# Resilient Portfolios & Fossil-Free Pensions

HIP℠ INVESTOR
Human Impact + Profit

# ADAPTING CITY AND STATE PENSION FUNDS FOR RESILIENCY TO 21ST CENTURY RISKS AND FOSSIL FUEL EXPOSURE

Climate change and the fossil fuel industry's current business plan pose a pressing risk to city and state pension funds. If pension funds remain tied to past assumptions and ignore emerging trends, they could soon face increased risks and potentially severe losses to their portfolios.

This paper highlights compelling evidence that fossil-fuel divestment is not only a moral responsibility, but a feasible and prudent way to address this portfolio risk. The paper also provides a set of fossil-free investing choices that can deliver solid returns, as well as help address the climate crisis, advance clean energy development, and increase the health and wellness of communities.

WHO SHOULD READ THIS PAPER: Trustees, leaders and fiduciaries responsible for city and state pensions whose role includes minimizing the risk of not fulfilling the future payouts already committed to pensioners, the beneficiaries of the plan.

EXECUTIVE SUMMARY: Climate change, accelerated by the fossil fuel industry's business plan, poses observable, trackable, and knowable future risks to pension funds, but in most cases, mitigation of these risks is not yet incorporated into pension portfolios. Trustees, fiduciaries and leaders of city and state pensions can choose to reduce risk today by eliminating exposure to high risk choices – such as fossil-fuel energy production – and investing in more sustainable, resilient options. These reinvestment opportunities exist across asset classes and meet the needs for attractive risk-return and portfolio characteristics, while demonstrating how investors play a role in addressing the climate crisis.

HOW TO USE THIS PAPER: City and state pensions are governed by a structured process. This paper provides information, education, and awareness about why and how fund fiduciaries who are considering divestment towards a fossil-free portfolio, or have already made a commitment to go fossil free, can implement those changes.

ABOUT DIVESTMENT: Since 2012, a growing movement for fossil fuel divestment has spread to hundreds of universities, cities, religious institutions, and pension funds. There is a strong **moral** argument to make for divestment: if it is wrong to wreck the planet, then it is also wrong to profit from that wreckage. There is also a strong **financial** argument: divestment helps reduce a portfolio's exposure to the financial risk of investing in fossil fuels and opens the door to more sustainable, profit-seeking investments. This paper will help forward-looking pension and investment managers better understand the financial considerations for divestment and sustainable reinvestment.

THIS PAPER EXPLAINS:



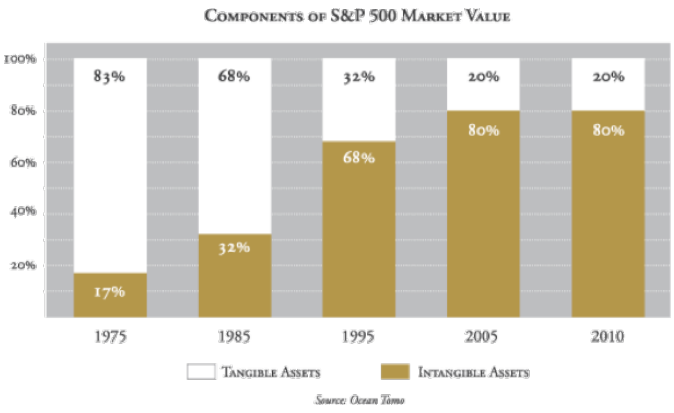
*COMPLIANCE DISCLOSURE – Co-author HIP Investor Inc. is a registered investment adviser in the states of California, Washington and Illinois, with clients in additional states nationwide, and rater of ecological, social and human impacts and the possible risks and potential financial implications to investors. Co-author GoFossilFree.org co-funded this analysis with HIP Investor. The contents of this analytical paper and its overview of investment choices are not investment recommendations, and are only shared for information and educational purposes as fossil-free examples for fiduciaries to consider their overall investment strategies and criteria. Nothing contained in this document is an offer of securities. Any investment decisions should always be evaluated with a rigorous process and criteria of all future risks and potential return.*

# I. INVESTMENT TRENDS & RESULTING RISKS FOR PENSIONS

Fiduciaries, trustees and managers of pension funds are always evaluating risks and opportunities to ensure the long-term vitality of the future commitments to the beneficiaries of the pension. Several investment trends are evolving or accelerating and should be considered. This section summarizes the impacts that knowable risks – including natural resource depletion and climate change – could have on the economy, the risks of devaluation of assets that are in most pension portfolios, and the opportunities presented by considering investment in more sustainable industries that mitigate these risks and present new growth opportunities.

In today's equity markets, most of the market value is derived from assets that are not on the balance sheet. For the S&P500 equity index, 80% of the market value is "intangible" (from assets not captured on the balance sheet, like human capital) while only 20% is "tangible" (cash, receivables, plant, property, equipment, inventory). According to GAAP principles, human capital is treated as labor expense on the income statement, and labor benefits can accumulate on the balance sheet as a liability. In economics, land, labor and capital are factors of production, but while land is an asset on the balance sheet, labor is an expense. This understates the quantifiable assets of all organizations, especially publicly listed firms.

MOST PUBLIC EQUITY VALUE IS INTANGIBLE




In addition to human capital, another large source of market value is derived from the commercialization of environmental capital. In 1987, a global group of scientists estimated and published in the journal *Nature* the value of the world's ecosystem's services and natural capital. According to their calculations, if business and society actually paid for 17 ecosystem services we receive from plants, animals and the environment, then for every 1 dollar of global GDP, we would owe another nearly 2 dollars of global GDP for the "free" services – ranging from soil enrichment to bee pollination.

The scientists estimated that "at the current margin, ecosystems provide at least $33 trillion dollars worth of services annually.

About 62% of the estimated value is contributed by marine systems ($20.9 trillion/year). Most of this comes from coastal systems ($10.6 trillion/year).

About 38% of the estimated value comes from terrestrial systems, mainly from forests ($4.7 trillion/year) and wetlands ($4.9 trillion/year)."[i]

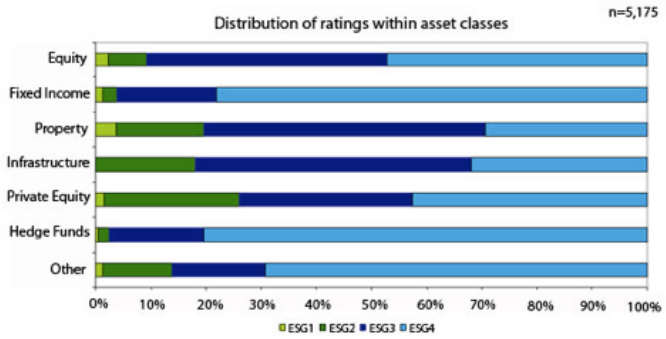
i http://www.ecy.wa.gov/PROGRAMS/wr/hq/pdf/naturepaper.pdf

This 80% of market value from intangibles is a major determinant of the value of portfolios, but is not comprehensively measured, and thus not typically managed. Investment managers across asset classes are not yet methodically incorporating these factors – also categorized as **"ESG" for Environmental, Social and Governance** – into their portfolio strategy, construction and implementation. If investment managers are not taking into account the value of natural resources and processes, they aren't properly considering the risk or impact that losing them poses.

In 2013, the analysts at Trucost (on behalf of The Economics of Ecosystems and Biodiversity [TEEB] program sponsored by United Nations Environmental Program) calculated the conservative **total value of environmental and natural capital at $7.3 trillion per year, or 13% of global GDP**. This value of unpriced natural capital costs are greenhouse gas emissions (38% of the total), water use (25%), land use (24%), air pollution (7%), land and water pollution (5%), and waste (1%). Thus, if those costs – including the full cost of energy production, for example – were assessed according to "true costs" for the 20 largest regions evaluated, then **no major industry would be profitable, as they avoid the full system costs.** Depleting these natural resources without replenishing them is threatening the entire stability of our global economy. This should be of grave to concern to pension funds that are dedicated to providing for the long-term welfare of, and payments to, their pensioners.

While the U.S. Securities and Exchange Commission actually considers environmental risks and pollution as material factors – and according to SEC regulations all material risks must be disclosed – most companies do not in fact disclose their environmental consumption of water, energy or land use. This creates the potential for surprises in portfolios when new risks from environmental, social or governance factors emerge.

## MOST FUND MANAGERS IGNORE ESG RISKS



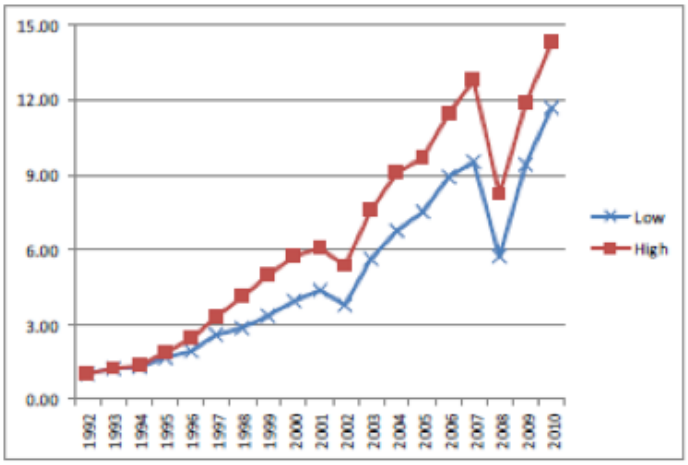

Note: ESG1+2 is proactive approach
Source: Mercer

Yet this also creates opportunities to build stronger portfolios by systematically analyzing these sustainability or ESG factors. More than 21 academic studies from leading scholarly institutions, as well as a cross-study analysis by Deutsche Bank, show that ESG factors, when considered in investment strategies, are very meaningful and can strengthen portfolios. **A sustainability-focused portfolio can reduce risk and potentially enhance financial returns – as these firms are managed more comprehensively overall.** Companies that understand, evaluate and then manage the risks connected to environmental, social and governance factors are managing the intangibles (80% of S&P500 value) more closely than those that are ignoring these critical factors that affect risk and return.

Harvard business school professors Eccles, Ioannou and Serafiem methodically analyzed and scored these factors on hundreds of companies over a 15 year time period, and found that companies that purposefully and systematically measure and manage their sustainability, ESG and intangibles can outperform the general market (see chart of performance from 1992-2010).

## ESG FACTORS CAN DRIVE MORE VALUE

Evolution of $1 invested in the stock market in equal-weighted portfolios

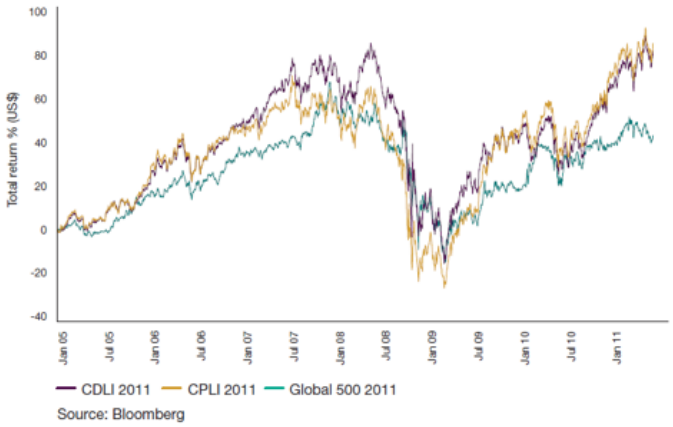



Source: Harvard Business School

For more than a decade, some companies have reported on their environmental exposures through the non-profit Carbon Disclosure Project. Today, more than 1000 organizations report on these eco-metrics. Bloomberg analyzed the investment performance of these firms relative to the market for the time period January 2005 to May 2011 and found that companies that disclose their ecological metrics and performance appear to be better managed. If these firms were a portfolio, it would have outperformed the general market in that timeframe.

