

Foreword

The impact of fossil fuels on climate change is an important topic on the minds of many investors. We have been a part of many discussions with our clients about the decision to divest fossil fuel investments. There are thoughtful and passionate arguments on both sides of the issue, and we have a deep understanding and respect for all points of view around this important topic.

The institutions we serve are committed to doing good in the world. Their missions and objectives are varied. Across the investment spectrum, what is suitable for one investor is not always appropriate for another. Our role has always been to help each client make portfolio decisions and investment choices that align with their unique objectives and missions. We have remained committed to providing robust, insightful input into our clients' decision-making process. As they make decisions, we support them in executing and implementing those choices effectively and in ways that are in the best interest of the institution. We have not advocated any stance that might be in opposition to their investment or social objectives.

Our approach to fossil fuel divestment is no different. We have helped a number of clients analyze whether fossil fuel divestment is right for their institution. Their conversations about and decisions on this topic are as varied as their missions. Their conclusions have covered the spectrum from fully divesting fossil fuel investments to deciding not to implement any policies precluding fossil fuel investments. We respect all decisions our clients have made on this issue because we believe that they are making the choices that are in the best interest of their institutions.

This research note, *The Fossil Fuel Divestment Discussion*, offers a framework to help navigate this important discussion within your institution. It offers some practical considerations that investors should keep in mind when exploring this investment decision. It also provides insight on other ways that clients are addressing climate change within their portfolios.

As always, we stand ready to help you manage your portfolios to meet all of your institution's objectives.

— SANDRA A. URIE
Chairman and CEO

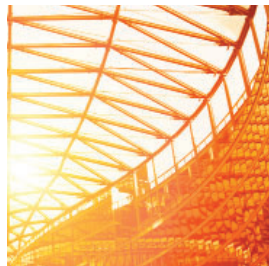
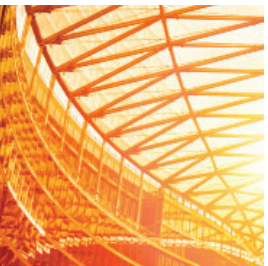
The Fossil Fuel Divestment Discussion

Institutions increasingly face questions about their investments in companies that engage in the exploration & production of fossil fuels. Drivers of these questions are often organized efforts that ask for both *divestment* from the largest publicly listed companies and *reinvestment* in more environmentally sustainable alternatives.

Proponents make both ethical and economic arguments (see “Understanding the Arguments for Divestment” on page 2) for divestment, seeing the act as a means for an institution to express its view on climate change as well as to reduce financial risks in investment portfolios. Those skeptical of divestment express concerns about potential changes to portfolio risk/return profiles, the opportunity costs of disposing of current assets and future opportunities, and the currently limited (but growing) range of institutional-quality alternatives.

No one answer to the question of whether to divest will serve all institutions equally. The question of whether and to what degree an investment portfolio should reflect ethical stances is best addressed by individual institutions and their distinct investment policies. The economic arguments are wide ranging in terms of scope and timing and engender differing views. Indeed, institutions that have considered divestment thus far have arrived at a variety of conclusions; the “Recent Investor Responses” sidebar on page 10 provides examples of different investor responses.

Investors must ultimately pursue the path that is best for their respective institution, weighing the pros and cons appropriately. Advisors can play a key role in facilitating informed discussions, but each institution’s approach will inevitably depend on its particular policies, values, and circumstances. To help investors facing these questions think through key issues, this research note provides a framework for institutional deliberations of divestment and reinvestment, and highlights some practical considerations.



Understanding the Arguments for Divestment

Proponents of fossil fuel–free investing typically make two key arguments for divestment. The first argument has both economic and moral dimensions, with advocates believing immediate action to limit fossil fuel exploration and production is necessary, and that institutional divestment can send a powerful message to financial markets and policymakers. This argument depends on two distinct variables.

- ◆ **Limiting Capital Supply.** One theory behind divesting is that selling publicly listed securities of well-capitalized companies may restrict their supply of capital. However, this argument is not compelling in the short term, given that reasonably efficient markets are likely to match buyers with any sellers of securities.
- ◆ **Creating Public Pressure.** Divestment advocates also argue that divestment by a critical mass of institutions could have great symbolic power and send a signal to policymakers and the general public. This argument reinforces the notion that pursuing a divestment strategy requires institutions to consider their values in relation to a sociopolitical stance.

