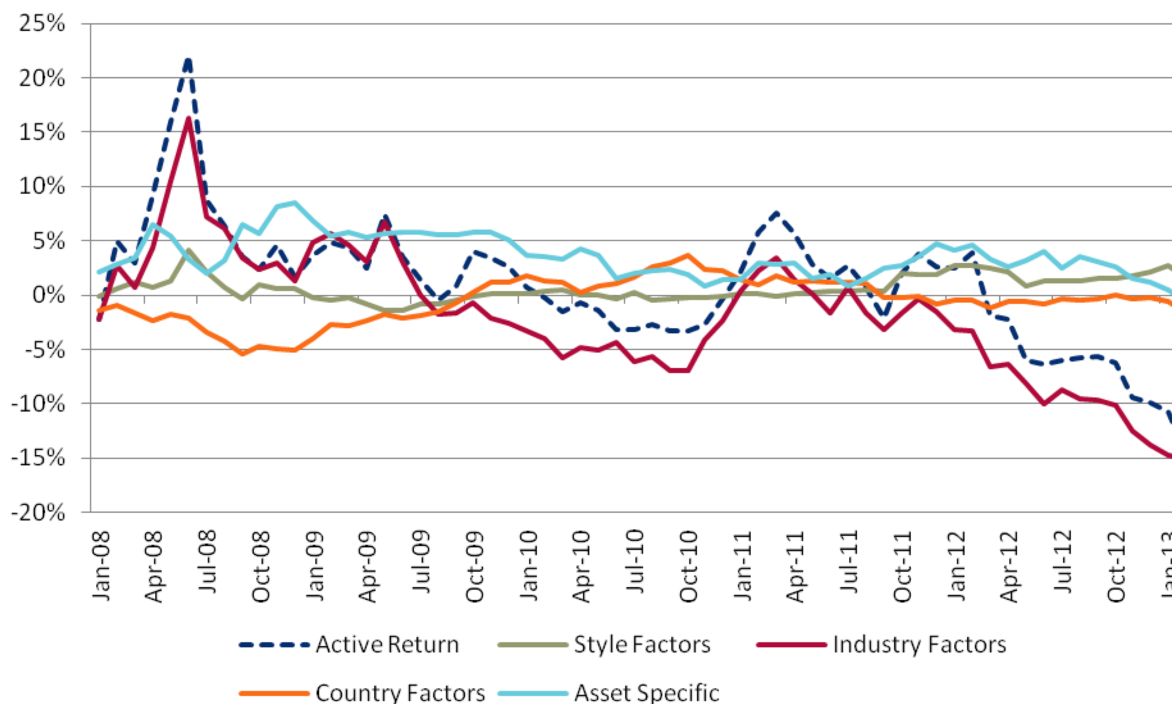
Comparing other factors of this dataset of companies relative to the MSCI ACWI IMI:

- Active returns were driven mainly by industry factors, as expected.
- The estimated price to earnings ratio and actual earnings growth for these companies was lower than average, reflecting declining performance results over the time series.
- These fossil fuel-producing companies had a large positive exposure to Size, Earnings Yield and Beta factors, as expected for the energy sector.
- These companies had less leverage and liquidity than average, reflecting in part large sovereign investments in energy companies in some emerging markets.
- This portfolio of fossil energy producers had approximately a 10 percent overweight in the Russian market and 10 percent underweight in the U.S. market. This portfolio also had an overweight in the U.K., Canadian, Brazilian, Chinese and Colombian markets, and an underweight in the Japanese, German and Swiss markets. (It should be noted that the analysis of this data set was done on a market-capitalization weighted basis, while the MSCI ACWI IMI is a *float-adjusted*, capitalization weighted index. Such a disparity artificially inflated the weight of stocks with low free float in the analyzed data set, significantly influencing the overweighting results in Brazil, China, Colombia and Russia.)

Comparison of MSCI ACWI Select Energy Producers IMI (ex- refining and marketing, and ex-uranium and renewable fuels) to the MSCI ACWI IMI: January 2008 – March 2013



* Note that this graph is an example only. Past performance is not indicative of future results.

