University of Maine System

Fossil Fuel Discussion

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Summary

- **The University of Maine System's investment policy statements include the following:**
  - Maximum total return, consistent with prudent investment management and risk tolerance
  - To enable UMS to meet its financial obligations
- **The University of Maine System has received inquires from student organizations and University administration regarding divestment from fossil fuels**
  - NEPC has completed a "look-through" into University of Maine System's portfolio to estimate the allocation to fossil fuels
  - It is estimated that the System's total estimated exposure to fossil fuels is relatively small
    - Managed Investment Pool (MIP) (~6.5%), Pension Plan (~5.3%), Operating Funds (~3.5%)
- **NEPC analyzed fossil fuel divestment options for the System**
  - UMS currently uses mostly mutual funds, commingled funds and limited partnerships for their investments
    - Due to this, there are limited options to reduce fossil fuel exposure through negative screens
  - Changes to eliminate fossil fuel exposure can only be made on the margin unless extensive changes are made to the Plans
    - Wholesale changes would alter the return, risk and diversification profile of the Plans and would require significant Staff, Committee and Consulting resources
- **Certain (but limited) investment funds are available that have already divested from fossil fuels or have negligible exposure**
  - The space is not very developed and the funds tend to be concentrated in the global equity space
  - NEPC has reviewed investment managers that has fossil free products but they are not approved managers at this time
  - Investment manager options are profiled in this presentation
- **Some Environmental, Social & Governance (ESG) focused managers are beginning to think about fossil fuel exposure**
  - ESG focused managers will have less exposure to fossil fuels, but there will still be some exposure
  - ESG could be a potential area to further explore in the future as there are more manager options
    - However, options are still limited to equity and fixed income and are still being researched by NEPC
    - Would require significant Committee, Staff and Consultant time to analyze, interview and allocate to these investments
  - Information regarding Responsible Investing is included in the Appendix

Fossil Fuel Introduction

- **Recently there has been a significant push to reduce exposure to companies that are contributing to climate change**

- **Specifically, the 'Go Fossil Free Divestment' campaign led by Bill McKibben has gained traction on college campuses across America**
  - Asking College and University Presidents and Boards (as well as Religious and Pension funds) to immediately freeze any new investment in fossil fuel companies, and divest from direct ownership and any commingled funds that include fossil fuel public equities and corporate bonds within 5 years

- **Unity College, Hampshire College and nine other colleges and universities have committed to divesting from the top 200 Corporations that drill for, produce, refine and distribute the vast majority of the world's fossil fuels**
  - Stanford University recently joined the fossil fuel divestment movement and plans on divesting from coal stocks
  - Harvard University does not plan to divest from fossil fuels, as announced in October 2013, however they recently announced to sign on to a United Nations-supported organization, Principles for Responsible Investment
    - The principles do not require Harvard to sell fossil fuels, but rather provide the University's fund managers with a method for considering environmental and social factors

- **A number of cities, counties, religious organizations and foundations are additional examples of groups that are actively seeking to divest from fossil fuel companies**
  - City of Seattle, City of Cambridge Massachusetts and 20 other cities have committed to divesting
  - Divest-Invest Philanthropic Group – 19 Foundations that are divesting from fossil fuels and switching to clean energy investments

- **The movement to divest from fossil fuel companies is becoming more popular, however different approaches to implementation are still being discussed**

Background on Fossil Fuels

- **Fossil fuels are non-renewable resources that typically refer to Oil, Gas and Coal**
- **The term 'fossil fuel' references the length of time needed to create the particular resource, as it takes hundreds of millions of years to convert 'peat' (mixture of plants, trees and algae) into carbon-rich resource that creates energy upon combustion**
- **Although they produce significant amounts of energy relative to their size, fossil fuels produce carbon dioxide and many other byproducts which can be harmful to the environment**
- **Because of growing concerns related to global warming, the United Nations Climate Change Committee passed the 'Cancun Agreement' in December, 2010 to curb greenhouse gas emissions in the international community**
  - The Agreement was signed by 193 Nations
  - The main purpose of the Agreement is to limit global warming to two degrees Celsius above pre-industrial levels
  - The Agreement sought to limit the global carbon footprint to 886 GtCO2 (GtCO2 equal to 1 billion tons) between 2000-2050 in order to increase the probability of reaching the two degree ceiling
  - By 2011 (i.e. 11 years into the timeline), the global economy had already used over a third of the 50 year budget outlined by the Cancun agreement