## ECO-EFFICIENT FIRMS CAN OUTPERFORM

**Figure 8: Total return % (US$)**




Source: Bloomberg

While all of this important information is public data, many trustees and fiduciaries – and their investment managers and consultants – still do not regularly consider these factors for portfolio risk. As a consequence, many are lagging in shifting the mix of investments to eliminate risk and seek the returns needed to benefit pensioners.

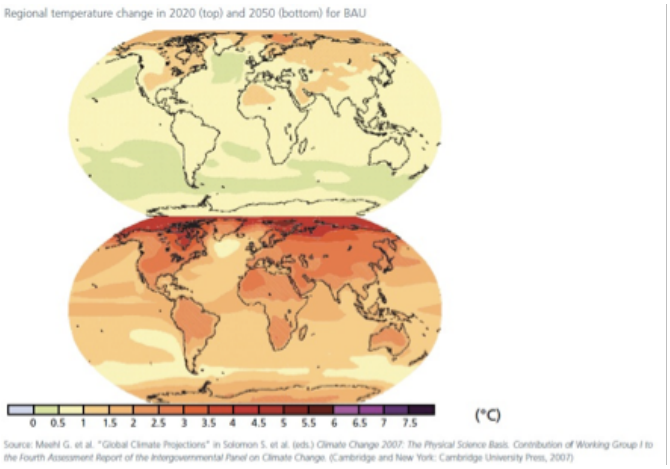
**We encourage all fiduciaries and trustees – and their fund managers -- to evaluate these ESG factors, stress-test the impacts of the risks associated with this informative ESG lens, and to consider shifts that mitigate these risks and potentially capture opportunities from allocations to investment funds that proactively consider these strategic ESG factors.**

# II. MAJOR RISKS FROM CLIMATE CHANGE & OVERRELIANCE ON FOSSIL FUELS

Climate change and our overreliance on fossil fuels pose dramatic risks to the health of our economy and, therefore, pension funds and portfolios. In the past, many companies have been able to avoid or mitigate the impacts of resource depletion, pollution, and other "externalities" resulting from unsustainable energy use or business practices. Climate change is different. The impacts are so dramatic and widespread that they are increasingly unavoidable. In other words, externalities are quickly becoming internalities. **Climate change and the increasing scarcity of natural resources requires an investment strategy and policy that accounts for this transformation.**

There are a number of ways that these 21st century risks could result in a major loss of market value in investment. For example, assets and companies could not be able to draw water during a drought, which the Southeast U.S. experienced in 2007, resulting in major disruptions to companies like Coca-Cola (which requires 2.4 liters of water for each liter of Coke). Raw materials like coal may not be able to be transported cheaply if high-carbon energy is taxed or regulated, as Australia is implementing. Or lenders may charge a higher cost of capital to businesses that are facing these risks.

## CLIMATE EXPECTED TO HEAT UP

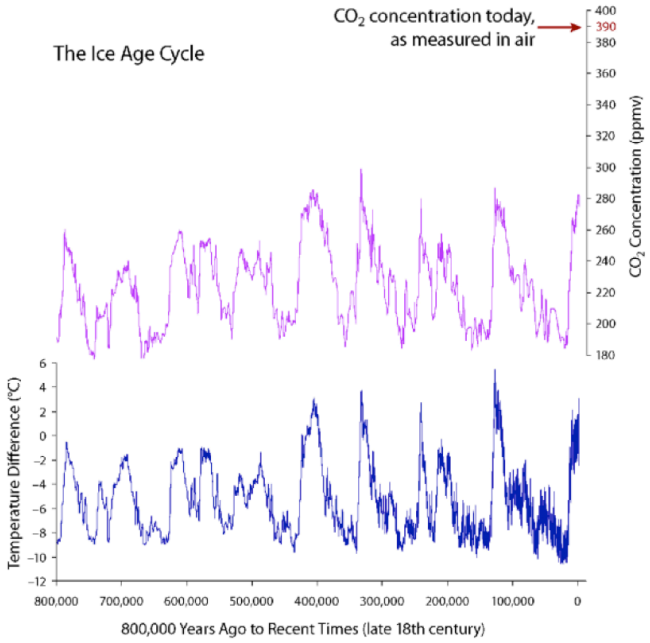



The increasing impacts of extreme weather pose a threat to the entire economy. NASA's Earth Observatory highlights that "changes in climate not only affect average temperatures, but also extreme temperatures, increasing the likelihood of weather-related natural disasters."[i] Insurance company Munich Re openly discusses the total costs of weather-related damages from 1980 to 2011, including Hurricanes Sandy and Katrina, valued at up to $1 Trillion in related economic impacts.[ii]

All of these changes could have major impacts on the market value of insurance and re-insurance firms and the value of investor portfolios invested in those companies associated with those risks.

These world-changing consequences have been highlighted by Sir Nicholas Stern, head of the UK's Economic Service, in a 700-page "Stern Review: The Economics of Climate Change" in 2006. The conclusions outline the scientific assessments and evidence that require action today. "Climate change threatens the basic elements of life for people around the world - access to water, food production, health, and use of land and the environment." Thus, Stern emphasizes that "the scientific evidence points to increasing risks of serious, irreversible impacts from climate change associated with business-as-usual paths for emissions."[iii]

## CARBON LEVELS HIGHEST IN 800,000 YEARS

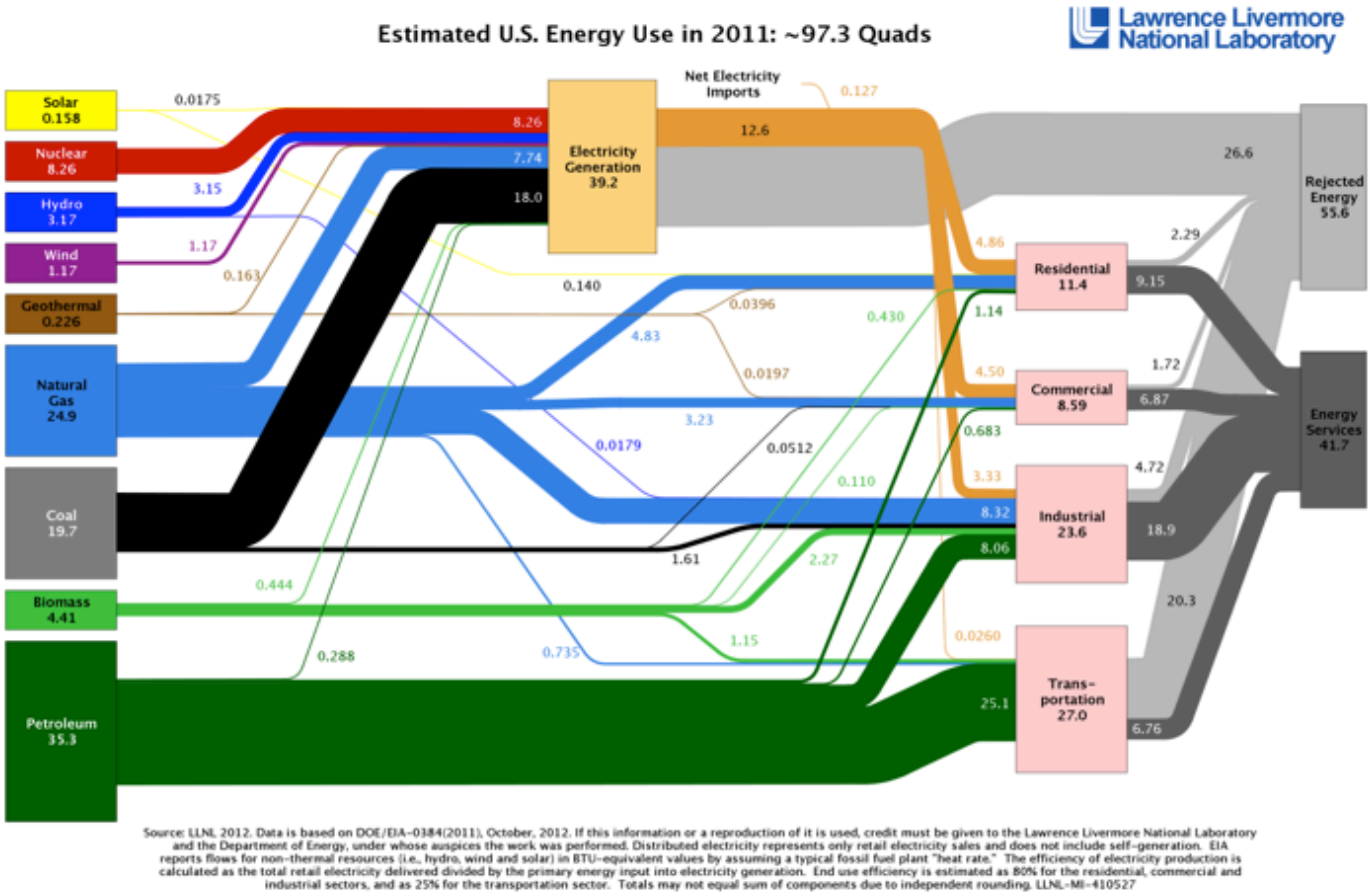



Scientific evidence shows that the carbon-concentration index is the highest in nearly 800,000 years. The level of 400 parts per million of carbon was breached in May 2013. **These all-time highs of carbon affect how the climate operates, and can spur more unpredictability in the world, in business, and in investing.**[iv]

i http://earthobservatory.nasa.gov/Features/RisingCost/rising_cost5.php
ii http://www.munichre.com/en/media_relations/press_releases/2012/2012_10_17_press_release.aspx
iii Stern Review: http://www.hm-treasury.gov.uk/d/Executive_Summary.pdf
iv http://nas-sites.org/americasclimatechoices/files/2012/10/Figure-14.png

## Overreliance on Fossil Fuels, A Major Contributor to ESG Risks

Today's energy usage in the USA is overwhelming sourced from abundant fossil fuels – from coal, oil and natural gas (see chart below). In the US in 2011, energy was consumed in 3 primary categories: Transportation, Industry and Electricity. Transportation (of vehicles, freight and aircraft) primarily uses oil and petroleum products. For industry, oil and natural gas are the main energy inputs. Electricity is derived from a mix of many fuels, but heavily in coal historically, while recent times have migrated to more natural gas, which is cheaper and less carbon-intensive.[v]



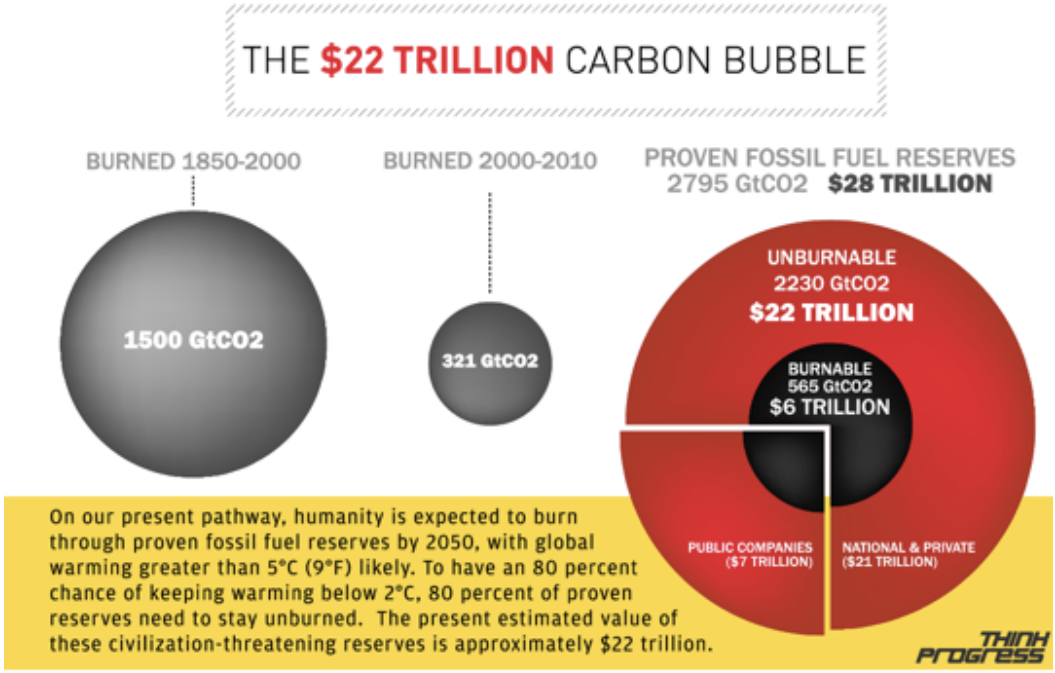

Yet all coal, oil and natural gas emit carbon when used. Carbon can last for hundreds of the years in the environment. In fact the global production of these carbon emissions is 3 times higher per year in the 2000-2010 recent decade, than the rate of the previous 150 years since the discovery and commercialization of the fossil-fuel industry.

