

The State of Sustainable Finance in the United States



The Inquiry

The Inquiry into the Design of a Sustainable Financial System has been initiated by the United Nations Environment Programme to advance policy options to improve the financial system's effectiveness in mobilizing capital towards a green and inclusive economy—in other words, sustainable development. Established in January 2014, it published its final report, *The Financial System We Need*, in October 2015.

More information on the Inquiry is at: www.unep.org/inquiry and www.unepinquiry.org or from:

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About this report

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Comments

Comments are welcome and should be sent to nick.robins@unep.org.

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EXECUTIVE SUMMARY

While US financial institutions have at times enjoyed a reputation of being something of a laggard on sustainability issues versus their European counterparts, significant changes and innovations are under way which are beginning to drive meaningful change.

Record levels of awareness on sustainability issues in the US, including from millennials, are accelerating activities such as:

- ⦿ Increased levels of sustainable and responsible investing.
- ⦿ An increased focus from the largest US banks and other financial institutions on sustainability risks, lending practices and related opportunities.
- ⦿ US insurance companies and related regulators are also developing and evolving sustainability risk frameworks.
- ⦿ Federal and State policies are accelerating the ongoing US low carbon energy transition.
- ⦿ Financial innovation is driving meaningful change in many investment sectors while social innovation and culture development also continue to evolve.

With energy costs curves seen as changing for the long term, levelling the playing field for lower carbon energy production, and interest in having a positive impact with investment dollars from millennials on the rise, a top-down, bottom-up race is under way which has created an important new dynamic leading to these actions.

Accelerating these trends further can help make the US a leader on both designing and enabling sustainable financial systems.



INTRODUCTION



The US has enjoyed the benefits of, while helping design and evolve what is arguably the most successful and innovative economic system in the world.

US markets continue to dominate global finance, which can be readily seen from a number of perspectives, including:

- US institutions own the largest component of global debt and equity ownership at 31.9%¹ with New York City and Boston representing two of the three largest global cities managing assets overall.²
- As of the end of 2012, North American (mostly US) asset managers oversaw 54.7% of the assets managed by the largest 500 asset managers in the world.³
- Institutional ownership of public companies is also concentrated, with the largest 1000 US-listed companies being owned 73% by institutional investors, with much of this managed in the US.⁴
- A majority of the largest 100 public companies in the world are domiciled in the US.⁵ US stock exchanges also dwarf all others in terms of overall market capitalization,⁶ and the US has the largest annual GDP in the world.⁷
- Similar primary relevance is seen in assets managed in the US across asset classes from private equity to venture capital to hedge funds among other relatively recent forms of finance, investment and trading mechanisms which have arisen primarily as a result of US-originated innovation.

US businesses also have a successful history of taking their once well-honed practices overseas, and so the opportunity to scale US sustainable finance practices in other countries is another important dynamic to potentially encourage for financial and societal success.

For the sake of global sustainable financial systems, which are increasingly interconnected, the directionality of US markets is therefore of primary importance, given the influence, creativity and assets under management in the region.

The question of how we can know whether the US is headed towards a sustainable financial system is salient, and we believe it can be answered through an analysis of five trends as follows:

- 1) Sustainable investment, banking and lending practices in the US
- 2) The US insurance industry and credit risk
- 3) Federal and state policy, disclosure and actions
- 4) Financial market innovation
- 5) Social innovation and culture



1 SUSTAINABLE INVESTMENT, BANKING AND LENDING PRACTICES IN THE US



Interest in Environmental, Social and Governance (ESG) issues in the US is on the rise with one recent study showing ESG factors reflected in some way at US\$6.57 trillion of assets managed in the US as of 2014, a growth of 76% since 2012.⁸

Mutual funds are the largest component of global public equity ownership (over 22%), with most of these dollars owned in the US.⁹ Ownership of these vehicles is increasingly static and held in well-developed active and passive strategies, through vehicles such as 401(k) plans and other forms of long-term, defined contribution pools which encourage holding portfolios for the long term.¹⁰

Equity mutual funds in the US available to the public with ESG factors as primary considerations have been a small historical component of this picture,¹¹ arguably resulting in a meaningful gap between present day mutual fund strategies and achieving a better integration of ESG issues within investment in general.¹² But significant changes are being seen of late, with sustainability factors increasingly studied and implemented by investors into their strategies. 2015 in particular has seen significant changes to this previous disconnect starting to unfold.

Firms such as BlackRock are now attempting to increasingly consider the cost of climate change to investments,^{13,14} and Bank of America Merrill Lynch has a new, strong focus on this area as well.¹⁵ Some US asset owners have made significant moves through efforts such as the PRI's new Climate Change Pilot Framework for Action.¹⁶ Pension Funds such as the New York State Common Retirement Fund have accelerated their low carbon efforts during COP21,¹⁷ however, there is a way to go for US fund managers to vote in favour of climate change resolutions, which many of the largest US institutions still do not.¹⁸

BOX 1 : THREE RECENT US CLIMATE RESEARCH AND INVESTMENT COMMITMENTS OF SIGNIFICANCE – GOLDMAN SACHS, BANK OF AMERICA MERRILL LYNCH, BLACKROCK

1) In November 2015, Goldman Sachs increased its commitment to its clean energy investment activities to US\$150 billion by 2025, quadrupling its previously stated goals. Energy transition success likely will require both significant capital commitments and investment/risk-return profile creativity, and across different asset classes, making increased involvement from firms such as Goldman Sachs significant and welcome news.

Earlier, in July 2015, it previewed this step when it joined a White House effort to get US businesses to act on climate change along with Alcoa, Apple, Bank of America, Berkshire Hathaway Energy, Cargill, Coca-Cola, General Motors, Google, Microsoft, PepsiCo, UPS, and Walmart with stated goals at the time including a) increasing energy efficiency (a key needed wedge in the climate transition, expected to be as much as US\$1 trillion per year in new investment globally according to the IEA), b) boosting low-carbon investing and c) making solar energy more accessible to low-income American families.



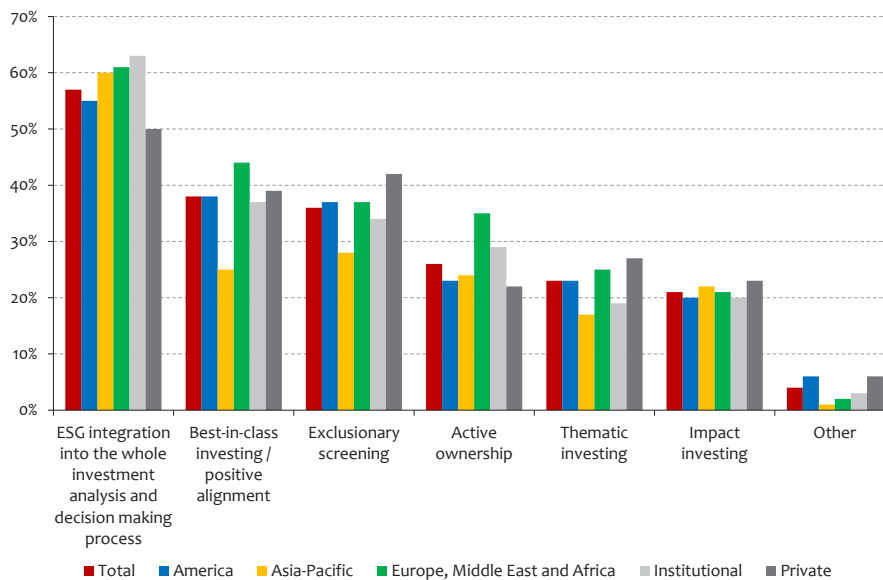
BOX 1 (CONTINUED)

2) Also joining this White House pledge was Bank of America, and who has also committed to nine figures of environmental sustainability, in this case US\$125 billion in low-carbon business through lending, investing and related efforts. These two banks clearly see financial opportunity in addition to understanding their essential role as enablers of what is needed for greater society, creating a potentially useful positive dynamic of seeking financial performance alongside societal positive benefit.

3) In November 2015, BlackRock, the world's largest asset manager with US\$4.5 trillion in assets, published a twelve-page White Paper entitled "The Price of Climate Change, Global Warming's Impact on Portfolios". The report outlines challenges arising from climate change along with recognition of the specific potential to affect asset prices in all areas alongside suggested investment solutions. BlackRock now manages more than US\$200 billion of assets across environmental, social, and governance and impact investment portfolios.