Fossil Fuel Divestment Options

- **A limited number of product offerings are available that have no or negligible fossil fuel exposure**
  - Investment focus is mainly in global equities and firms include:
    - Aperio Group
    - Impax Asset Management
    - Trillium Asset Management
    - WHEB Group
  - The above firms are not approved managers at NEPC at this time

- **A separate account structures represent a viable option for excluding fossil fuels**
  - The University of Maine currently has one separate account
    - Given the scale of the three Plans and minimum investment amount required, there are limited to no additional opportunities to set-up additional separately managed accounts in the Plans
  - A negative screen to exclude the top 200 GtCO2-emitting companies, which account for nearly 100% of emissions, could possibly be implemented in the current separately managed account
    - This would limit the investment managers opportunity set and may impact performance

- **A list of the top 10 Global companies by their Carbon Emissions:**

Company	$GtCO_2$*	Primary Fossil Fuel
Severstal JSC	141.6	Coal
Lukoil Holdings	43.6	Oil and/or Gas
Exxon Mobil Corp.	41.0	Oil and/or Gas
BP PLC	34.6	Oil and/or Gas
Gazprom OAO	28.8	Oil and/or Gas
Chevron Corp.	21.2	Oil and/or Gas
ConocoPhillips	19.1	Oil and/or Gas
Total S.A.	18.0	Oil and/or Gas
Anglo American PLC	16.8	Coal
Royal Dutch Shell PLC	16.2	Oil and/or Gas

*Represents a Gigaton (1 billion tons) of Carbon Dioxide

University of Maine System Estimated Fossil Fuel Exposure (As of 3/31/2014) - MIP

Manager	Manager % of Portfolio	Asset Class	Vehicle Type	Estimated Fossil Fuel and/or Energy Exposure
SSgA	16.9%	Large Cap Equity	Commingled Fund	7.0%
Westfield*	3.1%	Smid Cap Growth Equity	Commingled Fund	7.4%
DFA*	3.2%	Small Cap Value Equity	Mutual Fund	5.5%
Morgan Stanley	7.9%	International Developed Equity	Mutual Fund	8.3%
Globeflex	8.3%	International Developed Equity	Commingled Fund	12.5%
Aberdeen	6.8%	Emerging Market Equity	Mutual Fund	12.9%
Commonfund*	9.5%	Core Fixed Income	Commingled Fund	3.0%
Loomis*	4.8%	High Yield Fixed Income	Commingled Fund	8.0%
GMO	8.3%	GAA	Commingled Fund	8.7%
Wellington	8.4%	GAA	Commingled Fund	0.9%
PIMCO	7.9%	GAA	Mutual Fund	8.1%
Permal*	5.6%	Hedge Fund	Limited Partnership	3.2%
Cube*	5.5%	Hedge Fund	Commingled Fund	0.9%
Blenheim	1.5%	Hedge Fund	Limited Partnership	1.0%
John Hancock	2.0%	Timber	Limited Partnership	0.0%
Estimated Total Plan Exposure				**6.5%**

- **Some options to potentially reduce fossil fuel exposure include:**
  - Search for fossil free manager options to replace all domestic equity and international developed equity managers (40% of the portfolio)
    - This would reduce the fossil fuel exposure from 6.5% to 3.2%
    - Manager options are shown in this presentation and are not approved at NEPC at this time

- **At this time, NEPC is not aware of investment products that screen out for fossil fuels in the following asset classes; Fixed Income, GAA, Hedge Funds or Timber**
  - Based on this, it is unlikely that UMS can completely divest from fossil fuels at this time
    - Unless, UMS would like to dramatically alter the risk/return profile of the portfolio to invest solely in global equities