In 2011, the Carbon Tracker Initiative calculated that there is a global carbon threshold that cannot be exceeded without grave implications for life on the planet. In order to stay under that threshold, **80% of proven carbon reserves would need to stay unburned. The estimated value of these reserves is approximately $22 trillion.**

Climate scientists (Meinhausen et al 2009) have calculated that if 886 gigatons of carbon dioxide (Gt of CO2) is released globally during the period 2000 – 2050, there is a 20% chance that the average global temperature increase will exceed 2°C (or about 4°F).

In the first decade of the 2000s, we have already burnt over one-third of this "carbon budget." The remaining two-thirds of the carbon budget are valued at $6 trillion. Burning fossil fuel beyond that budget risks severe climate change and the resulting economic damages.

v (http://blog.opower.com/wp-content/uploads/2012/11/Estimated-US-Energy-Use-in-2011-97-quads.png)




To keep the climate stable, the remaining "unburnable carbon" should not be converted to energy nor realized as revenue by public or private companies, which also includes government-owned companies. This economic disruption would certainly ripple through into political disputes and potential military conflicts.

**City and state pensions, like most investors, are invested in the energy sector. Most of the firms in the energy sector are fossil-dependent, not fossil-free.** Carbon Tracker has identified the top 200 firms according to their proven fossil-fuel reserves, which can be sources of increased risk for the value of portfolios. The value of these 200 firms – which include ExxonMobil, BP, Chevron and ConocoPhillips – are tied to the future value of extracting and then burning the coal, oil and gas they control. Investing in any of these firms is incurring future risk not yet priced into the market values. For forward-looking investors and fiduciaries, these risks are mitigatable through eliminating or greatly reducing exposure to these fossil-dependent firms.

Fund managers who are not yet assessing or analyzing these risks are susceptible to future shocks to their expected returns. **Fiduciaries of city and state pensions would be wise to understand their exposure to these risks and instruct their fund managers to assess the portfolio value at risk linked to these trillions of dollars**. Overall, an investment policy statement and asset allocation that integrates the potential risks and effects on possible returns can create a more resilient portfolio, one that also works towards being fossil-free.

See the full list of the 200 firms with the highest levels of carbon-intensive reserves here: http://www.carbontracker.org/wp-content/uploads/downloads/2012/08/Unburnable-Carbon-Full1.pdf

# III. OPPORTUNITIES TO REDUCE EXPOSURE TO KNOWN FUTURE RISKS WHILE MAINTAINING PORTFOLIO DIVERSITY

Every business and hence every investment has a need for one integral element: energy. The global energy industry includes a diverse mix of primary fuel types beyond fossil fuels: biomass, geothermal steam, waste heat recapture, water and hydro, solar and wind. These additional fuel types offer both opportunities for intelligent investments, and the potential to expand portfolio diversity.

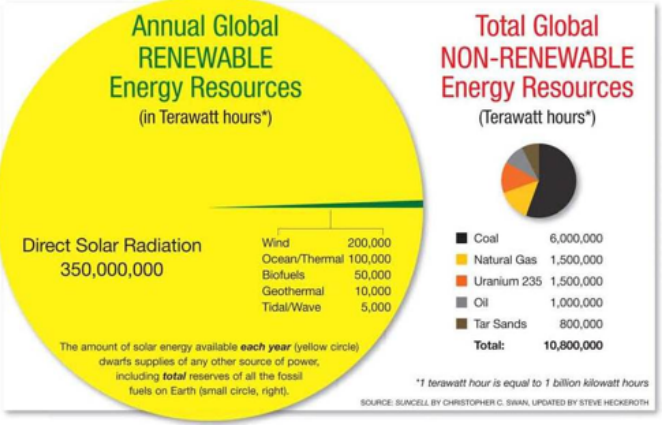
Current fossil-fuel intensity is not sustainable for business or society, and solutions are needed. There are several carbon-reduction strategies that if used in combination with each other can reduce the pollution and strains on the earth's ecosystems. These include energy efficiency, renewable energy – and fossil fuel divestment. **Further, a fossil free approach to investing can help to mitigate the increasing risks associated with fossil fuel investments.**

The energy mix in the 21st century is already shifting. According to the Federal Energy Regulatory Commission, 100 percent of power generation capacity added to the U.S. grid in March 2013 was solar. Wind energy is an increasing source of electricity in Iowa and Texas. Many energy efficiency investments (reducing use of any energy) pay back quickly, typically in months. Meanwhile, fossil fuel price volatility (see chart) creates unnecessary financial risk to most industries, especially utilities that burn coal, oil or natural gas. Adapting to the mix of energy source fundamentals should be a high priority for any fiduciary or trustee of a pension or retirement fund.

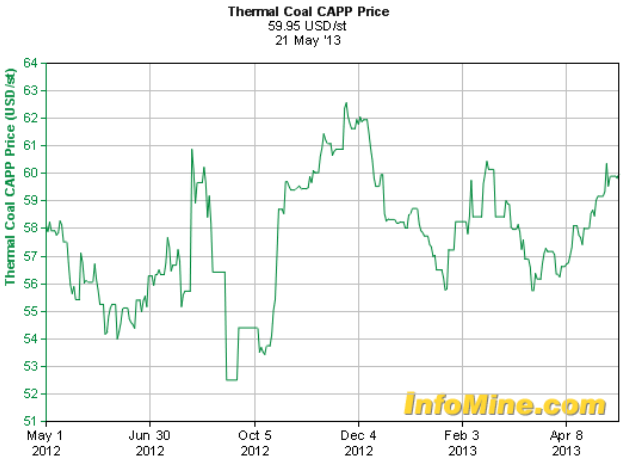
The top 10 fossil-fuel companies with exposure to carbon through coal, oil and gas reserves (see chart) include ExxonMobil, BP, Chevron, and ConocoPhillips.

Forward-looking investment fund managers are already adapting to these global risks and opportunities. As John Streur of Portfolio 21 says, "the fossil fuel exploration and production industry poses unique risks that are not manageable to the extent required to make companies directly involved in this activity attractive investments. We believe that **the fossil fuel sector is unnecessary to prudent portfolio structure and that it is possible to produce risk adjusted returns that are competitive with appropriate broad-market benchmarks through a portfolio that does not invest in fossil fuel companies."**

## RENEWABLE ENERGY POTENTIAL IS LARGE




## VOLATILITY OF 2012-13 PRICES




http://www.infomine.com/investment/metal-prices/coal/1-year

## TOP 10 CARBON-INTENSIVE ENERGY RESERVES

| Company | GtCO2 | Primary Fossil Fuel |
|---|---|---|
| Severstal JSC | 141.6 | Coal |
| Lukoil Holdings | 43.56 | Oil and/or Gas |
| Exxon Mobil Corp. | 41.03 | Oil and/or Gas |
| BP PLC | 34.6 | Oil and/or Gas |
| Gazprom OAO | 28.83 | Oil and/or Gas |
| Chevron Corp. | 21.22 | Oil and/or Gas |
| ConocoPhillips | 19.14 | Oil and/or Gas |
| Total S.A. | 18.02 | Oil and/or Gas |
| Anglo American PLC | 16.75 | Coal |
| Royal Dutch Shell PLC | 16.2 | Oil and/or Gas |

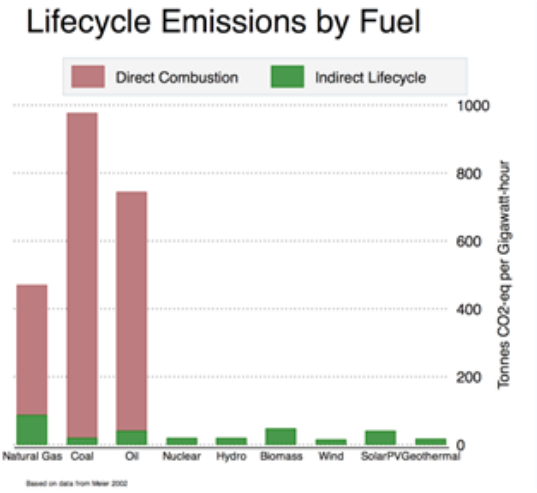
Source: Carbon Tracker Initiative

Prominent investor Jeremy Grantham, recognized for successfully investing across busts and booms, recently said, "I find the parallels between how some investors refuse to recognize trends, and our reaction to some of our environmental challenges, very powerful. There is an unwillingness to process unpleasant data."

Looking forward, Grantham is skeptical of investing in fossil-dependent industries like energy and utilities. **"Those extreme, dangerous, carbon-intensive and polluting resources run the very substantial risk of being stranded assets** because, on one hand, I think the progress of solar and wind is moving faster than most investors realize and, on the other, I expect the continuous rise in the price of hydrocarbons as we continue to move through the cheap stuff and move on to the more expensive stuff in terms of getting it out of the ground. And I don't think that if you put billions of dollars into a new tar sands project that you will see a decent return on it. It will be underpriced by solar, wind and other alternatives which are moving at considerable speed. And point two is they will slap a carbon tax on coal and tar sands which increasingly countries here and there will do - and, eventually, the US in the hopefully not-too-distant future - and that will be a death blow. If all this doesn't make these investments unprofitable, they will be very lucky. **The probability of them running into trouble is too high for me to take that risk as an investor.**"[i]

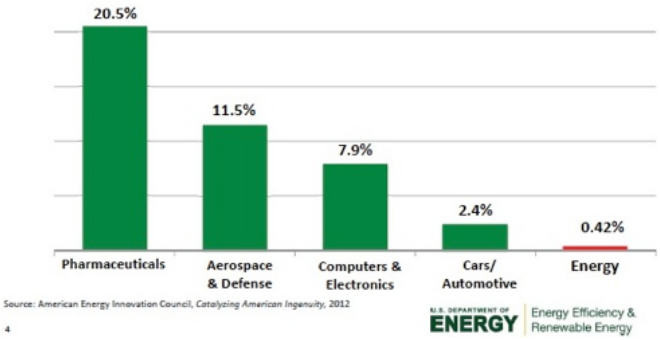
As Grantham indicated, a core risk is the potential economic cost of carbon, either in the form of a carbon tax or other regulatory intervention such as trading carbon credits to spur more energy efficiency. As you see in the chart, the full cost of burning coal, oil and gas does not yet incorporate the full cost of carbon.