Individual investor interest in ESG has also been on the rise, at 71% according to a recent Morgan Stanley survey, even though this has not yet been matched by professional US advisors, most of who recently stated that they remain disinterested.¹⁹ This was further confirmed by a recent August 2015 CFA Institute Survey entitled "How do ESG issues factor into investment decisions?" which found its America region members to be least likely to use ESG within decision-making;²⁰ a clear opportunity is emerging for large US financial institutions to better embed sustainability awareness in their professional ranks in order to better address the increase in client interest being expressed.

Figure 1: Consideration of ESG issues in investment analysis and decisions



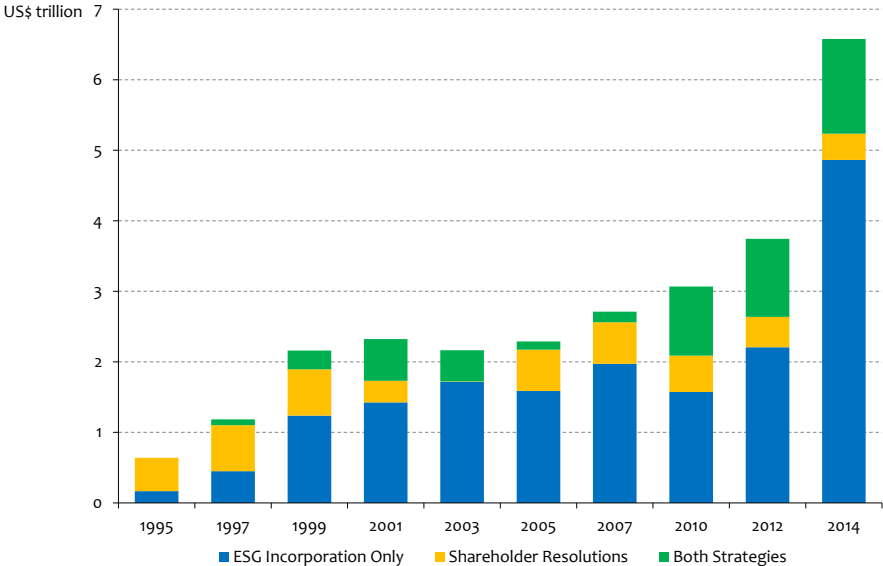
Source: CFA Institute

High net worth and ultra-high net worth are the fastest growing components of public equity ownership, with 33% of all US stock ownership coming from the 1% wealthiest,²¹ resulting in wealthy individuals and families' ownership of US companies being higher than the rest of world public equity.

Such wealthy US investors tend to invest by demographic, meaning a slice of this segment is among the most vocally interested in issues such as climate change and impact investing, driving meaningful new levels of interest in ESG in general, while other wealthy families would explore other avenues and investment options.

A recent effort to estimate global investment with ESG factors in mind, including practices in the US, was most recently performed by the Global Sustainable Investment Alliance (GSIA), a loose consortium of regional groups such as US SIF, Eurosif and the RIAA in Australia among other such groups globally.²² This report estimated US investment with ESG factors at 30.8% of the global total of US\$21.4 trillion in 2014 (Figure 2).

Figure 2: Growth of US Sustainable and Responsible Investing, 1995-2014



Source: US SIF Foundation

Negative screening remains the largest component of global ESG investment strategy, or US\$14.4 trillion (67.2%) which remains the dominant deployment of ESG investment strategy in the US as well, even though such strategies do not perform as well financially as more forward-looking sustainable investments.²³ Regardless, the GSIA study showed no growth in positive or best-in-class strategies between 2012 and 2014. This is further testament to the sticky nature of assets in general as well as the entrenched nature of socially responsible investment in the US as a niche business, while scope for more positive investment products to be brought to market becomes another opportunity worthy of consideration.

Larger long-standing players such as Calvert, Pax World and Domini have not seen assets under management increase in recent years, while newcomers have taken a stronger hold of the US market. Instead, Parnassus Investments in particular has risen through “value first” strategies to become the largest SRI fund manager in the US, due to a combination of outperformance versus benchmarks as well as being the only SRI large cap value fund available through platforms to retail and other US investors.

Large US Institutions and Sustainable Finance Practices

Mainstream US banking institutions are also making potentially important strategic moves such as Goldman Sachs hiring a Head of ESG for the first time²⁴ and acquiring Imprint Capital Advisors, Morgan Stanley issuing large green bonds²⁵ and Bank of America Merrill Lynch making a big push with new products and reporting through MSCI now available to its clients on the impacts of their portfolios,²⁶ all as a result of perceived increased client demand.

Lending practices have also accelerated among the larger firms, for example with Bank of America’s now US\$125 billion low carbon business commitments.



BOX 2: BANK OF AMERICA'S ENVIRONMENTAL BUSINESS INITIATIVE²⁷

Bank of America increased its second environmental business initiative from US\$50 billion to US\$125 billion in low-carbon business by 2025 through lending, investing, capital raising, advisory services and developing financing solutions for clients around the world. This 10-year environmental business goal represents a commitment to advancing energy efficiency, renewable energy and transportation, in addition to addressing other areas such as water conservation and land use.

This expanded second environmental commitment builds on the company's initial environmental business initiative which was established in 2007 and then fulfilled in 2013, four years ahead of schedule.

Since 2007, Bank of America has provided more than US\$39 billion in financing for low-carbon activities, of which US\$17 billion has been distributed from this second commitment, initially announced in 2012 at US\$50 billion and increased in 2015 to US\$125 billion.

While much lending in the US has been happening historically in a more business-as-usual manner, increased efforts of this kind are now helping to accelerate the sort of effort encouraged by CERES through its Clean Trillion initiative and reports,²⁸ which call for US\$44 trillion of additional clean energy spending over the next 35 years, or over US\$1 trillion per year. The large banks have therefore a very important role to play. Fortunately, the large US banks are increasingly seeing that there is financial benefit to do so as Morgan Stanley reported in March 2015.

BOX 3: MORGAN STANLEY – SUSTAINABLE REALITY

Morgan Stanley recently issued a report on the business case for sustainable investing finding solid performance for well-crafted ESG portfolios much as we have found in our own analysis previously. The findings of this report included that:

- Investing in sustainability has usually met, and often exceeded the performance of comparable traditional investments, both on an absolute and risk-adjusted basis, across asset classes and over time, based on their review of US mutual funds and separately managed accounts.
- Sustainable equity mutual funds had equal or higher median returns and equal or lower volatility than traditional funds for 64% of the periods examined.
- A positive relationship exists between corporate investment in sustainability and stock price and operational performance, based on a review of existing studies.

This is impressive when considering that only one out of four active US fund managers has beaten market benchmarks over the past 10 years.²⁹

Generation Investment Management also recently disclosed 10-year outperformance versus benchmark, and that roughly half their asset owner clients are based in the US, or approximately US\$6 billion in assets.³⁰

Other examples can be found at TIAA-CREF³¹ which is one of the very largest in the US, with more than US\$15 billion under management within responsible solutions, and also a champion of Impact Investing (investment that seeks financial, environmental and social benefit at the same time).



A recent October 2015 US Department of Labor ruling also means that US pension funds can fully consider ESG factors in their investment decisions, removing one more historical barrier in the way of US investor commitment and action.³²

The State of US Investor Governance

US investors can also help improve governance in general by doing three things as follows: a) improve their own disclosure and governance, while also encouraging more disclosure and transparency in markets, b) scale market innovation and the evolution of new financial innovations that can solve societal problems, and c) build their capacities to execute and refine their own strategies and thinking through better development of culture.³³

Some investors have very good sustainability-related reporting but they are few and far between. Most US investors do not manage their portfolios for long-term environmental considerations or with concepts such as global sustainable development in mind. US mutual funds for example deploy in many cases decades-old, entrenched strategies either actively or passively managed, with almost no consideration of environmental trends in their buy/sell decision-making, with the main pressure on such investors being that on lowering fees.

Investors performing and reporting on the carbon footprint of their portfolios is now roughly ten years old, and US investors measuring their carbon footprint today include Green Century, Calvert, Pax World and the growing number of signatories to the Montréal Carbon Pledge and the Portfolio Decarbonization Coalition. In May 2015, the French government voted to amend article 48 of the *Energy Transition Law* and to require institutional investors to report on emissions.³⁴ This now also includes the establishment of a baseline for financial actors to assess their potential exposure and contribution to the energy transition through a National Low-Carbon Strategy.³⁵ This example of coordinated government/investor effort can be expected to be increasingly taken up globally, although US specific examples remain relatively rare versus the size of assets that are generally under management.