The second argument is that fossil fuel companies are overstating the value of reserves on their balance sheets because they will become stranded as the globe reaches recommended limits of carbon emissions.

Why do advocates believe the assets will become stranded? The United Nations Framework Convention on Climate Change (UNFCCC) noted that carbon emissions must be reduced to avoid a rise in global average temperature of more than 2°C above pre-industrial levels by 2050. This implies a total allowable “budget” of 565 to 886 billion gigatons (Gt) of carbon dioxide (CO₂) emissions over this time.¹ Comparing this limit to the proven reserves of 2,860 Gt CO₂ listed on the balance sheets of the largest global fossil fuel companies suggests that only 20% to 30% of these reserves may be used, with the remainder stranded or unburnable. If the premise that up to 80% of known carbon reserves are unburnable or stranded is correct, then fossil fuel companies are overstating the value of these assets on their balance sheets. What factors may force the stranding of fossil fuel reserves?

- ◆ **Policy.** Legislation to restrict carbon emissions or fossil fuel extraction would have the most immediate impact; however, the UNFCCC agreement is non-binding and in most large economies the potential for far-reaching and comprehensive carbon policies seems remote.²
- ◆ **Substitution.** A strong increase in the use of renewables could also impact fossil fuel demand. According to the US Energy Information Administration, renewables currently account for just 8% of energy consumption, while oil, gas, and coal account for 36%, 25%, and 21%, respectively. Demand for renewables is growing and large-scale substitution of renewables for any of these other energy sources could pose a risk to fossil fuel companies. Electric utilities have long been diversifying their sources of fuels from coal and solar energy costs are increasingly more attractive and accessible to residential and commercial consumers alike. However, projections for significant increases in renewables’ share of the larger energy consumption pie span decades in the future.
- ◆ **Sociopolitical Pressure.** If public opinion shifts against fossil fuel extraction, divestment proponents believe the companies will lose their social license to operate and effectively strand their assets.

The potential price risks from stranded assets should not be ignored, but quantifying their present value and the time frame in which assets may (or may not) become stranded is problematic and requires multiple longer-term assumptions.

¹ According to carbontracker.org, the levels of allowable budget for the 2000–50 time period are an estimated 886 billion Gt. After accounting for 2000–10, levels are closer to 565 Gt.

² California (which taken on its own is the eighth largest economy in the world) does price carbon via the auctioning of pollution permits, and has pending legislation on a consumption tax related to transportation, but the likelihood of such a consumption tax or a revival of cap and trade being legislated for the entire United States is currently low.

A Framework for Deliberating Divestment

Each institution must assess whether and how to respond to calls for divestment, making that decision within the context of its own mission and institutional values. This framework is designed to provide high-level guidance for how institutions may process and consider requests for divestment and reinvestment in more environmentally sustainable assets.

Ensure Appropriate Governance. At the highest level, divestment is a question of policy, and many institutions lack a governance structure or process for addressing social investments.¹ Social investing has a long history, but we have observed a limited number of institutions with specific social investing policies—this is particularly true for colleges & universities. While there are exceptions, the general approach has been to exclude social concerns from investment policy or to make broad statements that are not tied to specific issues (e.g., human rights, genocide, and environmental degradation). The absence of policy has been a stumbling block for some institutions because they lack guidance or precedent for addressing divestment or any future ethical petitions. Accordingly, a key question is whether a given institution should develop a policy for social investing, and the answer will not be the same for all.

¹ This refers to the broad spectrum of investments that include social, environmental, ethical, and/or impact considerations, either implemented through screens or more proactive and focused strategies.

Irrespective of written policy, some institutions have established committees of diverse stakeholders, distinct from investment committees, to evaluate and discuss social investment issues and provide institutional guidance. Several prominent universities have used such committees to deliberate on divestment and other stakeholder concerns. Recommendations made by these committees are not typically binding, but they do provide a constructive vehicle to address pressing social and ethical concerns.

Measure Fossil Fuel Exposure. After addressing governance questions, we recommend institutions analyze portfolio holdings for exposures to fossil fuel companies—both at the manager and total portfolio levels—as a mechanism for determining the potential structural magnitude of divestment. While proportions vary by institution, we have observed exposure to fossil fuels ranging from 5% to 10% of the total portfolio.

