CDP Climate Change Report 2015: The mainstreaming of low-carbon on Wall Street

US edition based on the S&P 500 Index

Written on behalf 822 of investors with US$95 trillion in assets

70%

of S&P 500 corporations respond to their investors through CDP*

* Analysis in this report is based on the 334 company responses received by the deadline of June 30, 2015.
The response rate of 70% (350 companies) is based on time of printing.

Contents

Please note: The selection of analyzed companies in this report is based on market capitalization of regional stock indices whose constituents change over time. Therefore the analyzed companies are not the same in 2010 and 2015 and any trends shown are indicative of the progress of the largest companies in that region as defined by market capitalization. Large emitters may be present in one year and not the other if they dropped out of or entered a stock index. 'Like for like' analysis on emissions for sub-set of companies that reported in both 2010 and 2015 is included for clarity. Some dual listed companies are present in more than one regional stock index. Companies referring to a parent company response, those responding after the deadline and self-selected voluntary responding companies are not included in the analysis. For more information about the companies requested to respond to CDP's climate change program in 2015 please visit: **https://www.cdp.net/Documents/disclosure/2015/Companies-requested-to-respond-CDP-climate-change.pdf**

Paul Dickinson
Executive Chairman, CDP

> Decarbonizing the global economy is an ambitious undertaking, even over many decades…corporate leaders understand the size of the challenge, and the importance of meeting it. We are on the threshold of an economic revolution that will transform how we think about productive activity and growth.

CDP was set up, almost 15 years ago, to serve investors. A small group of 35 institutions, managing US$4 trillion in assets, wanted to see companies reporting reliable, comprehensive information about climate change risks and opportunities.

Since that time, our signatory base has grown enormously, to 822 investors with US$95 trillion in assets. And the corporate world has responded to their requests for this information. More than 5,500 companies now disclose to CDP, generating the world's largest database of corporate environmental information, covering climate, water and forest-risk commodities.

Our investor signatories are not interested in this information out of mere curiosity. They believe, as we do, that this vital data offers insights into how reporting companies are confronting the central sustainability challenges of the 21st century. And the data, and this report, shows that companies have made considerable progress in recent years—whether by adopting an internal carbon price, investing in low-carbon energy, or by setting long-term emissions reduction targets in line with climate science.

For our signatory investors, insight leads to action. They use CDP data to help guide investment decisions—to protect themselves against the risks associated with climate change and resource scarcity, and profit from those companies that are well positioned to succeed in a low-carbon economy.

This year, in particular, momentum among investors has grown strongly. Shareholders have come together in overwhelming support for climate resolutions at leading energy companies BP, Shell and Statoil. There is ever increasing direct engagement by shareholders to stop the boards of companies from using shareholders' funds to lobby against government action to tax and regulate greenhouse gasses. This activity is vital to protect the public.

Many investors are critically assessing the climate risk in their portfolios, leading to select divestment from more carbon-intensive energy stocks—or, in some cases, from the entire fossil fuel complex. Leading institutions have joined with us in the Portfolio Decarbonization Coalition, committing to cut the carbon intensity of their investments.

This momentum comes at a crucial time, as we look forward to COP21, the pivotal UN climate talks, in Paris in December. A successful Paris agreement would set the world on course for a goal of net zero emissions by the end of this century, providing business and investors with a clear, long-term trajectory against which to plan strategy and investment.

Without doubt, decarbonizing the global economy is an ambitious undertaking, even over many decades. But the actions that companies are already taking, and reporting to CDP, show that corporate leaders understand the size of the challenge, and the importance of meeting it.

We are on the threshold of an economic revolution that will transform how we think about productive activity and growth. We are beginning to decouple energy use and greenhouse gas emissions from GDP, through a process of 'dematerialization'—where consumption migrates from physical goods to electronic products and services. This will create new assets, multi-billion dollar companies with a fraction of the physical footprint of their predecessors.

Similarly, there is a growing realization that 'work' is no longer a place, but increasingly an activity that can take place anywhere. And it no longer relies on the physical, carbon-intensive infrastructure we once built to support it.

In the 19th century we built railway lines across the globe to transport people and goods. Now we need to create a new form of transportation, in the form of broadband. Investment in fixed and mobile broadband will create advanced networks upon which the communications-driven economy of the 21st century can be built—an economy where opportunity is not limited by time or geography, and where there are no limits to growth.