Looking at the reporting of investors and their implemented strategies, a growing body of global investors are also reporting on their responsible investment practices, perhaps most notably Colonial First State³⁶ and Nordea³⁷ as well as pension funds such as PGGM,³⁸ but there are fewer examples of this in the US.

CalPERS is a leader at constructing Investment Beliefs³⁹ which ensure that future generations should enjoy the same rights to financial and societal benefits, lifestyles and annual payments as current generations do. Many other pension funds are known to be constructing similar belief sets. TIAA-CREF has been performing Responsible Investment reports, but few other cases of this sort of reporting can be found in the literature.

Credit Risk and Environmental Issues

Fixed income securities are given credit ratings which reflect the probability of default (the borrower not being able to make its payments). Credit ratings are relative rather than absolute and the market is dominated by three US players: S&P, Moody's and Fitch Ratings. These credit ratings help determine interest rates and other conditions attached to lending.

Bonds often mature over 10 to 20 years meaning there is scope to consider longer term risks such as climate change including issues which the Carbon Tracker Initiative considers on bonds in sectors where the company's ability to repay and service debt is reliant on continuing to produce fossil fuel from remaining reserves which may need to stay in the ground, or what is sometimes referred to as potential "stranded assets".



Research is also under way on how to better integrate ESG into sovereign and corporate bond ratings, as well as into better understanding of how ESG affects the cost of capital which is expected to affect US lending practices further going forward.

Companies have already been experiencing credit risk downgrades due to environmental conditions. As one example, in August 2015, Moody's cut São Paulo's water utility SABESP to junk status on the back of the ongoing drought.

US-based S&P and Moody's are working on methodologies to incorporate such environmental factors into their future considerations and credit risk is likely to be a key focus for both PRI and UNEP into 2016 and beyond.



2 THE US INSURANCE INDUSTRY AND CLIMATE RISK



In the US, the insurance sector employs about 2 million people and is a significant component of the US financial industry. The sector serves two purposes in the US economy. First, the sector provides a safety net against risks for consumers, businesses, and other institutions and second, the sector seeks to achieve a rate of return for investors after covering claims and expenses.

Insurers are profitable if their payouts on claims are less than their premiums received, after expenses. Because insurers provide coverage against financial loss given unanticipated events, insurers develop diversified portfolios of policies and products. These insurers assume – in an unconstrained carbon economy – that the risks covered by these policies in these diversified portfolios are not correlated.

Insurers are taxable entities that apply actuarial science to forecast risks over time while managing their investable portfolios to obtain financial returns that exceed assumed payouts from forecasted actuarial risks. Because of this, insurers directly or indirectly manage significant assets-under-management (AUM). These firms manage the majority of their assets applying asset liability management to achieve a rate of return to finance their promised coverage payouts.

For life insurance companies, their coverage rates are developed through actuarial tables that determine when payouts may occur. Meanwhile, industry competition often compresses margins. As health risks from climate change manifest, previous actuarial rates may not accurately reflect payout trends, further squeezing margins while policies' correlation may increase.

Nonlife insurance companies including property and casualty insurers face even greater uncertainty than life insurance companies due to greater variability in claims frequency and even greater risk of increasing correlation between policy classes. Given the non-linear nature of physical risks from climate change – in other words, historical frequency does not dictate future occurrence of risk – nonlife insurance companies are at even greater risk than life insurance companies of required payouts for both acute and chronic climate change risks. This uncertainty is further expanded as the increasing frequency of extreme weather events causes large-scale localized payouts for multiple policy classes.

Both life and nonlife insurance companies also manage surplus portfolios – based on previous earnings – to aggressively achieve and supplement investors' required rates of return. Both types of insurance companies have significant liquidity concerns such as payouts for unanticipated events that are not always easily forecasted. This means that their investment time horizons have decreased over time while they – at the same time – are at least tempted by the notion of investing in higher yielding riskier and more illiquid assets in order to achieve greater investment returns to meet increasing frequency of payouts.

The vast majority of insurers' investments is in the bond markets, resulting in interest rates impacting insurers' investment income. Insurers also have significant investments in other illiquid asset classes like real estate and liquid asset classes like equities. Because insurers are regulated by state and federal entities, they must maintain regulatory capital investments in low-yield, liquid fixed income assets like government bonds. As such, life and nonlife insurance companies face the following risks: disintermediation (cash outflows exceed cash inflows), asset-liability mismatch and asset marketability



risk for illiquid assets, interest rate, and market risks, all of which are compounded by the uncertainty of claims' coverage payouts. This results in an industry that must achieve or exceed market rate returns to meet its ability to provide coverage for claims.

Meanwhile, few states' insurance regulators require insurers selling policies in their states to publicly describe their approaches to mitigating climate change risks inherent in the business they conduct in the markets they work in. In fact, the National Association of Insurance Commissioners (NAIC) and CERES report that only insurance regulators in California, Connecticut, Minnesota, New York and Washington disclose climate-related risks to their survey. These states do however write the majority of insurance in the US.⁴⁰

Moreover, insurers are not required to cover risks that they cannot profitably forecast and model. Consequently, many US insurers often leave markets that are suffering from acute and chronic climate change risks. Particularly in the property and casualty segment, this has already increased the financial exposure of municipal, state, and federal governments related to insurance coverage provided through public programmes such as the National Flood Insurance Program. Lack of adequate private insurance has also increased the costs to governments, businesses and individuals of rebuilding after disaster strikes. This gap in insurance coverage is also expected to widen due to the uninsurability of non-diversifiable risks related to climate change such as sea level rise.

For example, Hurricane Sandy caused US\$68 billion in total losses with over US\$29 billion in insured losses. In fact, many US coastal properties are now threatened by acute (hurricanes, extreme weather) and chronic (sea-level rise, change in precipitation patterns) climate change impacts. In a July 2014 report, CoreLogic estimated that 6.5 million US homes with total reconstruction value of US\$1.5 trillion are now at risk of climate change-related storm surge.

CERES' 2014 Insurer Climate Risk Disclosure Survey Report and Scorecard analysed 330 insurance companies' responses (representing 87% of the US insurance market) to the NAIC survey. It assessed insurers' self-reported information about their approaches to climate risk governance, management, modelling, stakeholder engagement, and GHG emissions commitments and achievements.

According to this report, the results are clear. The vast majority of US insurers are not equipped or able to address climate change risk. Only 3% of the 330 surveyed insurers reported leading practices in addressing climate change risk while less than 1% of the insurers had incorporated climate change risk or carbon asset risks – the risk of stranded assets influenced by climate change – into their respective portfolio management approaches.

Other findings included that life and annuity insurers and health insurers are simply unprepared to assess their business and investment risks related to climate change regardless of the many ways that climate change is expected to impact human health and well-being. Few property and casualty insurers have begun to model climate change impacts on current policies and as a result adjusted their underwriting and pricing accordingly. Across all insurance segments, few insurers have issued public statements outlining their approach to incorporating climate change into their overall enterprise risk management strategies and encouraging policymakers and society to invest in climate change mitigation and adaptation.

CERES' report concludes that the vast majority of insurers have not been proactive in analysing how climate change presents a fundamental risk to their business activities and more importantly the communities that they serve as a fiduciary. In summary, when assessing this industry for the following five factors: climate change modelling and analytics, climate risk governance, enterprise-wide climate risk management, stakeholder engagement, and investment management, few if any insurers demonstrate overall leadership.

The United Nations Environment Programme Finance Initiative launched in 2012 the Principles for Sustainable Insurance (PSI) in this context to promote a risk-aware world where the insurance industry as a trusted fiduciary enables a safe, healthy, resilient, and sustainable society. PSI has now joined the Climate Bonds Initiative to support the insurance industry in assessing their portfolios for climate risk while encouraging the enabling framework to promote green bond demand by these same portfolios.

Likewise, NAIC has also launched a set of climate change risk disclosure initiatives. The NAIC, in collaboration with the American Academy of Actuaries, Society of Actuaries, Canadian Institute of Actuaries, and the Casualty Actuary Society are also soon launching an Actuaries Climate Risk Index (ACRI). It will assess the frequency and intensity of extreme climate events over the past decades and publish online information publicly available information that is industry-friendly so that actuaries can begin to improve their climate risk modelling.

Meanwhile, US insurers have trillions of dollars in AUM primarily in fixed income portfolios coupled with trillions of dollars in insurance policies priced in the marketplace, none of which are immunized to climate change risks.