*These managers also have Energy exposure

University of Maine System Estimated Fossil Fuel Exposure (As of 3/31/2014) – Pension

Manager	Manager % of Portfolio	Asset Class	Vehicle Type	Estimated Fossil Fuel and/or Energy Exposure
Vanguard	14.6%	Large Cap Equity Index	Mutual Fund	10.1%
SSgA	4.6%	Small Cap Equity	Commingled Fund	0.7%
Morgan Stanley	13.9%	International Developed Equity	Mutual Fund	8.3%
Aberdeen	6.8%	Emerging Market Equity	Mutual Fund	12.9%
PIMCO Total Return	13.5%	Core Fixed Income	Mutual Fund	0.0%
Loomis*	4.9%	High Yield Fixed Income	Commingled Fund	8.0%
PIMCO All Asset	12.5%	GAA	Mutual Fund	8.1%
Wellington	13.0%	GAA	Commingled Fund	1.0%
Permal*	4.1%	Hedge Fund	Limited Partnership	3.2%
Cube*	4.3%	Hedge Fund	Commingled Fund	0.9%
Blenheim	2.0%	Hedge Fund	Limited Partnership	1.0%
Principal	4.8%	Real Estate	Limited Partnership	0.7%
Estimated Total Plan Exposure				**5.3%**

- **Some options to potentially reduce fossil fuel exposure include:**
  - Search for fossil free manager options to replace all domestic equity and international developed equity managers (33% of the portfolio)
    - This would reduce the fossil fuel exposure from 5.3% to 2.6%
    - Manager options are shown in this presentation and are not approved at NEPC at this time

- **At this time, NEPC is not aware of investment products that screen out for fossil fuels in the following asset classes; Fixed Income, GAA, Hedge Funds or Real Estate**
  - Based on this, it is unlikely that UMS can completely divest from fossil fuels at this time
    - Unless, UMS would like to dramatically alter the risk/return profile of the portfolio to invest solely in global equities

*These managers also have Energy exposure

University of Maine System Estimated Fossil Fuel Exposure (As of 3/31/2014) – Operating Fund

Manager	Manager % of Portfolio	Asset Class	Vehicle Type	Estimated Fossil Fuel and/or Energy Exposure
State Pool	5.4%	Cash	Commingled Fund	0.0%
Dreyfus	5.9%	Cash	Mutual Fund	0.0%
Bank of America	0.0%	Cash	Checking Account	0.0%
Federated	4.9%	Cash	Mutual Fund	0.0%
IR&M	28.7%	Short Term Fixed Income	Separate Account	1.7%
PIMCO Floating Income	9.6%	Diversified Fixed Income	Mutual Fund	12.1%
Loomis*	8.3%	Bank Loans	Commingled Fund	4.7%
Vanguard Total Bond*	8.6%	Core Fixed Income	Mutual Fund	1.8%
Cube*	4.5%	Hedge Fund	Commingled Fund	0.9%
Permal*	3.3%	Hedge Fund	Limited Partnership	3.2%
Windhaven	7.0%	GAA	Separate Account	1.5%
PIMCO All Asset	8.2%	GAA	Mutual Fund	8.1%
Vanguard Total World*	5.5%	Large Cap Equity	Mutual Fund	8.7%
Estimated Total Plan Exposure				**3.5%**

- **Some options to potentially reduce fossil fuel exposure include:**
  - Provide IR&M with a list of fossil fuel companies to restrict from investment
    - This would limit the investment managers opportunity set and may impact performance
  - Search for fossil free manager options to replace all domestic equity and international developed equity managers (5.5% of the portfolio)
    - This would reduce the fossil fuel exposure from 3.5% to 3.0%
    - Manager options are shown in this presentation and are not approved at NEPC at this time