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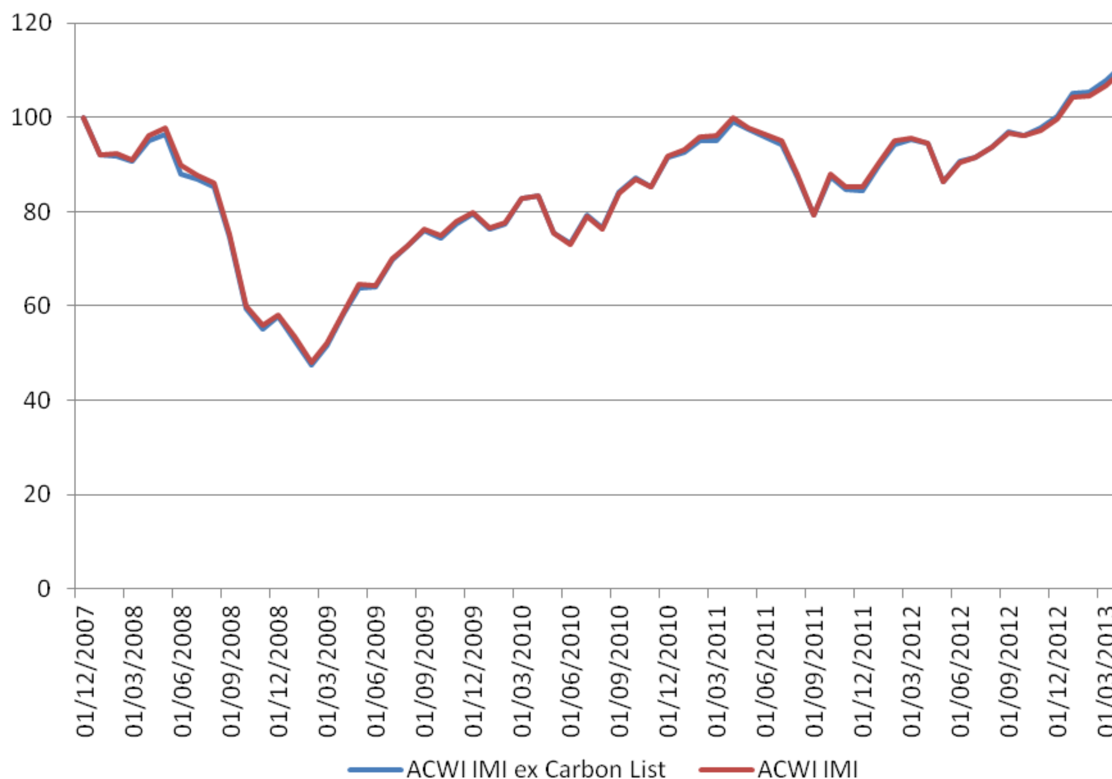
How did the exclusion of companies owning carbon reserves affect index performance?

Over the period from January 2008 through March 2013, the market capitalization of the 247 fossil fuel reserve-owning companies described above ranged from approximately 7 percent to 8 percent of the MSCI ACWI IMI. Hence, excluding these stocks left between 93 percent and 94 percent of the MSCI ACWI IMI intact over the time series in terms of market capitalization. This meant that for each 10 percent active return differential in the carbon reserve stocks relative to the MSCI ACWI IMI, the effect of removing these stocks from the index ranged from 0.7 percent to 0.8 percent (70 to 80 basis points) in changes to active returns. Nearly all of this effect was due to industry factors, as opposed to country exposure and other style factors. As shown in the chart below, the performance of the MSCI ACWI IMI *excluding* the carbon reserve stocks closely tracked the MSCI ACWI IMI over the time series. Slight underperformance of the "ex Carbon list" appeared near the beginning of the time series, and slight outperformance of the "ex Carbon list" emerged toward the end of the time series. The active return differential over the entire time series was 1.2 percent (120 basis points) in *favor* of the "ex Carbon list" relative to the full MSCI ACWI IMI. The tracking error relative to full index was 1.9 percent (190 bps).

Comparison of an 'ex Carbon list' that excluded the MSCI ACWI Select Energy Producers IMI (ex-refining and marketing, and ex-uranium and renewable fuels) to the MSCI ACWI IMI: January 2008 – March 2013



* Note that this graph is an example only. Past performance is not indicative of future results.

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What investment strategies are available to investors wishing to limit their exposure to carbon-stranded assets?

Beyond outright divestment, many alternative investment strategies are available to achieve optimized, low-carbon portfolios without completely eliminating exposure to the fossil energy sector. These strategies include:

- **Selective divestment:** Companies with the highest levels of carbon reserves relative market capitalization (or other financial performance ratios) can be sold selectively. Consideration of company management of carbon risks may also be taken into account through employment of MSCI ESG Research's Intangible Value Assessment (IVA) ratings and Carbon Key Issue data and scores available from MSCI ESG Research.
- **Carbon tilts:** Rather than eliminating certain companies entirely from the portfolio, those identified as having the greatest relative exposure to carbon stranded assets can be underweighted and those with the least relative exposure may be overweighted. Once again, MSCI ESG IVA ratings and Carbon Key Issue data can be added to help set the range of portfolio weighting adjustments. Barra analytics can be used to maintain desired sector, style and country exposures.
- **Low-carbon momentum:** Another approach is to overweight companies that are demonstrating the greatest progress in reducing their exposure to carbon stranded assets and/or shrinking the size of their overall carbon footprints. This may include consideration of companies in sectors beyond those owning fossil fuel reserves. Improvements in MSCI ESG IVA ratings and Carbon Key Issue Scores can also be factored into this analysis and portfolio weighting adjustments.
- **Thematic investments:** Companies investing in renewable energy, other low-carbon fuel sources, energy efficiency and other environmental innovations can be added as a positive thematic element to counterbalance reduced exposure in more carbon-intensive sectors. MSCI ESG Research tracks company involvement in all of these areas, and MSCI Indices offers thematic indices with these elements, including the MSCI Global Climate Index and the MSCI Global Environmental Index. MSCI can also provide custom indices based on GICS or company specific exclusions.
- **Hybrid approaches:** No one-size-fits-all approach is necessary for investors who wish to limit their carbon risk exposure in portfolios. Strategies can be developed that incorporate any or all of the elements outlined above. Consideration may also be given to new risk exposures that may be introduced as a result of portfolio rebalancing, and ways in which these risks can be mitigated through portfolio optimization strategies. These strategies also can be coupled with corporate engagement activities to address climate risk and carbon emission reductions.

For more information on carbon optimization investing strategies, please contact:

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[1]As of September 30, 2012, as published by eVestment, Lipper and Bloomberg on January 31, 2013

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