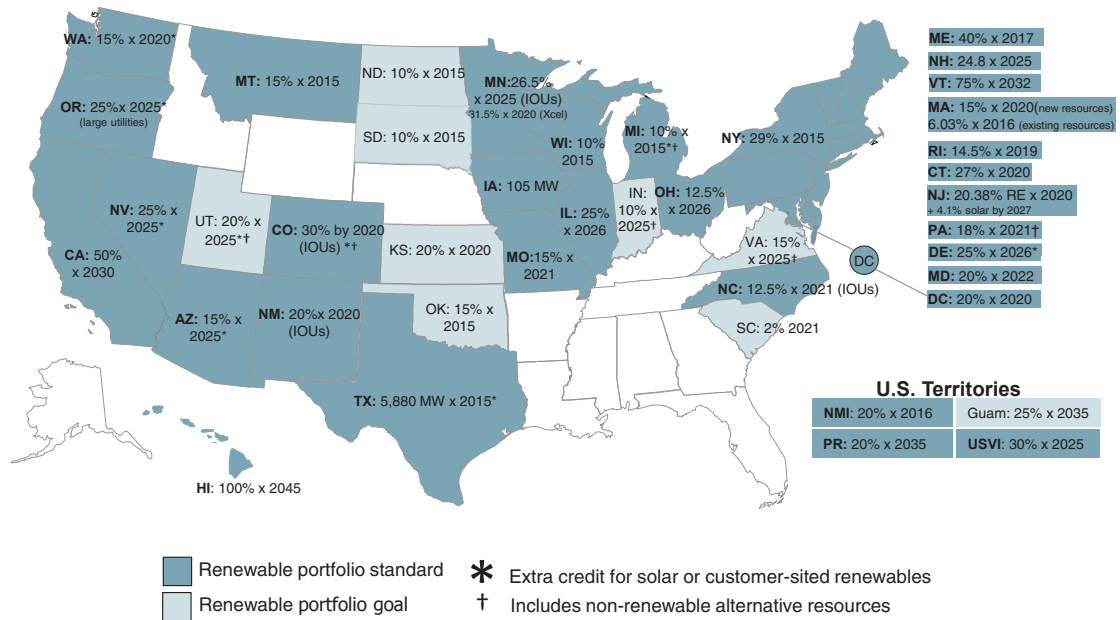


3 FEDERAL AND STATE POLICY, DISCLOSURE AND ACTIONS

Much as the European Union can be considered a collective of countries making individual policy decisions on their own energy scenarios and policies, while also acting as a cohesive European whole (a collective EU vision sees 60% reductions in CO₂ emissions by 2050 versus 2010 levels),⁴¹ so do each of the United States of America act as 50 different entities making state level decisions, while also coordinating into federal level regulation and activities. For the European Union, this means nuclear remains the main source of electricity in France, while in Germany right next door the Energiewende involves removing nuclear from the energy mix, while the EU as a whole negotiates on climate change as a global entity. Similarly, in the US, much of the action has been at state level, while federal level policies and negotiations also play an increasing important part.

Renewable Energy Standards are largely responsible for setting the stage for the energy transition that is under way in the US, with more than half of US States having a standard in place.⁴² These standards set firm policies which help investors commit capital to renewable energy investments with levels of confidence which would otherwise not be possible.

Figure 3: Renewable Portfolio Standards (as of October 2015)



Source: DSIRE

To illustrate the diversity of cases, California aims for 50% renewable energy by 2030, while Florida has no policy, and Connecticut aims for 27% by 2020.

At the same time, the US is involved in climate negotiations at the federal level, with a dynamic set to play out after the 2016 elections determining what commitments will be held to with differing agendas by US State coming into fruition.



Additional state level actions and initiatives are leading to accelerated investment including Green Banks in New York and a variety of initiatives in California, which have led to billions of dollars in savings and incremental investment. US States have different renewable energy resources (hydropower, wind, solar, geothermal, bioenergy and marine energy), making each state's decisions unique based on costs and access, however leading states are setting scalable examples, much as Germany seeks to bring its Energiewende experiences to the rest of Europe.

BOX 4: CALIFORNIA

As is often the case, California looks to set the bar on how far it can sensibly go in search of doing all that it can on these issues.

For example, CalPERS has been a global leader on establishing a set of Investment Beliefs,⁴³ which recognize both a first belief in paying its current beneficiaries now, but also equally recognizing its Fiduciary Duty to future generations. This practice of establishing Investment Beliefs is spreading to other global asset owners, as part of the ongoing evolution of fiduciary duty itself, as reported in the recent UNEP FI publication *Fiduciary Duty in the 21st Century*.⁴⁴

CalSTRS, the other large California pension fund representing retired state teachers, as opposed to state employees, similarly seeks to establish new initiatives, most recently spearheading engagement collaborations of asset owners around corporations maximizing energy efficiency while also attempting to spearhead green investing.⁴⁵

As a state government, California has also given birth to investment initiatives⁴⁶ targeting financial and environmental savings, such as:

- State Water Efficiency and Enhancement Program (2014): US\$8.6 million invested across 129 specific projects⁴⁷
- California Solar Initiative (2006-2015): US\$1.83 billion across over 140,000 rebates issued⁴⁸
- New Solar Homes Partnership (2015): US\$134 million across over 19,000 rebates issued⁴⁹
- Proposition 39 Energy Efficiency and Solar Generation (2013-2015): US\$403 million across over 2000 sites⁵⁰
- Investor-Owned Utilities Energy Efficiency Programs (2010-2012): over US\$1.8 billion of expenditures⁵¹ (as part of a Long Term Energy Efficiency Strategic Plan⁵²)
- California Climate Credit (2014): US\$822 million in savings received by over 12 million utility customers⁵³
- Clean Vehicles Rebate Project (2010-2015): US\$220 million across over 100,000 rebates⁵⁴
- Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (2009-2015): US\$55 million across over 1800 vouchers issued⁵⁵
- Alternative and Renewable and Fuel and Vehicle Technology Program (2009-2015): US\$600 million across over 800 projects⁵⁶
- Low-Carbon Transit Operations Program (2014-2015): US\$24 million across 95 projects⁵⁷

Other invested projects include those on urban and community forestry and forest legacy, on wetlands restoration and on GHG reduction grants.

In addition, federal level legislation has arguably led to the most significant GHG emissions reductions seen to date in the form of the EPA's Clean Power Plan,⁵⁸ which has helped lead to power plants either shutting down or converting to natural gas, in anticipation of this. In Texas, 4000 MW of coal plants are shutting down in anticipation of this legislation.⁵⁹

BOX 5: NY GREEN BANK

The NY Green Bank⁶⁰ is a state-sponsored, specialized financial entity working in partnership with the private sector to increase investments into New York's clean energy markets, creating a more efficient, reliable and sustainable energy system. In adopting a targeted approach to clean energy financing markets, it represents an innovative business model at the forefront of the trend driving institutions nationally and internationally. It aims to improve energy affordability, to design a cleaner, more resilient and flexible power grid, to give customers more control over their energy use and to better align energy innovation with market demand. NY Green Bank sees itself as a critical piece of this energy transition and a key energy priority for New York State. Unleashing the power of private sector energy financing brings about scaled deployment of proven technologies and a robust marketplace that can create new value for businesses, investors, customers and communities.

NY Green Bank increases the availability of capital for projects deploying proven clean energy technologies across New York State through:

1. Leveraging private sector capital to support and expand clean energy financing markets;
2. Animating and growing capital markets reducing the need for government support; and
3. Motivating faster and more extensive deployment of clean energy assets, contributing to economic development, greater energy choices, reduced environmental impacts and more green energy advantages for every public dollar spent.

In July 2015, the Public Service Commission approved US\$150 million in state funding for New York Green Bank to help it reach its ultimate threshold of US\$1 billion.

While legal action against the entirety of the Clean Power Plan was originally assumed, if not expected, utilities are seen as increasingly embracing the plan and legal manoeuvres are now seen as refining the details,⁶¹ as well as less likely to happen or succeed, especially if resulting in lower cost scenarios.⁶²

Also, in October 2015, the Department of Labor has issued interpretative guidance⁶³ to US pension funds regulated by ERISA (the Employee Retirement Security Act of 1974) law, which “acknowledge[s] that environmental, social, and governance factors may have a direct relationship to the economic and financial value of an investment,” and that a previous 2008 bulletin may have “unduly discouraged” fiduciaries from taking ESG factors into account.⁶⁴

The SEC and Guidance on Climate Risk

In 2010, the SEC issued another piece of interpretative guidance⁶⁵ on climate risk disclosure for corporations, in effect not passing new laws requiring items to be reported in SEC filings such as 10-K, but instead provided a perspective intended to help guide companies to further interpret existing disclosure rules, especially as they pertained to “company’s risk factors, business description, legal proceedings, and management discussion and analysis (MD&A)”.