Engage Stakeholders. If the push for divestment is being driven from stakeholders who do not have fiduciary responsibilities, an important decision point is whether or not to engage in dialogue. Dialogue with stakeholders can, and should, be a healthy process. Fostering conversations that deepen the understanding of the importance of the portfolio to institutional operations as well as define the risks climate change may pose to the enterprise is a worthwhile endeavor. We recommend institutions develop a process that incorporates multiple viewpoints, evaluates the notions of divestment

and reinvestment in a context specific to the institution, and is consistent with best practices of institutional governance.

If Divesting, Do So On Your Terms. An institution that chooses to divest should start by developing a divestment policy that aligns with its unique objectives and resources for investment oversight rather than simply adopt the requests of an advocacy campaign.² The overriding objective of most divestment campaigns is collective action against climate change and its myriad risks, and not to nurture a specific institution's ability to generate superior risk-adjusted returns. Developing a bespoke strategy gives an institution greater authorship and ownership, which is more conducive to effective implementation and oversight.

While divestment often dominates the conversation, (re)investing in strategies that are more environmentally sustainable and support lower carbon emissions is something investors should study and consider. We have observed a meaningful increase in managers that integrate environmental, social, and governance (ESG) factors to their processes; however, not all of these strategies are explicitly fossil-free, as several established managers choose to be active shareholders and engage fossil fuel companies. The current opportunity set of self-identified fossil-

² Different campaigns have different “asks” for divestment. Some demand divestment from the list of companies found in the Carbon Tracker 200, which is not comprehensive of all fossil fuels, while others make more narrow requests (e.g., primarily focusing on coal). Few focus on large fossil fuel consumers like electric utilities or automotive companies.

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free strategies is limited in terms of both size and performance track records, and investors should patiently evaluate alternatives.

Address Portfolio Construction Challenges. Building a fossil fuel-free portfolio over time is possible, but divestment has implications for the structure and performance of well-diversified portfolios. Institutions that find arguments for divestment compelling will need to consider a number of practical challenges to portfolio implementation. While these challenges are not insurmountable, they require careful study and time to resolve, and the temporal aspects are not always within the control of an institution (e.g., the growth of fossil-free alternatives).

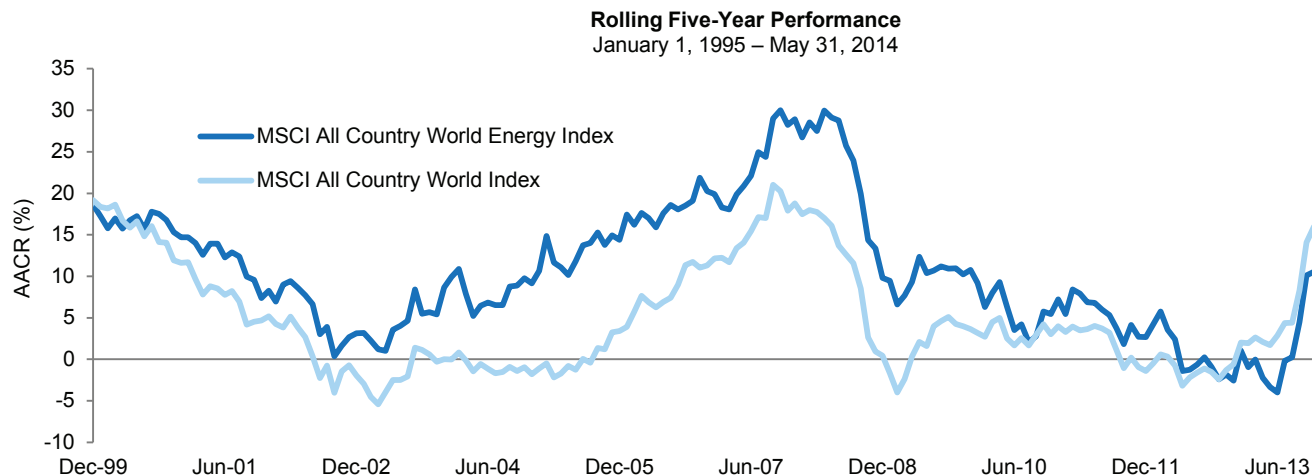
Measuring Performance Impact. Assessing the potential portfolio performance impact of divestment is not a simple exercise, and requires a balanced understanding of capital markets history as well as multiple assumptions about the long-term future of fossil fuels.