- **At this time, NEPC is not aware of investment products that screen out for fossil fuels in the following asset classes; Fixed Income, GAA, or Hedge Funds**
  - Based on this, it is unlikely that UMS can completely divest from fossil fuels at this time
    - Unless, UMS would like to dramatically alter the risk/return profile of the portfolio to invest solely in global equities

*These managers also have Energy exposure

Fossil Fuel Divestment Options

- **There are a limited number of investment managers that have developed fossil fuel divestment products**

- **NEPC is in initial discussions with the below managers regarding their ex-fossil fuel investment offerings, as such these managers/strategies are not approved at this time**
  - Aperio Group: Carbon Free Series (Passive Management)
    - Global (Benchmark: MSCI ACWI) – focuses on global all capitalization stocks
    - U.S. Market (Benchmark: Russell 3000) – focuses on U.S. all capitalization stocks
  - Impax Asset Management: Resource Optimization Strategies (Active Management)
    - Specialists (Benchmark: MSCI ACWI) – focuses on global small and mid capitalization stocks
    - Leaders (Benchmark: MSCI ACWI) – focuses on global all capitalization stocks
  - Trillium Asset Management (Active Management)
    - Sustainable Opportunities (Benchmark: S&P 1500) – focuses on U.S. all capitalization stocks
    - Fossil Free Core (Benchmark: S&P 1500) – focuses on U.S. all capitalization stocks
  - WHEB Group (Active Management)
    - Sustainability Fund (Benchmark: MSCI World) - focuses on U.S. and international all capitalization stocks

Fossil Fuel Manager Firm & Product Information (As of 3/31/2014)

Firm	Product	Product Inception Date	Firm AUM	Product AUM	Annual Fee
Aperio Group	Global	2013	$7.0 Billion	$936 Million	Up to $10 Million - 0.35%
Aperio Group	U.S. Market	2013	$7.0 Billion	$936 Million	Up to $10 Million – 0.35%
Impax Asset Management	Specialists	2002	$4.3 Billion	$1.4 Billion	First $25 Million - 0.90%
Impax Asset Management	Leaders	2008	$4.3 Billion	$593 Million	First $25 Million – 0.80%
Trillium Asset Management	Sustainable Opportunities	2008	$1.5 Billion	$183 Million	First $2 Million – 1.0%
Trillium Asset Management	Fossil Free Core	2007	$1.5 Billion	$139 Million	First $2 Million – 1.0%
WHEB Group	Sustainability Fund	2009	$83 Million	$59.9 Million	C Share Class – 0.85%

- **Investment management fees for these products differ based on active or passive implementation**

- **Replacing all current domestic and international equity managers with Aperio could decrease total Plan fees by roughly 5 basis points in the MIP and Pension**
  - Aperio’s fees are lower than some of the current UMS active managers as they use a passive approach to investing

- **Any other manager utilized would increase the Portfolio fees by roughly 12 basis points**
  - This is due to the fact that passive investments currently make up 17-20% of the two Plans and have a low annual fee (5-8 basis points)

Fossil Fuel Manager Trailing Performance (As of 3/31/2014)

Firm	Product	Benchmark	1 Year	3 Years	5 Years	10 Years
Aperio Group*	Global	1	23.1%	9.7%	15.4%	7.5%
Aperio Group*	U.S. Market	2	32.4%	15.4%	18.5%	7.3%
Impax Asset Management	Specialists	1	30.9%	7.9%	19.0%	10.1%
Impax Asset Management	Leaders	1	23.6%	10.7%	19.5%	N/A
Trillium Asset Management	Sustainable Opportunities	3	19.3%	11.8%	21.1%	N/A
Trillium Asset Management	Fossil Free Core	3	25.7%	14.6%	20.2%	7.5%
WHEB Group	Sustainability Fund	4	8.5%	N/A	N/A	N/A
1 - MSCI ACWI			*22.9%*	*9.8%*	*15.0%*	*7.2%*
2 - Russell 3000			*32.9%*	*15.7%*	*18.2%*	*7.4%*
3 - S&P 1500			*22.0%*	*14.6%*	*21.6%*	*N/A*
4 - MSCI World			*19.1%*	*10.2%*	*18.3%*	*6.8%*

- **Trailing performance for the managers is mixed**
  - Aperio does well given passive management, however the returns are from back tested results
  - Trillium has underperformed over the longer time frame and this doesn't include the impact of management fees
  - WHEB Group has underperformed over all time periods, gross of fees
  - Impax appears to be the best performer over most time periods

Note:
All returns are Gross as of 3/31/14 except for Aperio Group's returns which are Net as of 12/31/13.
*Back Testing data was used for Aperio Group products due to the fact that the funds are fairly new and don't have enough data history.