This guidance was issued on the behest of a group of investors and others including CERES who analysed 100 companies that have a strong stake⁶⁶ in preparing for a low carbon future among electric utilities, coal, oil and gas, transportation and insurance. A related report by CERES in 2009 analysed the SEC filings made by these companies in Q1 2008, and found very limited climate risk disclosure, with over half of these companies not mentioning GHG emissions or their positions on climate change.⁶⁷

CERES themselves subsequently reported back in their 2013 *Cool Response: The SEC & Climate Change Reporting*⁶⁸ that there has been “little improvement since 2010. In fact, the average score assigned to 10-K climate disclosures has dropped off since 2010 showing that, while more companies are saying something about climate change, they were less specific in disclosures made in 2013 compared with 2010 reporting,” and that “a large number of companies fail to say anything about climate change in their 10-K filings. Forty-one percent of S&P 500 companies failed to address climate change in their 2013 filing.” CERES’ Mindy Lubber was quoted in the report as saying that “the SEC is not adequately enforcing its own requirements.”⁶⁹

The effort co-chaired by Thomas Steyer, Henry Paulson and Michael Bloomberg entitled *Risky Business* found similar concerns, saying about investor adaptation that “Another area where today’s business investments have a direct relationship to tomorrow’ climate impacts is in long-term capital expenditures, which will live well into the middle of the century and beyond. Today, ratings agencies are evaluating infrastructure projects with a multi-decade lifespan. Utilities are making investments in new power plants and pipelines, and signing long-term power purchase agreements that rely on those investments. And real estate investors are making multiple bets on residential and commercial properties. These investments must be evaluated in terms of the actual climate risk specific regions face as we approach the middle of this century. In 2010, recognizing this reality, the Securities and Exchange Commission (SEC) issued Interpretative Guidance on climate disclosure, giving companies some idea of how to consider their “material” risks from climate change; unfortunately, as of 2013, over 40% of companies listed on the Standard & Poor’s 500 Index were still not voluntarily disclosing climate risks.”⁷⁰

A further detailed analysis published in late 2014 by Calvert Investments and Fauna and Flora International, which gave further context to US corporate disclosure in regard to natural capital issues such as air, land, water and biodiversity with a transparency ranking established as follows, with the US coming in as the eighth most transparent market based on the DJIA constituents:

Rank	Financial Index	Country	Equities	% complete
1	CAC 40 Index	France	40	61%
2	IBEX 35 Index	Spain	35	55%
3	Deutsche Boerse AG	Germany	30	54%
4	Swiss Market Index	Switzerland	20	51%
5	OMX Stockholm 30	Sweden	30	45%
6	FTSE/JSE Africa Index	South Africa	42	41%
7	AEX-Index	Netherlands	25	41%
8	DJIA	USA	30	40%
9	FTSE 100 Index	UK	101	40%
10	Ibovespa Index	Brazil	70	37%
11	IPC Index	Mexico	35	35%
12	OMX Copenhagen	Denmark	20	34%
13	Nikkei 225	Japan	225	33%
14	COLCAP Index	Colombia	20	32%
15	KRX 100 Index	Korea	100	31%

It is hoped that improved disclosure and related risk exposure will encourage investors and related companies to better understand and manage such risks, including efforts such as those led by SASB in the US.



SASB and US Corporate Disclosure

The Sustainability Accounting Standards Board (SASB) evolved from a 2010 effort originally housed at the Initiative for Responsible Investment (IRI) at Harvard⁷¹ surrounding research on “non-financial materiality” and its application at an industry level.⁷² Steve Lydenberg, David Wood, and now head of SASB Jean Rogers set out to “develop and test a methodology for determining industry-specific material issues and their associated performance indicators.” The results were published in a 2010 publication entitled “From Transparency to Performance.”⁷³ On the back of this work, Jean Rogers set out to create SASB to develop a rigorous, defensible process which would result in sustainability reporting standards by industry which could be eventually taken up by the SEC towards requiring further corporate disclosure. SASB’s standards development process⁷⁴ stays firmly within the SEC’s definition of materiality⁷⁵ and is now mostly through its development of recommendations by industry and sub-industry,⁷⁶ which is now scheduled for completion in early 2016.

BOX 6: SASB AND THE SEC DEFINITION OF MATERIALITY

SASB’s website states that: “Materiality is a fundamental principle of financial reporting in the United States. The concept of materiality recognizes that some information is important to investors in making investment decisions. Federal securities law seeks to protect individual investors by requiring publicly listed companies to disclose annual and other periodic performance information that would be necessary for a reasonable investor to make informed investment decisions. US Federal law requires publicly listed companies to disclose material information, defined by the US Supreme Court as information presenting ‘a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of information made available’ (TSC Industries, Inc. v. Northway, Inc., 426 US 438 (1976)). Both US and global companies that trade on US exchanges are subject to Federal disclosure requirements.”⁷⁷

Once completed, the intention was and remains for SASB to make the case to the SEC for adoption, and it remains to be seen how that goes.

Challenges are expected, such as was seen with former SEC Commissioner Daniel Gallagher who left the SEC in late 2015, as quoted in 2014 on SASB below. SEC commissioners are appointed by US Presidents, with the five commissioner positions becoming open roughly once a year, making the SEC’s view on SASB likely to be dependent on election cycles.

Gallagher said then in a speech at Tulane University: “The somewhat confusingly-named Sustainability Accounting Standards Board provides a good example of an outside party attempting to prescribe disclosure standards. I say “confusingly-named” because the SASB does not actually promulgate accounting standards, nor does it limit itself to sustainability topics, although I suppose it is in fact a Board. The SASB argues that its disclosure standards elicit material information that management should assess for inclusion in companies’ periodic filings with the Commission. I don’t mean to single out the SASB, but it’s important to stress that, with the sole exception of financial accounting—where the Commission, as authorized by Congress, has recognized the standards of the Financial Accounting Standards Board as generally accepted, and therefore required under Regulation SX—the Commission does not and should not delegate to outside, non-governmental bodies the responsibility for setting disclosure requirements. So while companies are free to make whatever disclosures they choose on their own time, so to speak, it is important to remember that groups like SASB have no role in the establishment of mandated disclosure requirements.”⁷⁸

The question of whether sustainability reporting will change how companies do business and how such should be reported has been an active debate in the US for some time and likely will continue to be debated going forward.⁷⁹

Other related global efforts such as the Global Reporting Initiative (GRI) and the International Integrated Reporting Council (IIRC) continue to attempt to shape and provide guidance to US corporations wishing to report on their sustainability efforts. CDP, formerly known as the Carbon Disclosure Project, also is among the organizations encouraging more reporting of sustainability factors including GHG emissions, water use, and what companies and cities are doing about these areas of concern within their operations and supply chains.

Other accounting focused organizations such as the “big four” accounting firms all provide services in this regard to assist companies with their sustainability reporting, as well as providing assurance for these reports. But without consistent reporting standards, sustainability data remains something of the “wild west”, with companies receiving hundreds of requests for sustainability-related information annually, creating something of a cottage industry just to figure out how to best respond to and prioritize these requests. In a world that lacks global mandatory auditable disclosure of ESG risks and opportunities, it should be expected that many will attempt to fill the gaps of what appears to be a key future driver of business success.

Although corporate sustainability reporting has been maturing over the past decade, the state of investor governance and reporting is a very different question indeed.



4 FINANCIAL MARKET INNOVATION



The US, often a leading innovator from a financial perspective, has also been helping create and foster new investment vehicles that can help solve societal problems.

Although many of these efforts are nascent and small in relative asset size, they represent meaningful examples which, if scaled, could bring the badly needed combination of financial returns coupled with intended societal benefit for which they are designed. Examples are given below.