Global energy stocks, which are largely fossil fuel companies, account for 10% of global equity market capitalization today.³ Historical analysis shows that their performance is cyclical and has been additive to the global equity index

³ This represents the energy sector proportion of the MSCI All Country World Index as of May 31, 2014.



Figure 1. Performance of Global Equities vs Global Energy Equities



Data Through May 31, 2014

	AACR (%)			Full Period	Ann Std Dev	Sharpe Ratio	Energy Alloc Range
	3 Yr	5 Yr	10 Yr				
MSCI ACWI Energy	3.8	9.5	10.9	11.6	19.6	0.51	
MSCI ACWI	9.6	14.3	8.0	7.6	15.8	0.36	5%–14%

over the long term, both in absolute and risk-adjusted terms (Figure 1). While energy stocks have experienced periods of relative underperformance, such as the most recent six years, a key consideration is how long-term investors have traded these assets—these are rarely static investments in endowment portfolios. Long-term, value-oriented investors have actively rebalanced such cyclical investments with the aim of reducing exposures to capture gains and increasing exposures at more attractive valuations.

Of course, the past is not always prologue, and the largest component of assessing potential impact is establishing a view on the future performance of companies that produce fossil

fuels. Forward projections depend on demand for fossil fuels, the economic viability of alternatives, and one’s view of the risks of stranded assets (see “Understanding the Arguments for Divestment”), among other things. Institutions using active managers should also ask whether the investment committee or investment managers are best suited to make fundamental assessments of a given company’s economic viability.



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Managing Investment Transitions for Commingled Funds. Many institutions are limited in their divestment options because of their use of commingled funds and the inability to screen individual securities within them. Institutions use commingled vehicles for many reasons, the most common being that the asset size of an investment mandate is below many separate account minimums. Additionally, separately managed accounts are in rare supply or impractical in some asset classes (e.g., private equity, hedge funds, and public emerging markets).

Divesting up to 10% of a portfolio invested in multiple commingled vehicles may require a large shift of assets and managers, which could have significant transaction costs and other negative impacts if implemented quickly. The most visible divestment advocates acknowledge this challenge and recommend a five-year drawdown from commingled vehicles. Again, we recommend that institutions pursuing divestment select a time frame that best suits their circumstances.

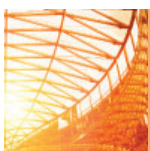
Even if divestment is executed gradually, challenges remain. Some actively managed commingled funds have added significant value in excess of benchmarks and are not easily

replaced. Shifting the portfolio could also incur transaction costs including higher management fees and potential write-downs if disposing of illiquid investments in secondary markets.

Achieving Appropriate Diversification. Many institutional portfolios are guided by long-term objectives for financial performance and contribution to operating budgets, and achieving these objectives requires investing a majority of capital in assets with higher risk/return profiles. The risks of portfolio volatility and capital impairment are mitigated via diversification among assets that have lower correlations to global equity markets and are sensitive to macro-economic risks such as deflation and malign inflation.

The act of diversifying a portfolio is not a mere statistical exercise; rather, it is a diligent process of understanding the economic drivers of return for distinct assets and constructing a portfolio with differentiated sources of return. Divestment may inhibit an institution's ability to diversify risks and opportunities by constraining investments in strategies with distinct portfolio roles such as global equities, diversified hedge funds, and real assets.

- ◆ **Global Equities.** Divestment could change the structure and composition of global equity portfolios beyond just the exclusion of fossil fuel securities. Investors employing a higher number of actively managed equity strategies may need to significantly restructure portfolios and choose fossil-free alternatives from a (currently) more limited set of active manager options. These poten-



tial managers should be carefully assessed alongside a growing number of passively managed ESG strategies as well. Even if new active managers can match or exceed the performance of benchmarks and peers, the smaller selection of managers could correspond to a reduction in the proportion of portfolio capital being actively managed, thus reducing the expectations for returns in excess of benchmarks over the long term.