COAL, OIL & GAS EMIT MORE CARBON




While today's prices of carbon credits in the northeastern United States are in the low single digits of about $2 per ton of CO2e (greenhouse gases of carbon dioxide equivalent), some private companies are trading carbon at $10 per CO2e ton, and European prices before the financial crisis traded in the range of $20 to $35 per CO2e ton. Some scientists estimate that carbon prices could be more than $100 per ton if the full lifecycle costs of carbon were assessed properly.

US FEDERAL GOVERNMENT CONTRIBUTIONS TO INNOVATION AND R&D BY INDUSTRY, 2011




More than 98% of planned capital expenditures by fossil energy firms is fossil-focused. Less than 2% is focused on renewable energy sources, according to HIP Investor.

Yet the amount of research and development investment in the energy industry to new energy solutions financed by government is a small percentage of revenue, relative to other industries like pharmaceuticals, aerospace and defense, computers and electronics and automotive sectors. The energy industry, led mostly by fossil fuel companies, seriously lags behind other industries in looking toward the future of a finite resource.

If future risks for fossil fuel investing are more volatile than historical risks, then our typical models and metrics – like Tracking Error – may not fully prepare future-looking portfolios Tracking error typically assesses historical risks. To date, environmental risk has been low for most energy production. Going forward, environmental risk and other ESG factors may actually be much higher. So assessing future risk, as well as historical risk, is essential. Even by assessing historical risks, Aperio Group's report "Building A Carbon Free Portfolio" has calculated that eliminating fossil-fuel energy firms (as few as the top 15 to as much as the entire fossil-fuel production industry) does not create a significant potential penalty of theoretical return. This report demonstrates the low risk of removing fossil fuels from portfolios, which, combined with the high (and increasing) risks of holding onto fossil fuel investments makes a very compelling case that fossil fuel divestment can be a safe and effective action for investors.[ii]

Table 2: Impact of Tracking Error for Industry Exclusion

| | Standard Deviation | Variance = (Std. Dev.)$^2$ | Theoretical Return Penalty |
|---|---|---|---|
| Market Risk (Russell 3000) | 17.6657% | 3.1208% | |
| Tracking Error vs. R3000 | 0.5978% | 0.0036% | |
| Screened Portfolio | 17.6758% | 3.1243% | |
| Incremental Risk | 0.0101% | | 0.0034% |

Source: Barra Aegis and Aperio Group. Numbers may not sum exactly due to rounding.

As prudent fiduciaries and trustees of pension funds, the current and accelerating investment trends create new opportunities for portfolio strategists, constructors and fund managers to assess the benefits and opportunities for a fossil-fuel free (or dramatically reduced allocation) portfolio. This approach could mitigate current and future risks, and could enhance the rate of future returns. **A fossil free approach to investing could result in a more resilient portfolio that is more likely to avoid the risks and cover the commitments made to city pensioners and beneficiaries in the coming years.**

i Source: http://seekingalpha.com/article/1357671-jeremy-grantham-believes-in-high-oil-prices-thinks-oil-sands-producers-are-bad-investments

ii Source: http://seekingalpha.com/article/1357671-jeremy-grantham-believes-in-high-oil-prices-thinks-oil-sands-producers-are-bad-investments

# IV. FIDUCIARY DUTY: YOUR ROLE IN PREPARING FOR AN UNPREDICTABLE FUTURE

The global energy mix, and its impact on climate change, fits a class of risks consistent with the definition and interpretation of fiduciary duty. Ecological risks, as well as structural risks, societal impacts and governance quality, are significant factors in constructing a strong, sustainable, resilient portfolio.

Trustees and fiduciaries acting as prudent investors must be forward-looking, and incorporate new information as it becomes available. Investment policy and asset allocation decisions should shift based on emerging risks to the value of the portfolio, and the opportunities to become more resilient.

City and state pensions deciding to go "fossil-free" is aligned with fiduciary duty. In addition, "collateral" costs from health issues related to fossil fuels can also justify a shift towards a fossil-free portfolio. Reduced air pollution was shown to improve citizen health when industry and energy production was shut down during the Beijing Olympics in 2008.[i]

All conversations governing public-pension and government-managed retirement funds must focus on the responsibility of trustees as prudent investors. The *Uniform Prudent Investor Act (UPIA)* was applied in 1997 toward the Management of Public Employee Retirement Systems. The UPIA legally binds states, and the city funds that they manage, to **"invest their funds in the most productive and secure manner."**

Whereas federal law protected private retirement systems (through the *Employee Retirement Income Security Act - ERISA*) until the implementation of the UPIA, states individually had regulated their public retirement systems, and at different levels of oversight. The UPIA codified the duty of trustees and other fiduciaries of state, county and city pensions to act prudently, solely in the interest of the plan's participants and beneficiaries and for the exclusive purpose of providing benefits to their participants and beneficiaries and determined the methods to use to do so.

Neither private retirement system legal code (ERISA) nor public retirement system legal code (UPIA) compliance precludes "collateral" benefit from being considered by a pension's investment choices. Investment choices must be made using modern portfolio theory and with determination that the **"collateral benefit investment is expected to provide equal return for choices with the same risk."**[ii] The first administrator of the Pension and Welfare Benefits program, Ian Lanoff, basically developed the "all things being equal test" of investment selection and it has been used as the standard since the late 1970s.[iii]

Fiduciaries may want to consider using this sample investment policy statement (IPS) language, as they include ESG risks and a fossil-free portfolio: "The manager is instructed to evaluate all investment options according to objective economic criteria established by the manager and, **if there are equally attractive investments, social factors may be considered."**[iv]

**ERISA and other regulations do not preclude pension funds from divestment. As long as the trustees' decisions are based on methodical analysis and strong fiscal reasoning regarding risks as well as potential returns, a pension can divest higher-risk investments and re-allocate funds to investment choices that better reflect risk-adjusted return expectations.**

In analyzing investment choices, fiduciary law requires the economic and financial analysis of all alternatives to be recorded in writing. In arbitration, it must be able to be shown the investment was chosen to be equal to or superior to comparable alternatives solely on the basis of economic value.[v] As pensions and retirement plans are inherently forward-looking, this requires a forecast of possible, potential or likely risks that can inhibit or enhance the likelihood and value of future payments to beneficiaries.

Global energy mix (particularly one so heavily dependent on fossil fuels) and the risk of climate change are critical drivers of future risk and potential value creation or destruction. **Fiduciaries are acting prudently when they consider the direct risks of a fossil-dependent portfolio and the likely resilience and collateral benefits of fossil-free investing.**

i http://www.bbc.co.uk/news/health-18070869

ii Source: ERISA opinion letter
iii Source: Texas Tech paper.
iv Source: fi360 Prudent Practices.
v Source: U.S. Department of Labor bulletin

# V. PENSION PORTFOLIO MANAGEMENT, PROCESS & METRICS OF EVALUATION

Pensions must manage risk and return in both the short-term for liquidity and the long-term so that the pension's assets can match the liabilities. Increased risk and volatility of the underlying assets of the pension portfolio can threaten the future commitments made to the beneficiaries of the pension plan. This is why fossil fuel investments – and potentially lower risk fossil-free choices – should be of specific concern for pension funds. Since fossil fuel production adds to risk, pension funds should consider what mix of characteristics is required to adapt to the riskier future world, and how the portfolio can prepare to absorb, or even mitigate, these investment risks.

The fiduciaries and trustees of a pension must consider how long-term trends might alter, risk or enhance the likelihood of meeting these current and future obligations. Thus, the process of designing, allocating and investing funds is a very structured discipline that applies deep research and focuses on three types of characteristics – **personnel** and fund strategy; **portfolio** characteristics and design; and **performance** in profit and impact. Examples of these criteria are listed to the right.

Each investment opportunity offers a unique way to fit into the pension fund or retirement plan. The role of the fiduciary and trustee is to consider all the factors, then blend investments together for the optimal design for an unpredictable future. Investors seeking a fossil-free portfolio can consider allocating funds freed up from divesting from fossil-dependent investments, or into funds available across asset classes. Examples are included in the Appendix.

## 1. Personnel characteristics

- Fund manager (years on strategy, years at firm, years overall investing experience) & certifications (CFA, CFP)
- Investment thesis and criteria
- Investment decision-making process

## 2. Portfolio characteristics

- Asset class
- Total assets managed
- Number of holdings
- Sector exposure and percentages
  - Energy exposure (fossil-dependent or fossil-free)
- Concentration
  - Index (of 100s of securities) vs. active (10s of securities typically)
  - Top 10 holdings and %

## 3. Performance characteristics

- Total return (gross and net of fees)
  - Trailing and rolling periods vs. benchmark, Peer Group comparisons
- Risk-return ratios over 3 and 5 years
  - Sharpe ratio, Information ratio
  - Tracking error, Upside/downside capture ratios (of total market)
- Impact on environment and society

# VI. PORTFOLIO CHOICES FOR ADAPTING TO FUTURE RISKS

Pension fund fiduciaries, trustees and leaders can begin to shift the mix of riskier elements of their portfolio towards choices that can be more beneficial. Across all asset classes, pension funds can allocate to more sustainable choices that follow the financial models positioned for positive impact on 21st century society.

In seeking a cleaner-energy mix – and potential divestment – a wide variety of choices are open for consideration across all asset types. Divesting fossil fuel energy producers typically are in the category of public equity funds and infrastructure investments. However, in thinking about the overall mix of how shifting the global energy mix, a pension fiduciary or trustee may want to evaluate investment choices in each asset class of the portfolio. This section explains sustainable reinvestment options for each asset class.

- Public Equities, domestic and international
- Hedge Funds
- Infrastructure and Real Assets
- Real Estate
- Private Equity and Notes
- Fixed Income, including corporate and government-issued (municipal bonds, agency credits, sovereign treasuries)
- Cash and banking

PUBLIC EQUITIES: The top 200 firms with carbon-intensive reserves mainly produce coal, oil and natural gas, as well as some mining firms. In addition to these carbon-intensive **energy** firms that can be excluded or reduced in a portfolio, given future risks and liabilities, the **utility** sector requires analysis for exposure to fossil fuels. In the US, the primary fuel for electricity's baseload generation has been coal, with peaking units for oil and gas. Examining the carbon intensity of a firm – the CO2 equivalent carbon emissions divided by the revenues of the firm, which are tracked by the Carbon Disclosure Project and available on Bloomberg and Thomson Reuters – are additional criteria to assess. Volatility in energy prices, tied to supply disruptions and shifts in demand, can alter the cost structure of many industrial firms and consumer companies requiring energy, materials, plastics and transportation. **Public-equity fund managers who are investing more sustainably are shifting the energy sector component to a cleaner fuel mix, or going fossil-free entirely,** are also reducing their portfolio's exposure to the firms that use a high share of fossil fuels, like utilities and industrials that are dependent on coal, oil and gas. Examples of fossil-free mutual funds and managed accounts include Portfolio 21, Trillium, Shelton and Green Century.

HEDGE FUNDS: Hedge fund investing employs a variety of strategies, including global-macro as well as long-short arbitrage. Global-macro factors include shifts in demographics, employment and GDP, but also can focus on countries and firms with exposures in their energy consumption and production, and thus the associated carbon profile of those energy choices. **Some long-short strategies combine going "long" (or buying) cleaner energy firms while "shorting" (or selling) dirty energy firms to arbitrage an expected future discrepancy in market value.** Hedge managers may also seek to arbitrage fuel prices given shifts in agriculture due to weather patterns, as well as energy shortages due to carbon-intensities. An example of a fossil-free hedge fund that is transparent about its strategy is Ardsley.