4.1 CLIMATE OR GREEN BONDS

Record levels of issuance and assets under management had been expected in 2015 with up to US\$100 billion of new issuance off of record success in 2014. However, 2015 issuance came in at just over US\$41 billion.⁸⁰ The Climate Bonds Initiative tracks the state of climate bonds through annual reports and has established a standard⁸¹ which is industry-specific as opposed to one which measures the quantitative net impact benefit of a particular project or portfolio. One suspects this next step will ultimately be necessary to avoid greenwashing. An extreme example than needs to be considered might be seeking funding through a green bond for “clean coal”.⁸² US issuance of such bonds remains low with the Climate Bonds Initiative recently having tracked less than 50 bonds with a value of issuance at just over US\$8 billion. Interest has been significant from US and other pension funds among investors increasingly seeking to invest with impact by intention, with many new issuances oversubscribed multiple times. Much more is clearly needed for climate bonds to bridge the gap of needed investment in required additional renewable energy and related energy infrastructure but the potential is becoming clearer and clearer.

4.2 SOLAR/YIELDCOS

Yieldcos are another recent financial innovation helping to directly finance renewable energy. Yieldcos are exchange-traded companies and therefore available to all interested renewable energy investors. In 2013, the first yieldco was created as a low-risk renewable energy investment, in effect the renewable energy equivalent to fossil-fuel-based Master Limited Partnerships (MLPs). Created by their parent energy companies, yieldcos purchase completed renewable energy projects and use the cash flow from plant operations to distribute dividends with tax benefits to shareholders. When parent energy companies sell projects into the yieldco, the generated revenue is redirected directly toward new energy projects.⁸³ Since 2013, yieldcos have been continuously introduced to the US market at a rapid pace. IPOs include: NextEra Energy Partners, NRG Yield, Brookfield Renewable Energy Partners, TransAlta Renewables, Pattern Energy Group, Abengoa Yield, Hannon Armstrong Sustainable Infrastructure, and TerraForm Power.⁸⁴

In late February 2015, the two largest solar panel producers, First Solar and Sunpower, announced that they were launching a joint yieldco, which went public that June and raised US\$400 million on offering, valuing this vehicle at well over US\$1 billion and was named 8point3 Energy Partners, initially consisting of 432 MW of US photovoltaic projects. Markets approved of the launch, with both parents moving higher in trading on the news of the launch going live.⁸⁵ Canadian Solar is planning an IPO, announced in November 2015,^{86,87} seeking to create a global Yieldco with operating assets in North America, Japan, and Europe.



Two main reasons explain the rapid rise in yieldcos, namely a lack of other yield opportunities in the United States and their beneficial tax structure. US treasuries remain at near-zero interest rates, and corporate and municipal bonds provide little yield compared to the 5.5% yield typically offered by many yieldcos at the IPO stage. In addition to higher yield, a large percentage of yieldco portfolios are composed of projects that historically qualified for the cash grant from the Section 1603 programme before its 2012 expiration. This programme allowed cash to flow into yieldcos without involving tax equity deals that are usually associated with passive ownership interest in assets and projects.⁸⁸ Jefferies recently reported just under US\$3 billion in recent US yieldco IPO issuance with much more expected to follow soon.⁸⁹ A Deutsche Bank July 2015 report sees the total value of yieldcos increasing rapidly from US\$30 billion to US\$1 trillion, further reducing the costs of financing renewable energy in the process.⁹⁰

While a valuation bubble formed in 2015 around yieldcos, resulting in a rapid fall of share prices for many such companies in the sector, the same was true of RLPs against which these yieldcos were modelled. With the initial rush of investor interest now seeking arguably realistic valuation levels, yieldcos present an opportunity to drive capital and returns towards a future low carbon economy.

4.3 THE ALIGNED INTERMEDIARY

The Aligned Intermediary (AI)⁹¹ is a new initiative that has already raised US\$1.2 billion in commitments of private capital for investment in climate change solutions. The launch of AI in late 2015 responded to President Obama's call in June 2015 for the private sector to help lead the global fight against climate change.

This pioneering initiative – headed up by Peter Davidson, former head of the Loan Programs Office of the Department of Energy – brings together five initial long-term investors and the support of four prominent private foundations to channel significant amounts of institutional capital into resource innovation investments – in energy, agriculture, waste, and water – across the planet. AI will guide all levels of capital investment, but predominantly focus on growth and deployment capital.

“There are trillions of dollars that need to be deployed in this battle, so today's announcement, with a very powerful launch pad, should encourage the international investment community to join in this effort,” said Mr. Davidson upon the launch of this new initiative, with more forthcoming on investment opportunities heralded by such high-end events as Secretary of State Kerry's two-day October 2015 Climate and Clean Energy Investment Forum in Washington, D.C.,⁹² an event which focused on private investments targeting clean energy, energy efficiency and climate change in the developing world.

The initial group of long-term investors has signed letters of intent to collaborate with Aligned Intermediary:

- US\$500 million from the University of California Regents (university endowment);
- US\$350 million from the New Zealand Superannuation Fund (sovereign wealth fund);
- US\$200 million from the Alaska Permanent Fund (sovereign wealth fund);
- US\$100 million from TIAA-CREF (pension fund); and
- US\$10 million from Tamarisc (single family office).

The effort launches with the initial support of Planet Heritage Foundation, the Hewlett Foundation, ClimateWorks Foundation, and, with a commitment of support pending final approval, the MacArthur Foundation.

US government agencies estimate that more than US\$40 trillion will need to be invested across the globe over the next 20 years to rebuild and decarbonize the global energy system in order to achieve the necessary global greenhouse gas emissions goals.



The Aligned Intermediary will act as a matchmaker between, on the one hand, developers, companies and projects that seek debt and equity capital and, on the other hand, committed, long-term, institutional investors. Specifically, it will source, screen, conduct due diligence, and structure transactions for its institutional backers so that each deal satisfies specific goals related to financial rate of return, as well as positive social and environmental impacts, with a particular focus on reducing greenhouse gas emissions.

In its initial phase, prior to spinning off as its own organization in 2016, the Aligned Intermediary initiative will be housed at and operate as a programme of PRIME Coalition.⁹³ PRIME Coalition is a non-profit organization whose mission is to empower philanthropic foundations and families with the critical tools they need to support companies and projects that promise vast reduction of global greenhouse gas emissions.

4.4 CONSERVATION FINANCE

Conservation finance is often defined as “a mechanism through which a financial investment into an ecosystem is made – directly or indirectly through an intermediary – that aims to conserve the values of the ecosystem for the long term. Such mechanisms can be based on direct conservation strategies (e.g., service payments, compensation payments or fees, permit trading, and offers) or linked approaches such as certified natural commodity markets like the Forest Stewardship Council (FSC) or emerging climate funds (e.g., the World Bank Climate Investment Funds and the UNFCCC Green Climate Fund) that seek to incentivize private investment through public finance.”⁹⁴

According to Crédit Suisse, McKinsey and WWF (2015), the current global supply of private sector capital for conservation finance is 20 to 30 times less than global demand – US\$10 billion supply vs. US\$200 to US\$300 billion demand. Given this significant unmet demand, conservation finance instruments have an opportunity to expand their conservation outcomes through standardizing replicable and scalable financial instruments that easily communicate their resulting ecosystem services improvements that grow natural capital.

Conservation finance receives about US\$52 billion annually in financing, according to the Global Canopy Programme, with the vast majority associated with direct and indirect payments from governments and philanthropic organizations often based in the US.

Of the US\$10 billion in private sector conservation finance, about US\$6 billion finances “green” commodities. Overall, 80% of conservation finance funding is in developed countries. Very few private sector dollars are going to emerging markets for conservation finance activities.

Conservation finance instruments also include a specific set of asset classes – or direct payment structures. These asset classes include: “green” commodities, private equity impact investing (NatureVest with The Nature Conservancy and JPMorgan), property tax-financed municipal bonds that conserve open space (New York), forest conservation bonds (IFC), biodiversity offsets (Rio Tinto), sustainable fishing ownership “rights” (Belize and Mexico), wetland and conservation mitigation banking, and many other asset classes.

4.4.1 CONSERVATION FINANCE OPPORTUNITIES

While conservation finance clearly can activate and scale up cash flows to conserve and restore ecosystem services, many challenges and opportunities remain in this industry. Conservation finance instrument and components are not standardized resulting in lack of clarity regarding monetary and conservation benefits. The methodology to incorporate conservation outcomes into an overall investment policy statement and resulting financial analysis through the lens of risk and return is under development.

Current pipeline of conservation finance activities is not well-described or understood. Given the local aspect of conservation and restoration, many activities are too small to be financed or aggregated by larger financial institutions. Many of these smaller opportunities need middle market financial services support to scale.

