The Fossil Fuel Divestment Landscape

Eric Becker, CFA
Clean Yield Asset Management
Norwich, Vermont
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The Carbon Bubble

IEA: To keep warming < 2° C “65% to 80% of listed companies’ reserves cannot be burned unmitigated.”

http://fossilfreeindexes.com/2014/05/06/the-allocated-carbon-budget/

"Unburnable Carbon 2013: Wasted capital and stranded assets." Carbon Tracker Initiative in collaboration with Grantham Research Institute on Climate Change and the Environment.
The Carbon Bubble

“In financial terms, we estimate that the value of unburnable reserves could amount to over $100 trillion out to 2050.”

– Citi Equity Research, August 2015
The Economic Incentive for Action

But the damage to GDP from the negative effects of climate change is substantial.

- 0% discount rate: -0.7% change in global GDP, -$20 trillion
- 1.5°C: -1.1% change in global GDP, -$44 trillion
- 4.5°C: -2.5% change in global GDP, -$72 trillion

Source: OECD
The Carbon Budget

Since there is a hard limit to how much carbon can be emitted without catastrophic results (both ecologically and economically), the global community is moving toward imposing a carbon budget. This budget entails significant risks for owners of fossil fuel reserves.

Generation Investment Management identifies the primary risks as:

- Regulation (including mandates for efficiency and clean energy)
- Market Forces (e.g. cheaper clean energy)
- Sociopolitical Pressures
Risk/Return Impacts of Divestment
# US Fossil Free Index Risk/Return

## Research Analysis on Theoretical Historical Returns

<table>
<thead>
<tr>
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### Sharpe Ratio
## EAFE Fossil Free Index Risk/Return

![Table showing risk and return metrics for S&P 500 and MSCI EAFE portfolios over the period January 2004 to December 2014.](image)

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<td><strong>Average Return</strong></td>
<td>7.60%</td>
<td>7.32%</td>
<td>7.42%</td>
<td>8.37%</td>
<td>5.96%</td>
<td>6.02%</td>
<td>6.07%</td>
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<td><strong>Average Volatility</strong></td>
<td>14.31%</td>
<td>14.48%</td>
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<td>17.58%</td>
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<td><strong>Tracking Error</strong></td>
<td>1.84%</td>
<td>1.39%</td>
<td>1.50%</td>
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<td>1.07%</td>
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$3.4 Trillion committed to divestment

**COLLEGES/UNIVERSITIES**
- College of the Atlantic
- Georgetown University
- Green Mountain College
- Hampshire College
- Naropa University
- Pitzer College
- Prescott College
- San Francisco State University
- Stanford University
- Sterling College
- Syracuse University
- Unity College
- University of California
- University of Glasgow

**CITIES**
- Seattle, WA
- San Francisco, CA
- Portland, OR
- Eugene, OR
- Berkeley, CA
- Boulder, CO
- Madison, WI
- Ithaca, NY
- Provincetown, MA
- Providence, RI
- Cambridge, MA

**PENSION FUNDS**
- California Public Employees' Retirement System (CalPERS)
- California State Teachers' Retirement System (CalSTRS)
- City of Providence, RI
- United Methodist Church General Board of Pension and Health Benefits

**RELIGIOUS INSTITUTIONS**
- United Church of Christ – National World Council of Churches
- Lutheran World Federation
- Massachusetts United Church of Christ
- Minnesota United Church of Christ
- Evangelical Lutheran Church of Oregon
- First Unitarian Church of Salt Lake City
- First Parish Unitarian Universalist Church in Cambridge, MA
- First Unitarian Church of Pittsfield, ME
- First Unitarian Society of Milwaukee, WI
- First Presbyterian Palo Alto, CA
- Dover Friends Meeting, Dover, NH
- Unitarian Universalist Society of Amherst, MA
- Maine Council of Churches, ME

**FOUNDATIONS**
- Divest-Invest Philanthropic Group
- Rockefeller Brothers Fund
- Sierra Club Foundation
- Wallace Global Fund
- Jubitz Family Foundation
- Educational Foundation of America
- Park Foundation
- Russell Family Foundation
- Compton Foundation
- KL Felicistas Foundation
- The Chorus Foundation
- Singing Field Foundation
- Nia Community Foundation
- John Merck Fund
- Joseph Rowntree Charitable Trust
- Solidago Foundation
- Jessie Smith Noyes Foundation
- Granary Foundation
- The Schmidt Family Foundation
- Ben & Jerry’s Foundation
- Pax Fund
- Threshold Foundation
Investment Options

Indexes have rolled out over past 18 months
- S&P 500 Fossil Fuel Free Index
- FTSE/Blackrock – N. America and All-World Indexes
- MSCI ACWI (All Country World Index)
- Fossil Free Indexes (Former S&P executives)

Managed accounts
- Blackrock (FTSE ex-Fossil Fuels Index Series)
- Parametric (Fossil Free Indexes US and EAFE)
- Aperio Group (custom screening)
- Trillium Asset Management (custom screening)

ETFs
- SPYX – S&P 500 Fossil Fuel Free SPDR – 0.20% exp. ratio
Summary

The Carbon Bubble presents significant risks to owner of fossil fuel reserves as pressure increases to limit the burning of fossil fuels.

There is no evidence of a return penalty for divesting from fossil fuel companies.

Fossil fuel free index returns show comparable or lower risk than their benchmarks.

500+ institutions with $3.4 trillion in assets have committed to divest.

Fossil free investment options are quickly emerging for institutional investors.