While larger portfolios may employ more separately managed accounts and have greater ability to maintain similar levels of active management, non-US equity investing presents a divestment challenge for most institutions. The varied liquidity levels, timing of trading, and pricing practices of the myriad global markets are difficult to manage in separate accounts and commingled funds are generally viewed as more effective from an administrative perspective. The challenge is particularly pronounced in emerging markets equities, where fossil-free strategies are limited and few have established track records.

- ◆ **Hedge Funds.** From a diversification standpoint, the largest potential obstacle for full divestment resides in the significantly reduced opportunity set within hedge fund investments.

High-quality hedge fund portfolios have made meaningful contributions to investors' risk-adjusted returns, and are an important portfolio construction tool for many institutions. Strategies that focus on long and short equity trades, event-driven trades, distressed

credits, and various forms of securities arbitrage are employed to deliver differentiated and lower volatility sources of return—an attribute that remains vital in an environment with elevated equity valuations.

Most institutions invest in hedge funds via commingled vehicles and there are few institutional-quality fossil-free substitutes for these strategies. While there is potential for manager engagement, the time frame for meaningful growth of this opportunity set is expected to exceed most divestment campaign timelines. Investors should have a clear view of whether they are willing to forgo investing in such hedged strategies to comply with a divestment policy.

- ◆ **Real Assets.** Some real assets investments are direct plays on energy commodities or fossil fuel companies (for example, private investments in oil & gas; natural resources equities, which are heavily weighted toward integrated energy companies; and commodity futures, which can be heavily weighted toward crude oil and natural gas), and divestment would remove such assets from consideration in the portfolio. Real assets can provide growth, income, and diversification benefits to equity-dominant portfolios, and may have some sensitivity to certain inflationary environments as well.

The number of viable opportunities in sustainable natural resources investments is growing—particularly for water, renewable energy, timber, and agriculture—but evalu-



ation of their ability to bring diversification to the portfolio, or to provide other benefits such as inflation sensitivity, has a relatively limited history to draw upon. We address some of these in more detail in the following section.

Consider Alternatives to Divestment. For many institutions, any level of divestment may not be practical or desirable. Some may choose a more nuanced approach and distinguish divestment preferences among the different fossil fuels. Institutions seeking to align their portfolios with their values on environmental issues without pursuing (full) divestment have a few alternatives (see “Recent Investor Responses” on page 10 for further examples of how institutions have addressed the issue without fully divesting).

“Institutions seeking to align their portfolios with their values on environmental issues without pursuing (full) divestment have a few alternatives.”

Narrow the Scope of Divestment. Some institutions focus on excluding the “dirtiest” companies, primarily those engaged in the exploration & production of coal, as they view the probability of the “stranding” of coal to be much higher in the foreseeable future. Coal also has the highest level of carbon per unit of energy and has many substitutes in power generation. To this point, in May 2014 the Stanford University Board of Trustees announced its adoption of a policy to restrict investments in coal mining companies.

Consider Fossil Fuel Alternatives. As previously noted, a frequently overlooked request of divestment campaigns is to “reinvest” capital from fossil fuel companies into alternative sources of energy and/or enterprises with lower emissions profiles. Beyond screened global equity investments, many focused and thematic equity strategies are underpinned by both fundamental and macro trends and thus merit investors’ study and consideration. Recognizing that all analysis is beginning and end-point sensitive, it is nevertheless worth noting that some of these alternative investments have outperformed traditional natural resources in recent years (Figure 2). For example, the S&P Global Water Index returned 13.4% annualized over the trailing ten years, outperforming traditional natural resources as well as the broad global equity index. The FTSE® Environmental Technologies 50 Index returned 6.9% annually over the same period, producing superior absolute and risk-adjusted returns to commodity futures, and similar absolute and risk-adjusted returns to metals and mining equities.