Fossil Fuel Manager Standard Deviation (As of 3/31/2014)

Firm	Product	Benchmark	3 Years	5 Years	10 Years
Aperio Group*	Global	1	14.1%	17.6%	16.6%
Aperio Group*	U.S. Market	2	12.6%	16.2%	15.4%
Impax Asset Management	Specialists	1	17.3%	20.1%	21.5%
Impax Asset Management	Leaders	1	16.6%	18.1%	N/A
Trillium Asset Management	Sustainable Opportunities	3	13.7%	15.6%	N/A
Trillium Asset Management	Fossil Free Core	3	12.0%	13.5%	16.0%
WHEB Group	Sustainability Fund		N/A	N/A	N/A
1 - MSCI ACWI			*18.9%*	*22.5%*	*25.6%*
2 - Russell 3000			*14.1%*	*17.6%*	*16.5%*
3 - S&P 1500			*12.6%*	*14.2%*	*N/A*

- **Most managers are able to achieve a standard deviation similar to or lower than their respective benchmarks**

Note:
*Back Testing data was used for Aperio Group products due to the fact that the funds are fairly new and don’t have enough data history.

Fossil Fuel Manager Calendar Performance

Firm	Product	Benchmark	2013	2012	2011	2010	2009	2008
Aperio Group*	Global	1	23.6%	17.0%	-7.6%	14.3%	36.8%	-42.4%
Aperio Group*	U.S. Market	2	33.0%	16.2%	0.7%	16.8%	31.3%	-38.9%
Impax Asset Management	Specialists	1	36.6%	13.3%	-18.4%	8.5%	45.0%	-42.4%
Impax Asset Management	Leaders	1	32.7%	21.7%	-12.7%	11.6%	36.7%	-35.0%
Trillium Asset Management	Sustainable Opportunities	3	30.3%	16.5%	-0.1%	13.0%	41.4%	N/A
Trillium Asset Management	Fossil Free Core	3	36.0%	15.5%	-0.6%	10.3%	31.4%	-32.8%
WHEB Group	Sustainability Fund	4	22.9%	6.4%	N/A	N/A	N/A	N/A
1 - MSCI ACWI			*23.4%*	*16.7%*	*-6.8%*	*13.3%*	*35.3%*	*-41.9%*
2 - Russell 3000			*33.5%*	*16.4%*	*1.0%*	*17.0%*	*28.5%*	*-37.3%*
3 - S&P 1500			*32.8%*	*16.2%*	*1.8%*	*16.4%*	*27.2%*	*N/A*
4 - MSCI World			*21.7%*	*8.1%*	*-7.1%*	*13.5%*	*14.6%*	*-21.2%*

- **Calendar year performance for the managers is mixed and can deviate largely from the benchmark**
  - Aperio does well given passive management, however the returns are from back tested results and there is some tracking error
  - Trillium has underperformed over most calendar years this doesn't include the impact of management fees (2009 is a large exception)
  - WHEB Group has underperformed 1 out of 2 time periods, gross of fees
  - Impax has had mixed performance with some huge outliers (2011)

Note:
All returns are Gross as of 3/31/14 except for Aperio Group's returns which are Net as of 12/31/13.
*Back Testing data was used for Aperio Group products due to the fact that the funds are fairly new and don't have enough data history.