INFRASTRUCTURE AND REAL ASSETS: Traditional methods of investing in energy are fast becoming unsustainable and risky. Energy-intensive farming can involve many ESG risks, including how the land is cultivated for future use. Sustainable investment opportunities in infrastructure and real assets naturally **embed a full lifecycle approach that eliminates fossil fuel risk, harvests renewable energy, and seeks out sustainable materials** and supplies that reduce the volatility and cost associated with traditional approaches. Example funds in this category include Farmland LP, Mosaic and Renewable Energy Trust.

REAL ESTATE: Many leading firms in real-estate management, operations and investment trusts already are **employing energy efficiency and green building, both for retrofits and for new construction.** Leading firms like Jones Lang LaSalle are publicly traded and have transformed properties like the Empire State Building.[i] Private firms, including Jonathan Rose, are spurring low-income job creation as well as energy efficiency programs. HIP Investor manages a fund of publicly listed real-estate firms and REITs.

PRIVATE EQUITY & NOTES: Direct investments in privately-owned firms via sustainably-oriented private equity and venture capital supports mission-driven firms that are seeking to scale their ventures. This mission-aligned funding can accelerate growth, as the investees frequently target fast-growing markets of double-digit or triple-digit growth rates. With many sustainable firms still managed by their founder, a sustainable private equity or venture fund can amplify the impact sought by its limited-partner investors. **As eco-efficiency can earn attractive paybacks and build a potentially stronger bottom-line, venture funds with this strategy can seek both positive impact and strong return potential.** Examples of private equity and venture funds with a clean-energy, eco-efficient or fossil-free theme include KPCB, DBL Investors and Aquillian Eco-Integrity Fund.

i (www.esbsustainability.com)

FIXED INCOME: Corporate bonds are the harbingers of risk assessment. The cost of capital for companies raising debt can be affected by future risks. Astute bond managers who are assessing environmental, social and governance risks – could to avoid future surprises. Also, smart bond managers may find new value which traditional bond managers may ignore. Muni bonds are issued by cities, counties and states, but also universities and school districts, water and wastewater utilities, energy firms and health care institutions. **These issuers of bonds also may have exposure or opportunities given their ESG profiles.** Fund managers incorporating these risks, including fossil-energy risk, can mitigate potential surprises and focus on a continued repayment of principal and interest from the bond issuers. Examples of fund managers include SNW Asset Management for muni bonds and corporate credits, and RSF Social Finance for loans to private companies.

CASH AND BANKING: A coterie of banks, credit unions and community-development financial institutions foster loans and lines of credit to innovative firms, enterprises and organizations. While larger banks do have programs that address eco-opportunities, their customer deposits may not have as high a share **invested in loans that benefit the community or the environment.** Examples of banks integrating sustainability include New Resource Bank, One Pacific Coast Bank, and many in the Global Alliance for Banking on Values.[ii]

ii (www.gabv.org)

The **Appendix** to this paper lists possible funds and investments to consider for allocating the capital freed up from divesting or dramatically reducing the share of funds invested in fossil-fuel energy firms. These funds were identified by reviewing the existing investment databases (including Bloomberg, Thomson Reuters and Morningstar; additional choices may be visible through informaPSN, eVestment, Cambridge and other consultant databases). The goal for all the investments in the Appendix is to mitigate risks for investors and society, while also enhancing the potential for realizing returns commensurate with that asset class's range of expectations. In addition, all the investment choices listed in the Appendix have represented to HIP Investor that these strategies are fossil-free. Further research can be performed by your investment advisor, consultant or fiduciary.

# VII. IMPLEMENTING A MORE RESILIENT & FOSSIL-FREE PORTFOLIO

Implementing a more resilient portfolio can take time to research, evaluate and then authorize fund allocations. The following template is a sample list of tasks and timeline which can help city and state pension managers plan a disciplined process towards a portfolio that is more resilient – and fossil-free.

### TODAY

- Recommend "ESG risk assessment" for the next pension-fund committee meeting
- Share this paper with the pension-fund trustees, fiduciaries and stakeholders
- Begin engaging citizen-beneficiaries on this topic to test their awareness and understanding; several city councils have hosted public-hearings for citizens to participate; some elected officials are using social media (like Twitter) to communicate with citizens

### THIS MONTH

- Read more research (links included in this paper, including the Stern Review, the Trucost/TEEB report and others listed on GoFossilFree.org) about the risks related to ESG, climate change, and fossil-fuel-related investing
- Study the 21 academic papers and evidence at www.HIPinvestor.com showing how proactively assessing and managing the 21st century risks can likely strengthen your pension-fund portfolio
- Prepare for committee meetings, or sub-committee meetings, with research and evidence of risks and benefits; ask your pension consultant to prepare an overview of the mega-trends and risks related to environmental, social and governance (ESG) factors, as well as fossil- and carbon-intensity in the portfolio
- Immediately freeze purchasing new fossil fuel investments while they are under review

### THIS QUARTER

- Direct your pension-fund consultants to synthesize the key "intangibles," ESG and other factors that might affect the portfolio's value – including fossil-free investing in particular
- Direct your pension fund manager to make an assessment of the amount of fossil fuel holdings, and the characteristics of these holdings by cross-referencing your investments (including comingled investments) with the top 200 Fossil Fuel companies
- Discuss with your fund managers how to rebalance your existing portfolio to be fossil free, possibly using a multi-factor risk model, which includes ESG as a factor
- Decide with your fund manager how to handle passive vs. active funds for screening

## NEXT QUARTER

- Discuss in-depth the ESG and fossil-related risk factors, the potential changes to the pension fund, and the possible choices for fossil-free investments (see Appendix of sample choices to consider);
- Consider formalizing a “working group” that can be the “point person” for the Investment Committee, including interviewing or consulting the cities who have already committed to going fossil-free
- Discuss the cost of making the transition to a fossil free portfolio with your consultants. If there are substantial costs, consider shopping for a new financial manager; ask other firms if they would manage your portfolio with fossil fuel screening at your current fees

## YEAR 1 PROGRESS:

- Track the overall sustainability and impacts of your portfolio alongside risk and return performance in your reporting; see www.HIPinvestor.com for examples of integrated reporting of risk, return and impact for investors
- Complete a full assessment of the amount of money in the top 200 fossil fuel companies using the www.GoFossilFree.org list of companies, and how it can be divested or reduced
- Agree with your financial manager about how fossil fuel evaluation and screening will be performed
- Divest a portion of assets from fossil fuels, and create a plan to move the rest, and withdraw from commingled funds that hold fossil fuels that cannot be divested
- Decide if new benchmarks need to be added to track performance
- Divest 50% of your fossil fuel holdings

## YEAR 3 PROGRESS:

- Divest another 50% of holdings
- Address longer-term holdings that are locked up. Create a plan to divest them when the lock-ups expire

## YEAR 5 PROGRESS:

- Communicate the summary results, in a report from the trustees to the beneficiaries as well as the local society, on the performance of the fund with fewer fossil fuels – including the net impact to society, the strategies to address broad risks of the portfolio as well as society, and the financial returns performance compared to benchmarks
- Make an assessment of any remaining funds or asset classes that still contain fossil fuels, and develop a plan to divest 100% of these assets

# VIII. ACKNOWLEDGMENTS

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## About the Authors

**HIP (HUMAN IMPACT + PROFIT) INVESTOR INC.** is a registered investment adviser, portfolio manager and rater of impact, sustainability and ESG risks and opportunities for investors and institutions. HIP's Scores of 4000 companies and 350 governments and non-profits quantify the ecological, social and human impacts and net benefits to society – and the financial risks and potential returns for investors. HIP's Portfolios for investors incorporate and weight ESG factors. Previous to HIP, CEO R. Paul Herman co-built the Energy Practice at CSC Index, and was an Energy Analyst at McKinsey & Co. Discover more at www.HIPinvestor.com and http://bit.ly/HIPinvestorBook

**GO FOSSIL FREE,** a project of 350.org and partner organizations, is an effort focused on combating climate change by building a movement of institutions that serve the public good to divest from fossil fuels and to reinvest those portfolios in solutions for the future. Find more analytical research, evidence, tools, and information at: www.gofossilfree.org

# APPENDIX: SAMPLE CLEAN ENERGY CHOICES & FOSSIL-FREE FUNDS TO CONSIDER

The following funds are a starting point to consider cleaner-energy and fossil-free choices for a lower-risk portfolio. These are idea-starters – not official investment recommendations.

These funds were identified by reviewing the existing investment databases (including Bloomberg, Thomson Reuters and Morningstar; additional choices may be visible through informaPSN, eVestment, Cambridge and other consultant databases). HIP Investor's team researched using public sources of information and interviews with the funds.

The goal for these investments listed in the Appendix is to mitigate risks for investors and society, while also enhancing the potential for realizing returns commensurate with that asset class's range of expectations.

In addition, all the investment choices listed in the Appendix have represented to HIP Investor that these strategies are fossil-free.

Further research can be performed by your investment advisor, consultant or fiduciary.

IMPORTANT: The following overview is for information and education purposes, and does not imply formal investment recommendations. Any portfolio choice should be evaluated by investment professionals assessing the goals, timeline and criteria of the portfolio, in accordance with the fiduciary duty, process and investment policy statement. The descriptions below are intended to show that **fossil-free investing options are possible** today. This is not a comprehensive list, only a sampling to show the variety and breadth of a cleaner global energy mix.

ALL FUND INFORMATION IS OF MARCH 31, 2013, UNLESS OTHERWISE NOTED.

# PUBLIC EQUITY FUNDS

*These choices include mutual funds (that include institutional class shares) and separately managed accounts*

## PORTFOLIO 21 INVESTMENTS — MUTUAL FUND

## Portfolio 21 Global Equity (PORIX for institutional investors; PORTX for retail investors) www.portfolio21.com

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | James Madden, CFA, (6 years as portfolio manager, 20 years in the industry) |
| Investment Thesis | Portfolio 21 is a global equity mutual fund "designed to be a low-turnover, multi-cap, core portfolio" |
| Investment Decision-making Process | Since 1999, the fund "invests in companies designing environmentally superior products, using renewable energy, and developing efficient production methods. Portfolio 21 does not invest in companies directly involved in the extraction and production of fossil fuels Portfolio 21 excludes producers of coal, oil, and natural gas." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Public Equities |
| Total Assets Managed | $419.6 million |
| Typical # of Holdings | 70 |
| Sector Exposure & Percentages | Info Tech (22.4%), Industrials (20.7%), Health Care (19.14%), Consumer Staples (8.41%), Financials (7.13%), Consumer Discretionary (5.57%), Materials (5.31%), Utilities (4.82%), Telecomm (2.47%) |
| Share in Energy Sector | 0.96% |
| Top 10 Holdings (with %) | Google (5.00%), Roche (4.43%), Novo Nordisk (4.41%), Novartis (2.71%), Samsung (2.62%), Baxter (2.42%), Svenska Cellulosa (SCA) (2.10%), Novozymes (1.90%), Ericsson (1.79%), East Japan Railway (1.76%) |
| Weighted Average Price/Earnings Ratio | 22.2x |
| Weighted Average Price/Book Value Ratio | 4.61x |
| Recent 1-Year Turnover | 28% |
| Management Fee & expense ratio | Varies by class (institutional rate is 1.17%; retail rate is 1.47%) |

### Performance Characteristics

| | |
|---|---|
| Total Return (Net of Fees) | 1 Year: +12.76, 3 Year Avg: +7.31, 5 Year Avg: +2.69, 10 Year Avg: +9.68, Since Inception: +4.89 |
| Peer Group Comparisons | MSCI World |
| Risk Return Ratios (Alpha) over 3-5 years | 1 Year: +0.71, 3 Year Avg: -0.68, 5 Year Avg: +0.5, 10 Year Avg +1.06, Since Inception: +1.94 |
| Information Ratio | 1 Year: +0.39, 3 Year Avg: -0.38, 5 Year Avg: +0.12, 10 Year Avg +0.19, Since Inception: +0.29 |
| Impact on Environment & Society | Ecological Limits, Environmental Stewardship, Environmental Strategy, Human Rights and Equality, Societal Impacts, Corporate Governance |