Investors have a larger number of sustainable private fund options. While the experience of some investors in early stage clean tech venture capital was not positive—investments focused on renewable energy generation have meaningfully lagged other private investments and are capital intensive—many strategies available today are not entirely concentrated in early stage technology risks or direct competition to fossil fuels. In addition to renewable energy sources, a growing number of managers are focusing on

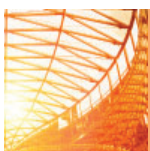
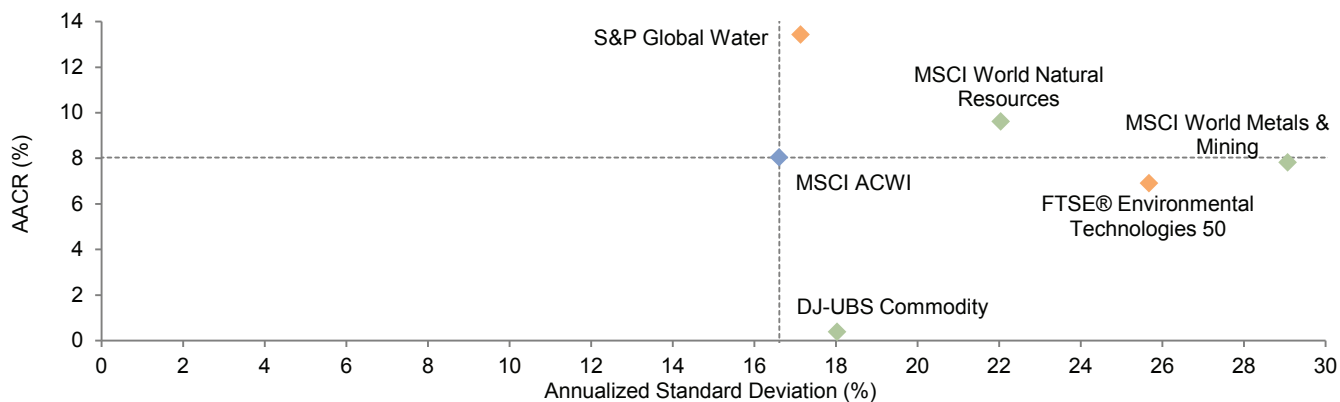


Figure 2. Risk/Return Analysis: Focused and Thematic Equity Indexes vs Traditional Indexes

June 1, 2004 – May 31, 2014 • Ten Years



	Annualized AACR (%)	Annualized Std Dev (%)	Sharpe Ratio
S&P Global Water	13.4	17.1	0.73
FTSE® Environmental Technologies 50	6.9	25.7	0.33
DJ-UBS Commodity	0.4	18.0	0.02
MSCI World Metals & Mining	7.8	29.1	0.36
MSCI World Natural Resources	9.6	22.0	0.46
MSCI ACWI	8.0	16.6	0.45

energy optimization, resource efficiencies, cleaner industrial production practices, and sustainable infrastructure and services.

For any of these opportunities, we favor a deliberate and diligent approach to evaluating suitability for a given portfolio, and the same rigorous due diligence process as would be applied to any investment opportunity.

Engage Companies. Some investors may choose to continue holding fossil fuel companies and to use their voice as shareholders to effect change. The Interfaith Center on Corporate Responsibility (ICCR) maintains that shareholders have an obli-

gation to use their voices to positively influence corporate decision making and encourages its members to engage in dialogue with companies, rather than divest. Investors can join coalitions with other investors, engage directly with companies, and/or hire a proxy voting service through which they can direct how their votes should be cast on particular issues.

The “Fossil Fuel Divestment Reading List” on pages 11 and 12 highlights a few articles that provide additional information and context on many of the topics discussed herein.



Recent Investor Response

Divestment discussions and campaigns have gained significant momentum over the past 18 months, and investor responses and actions fall along the full range of options described in this note. We are aware of 11 small (average \$30 million in assets) US colleges and universities that have committed to fully divest as of May 2014. Stanford University (\$18.7 billion as of FY 2013) is the largest endowment taking a portfolio position on fossil fuels, having recently restricted its direct investments in coal mining. Our own clients are in the process of considering how to address divestment, from no change to full divestment, with a small number having decided to pursue a full divestment policy as of this writing.

Divestment campaigns have extended beyond college campuses to include several US foundations; in January 2014, 17 foundations totaling nearly \$2 billion in assets signed a commitment to begin the process of divestment. According to their “Divest Invest” Campaign, “some are fully divested from fossil fuels, while others are targeting specific classes of investments along a trajectory toward complete divestment. Some are pioneers in impact investing and others are just beginning.” Various US city and county pensions are also considering divestment proposals, including Portland, San Francisco, and Seattle, though as of this writing these proposals have not yet been approved by their governing authorities.