Fossil Fuel Manager Country Allocations (As of 3/31/2014)

Firm	Product	U.S.	International Developed	Emerging
Aperio Group*	Global	52%	41%	7%
Aperio Group*	U.S. Market	100%	0%	0%
Impax Asset Management	Specialists	34%	59%	7%
Impax Asset Management	Leaders	37%	55%	8%
Trillium Asset Management	Sustainable Opportunities	80%	18%	2%
Trillium Asset Management	Fossil Free Core	88%	12%	0%
WHEB Group	Sustainability Fund	57%	43%	0%

Note:
All returns are Gross as of 3/31/14 except for Aperio Group's returns which are Net as of 12/31/13.
*Back Testing data was used for Aperio Group products due to the fact that the funds are fairly new and don't have enough data history.

Appendix

Fossil Fuel Performance

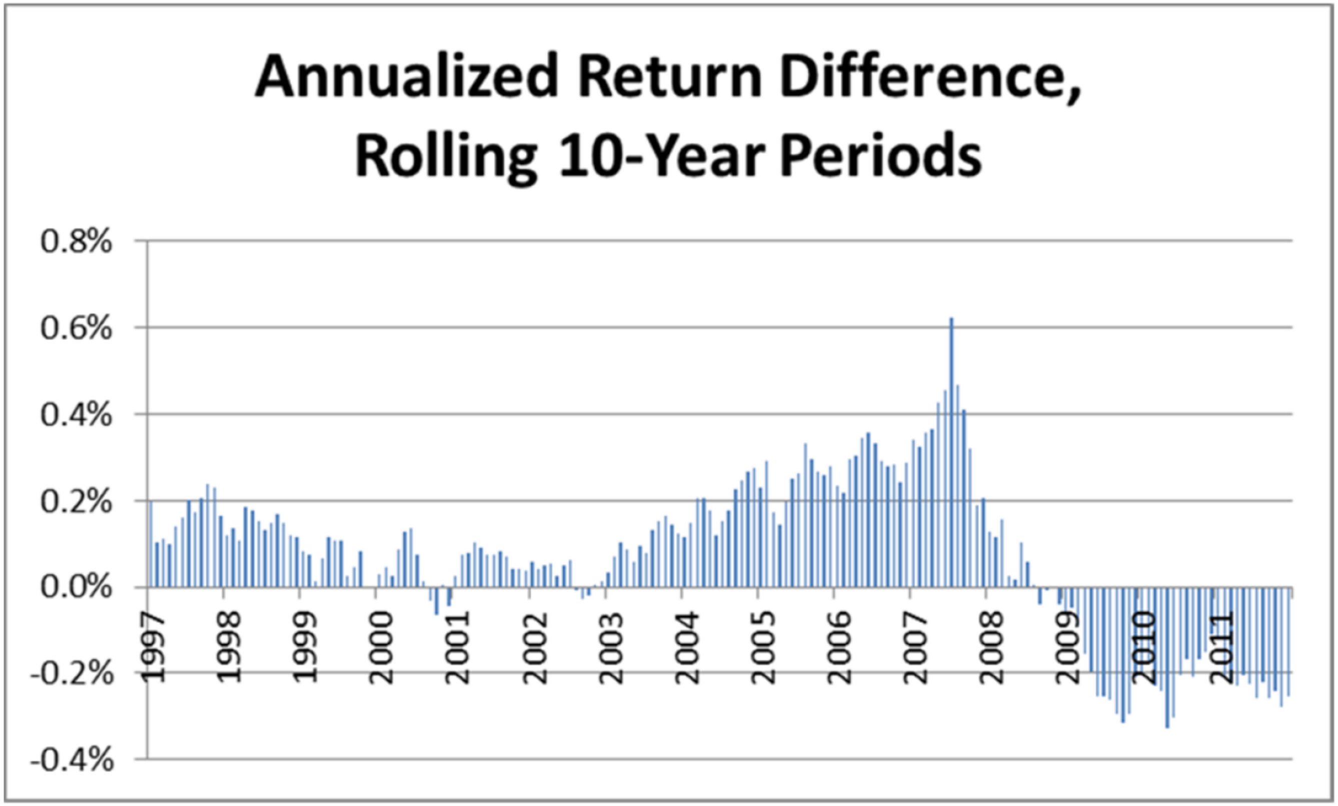
Fossil Fuel Performance Implications

- **Nine of the top 200 Carbon emitting companies are included within the S&P 500 Index**
  - This represents ~6% of the index (cap weighted)
  - These companies include Exxon Mobil, Chevron, ConocoPhillips, Devon Energy Corp, Consol Energy Inc, Marathon Oil Company, Range Resources, Williams Cos., and Denbury Resources Inc.