Conservation finance staff and investors are generally not paid based on performance-based contracts where they are rewarded for improving ecosystem service outcomes. In other words, incentives are not properly aligned. This has the follow-on impact of it frequently being difficult to identify the financial beneficiaries from a conservation finance project.

Stand-alone conservation finance projects generally have high upfront costs and significant opportunity costs with long-term annuity payouts. This is coupled with two more challenging financial structuring issues – long-term currency risk management (when applicable) and credit risk overhang based on host-country credit. For example, projects financed in USD operating in non-USD economies transfer currency risk to the project while the same project may suffer from the assumption that the credit risk of the host country economy also dominates the credit risk of the project. Finally, successful projects are often at a scale that is too small to attract larger investment vehicles due to mismatching on banking fee structures. Banking fee structures favour larger deals since bankers and attorneys are expensive to paper conservation finance deal, yet this same expense prohibits market entry by smaller conservation organizations for the same reason.

Clear methodologies are needed to size conservation finance opportunities within existing financial structures.

Investors are interested in financing conservation if the enabling environment exists. The enabling environment needs to include:

- Clear options for investment exit strategies (not exhaustive, only partial list)
- Liquidity on investments and floors to provide risk guarantees
- Simple paperwork that can be replicable and scalable
- Turnkey solutions
- Simple messaging
- Clarity on asset allocation component within a portfolio, if conservation outcomes are considered separate asset classes or rather integrated into existing asset classes
- Transparency of risks and return – both financial and ecological aspects
- Assurance that project has conservation outcomes
- Projects with clear investable outcomes
- Projects managed by trusted managers investors know with relevant conservation and investment track records
- Sets of clear conservation benefits 'locked-in'
- Mapping conservation impacts to asset classes

4.4.2 CASE STUDY: US LAND TRUSTS

In the US, about 1,700 land trusts operate with 4 million financial supporters with 12,000 full-time staff. Since 1950, these land trusts have conserved over 47 million acres. Their annual operating budgets are estimated at US\$1.7 billion. Primary conservation finance instruments include purchasing land and / or purchasing conservation easements placed on property deeds. The Land Trust Alliance, a US association of over 1,100 US land trusts, has supported the creation of TerraFirma, a charitable risk pool that now is insuring 7.2 million acres across 24,000 parcels from 476 land trusts for members against the legal costs to defend conservation and their conservation easements. Finally, many high-net worth individuals sit on the boards of these local land trusts.

A possible discrete conservation finance opportunity within the US land trust industry is for financial institutions to provide simple, replicable, and scalable financial instruments to service this sector. Some of these financial products might be existing financial products that have a conservation finance component, such as local credit cards where a percentage of credit card spend finances local conservation outcomes managed by the local land trust or providing discounted cash management and payroll services to the land trust.

Stand-alone financial instruments might include developing conservation easement asset-backed securities where the financial return might come from the sale of conservation easement encumbered properties whose ecosystem services have improved resulting in sale to a private high net worth individual. In summary, the US land trust segment may be underbanked due to institutional finance silos. By offering these land trusts integrated financial products that meet their needs, financial institutions can learn to bank these land trusts and provide them with the funding and financial tools they need to expand their operations.

4.5 OTHER MARKET INNOVATIONS TO WATCH

These innovations include those seen among carbon markets, those establishing a price on carbon through taxation, through evolving definitions of fiduciary duty and the establishment of investment beliefs. Other trends to watch include the possibility of future increased litigation against investors on climate and other forms of societal damage, as well as ongoing efforts at improved index construction especially via forms of environmental Smart Beta, incentives which can align strategy and environmental results, as well as changes to perception on asset allocation scenarios and improved standards across all asset classes.

Increased participation in financial market innovation and further scaling of such recent innovations can bring about the sort of gradual societal performance that is called for by PwC⁹⁵ and others who estimate an annual 3-5% reduction in carbon emissions can help avoid the longer term damage which will otherwise negatively affect future financial returns.

Watching for gaps as to whether such reductions are annually achieved or not in the US, likely on a state by state basis, is a key area of metrics to measure and watch over time. This is important to understand as any emerging distance from target would increase the need for carbon reduction strategies to be further scaled by corporates, investors and governmental entities accordingly.

Part of what is also needed to achieve this scaling is a shift in culture on Wall Street thinking into understanding the shared problem that is faced alongside what can be done individually, collaboratively and through advocating for the right policies.

5 SOCIAL INNOVATION AND CULTURE



Culture shapes the climate change debate, perhaps especially in the US.⁹⁶ This occurs through the media,⁹⁷ through education,⁹⁸ through religious and other belief sets that are both well established and reinforced, and through demographics.

As mentioned earlier, the US has also taken a social lens to the first waves of socially responsible investing, which has seen recently the development of new forms of social finance such as B Corporations and impact investing. Record levels of shareholder resolutions and investor engagement with companies, as well as a divestment movement aimed at fossil fuel producing public companies have also raised awareness.

Benefit Corp Legislation/B Corporations/Social Business

A relatively recent phenomenon is that of new social business constructs, also often first championed in the US including the concept of the B Corporation.⁹⁹ Over 1300 Certified B Corps have been scored on their employee and community relations as well as their governance and environmental management. Companies get scored on these categories and need to achieve at least 80 out of 200 to qualify, and a community of sorts has formed with the intent of providing both financial and societal benefit.

Many other related constructs have sprung up largely out of the US over time, including impact investing, SoCap, LOHAS and community investing among others, all sharing a common attribute of seeking benefit to society with intent while also generating some measure of financial benefit. Examples of impact investments include providing access to health care, financial services and education to those less well off, or a wind farm on a First Nation in Canada, designed to have a local, an environmental, and a financial benefit all at the same time.

Perhaps of most interest is the related but separate concept of the Benefit Corporation.¹⁰⁰ In this case, laws are passed extending the stakeholders for whom a particular company is beholden, whereas traditional corporate law required companies to act only on behalf of its shareholders. Benefit Corps are “a new class of corporation that are required to create a material, positive impact on society and the environment and to meet higher standards of accountability and transparency.” Many US states now have passed Benefit Corp legislation as have many countries around the world. In Brazil, Natura is a large public company that has achieved Certified B Corp status and Unilever is known to be among other large entities that are investigating this possibility as well.¹⁰¹

The potential of this is clear – if the aggregate value of Benefit Corporations can start to approach or exceed US\$1 trillion, then such would become a meaningful proportion of the value of all businesses.¹⁰² This would then help drive positive societal change with intentionality at meaningful levels of scale and with financial returns for investors. There are larger implications as well for new finance which if directed at such constructs can drive simultaneous levels of benefit in this regard. Arguably as well, Benefit Corporations are the ultimate expression of the concept of the shared economy, with rights being bolstered to all groups of stakeholders accordingly. Such Benefit Corporations, with embedded rights for more categories of stakeholders than just shareholders, are expected to become exchange-traded, and therefore increasingly available to the public for direct investment. Eventually, mutual funds and



other portfolios could be constructed and provided to individual investors in 401(k) plans and through other investment platforms.

Other social business forms also have this potential, and the creativity and energy seen in this space are encouraging and need to be encouraged further, perhaps through financial incentives which can ensure that necessary levels of scale are achieved.

Divestment

Socially Responsible Investing partially came out of a desire to force businesses to either not create weapons used in Vietnam as well as well as to help stop apartheid in South Africa or more recently to try and stop social devastation in Sudan.

More recently, an effort to encourage divestment from fossil fuel producing companies has taken hold, especially on college campuses, and was championed first by US activists. In effect, this has forced a response from universities not wanting to be seen as disinterested in student concerns.

Some see trillions of dollars in assets under management committing to fossil fuel divestment by the end of 2015, much of which has been focused on coal to date.

As of this writing, dozens of US universities, cities, religious institutions and foundations have also made some level of commitment to selling at least their ownership in coal companies,¹⁰³ and some very large global institutions have made commitments on coal, including Norges Bank, the world's largest equity investor, as well as French giant AXA. Divestment legislation is also being forwarded in US states such as California,¹⁰⁴ New York¹⁰⁵ and Massachusetts.¹⁰⁶

Given that oil companies are valued at roughly US\$5 trillion,¹⁰⁷ divestment itself may not produce any tangible change to the global energy mix given institutional ownership patterns and levels of governmental influence on remaining fossil fuel reserves in the ground. But divestment as a strategy has helped raise the record level of awareness seen among investors seeking to figure out how to use investment to lower their carbon footprint or otherwise generate positive societal effect with their dollars, which has been arguably beneficial.