Some investors have decided to address climate change concerns in other ways than divestment, including:

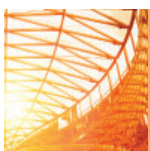
- ◆ Highlighting initiatives and activities on campus (i.e., annually tracking greenhouse gas emissions, planning mitigation efforts to reduce those emissions);
- ◆ Creating a dedicated social-choice fund or sustainability sleeve in the portfolio (an approach taken by Harvard, for example);
- ◆ Hiring staff to oversee sustainable investing and act as a liaison for various institutional stakeholders; or
- ◆ Making allocations specifically to alternative sources of energy and/or enterprises with lower emissions profiles.

Other innovative options are also being implemented to address stranded assets concerns and mispriced fossil fuel stocks. For one organization that desired to make a bet that stranded assets would underperform the equity market, Cambridge Associates helped the institution offset its price risk from exposure to coal and tar sands investments through a total return swap, where the institution is “short” a basket of coal and tar sands securities and “long” the performance of the broad equity market.

Conclusion

Whether an institution chooses divestment is highly dependent on its mission and policies, its comfort in using the investment portfolio to express these values, and its ability to forge a view on the longer-term risks of fossil fuel assets. We believe institutions should engage multiple stakeholders to deliberate the topic, and use the process as an opportunity to either affirm or revise existing policies. It is possible to construct a fossil-free portfolio, but divestment from all fossil fuels has meaningful implica-

tions for a portfolio’s structure and risk profile. If deciding to act, investors should do so in a manner that best aligns with their distinct objectives and circumstances. Finally, regardless of any policy decisions, the consideration of divestment requests can be a catalyst for investors to begin a careful evaluation of the growing opportunity set of more environmentally sustainable investment strategies. ■



Fossil Fuel Divestment Reading List

Any number of articles have already been written on the issue of fossil fuel divestment. We have highlighted a few that we believe provide the most helpful information and context for institutional investors that seek further understanding of this issue. This list is certainly not exhaustive, and is not meant to endorse one particular view over another, but rather should serve as further reference for those wishing to explore the points made in our research note.

Understanding the Background of Fossil Fuel Divestment Activism

- ◆ “Global Warming’s Terrifying New Math” (Bill McKibben, *Rolling Stone*, July 2012). This article catalyzed the fossil fuel divestment movement with an outline of three key numbers that frame the climate crisis, and a description of the political and economic incentives that have caused a lack of action to reduce carbon emissions.
- ◆ “Unburnable Carbon 2013: Wasted Capital and Stranded Assets” (Carbon Tracker Initiative, 2013). This report analyzes the carbon emissions–equivalent of current known fossil fuel reserves, putting that into the context of catastrophic temperature rise limits. By the authors estimation, only 20% of current fossil fuel reserves can be burned, implying a major fossil fuel industry bubble.
- ◆ “Stranded Assets and the Fossil Fuel Divestment Campaign: What Does Divestment Mean for the Valuation of Fossil Fuel Assets?” (Atif Ansar, Ben Caldecott, and James Tilbury; Stranded Assets Programme, Smith School of Enterprise and the Environment, University of Oxford, 2013). This report explores how the fossil fuel divestment campaign could be a major risk for energy companies to monitor. The report concludes that direct impacts of divestment on public securities will likely be limited, though coal valuations would suffer the most from widespread divestment because they are a smaller and less liquid slice of global equity market capitalization. In debt markets, widespread divestment could drive up fossil fuel companies’ borrowing rates, making it more difficult to undertake projects requiring large capital expenditures—a characteristic that is increasingly common in fossil fuel exploration. Indirect impacts of divestment could be much stronger in the longer term, as it may eventually influence neutral asset managers to reduce their net cash flow estimates for fossil fuel companies, which could lead to permanent multiple compression. Finally, to the extent that divestment influences a carbon pricing policy, it could lead to large-scale stranded assets.