- **NEPC calculated the S&P 500 index return less the weighted average returns of these nine companies to evaluate the impact these securities have had on the overall index**

- **Over the past 10 years, taking fossil fuels out of the index detracted returns by roughly 60 bps**
  - The carbon emitting stocks have significantly outpaced the S&P 500, however the small relative weight of these stocks, in the index, dampens the overall performance impact
  - These stocks also have a higher volatility than the S&P 500 index

Fossil Fuel Performance Implications



Return numbers show annualized return difference between Full Carbon Divestment portfolio and Russell 3000 for periods from Jan 1988 to Dec 2012.

Average Annualized 10-year Return Difference	+0.08%
Percentage of Periods Higher than R3000	73%
Percentage of Periods Lower than R3000	27%
Tracking error, current forecast	0.60%
Tracking error, historical simulation	0.78%

Source: Aperio Group

Trailing Returns of Energy Sector and S&P 500 as of 12/31/2013

- **The Energy sector is a much broader (roughly 11% of the index) and less appropriate proxy of companies that might be involved in the use of fossil fuels**

- **On a trailing basis, the energy sector does have higher returns (last 10 years) but also significantly higher levels of volatility**

	S&P 500 Energy	S&P 500
1 Year Return	25.1%	32.4%
3 Year Return	11.1%	16.2%
5 Year Return	13.4%	17.9%
7 Year Return	7.4%	6.1%
10 Year Return	13.4%	7.4%
1 Year Std. Dev.	9.3%	7.7%
3 Year Std. Dev.	21.7%	15.1%
5 Year Std. Dev.	22.0%	17.6%
7 Year Std. Dev.	24.7%	19.2%
10 Year Std. Dev.	22.4%	16.4%

Responsible Investing

Introduction

- **Responsible investing has evolved significantly over the years**
  - Initially started as negative screening and selective activism (labor issues, Apartheid)
  - It is now focused on Environmental, Social & Governance issues and often includes proxy voting, company engagement and public policy work

- **The sub-categories of responsible investing have also expanded and overlap to some degree**

Responsible Investing				
Environmental, Social & Governance (ESG) --- Example: Investing with a focus on ESG; may also include proxy voting, engagement and public policy work	Mission Related Investing (MRI) --- Example: A faith based organization that invests with specific guidelines	Sustainable Investing --- Example: Investing in a Water Resources Fund	Community Investing --- Example: Investing in a community housing project	Program Related Investing (PRI) --- Example: Health related foundation investing in a company that provides healthy school lunches

- **Investments can include both market rate and below market rate investments**
  - ESG, some mission related investing and sustainable investing typically target market rates of return
  - Community investing, program related investing and some mission related investing typically target below market rates of return

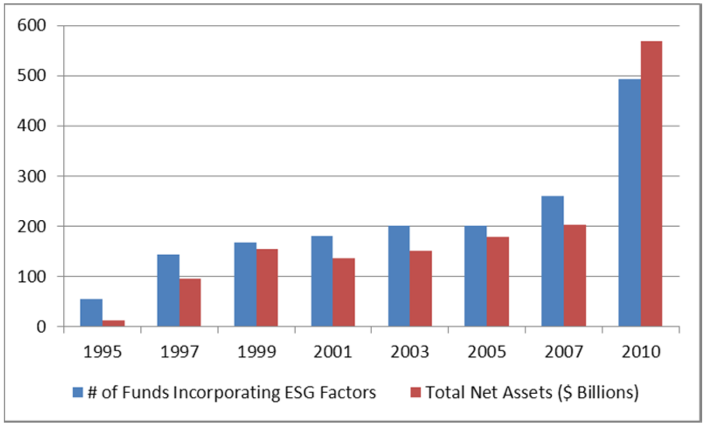
Trends in Responsible Investing

- **A substantial portion of the US market is invested with some form of responsible investing framework**
  - Currently 12% of assets
  - The vast majority of these mandates are ESG based approaches