## TRILLIUM ASSET MANAGEMENT — SEPARATE ACCOUNT

## Trillium Asset Management Sustainable Opportunities Fund www.TrilliumInvest.com

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Matt Patsky, CFA (4 yrs on this strategy); CEO of Trillium; 29 years in industry; former Lehman Bros. |
| Investment Thesis | "A high-conviction, higher-tracking error sustainability-themed strategy that invests in companies positioned to thrive as we transition to a more sustainable economy." |
| Investment Decision-making Process | "Included are companies addressing these themes through either their products and services or the development of a more sustainable business model related to the themes. A team of fundamental, sector focused analysts conduct bottom-up financial analysis including a rigorous integrated review of financial and environmental, social, and governance (ESG) factors." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Public Equities |
| Total Assets Managed | $104M |
| Number of Holdings | 45-55 |
| Sector Exposure & Percentages | Consumer Discretionary (9.8%), Consumer Staples (7.2%), Energy (0.0%), Financial Services (16.2%), Health Care (12.5%), Industrial Goods & Services (20.2%), Materials (2.8%), Technology (25.9%), Telecommunication Services (3.1%), Utilities (2.2%) |
| Share of Energy Sector | 0.0% |
| Top 10 Holdings (28% total) | IBM, Starbucks, ABB, Apple, UPS, Cisco, Prologis, Discovery Communication, Oracle, SVB |
| Recent 1-Year Turnover | 35-45% |
| Management Fee | 1.00% on amounts up to $2 million, 0.75% the next $3 million<br>0.50% the next $20 million, 0.45% the next $25 million<br>0.40% on amounts over $50 million |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) As of March 31, 2013: | Gross of Fees: 1 Quarter: +10.43%, 1 Year: +13.03%, 3 Year Avg:+11.48%, Since Inception:+9.28%<br>Net of Fees: 1 Quarter: +10.26%, 1 Year: +12.26%, 3 Year Avg:+10.76%, Since Inception:+8.51% |
| Peer Group Comparisons | S&P 1500 |
| Risk Return Ratios (Alpha) over 3-5 years | 1 Year: -0.29, 3 Year Avg: -0.15 |
| Information Ratio | 1 Year: -0.07, 3 Year Avg: -0.03 |
| Impact on Environment & Society | The strategy applies a "thematic approach to identify companies addressing sustainability challenges in three areas: Green Solutions, Economic Empowerment, and Healthy Living." |

SEPARATE ACCOUNT

## Boston Common Asset Management
www.bostoncommonasset.com

### Personnel Characteristics

| | |
|---|---|
| Strategy Managers | Geeta Aiyer , CFA. President, 27 years in the industry, 10 with the Firm; Matt Zalosh, CFA, CIO, 17 years in the industry, 10 with the Firm |
| Investment Thesis | Boston Common Asset Management offers U.S., International, and Global Equity strategies that seek companies with strong financial, environmental, social, and governance factors during the stock selection process. |
| Investment Decision-making Process | Boston Common Asset Management seeks out investments which fit stringent financial criteria and are also solutions oriented; with products and processes that are energy efficient, offer alternative energy sources or have a lower carbon footprint. We make efforts to manage portfolio diversification to address factors affected by fossil fuel and extractives divestment. In addition, through an active shareholder engagement program, Boston Common encourages greater energy efficiency, transparency, and accountability in portfolio holdings. |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Public Equities |
| Total Assets Managed | $2.0b, including sub-advised assets, as of 9/30/2013 |
| Number of Holdings | Varies by strategy: The International Equity model portfolio has ~70 holdings. |
| Sector Exposure & Percentages | Using a representative International portfolio with fossil fuel restrictions:<br>• Utilities, 4.14; Financials, 22.77; Consumer Staples, 11.24; Consumer Discretionary, 9.85; Industrials, 13.44; Materials, 10.07; Technology, 9.15; Healthcare, 12.37; Energy, 0.56; Telecommunications, 3.75; Cash & Equivalents, 2.67 |
| Energy Sector Exposure | Using a representative International portfolio with fossil fuel restrictions: Energy, 0.56% |
| Concentration | Top 10 Holdings comprise 25.6% of the representative International portfolio |
| Top 10 Holdings (with %) | Using a representative International portfolio with fossil fuel restrictions:<br>• International Equity: Roche Holding, Novartis A G, Henkel A G & Co, Kubota Corp, Air Liquide, Unilever, Vodafone Group, AXA SA, ABB Ltd, Barclays |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | As of September 30, 2013:<br>• Since Inception (12/31/04): +7.2% (Gross), +6.6% (Net);<br>• 1 Year: +20.0% (Gross), +19.3% (Net);<br>• 5 Year: +6.3% (Gross), +5.7% (Net);<br>• 3 Year: +9.0% (Gross), +8.5% (Net); |
| Peer Group Comparisons | MSCI EAFE |

SEPARATE ACCOUNT

## Boston Common Asset Management
www.bostoncommonasset.com

### Risk Return Ratios over 3-5 Years

| | |
|---|---|
| Sharpe Ratio* | 5 year is +0.17, 3 year is +0.39 |
| Information Ratio | 5 year is 0.0, 3 year is +0.13 |
| Tracking Error | 5 year is 4.2%, 3 year is 3.7% |
| Upside/Downside Capture Ratios (of total market) | 5 year upside capture is 94, 3 year is 90;<br>5 year downside capture is 93, year is 84 |
| Impact on Environment & Society | In addition to seeking investments in solutions oriented companies, Boston Common's shareholder engagement initiatives have included: working with Honda Motor to identify the potential effects of climate change on its business operations; discussing HSBC's lending policies as they relate to high-risk sectors such as energy and forestry; and encouraging Standard Chartered to mitigate its exposure to high-risk energy assets and reinvest in alternative, sustainable energy sources. |

## Shelton Green Alpha Fund (NEXTX)

MUTUAL FUND

www.SheltonCap.com

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Jeremy Deems, CPA, and Garvin Jabusch, both have managed public funds since 2002 |
| Investment Thesis | "To achieve long-term capital appreciation by investing in stocks in the green economy." |
| Investment Decision-making Process | "The Fund invests primarily in common stocks of companies that Green Alpha Advisors (the "Sub-Advisor") believes are leaders in managing environmental risks and opportunities, have above average growth potential and are reasonably valued." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Public Equities |
| Total Assets Managed | $5.6M |
| Number of Holdings | 49 |
| Sector Exposure & Percentages | Industrials (35.8%), Tech (16.6%), Utilities (16.5%), Consumer Cyclical (10.4%), Consumer Non-Cyclical (7.3%), Communications (6.9%), Energy (5.0%), & Basic Materials (1.5%) |
| Energy Concentration | 5.0%, focused on clean-energy |
| Top 10 Holdings (with %) | First Solar, Inc. (4.12%), Canadian Solar, Inc. (3.92%), American Water Works Co Inc. (3.51%), Google Inc Class A (3.46%), Badger Meter, Inc. (3.31%), Qualcomm, Inc. (3.16%), United Natural Foods, Inc. (3.14%), Tesla Motors, Inc. (3.05%), SolarCity Crop (3.98%), Applied Materials, Inc. (2.96%) |
| Management Fee | 1.0% |
| Expense Ratio | 1.38% |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | 29.7% return YTD |
| Impact on Environment & Society | The companies work to address important global macroeconomic issues primarily via mitigation of, and adaptation to, resource scarcities, energy dynamics, climate change and associated issues such as extreme weather and global health |

## Green Century Balanced Fund (GCBLX)

MUTUAL FUND

www.GreenCentury.com

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Managed by sub-adviser Trillium Asset Management: Matthew Patsky, CFA; Cheryl Smith, CFA; Stephanie Leighton, CFA (firm has over 30 yrs experience with responsible and sustainable investing; all 3 portfolio managers have over 25 years investment management experience) |
| Investment Thesis | The Green Century Balanced Fund does not invest in fossil fuel, nuclear power, or tobacco companies. Instead, the Fund invests in companies that "make positive contributions to the environment so investors can leverage their investment dollars into positive returns for society's water, air, land and health." |
| Investment Decision-making Process | The Green Century Balanced Fund "seeks capital growth and income from a diversified portfolio of stocks and bonds that meet the Fund's standards for corporate environmental performance. There is no predetermined percentage of assets allocated to either stocks or bonds, although the Balanced Fund will generally invest at least 25% of its net assets in bonds and may not invest more than 75% of its net assets in stocks." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Public Equities & Corporate and Agency Investment Grade Debt |
| Total Assets Managed | $77.1M |
| Number of Holdings | 90 |
| Sector Exposure & Percentages | Basic Materials (3.08%), Industrials (15.80%), Health Care (12.18%), Consumer Defensive (7.41%), Financial Services (19.62%), Consumer Cyclical (12.94%), Real Estate (1.40%), Utilities (0%), Technology (22.68%), Consumer Services (4.89%) |
| Energy | 0% Oil & Gas traditional energy; 3.95% Renewable Energy |
| Top 10 Holdings (with %) | Costco Wholesale Corporation (2.30%), Symantec Corporation (2.25%), QUALCOMM Incorporated (2.24%), Minerals Technologies Inc.(2.20%), Cisco Systems, Inc. (2.20%), BT GROUP (2.19%), Canadian Pacific Railway Limite (2.18%), International Business Machines Corporation (2.09%), Discovery Communications, Inc. (2.09%), Oracle Corporation (2.02%) |
| One Year Turnover | 58% |
| Management Fee | 0.65% |
| Expense Ratio | 1.48% |

### Performance Characteristics

| | |
|---|---|
| Total Return (Net of Fees) as of 3/31/13 | As of March 31, 2013, the net of fees performance is: 1 Year: +8.87%, 3 Year Avg: +8.31%, 5 Year Avg: +5.09%, 10 Year Avg: +8.41%, Since Inception: +6.65% |
| Peer Group Comparisons | "Custom Balanced Index – comprised of 60% weighting in the S&P 1500 Index and a 40% weighting in the BofA Merrill Lynch 1-10 Year U.S. Corporate and Government Index. It is not possible to invest directly in the Custom Balanced Index." |
| Sharpe Ratio | +0.82 |
| Impact on Environment & Society | The Balanced Fund seeks to invest in companies that demonstrate a commitment to protecting the environment by the products they make or services they provide -including renewable energy - and disclose their policies and performance on critical environmental sustainability criteria, such as plans to minimize risks to water, air and public health. |

## The Pax World Global Environmental Markets Fund

MUTUAL FUND

www.PaxWorld.com

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Bruce Jenkyn-Jones; Simon Gottelier; Hubert Aarts |
| Investment Thesis | Long-term growth of capital |
| Investment Decision-making Process | Focus on environmental markets, including energy (renewable energy and energy efficiency), water (water infrastructure and technologies, pollution control) and waste (waste management and technologies, environmental support services). |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Public Equities |
| Total Assets Managed | $110M |
| Number of Holdings | 45 |