Shareholder Engagement and Advocacy

Another important trend in investment, and again largely driven over time out of the US, is engagement with public companies and the issuing of shareholder resolutions, which on climate change is seeing record levels of issuance and participation in 2015, with over 400 publicly visible resolutions being tracked across a variety of ESG issues.¹⁰⁸ Engagement can also occur behind closed doors and be resolved without becoming public so actual levels of engagement activity are higher.

CERES,¹⁰⁹ As You Sow¹¹⁰ and ICCR¹¹¹ all have resources on the status of various individual resolutions in progress. Example resolutions in 2015 would be 3M setting targets for renewable energy sourcing and production (Status: withdrawn, company will address), Chevron being asked to return cash to shareholders rather than commit to capital expenditure towards producing what may turn out to be stranded fossil fuel assets (Status: 3.2% of shareholders agreed), Hess being asked to report on levels of potentially stranded fossil fuel asset risk (Status: 26% of shareholders approved), and BP and Shell asked to increase their climate change risk disclosure (both of which received over 98% of shareholder approval). Many US investors have joined this related 'Aiming for A' campaign which saw Shell for example agree to increase its disclosure on climate risk¹¹² after this large majority of shareholders agreed on the resolution.

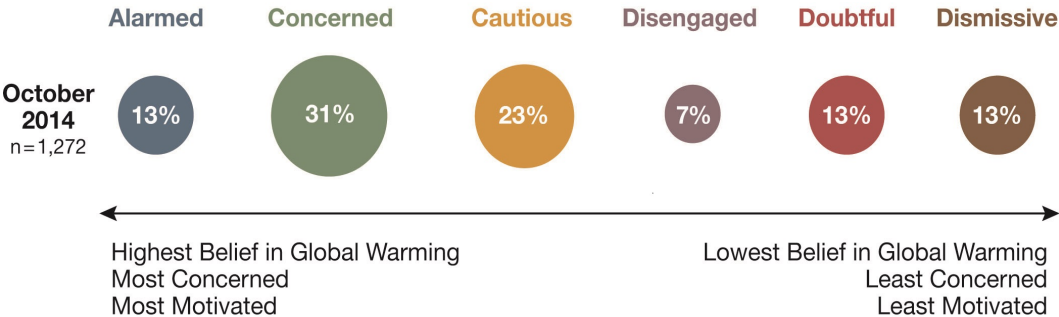
Some call for more ‘forceful’ and perhaps required levels of stewardship,¹¹³ so watch this space to continue to innovate and have increased subsequent potential to drive positive change. For example, in the US, increased recognition that passive investments may require some form of ongoing responsibility given systemic issues could be a logical eventual outcome.

Shareholder perceptions are important, as are related levels of education and training, as well as understanding what it takes to successfully transform culture over time; therefore we will look at: the history of successful cultural transformations, what education and training is necessary or missing, and the importance of systemic collaboration and advocating for the right policies.

Perception

Yale has been tracking the perception of climate change in the US and found “Six Americas”,¹¹⁴ as shown in the figure below.

Figure 4: The Six Americas Audience Segments



Source: Yale/George Mason University

Such represents a somewhat typical split seen on a global basis of Concerned versus Doubtful versus what might be called Localized (only concerned about themselves, their loved ones and their well-being and economic situations) with the only question being percentages by region between these three categories.

Even ‘Alarmed’ citizens do not know what to do about their concerns.¹¹⁵ This certainly manifests in what they feel they can do about climate and other specific ESG issues through their investment choices that they might feel powerless to affect.

That said we are seeing record levels of awareness and interest in the US for action on climate change within investment, manifesting mainly as feedback to large financial institutions and also in record levels of assets seeking to invest in a responsible manner.¹¹⁶

The divestment from fossil fuel movement as mentioned is one manifestation of this awareness shift. Even if views on the strategy vary, it is a clear call for action which has not been seen previously, leading to both large and small institutions coming up with strategies and to build internal expertise, always a key feature of transformation. The utility of the divestment movement is therefore best seen through this outcome.

Yet, for all the recent interest in issues such as climate change and inclusivity, many financial professionals have not been trained in these subjects in business schools, through programmes such as those provided by the CFA Institute or otherwise, creating a gap in culture and expertise.

Although there is no specific roadmap for bridging this gap, we can learn from a history of successful organizational transformation and early related efforts and investigations are under way to increase



such training at the World Economic Forum, at the CFA Institute, in university settings such as the Earth Institute of Columbia University in New York, Concordia University in Montreal, through the Principles for Responsible Investment's new PRI Academy and beyond. Ultimately, sustainability issues should be embedded within business school curricula.

Culture and Transformations

One thing is to talk about ideal levels of corporate and investor culture, another to provide a specific road map of how to achieve this. Fortunately the literature is improving in this area, specifically about: leadership, value drivers and balanced scorecard methods, and educational methodologies.

One of the more interesting areas of academic research on the importance of leadership and performance within sustainability has been performed by Kathy Miller Perkins in conjunction with Harvard's Eccles and Serafeim on culture and the direct correlation seen between levels of seniority of companies more focused on sustainability and their financial performance.¹¹⁷

Leadership has also been a requirement of companies most taking up sustainability as a way of transforming corporate culture over time and financial services institutions have a great opportunity for learning in this regard. For example, companies such as Dupont, Praxair, Pirelli and many others have driven billions of dollars of increased sustainability-advantaged revenue growth and productivity savings by design, using well established methods such as balanced score carding.¹¹⁸

A traditional method of cultural transformation takes five to more than ten years and involves:

- Asking the right questions
- Building strategies for positive change and the capacity to execute
- Implementing strategies
- Measure and report on success (or lack thereof)
- Cycle back through this process seasonally

Dozens of case studies exist of success through what is known as the Value Driver Model¹¹⁹ of the UN Global Compact, with financial outperformance seen in companies going through such a transformation alongside an end result of a more sustainable business. The development of better processes for embedding sustainability in this regard within the financial services sector is a work in progress as mentioned, however better examples keep being developed, and the opportunity for academic institutions to be seen as leading on the bridge between sustainability and investing remains clear. As an early example, the RFK Center for Justice and Human Rights built a programme with Columbia University's Earth Institute in New York. It combined the science of the Lamont Observatory with many other multi-disciplinary perspectives and had as students a community of professionals (representing over US\$15 trillion of assets) working on how to specifically take their next steps towards furthering sustainable investment strategies.

Courses available to students are increasing as well at other institutions but more is needed, especially to reach the confines of business schools which otherwise directly feed global financial capitals with students not aware of the trends well under way where environmental and social considerations are becoming increasingly paramount as risks, opportunities as well as a key driver of competitive differentiation.

CONCLUSION – BUILDING A SUSTAINABLE FINANCIAL SYSTEM IN THE US



As with other recent contentious issues in the US, progress is seen and policy changes are made only through a majority of public will. Whether one agrees with the legalization of marijuana or gay marriage, it was only once a majority of the American people wanted these steps to be taken, that they became not only politically viable, but a political liability not to act as well.

The same is now becoming true of sustainability issues in the US. Millennials, for example, increasingly want to make a difference both where they work and where they invest. This is starting to manifest into new business models as well, from companies such as Airbnb, Uber and Zipcar, bringing rise to the so-called sharing economy, as young people also continue to move to cities and give up old desires of owning a car.

Such cultural developments can wilfully be extended towards seeking:

- a) A majority of US states developing and implementing policies which help fund and encourage the needed low carbon energy transition, alongside accompanying federal policies and regulations that can encourage more sustainable economies to develop and flourish.
- b) A growing body of assets under management taking sustainability issues into account as just one more factor to maximize value and guarantee the market share of interested millennials and other concerned investor demographics, with financial services institutions also educating their clients on the coming need for investment solutions to sustainability challenges.
- c) Sustainability risks being more fully considered in all lending practices and in the writing of insurance policies and in the issuing of credit ratings.
- d) The scaling up of social finance, social business and other forms of market innovation such as conservation finance among other forms of finance which fully value nature as a normal course of investment business and risk analysis.
- e) And last but not least, culture development and awareness that ensures that financial professionals see the coming sustainability megatrends so that they can fully anticipate for it in their investment decisions and financial practices.

It will be interesting to see which of these five trends results in the most significant positive outcomes going forward among state action, more sustainable assets under management, better risk management, scaled social business and culture development. It is our strong suspicion that for best effect, all five of these areas will need to accelerate in parallel.



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