- **Public Equity presents the largest opportunity set for responsible investing**

- **Fixed Income options are more limited**

- **Hedge fund managers are now creating screened share classes to address the opportunity**



- **Private Equity and Venture fund offerings are substantial in number, but typically small in size (below $100m)**

- **Real Estate offerings are limited and often focused on new developments – opportunistic funds**

Responsible Investing Performance

- **The performance of responsible investment funds is a divisive topic**
- **Negative screens**
  - Because negative screening shrinks the investment universe, investors should be prepared for returns that will likely lag their respective benchmark over the long term
- **Positive Screens, ESG and Engagement**
  - A number of studies have been done on the impact of ESG on investment returns and the data is still limited in terms of time horizon and impact
- **Risk**
  - Studies show that the risk profiles of many ESG funds may be lower as the company specific risk is reduced with a greater focus on ESG factors
    - i.e. Companies with a strong corporate governance may tend to be more profitable given a strong working culture or companies that focus on environment friendly products may reduce costs over the long-term
  - Strategies with a more narrow responsible investing profile may have higher volatility due to sector or security concentration, however they may benefit the overall portfolio and plan diversification
- **A number of institutional investors have achieved competitive results while pursuing a responsible investing mandate**
  - These organizations typically have sizable asset pools and staff resources
  - A limited number of small programs have implemented with success

Challenges

- **Education remains a large obstacle for programs that may consider responsible investing**
  - Many investment programs have not dedicated the time and resources
  - The lack of education on the topic has led to many misperceptions around performance, risk, etc.
  - Headline risk also plays a large role
- **Reporting on many ESG metrics is still in the early stages**
  - Smaller cap and emerging market companies do not typically provide the required data
  - There are research providers (e.g. MSCI, GMI) who provide ratings for companies based on a number of ESG factors, but the analysis also has limitations
- **Measuring the impact of responsible investments can be challenging**
  - Some elements are easily captured in the numbers (e.g. energy saved)
  - Other elements are harder to quantify (e.g. quality of life improvements)
- **The universe of responsible investing managers is growing, but still limited**
  - Shorter track records
  - Higher fees (in many mutual and commingled funds)
  - Lower asset bases
  - Limited resources for investors to identify funds

Keys to Structuring a Responsible Investment Program

- **It's critical to have the support of both staff and the investment committee when attempting to advance the topic**
  - Clearly defined goals and objectives are important for setting expectations
- **Allocations to responsible investing can vary**
  - Some investors can implement across their investment programs
  - Others need to be selective in starting with a smaller allocation (e.g. 5-10%)
  - Key factors include
    - Organization's mission
    - Resources (Staff, committee, consultant)
    - Investment opportunities
    - Fees
    - Return goals
- **Given the overall limitations of the universe, NEPC recommends that investors engage current managers to understand the integration of ESG factors in their approach**

Summary

- **There has been substantial developments in the responsible investing area of late**
  - Increased number of investment options and managers
  - Additional security creation in the fixed income markets

- **Many types of institutional investors are driving this growth**

- **Return and risk expectations will vary based on the approach**
  - Market rate and below market rate of return options exist
  - Institutional investors have been able achieve competitive returns while pursuing responsible investing

- **Challenges still exist in the form of benchmarking, education, fees, assets and investment options**
  - If Responsible Investing is a path investors would like to explore, NEPC recommends engaging investment managers around integrating ESG into their investment process

- **Our goal is to work with our clients to find investment solutions that meet their return goals as well as the goals and objectives of their organization**