Sector Exposure & Percentages

| Sector | Percent of Market Value |
|---|---|
| Energy Efficiency | 36.0 |
| Water Infrastructure & Technologies | 30.3 |
| Pollution Control | 14.9 |
| Waste Management & Technologies | 8.3 |
| Diversified Environmental | 7.8 |
| Total | 97.3 |

| | |
|---|---|
| Energy Sector Exposure | 0% |
| Concentration | - |

Top 10 Holdings (with %)

| Top Ten Holdings | Percent of Market Value |
|---|---|
| Pall Corp | 3.4 |
| Agilent Technologies, Inc. | 3.2 |
| Pentair, Ltd. | 3.1 |
| ENN Energy Holdings, Ltd. | 3.1 |
| Xylem, Inc. | 3.0 |
| Pennon Group PLC | 3.0 |
| Emerson Electric, Co. | 2.9 |
| ABB, LTD., ADR | 2.9 |
| GEA Group AG | 2.9 |
| Murata Manufacturing Co., Ltd. | 2.8 |
| Total | 30.3 |

### Performance Characteristics

| | |
|---|---|
| Pax World Global Environment Markets Fund – Individual Investor Class | Inception date 3/27/2008; YTD 22.13; 1 Year 31.40; 3 Year 13.34; 5 Year 9.46; Inception 4.57 |
| Pax World Global Environment Markets Fund – Institutional Class | Inception date 3/27/2008; YTD 22.47; 1 Year 31.75; 3 Year 13.68; 5 Year 9.75; Inception 4.84 |
| MSC World (Net) Index | YTD 17.29; 1 Year 20.21; 3 Year 11.82; 5 Year 7.84; Inception 3.52 |
| Impact on Environment and Society | Fund invests in environmental and resource optimization markets and seeks to take advantage of rapidly accelerating global demand for efficiency solutions in the areas of alternative energy and energy efficiency; water infrastructure and technologies and pollution control; and waste management and technologies and environmental support services. |

## Scarab Funds

SEPARATE ACCOUNT

www.3sistersinvest.com

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Ben Bingham and Laurie Burstein-Maxwell |
| Investment Thesis | Scarab Global All-Cap Fund is a global equity fund designed to benefit impact investors through superior stock picking from a universe of multi-cap stocks with environmentally and socially beneficial business products or services. |
| Investment Decision-making Process | Scarab Global All-Cap Fund is a liquid, diversified fund of direct investments in public, impact stocks. The Fund serves as a fossil free alternative to a blend of global index funds, mutual funds, ETFs or the placement of capital with institutional equity managers. |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Public Equities |
| Total Assets Managed | $5M |
| Number of Holdings | 52 |
| Sector Exposure & Percentages | Info Tech (9.07%), Industrials (10.53%), Health Care (3.49%), Consumer Staples (2.35%), Financials (4.27%), Consumer Discretionary (13.55%), Materials (3.49%), Electronics (6.92%), Telecomm (10.33%) Services (15.55%), Transportation (7.16%), Utilities (7.3%) |
| Energy Sector Exposure | 3.5% |
| Concentration | Mega Cap 12.58%; Large Cap 22.56%; Mid Cap 33.95%; Small Cap 11.5%; Micro Cap 19.41% |

Top 10 Holdings (with %)

| | |
|---|---|
| United Envirotech | 4.05% |
| Kingdom Holdings | 3.76% |
| Newell Rubbermaid | 3.55% |
| Boralex | 3.46% |
| Kingfisher | 3.25% |
| St. MicroElectronics | 3.17% |
| McGraw Hill | 3.16% |
| Google | 2.97% |
| Ace Ltd. | 2.70% |
| WPP Plc. | 2.68% |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Gross 22.69% lst year Q2 2012-Q2 2013<br>Net of fees and expenses (consultant fees and research) 17.49% |
| Trailing & Rolling Period vs. Benchmark | MSCI World All-Cap 19.67% Inception April 2012 |
| Impact on Environment & Society | The stocks in SGACF are selected based on the Natural Step decision tree, providing products and services of positive impact to the world while avoiding extraction, unnatural chemical compounds and the degradation of nature. |

# HEDGE FUNDS

*For accredited and qualified investors.*

## Ardsley Partners Renewable Energy Fund, www.Ardsley.com

HEDGE FUND

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Spencer Hempleman, 9+ years managing this strategy; 15+ years in investment industry |
| Investment Thesis | Invests in companies that provide solutions to the global energy and natural resource problem, as well as environmental issues. |
| Investment Decision-making Process | "The fund is a long-biased long-short equity fund which generally maintains net exposure of 40-60% and gross exposure of 90-120%. The portfolio manager combines a top down filter with a fundamental, bottom-up research approach and seeks absolute returns with both long and short positions. Incorporates ESG in investment analysis as well as portfolio construction." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Hedge Fund |
| Total Assets Managed | Firm AUM approximately $600M; Renewable energy strategy, approximately $100M |
| Number of Holdings | Generally 40-60 long positions and 20-30 short positions |
| Sector Exposure & Percentages | (as of May 2013) Industrial (20%), Energy Information Technology (15.5%), Solar (13.6%), Energy Storage (9.2%), Transportation (8.1%), Water (7.7%), Geothermal (7.3%), Materials (5.5%), Biofuel (3.6%), Lighting (3.3%), Agriculture (2.2%), Wind (1.7%), Waste (1.4%) |
| Share in Energy Sector | Focused on clean energy solutions and energy efficiency |
| Top Holdings (with %) | An estimated 22% of the fund (as of May 2013) is in the top 10 companies, including: Ormat Technologies, Inc., Ecosynthetix, Inc., Hannon Armstrong Sustainable Infrastructure Capital, Inc., Enernoc, Inc., Active Power, Inc. |
| One Year Turnover | Estimated 300% (Note: Short position turnover much higher than long position turnover) |
| Management Fee | 1.5% plus 20% incentive allocation |

### Performance Characteristics

| | |
|---|---|
| Total Return (Net of Fees) | (as of March 31, 2013, net of fees) YTD +11.13%; Trailing 12 months +5.05% Average 2010-2012 +4.32%; Average 2008-2012 +10.85 %Since inception: 7/3/2006 to 3/30/2013 +102.69% (vs. S&P +42.96% and PBW -75.77%) |
| Impact on Environment & Society | Invest in companies which proactively tackle global energy and natural resources issue and therefore tend to lower carbon emissions, generate savings, and better society.<br>Ardsley donates 10% of partnership proceeds annually to Grid Alternatives, a nonprofit that brings the benefits of solar technology to communities that would not otherwise have access, providing needed savings for families, preparing workers for jobs in the fast-growing solar industry, and helping clean the environment. |

# INFRASTRUCTURE AND REAL ASSETS

*Private fund investments to enhance environmental and agricultural health*

PRIVATE FUND — **Farmland LP, www.FarmlandLP.com**

## Personnel Characteristics

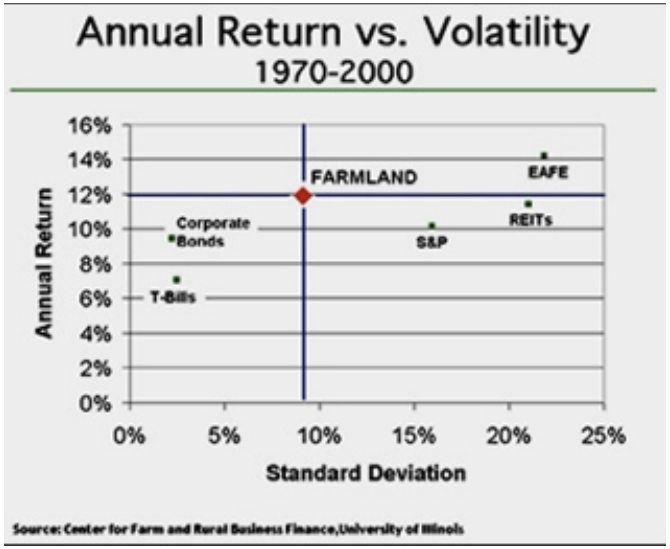
| | |
|---|---|
| Fund Manager | Craig Wichner (4 years managing the fund; 23 years in real estate management) and Jason Bradford, Ph.D. (7 years managing farmland using sustainable agriculture best practices) |
| Investment Thesis | "Farmland LP provides investors with the security of owning farmland while benefiting from the expected increased cash flow generated by converting conventional farmland to organic, sustainably managed farmland." |
| Investment Decision-making Process | "Farmland LP acquires quality farmland close to cities with strong demand for locally grown organic food; acquires properties that it projects could deliver an 8% net cash flow to investors, after a 4 to 5 year conversion period." |

## Portfolio Characteristics

| | |
|---|---|
| Asset Class | Real Assets |
| Total Assets Managed | $43 million (6,300 acres of farmland) |
| Management Fee | 2% management fee, plus 20% of cash distributions (no fee on unrealized farmland appreciation) |

## Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Expected farmland appreciation, and potential future cash distributions. |
| Impact on Environment & Society | Farmland LP is the only farming company to receive B-Corp's "Best for the World" award. Farmland LP management practices seek to produce healthy, local food, eliminate or minimize fertilizers and pesticides, sequester significant amounts of carbon in the soil, and target creation of 3-times more jobs per acre than conventional farming practices. |



| MOSAIC<br>PRIVATE FUND | Solar Mosaic Solar Impact Line,<br>www.mosaic.com |
|---|---|
| **Personnel Characteristics** | |
| Fund Manager | Greg Rosen (12 yrs solar project finance experience) |
| Investment Thesis | Invest senior secured debt into revenue-generating solar assets (with strong credits purchasing the electricity.) Mosaic later securitizes these assets by selling them to retail investors (achieved via crowdfunding from citizen-investors). |
| Investment Decision-making Process | Mosaic's Impact Line seeks to finance solar projects loans before they are securitized and offered to retail investors. The Mosaic Impact Line has an interest rate that may be greater than 4.50%, a target debt service coverage ratio of no less than 1.15x, and a first-priority security interest in all project related collateral. |
| **Portfolio Characteristics** | |
| Asset Class | Infrastructure |
| Total Assets Managed | $2.1M |
| Number of Holdings | 13 projects financed to date |
| Share in Energy Sector | 100% clean energy |
| Expense Ratio | Built into net returns |
| **Performance Characteristics** | |
| Total Return (Gross & Net of Fees) | Target: Annual 4.5%, Term 2 years |
| Peer Group Comparisons | PG&E Long Term Senior Notes |
| Impact on Environment & Society | Mosaic's Solar Impact line connects investors to high quality solar projects, and Mosaic plans to recycle the Impact Line, thus expecting to fund multiple loans during its 24 month term, providing repeated opportunities for the "crowd" to co-fund solar investments. |

| Renewable Energy Trust<br>PRIVATE FUND | Renewable Energy Trust,<br>www.renewabletrust.com |
|---|---|
| **Personnel Characteristics** | |
| Fund Manager | John Bohn, former California Public Utilities Commissioner |
| Investment Thesis | Applying REIT (Real Estate Investment Trust) structures "to lower financing costs for project owners, to deliver cheaper electricity rates to consumers," to benefit investors |
| Investment Decision-making Process | Use Trust to "provide liquidity to existing and pre-commissioned generating assets in utility and commercial/industry markets, targeting asset holders in need of U.S. based low-cost capital; will also work with qualified developers to simplify and reduce financing costs for project pipelines." |
| **Portfolio Characteristics** | |
| Asset Class | Real Assets |
| Total Assets Managed | Consult manager for latest information. |
| Management Fee | Depends on investor type. |
| **Performance Characteristics** | |
| Total Return (Gross & Net of Fees) | Request latest results from manager |
| Impact on Environment & Society | "Dedicated to facilitating the transition to a clean and sustainable economy, to standardize investment structures within the solar photovoltaic (PV) industry, to simplify project finance, to lower the cost of capital for Solar PV assets and to reduce the cost of clean electricity in North America." |

# REAL ESTATE

*These choices include private limited partnerships for qualified and accredited investors, and separately managed accounts for all types of investors.*