Perspectives from Investment Managers

- ◆ “Beyond Fossil Fuels: The Investment Case for Fossil Fuel Divestment” (Impax Asset Management, July 2013). This paper details the carbon bubble and potential risks of maintaining investments in fossil fuels. It creates four mock portfolios that eliminate the fossil fuel energy sector and/or overweight investments to alternative energies. In a historical comparison, these alternative approaches lead to equal or increased returns with minimal tracking error.
- ◆ “Building a Carbon-Free Equity Portfolio” (Patrick Geddes, Lisa Goldberg, Robert Tymoczko, and Michael Branch; Aperio Group, April 2014). This paper analyzes returns for the MSCI All Country World Index, the Russell 3000® Index, the S&P/ASX Index (Australia), and the S&P/TSX Index (Canada) with and without various fossil fuel industries. The authors find that expected tracking error for a screened and optimized global equity index is 0.75%, with an average of 8% of the index excluded since 1997. Expected tracking error varies by geography, however, rising to nearly 3% in the energy-heavy Canadian market. This paper and the figures within it are widely quoted in materials supporting divestment, and sometimes misrepresented by advocates as suggesting that divestment of a diversified endowment portfolio would not materially increase tracking error, whereas readers will see that the authors are analyzing specific public equity indexes only.

- ◆ “Boston Common’s Approach to the Energy Sector: A Practical Challenge” (Boston Common Asset Management, January 2013). Recognizing the challenges to full divestment for institutional investors, Boston Common lays out its vision for a transition to a low carbon economy that includes investing selectively in more carbon-efficient fossil fuels, preferring firms with energy-efficient products and processes over those with more resource-intensive alternatives, and by engaging with the companies it owns to improve their energy use.
- ◆ “Investing for a Low Carbon Economy” (Rockefeller & Co, 2013). In this commentary, Rockefeller provides its view of the broader economic and social risks associated with climate change as well as its views on the continued viability of certain fossil fuel companies and the challenges to the formation of comprehensive regulation and policies in the near term. In particular, the paper puts the viability of shale gas in context—while it is a finite resource, Rockefeller acknowledges some of the unique competitive advantages of the US gas industry and associated benefits of job creation. The paper notes that oil & gas companies are better positioned to absorb any regulation because of the lack of substitutes, whereas coal is believed to be more vulnerable as substitution is already occurring. Finally, and similar to Boston Common, Rockefeller elaborates on its belief of the importance of being an engaged shareholder with energy companies in its portfolio rather than exiting that opportunity via divestment.

Perspectives on Alternatives to Full Fossil Fuel Divestment

- ◆ “Jeremy Grantham on How to Feed the World and Why He Invests in Oil” (Leo Hickman, *The Guardian*, April 2013). (*Scroll to “On whether there’s any conflict in him (via GMO and/or his foundation) investing in oil and gas companies.”*) Grantham makes the point that divestment from coal and tar sands—the most carbon-intensive, the most expensive to extract, and the most likely to be stranded—is a reasonable course of action and is feasible for most endowments. However, he argues against the idea of divesting from oil because it is difficult for an endowment to do and there is no existing substitute.
- ◆ “The Other Reason for Divestment” (Bob Litterman, *Ensis*, November 2013). Litterman makes the case for going short certain “stranded assets,” such as coal and tar sand assets, which he believes will actually lose value. In the paper, Litterman states, “It’s very possible that fear of catastrophic outcomes will lead to rational global pricing of emissions much sooner than the market has built into current prices of stranded assets. If this happens, stranded assets will underperform the market and those taking advantage of the swap will profit.”
- ◆ “Insights for Investors Working for Bolder Intervention on Climate Change” (Interfaith Center on Corporate Responsibility, July 2013). This paper discusses the climate crisis and the various options presented to concerned investors. It concludes that, for now, the best response is to engage in shareholder advocacy.



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Exhibit Notes

Performance of Global Equities vs Global Energy Equities

Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided “as is” without any express or implied warranties.

Notes: The full period average annual compound return (AACR) as well as the data for the annualized standard deviation and Sharpe ratio represent the period January 1, 1995, through May 31, 2014. The Sharpe ratio represents the excess return generated for each unit of risk, calculated as the return of the index above the risk-free rate (T-bills) divided by the standard deviation of returns. Energy allocation range shows the differing weights the energy sector has held in the MSCI ACWI Index over the full time period.

Risk/Return Analysis: Focused and Thematic Equity Indexes vs Traditional Indexes

Sources: BofA Merrill Lynch, Federal Reserve, Dow Jones Indexes, FTSE International Limited, MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided “as is” without any express or implied warranties.

Note: The Sharpe ratio represents the excess return generated for each unit of risk, calculated as the return of the index above the risk-free rate (T-bills) divided by the standard deviation of returns.

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