## HIP Investor Sustainable Real Estate Portfolio, www.HIPinvestor.com

MANAGED ACCOUNT of PUBLIC REITs

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | R. Paul Herman (7 years at the firm; 10 years in the industry) |
| Investment Thesis | Weights a basket of U.S.-listed Real Estate Stocks and REITs using a rigorous, data-driven analysis of quantifiable human, environmental and social results. |
| Investment Decision-making Process | The HIP Sustainable Real Estate Portfolio selects from a universe of approximately 200 Real Estate Investment Trusts (REITs), as categorized by Morningstar. The portfolio constituents are scored for sustainability, including results from LEED-certified properties, which can generate savings from consuming less water and reducing energy usage. |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Real Estate Investment Trust |
| Number of Holdings | 45 |
| Top 10 Holdings (with %) | Include sustainable-focused REITs, such as:<br>ProLogis<br>Liberty Property Trust<br>Simon Property Group |
| Expense Ratio | 1.25% |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Request latest results from the manager, or investment database. Recognized as top-decile "Top Gun" performer for rolling 12 months ending 3/31/13 and 6/30/13 by Informa PSN fund tracker. |
| Impact on Environment & Society | Properties pursing sustainability approaches tend to realize higher rents and lower turnover from tenants. Some tenants even experience higher productivity and attendance, along with fewer health problems. |

## Jonathan Rose Value Add Office Retrofit Fund, www.RoseCompanies.com

PRIVATE PARTNERSHIP

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Wendy Rowden, 4 years managing the fund; 25 years of institutional real estate experience |
| Investment Thesis | Seeks attractive, risk-adjusted returns through acquiring, renovating to green standards, and generating cash flow from "well-located Class B office buildings in major U.S. cities" (I-95 cities, Midwest cities, west-coast cities.) |
| Investment Decision-making Process | Focuses on investing in locations associated with "smart growth", which connect with public transport options, for example. Also opportunities to more aggressively implement eco-efficient process, practice and cash flow beneficial. Expects to pursue "high-impact, low-cost green tech that can increase energy efficiency and tenant appeal, yield competitive paybacks, and long-term appreciation." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Real Estate |
| Total Assets Managed | $150M |
| Sample Holdings | Joseph Vance & Sterling Building, Seattle<br>50 East San Francisco Street, Santa Fe, NM<br>107-145 West 135 Street, New York City<br>Collins Circle, Portland, Oregon<br>El Granada Building, Berkeley, Calif.<br>2 Nevada Street, Newark, NJ |
| Management Fee | 2.0% |
| Carried Interest | 20% with 9% hurdle rate |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Request latest results from manager. |
| Impact on Environment & Society | "The Fund will reduce environmental impacts in three main ways: (i) by investing only in "smart-growth" locations that reduce vehicle miles traveled; (ii) by improving the energy efficiency of portfolio properties through strategic green capital improvements; and (iii) by implementing green asset management that promulgates best practices and encourages tenant participation. The Fund's Manager will seek LEED and Energy Star certification for Fund assets and track IRIS compatible indicators." |

# PRIVATE EQUITY AND NOTES

*For accredited & qualified investors.*

## Kleiner Perkins Caufield Byers – Green Growth Fund, www.KPCB.com

PRIVATE EQUITY

### Personnel Characteristics

| | |
|---|---|
| Fund Manager : | John Denniston & Ben Kortlang |
| Investment Thesis: | "The Green Growth Fund (GGF) was established in 2008 as a US$1billion initiative to invest in and support later-stage green-tech ventures." |
| Investment Decision-making Process: | The fund provides growth capital for more mature companies with demonstrated market traction in developing innovative, scalable solutions that address the global climate crisis and promote more efficient use of natural resources. |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Private Equity / Venture Capital |
| Total Assets Managed | Estimated $1 billion investable for this strategy |
| Number of Holdings | 16 |
| Management Fee | 2% + 20% of carried interest on profit |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Request latest results from manager. |
| Impact on Environment & Society | "Through the Green Growth Fund, backs companies in a variety of technology sectors, including alternative fuels, renewable energy and low-carbon solutions for transportation." |

## DBL Investors Equity Fund I and II, www.DBLinvestors.com

PRIVATE EQUITY

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Nancy Pfund (6 years at DBL), former JP Morgan, Hambrecht & Quist (31 years industry experience) |
| Investment Thesis | "Double Bottom Line investment strategy is to invest in companies that can deliver top-tier venture capital returns while working with the company's management to promote social, environmental and economic impact in the regions in which they operate." |
| Investment Decision-making Process: | "DBL's funds make investments in private growth companies with a strong emphasis on investments in Clean Tech as well as investments in Health Care, Information Technology, and Sustainability-Oriented Products and Services." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Private Equity / Venture Capital |
| Total Assets Managed | More than $200 million over 2 funds |
| Number of Holdings | Investments that have gone public have included Tesla electric cars (TSLA) and Solar City (SCTY) |
| Management Fee | 2.5% + 20% carried interest on profit |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Request latest results from manager. |
| Impact on Environment & Society | "Employment Generation, Environmental Markets and Sustainable Real Assets, Green Technology/Cleantech, & Sustainable Consumer Products." |

AQUILLIAN
PRIVATE EQUITY

## Aquillian Ecosystem Integrity Fund (EIF), www.aquillian.com

### Personnel Characteristics

| | |
|---|---|
| Fund Manager : | James Everett and Devin Whatley |
| Investment Thesis: | "The Fund seeks to invest in companies and projects that contribute substantively to reducing or ameliorating key threats to ecosystem integrity." |
| Investment Decision-making Process: | "The fund will typically pursue investments in capital-efficient businesses which have not received sufficient investor attention, niche opportunities through which can add significant value with limited capital, and opportunities to access or develop unique platforms." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Venture Capital / Private Equity |
| Total Assets Managed | Request latest results from the manager. |
| Number of Holdings | 6+private ventures |
| Top 10 Holdings (with %) | Zep Solar<br>KeVita<br>Synova<br>SynchroNet<br>iVeridis<br>CellFor |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Request latest results from manager. |
| Impact on Environment & Society | "The fund supports organizations that reduce land fragmentation and conversion, depletion of productive capacity, and contamination of land, air & water." |

# FIXED INCOME

*Available as separately managed accounts*

## SNW Impact Rated Bond Portfolio, www.SNWam.com

MANAGED ACCOUNT

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Eddie Bernhardt, CFA (8 years at SNW; 20 years of industry experience) |
| Investment Thesis | "As issuers of bonds can create value for society as well as bondholders, those bonds can be more financially stable and successful, and form the foundation of a stronger portfolio." |
| Investment Decision-making Process | "SNW builds impact-based bond portfolios by applying HIP Investor's proprietary ratings to each security, which allows us to quantify and score the portfolio's overall Human Impact." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Fixed Income |
| Total Assets Managed | $1.8 billion overall; $67 million of impact-rated bonds |
| Number of Holdings | 25 to 35 per portfolio |
| Share in Energy Sector | Focused on clean energy solutions |
| Management Fee | Can vary by size of investor; up to 0.30% for impact-rated bond portfolio |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Request latest results from manager. |
| Peer Group Comparisons | Merrill Lynch Municipal 1-10 year index |
| Impact on Environment & Society | "Positive Health, Wealth, Earth, Equality, & Trust using Human Impact + Profit (HIP) methodology and HIP Scores for quantifying overall net benefit to society." |

## RSF Social Investment Fund, www.RSFsocialFinance.org

PRIVATE FUND

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Don Shaffer |
| Investment Thesis | "The RSF Social Investment Fund provides an opportunity to invest in a diversified, direct loan fund comprised of over 75 leading non-profit and for-profit social enterprises." |
| Investment Decision-making Process | "Investments in this fund support RSF's Core Lending Program, which provides mortgage loans, working capital lines of credit, and inventory financing exclusively to non-profit and for-profit organizations dedicated to improving the well-being of society and the environment." |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Fixed Income |
| Total Assets Managed | $73MM |
| Energy | Focused on clean energy |
| Management Fee | Built into the net returns |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Varies with interest-rate environment. Request latest results from manager. "The RSF Social Investment Fund and its affiliates have repaid investors consistently for 29 years with a loan loss rate of 1.65%." |
| Impact on Environment & Society | "Capital from the RSF Social Investment Fund is deployed through RSF's Core Lending Program which offers mortgage loans, construction loans, equipment loans, and working capital lines of credit exclusively to non-profit and for-profit organizations dedicated to improving the well-being of society and the environment. RSF Social Finance supports enterprises working in one of three focus areas: Food & Agriculture, Education & the Arts, and Ecological Stewardship. All borrowers are carefully screened to meet specific criteria exhibiting the utmost commitment to people, place, and environment." |

## Community Capital Management CRA Qualified Investment Fund

MUTUAL FUND

(CRANX for institutional investors; CRATX for retail investors)

### Personnel Characteristics

| | |
|---|---|
| Fund Manager | Barbara VanScoy, since inception (14 yrs), Michelle Rogers (10 yrs managing this strategy) |
| Investment Thesis | The CRA Qualified Investment Fund provides an opportunity for institutional investors to target their investment dollars to support specific impact themes or geographies nationwide. Impact themes may include affordable housing, neighborhood revitalization, healthy communities and environmental sustainability. |
| Investment Decision-making Process | The CRA Qualified Investment Fund is a market-rate, high credit quality bond fund that invests in fixed income securities whose proceeds positively impact communities and the environment throughout the United States. A primary component and benefit of the Fund's pioneering research method is combining community impact research with rigorous financial analysis. This approach provides an added layer of investment transparency by detailing the use of bond proceeds and providing a full understanding of the programs being financed. |

### Portfolio Characteristics

| | |
|---|---|
| Asset Class | Fixed Income |
| Total Assets Managed | $1.5 billion |
| Number of Holdings | 800+ |
| Energy Sector Exposure | Bonds in the portfolio finance a variety of sustainable initiatives such as rehabilitative housing/adaptive reuse, energy efficiency, renewable energy, water conservation, developing brownfields, and meeting energy codes. Additionally, many of the bonds are financing the creation of green jobs and green small businesses. |

### Performance Characteristics

| | |
|---|---|
| Total Return (Gross & Net of Fees) | Request latest results from manager. |
| Peer Group Comparisons | Barclays U.S. Aggregate Bond Index |
| Impact on Environment & Society | The CRA Fund positively and proactively screens bonds that have community development as their primary purpose. The Fund's overriding investment philosophy is predicated on incorporating the "environmental" and "social" aspects of ESG. |

# CASH AND BANKING

| FDIC-insured BANK | New Resource Bank – Impact CD – Solar/ Alternative Energy, www.NewResourceBank.com |
|---|---|
| **Personnel Characteristics** | |
| Fund Manager | Bank president is Vince Siciliano |
| Investment Thesis: | Certificates of Deposit support new loans to New Resource borrowers; customers can choose one of three key sustainability-related sectors, Solar/ Alternative Energy |
| Investment Decision-making Process: | All new loan recipients must be green businesses or committed to improving their operational sustainability. |
| **Portfolio Characteristics** | |
| Asset Class | Cash management; Certificates of Deposit |
| Total Assets Managed | Bank's total deposits are $178 million; loans are $136 million; net assets are $42 million, as of May 2013 |
| Energy | 100% focused on clean energy or energy efficiency |
| Management Fee | Built into net returns |
| **Performance Characteristics** | |
| Total Return (Gross & Net of Fees) | +0.05% to +0.70% annually depending on deposit size and duration (https://www.newresourcebank.com/rate-sheet) |
| Impact on Environment & Society | Goal is a loan portfolio invested 100 percent in businesses that are advancing sustainability. New Resource Bank's Certificates of Deposit typically finance new solar or alternative energy projects. |

For more information on how to go fossil free:
Go to www.GoFossilFree.org
and www.HIPinvestor.com