An economic revolution of this scale will create losers as well as winners. Schumpeter's 'creative destruction', applied to the climate challenge, is set to transform the global economy. It is only through the provision of timely, accurate information, such as that collected by CDP, that investors will be able to properly understand the processes underway. Our work has just begun.

Michelle Edkins
Global Head of Corporate Governance
and Responsible Investment
BlackRock

> If climate and carbon risk are to be fully taken into account, we still need to address obstacles such as the complexity of the issues, the long horizon over which they play out, and the absence of a global public policy on adaptation.

To many observers, mainstream asset managers seem to have suddenly woken up to climate change and carbon exposure as an investment issue. In reality, it has been a gradual awakening over the past decade. Media coverage, corporate disclosures and client interest have all had an impact, as have increased business disruptions and mounting insurance payouts due to extreme weather events.

Obstacles remain to achieving full integration of carbon risk (and opportunity) into investment analysis. But investors are nonetheless in the midst of transitioning from the art to the science of carbon exposure measurement.

The key to this transition to the mainstream has been the availability of credible data across a broad enough segment of the market to be relevant to diversified investors. Clearly CDP, through its carbon disclosure initiatives, has played a significant role in achieving that critical mass. Working with CDP, companies have enhanced and refined their disclosures over the years to make them more relevant to investors. Other policy and disclosure-related initiatives, such as those led by the World Resources Institute, have reinforced the trend toward greater transparency and provided context for how sustainability factors can affect operational efficiency and, thus, long-term economic performance.

The availability of financial data sets and research including environmental, social and governance (ESG) and climate change factors is permitting investors to incorporate them, where material, into their modeling and analysis of corporate performance and investment opportunities.

Carbon data and research is useful to investors in three key ways:

- Integration into investment decision-making in portfolios and strategies not specifically focused on sustainability, i.e. traditional investment portfolios
- Engagement with companies that are lagging their peers on carbon efficiency to encourage better practices and disclosure
- Product development to meet the objectives of clients wishing to invest in specific sustainability themes such as adaptation to a low carbon economy

Carbon asset risk and other measures of exposure to carbon in portfolios are still a work in progress but already offer investors two important things– comparability and scalability. Increased use of such measures in differentiating investment opportunities, alongside engagement with companies where carbon dependency or disclosures are a concern, should lead to even better data and metrics over time.

Companies have a role to play in providing investors with additional insights around how efficiently they use natural resources including carbon, how regulatory change such as a carbon tax would affect their business models, and how they are innovating to ensure their products and business model are sustainable. Companies frequently express frustration that their investors don't ask about long-term operational issues such as natural resource dependency. The counterpoint is that if an issue is material, companies should be initiating the conversation.

If climate and carbon risk are to be fully taken into account, we still need to address obstacles such as the complexity of the issues, the long horizon over which they play out, and the absence of a global public policy on adaptation. Nonetheless, better disclosure and investment tools are contributing to the investment community's ability to understand the financial implications of carbon exposure. This in turn should make portfolios more resilient and support the achievement of the long-term returns that clients depend on to meet their financial goals.

Executive summary

The giants of Wall Street are becoming catalysts for climate action. New stock indexes, funds, bond ratings and investing tools are revealing and removing emissions risk from mainstream financial products, enabling investors to buy into low-carbon opportunities without lowering returns. Pension funds, endowments, and other asset owners are asking their advisors to help channel their capital to mitigate rather than contribute to climate change.

The new actions put companies on notice that their credit ratings and continued inclusion in mainstream portfolios of pension, insurance and mutual funds will soon depend on outperforming their peers in environmental as well as financial terms.

CDP led this shift, harnessing the power of investors now representing one-third of the world's assets under management. In 2000, when CDP first asked investors to sign its disclosure request to companies, most fund directors were indifferent to climate change issues.

Since then, CDP has won the support of financial giants including Bank of America Merrill Lynch, BlackRock, BNY Mellon, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, J.P. Morgan Chase, Morgan Stanley, Nomura, Santander, UBS, and Wells Fargo.

Increasing scrutiny by investors regarding environmental performance is reflected in company responses to CDP. In this report, we note dramatic shifts in corporate behavior among S&P 500 companies over the past five years:

- Board level responsibility for climate change has jumped from 67% to 95% from 2010 and 2015
- Incentives for staff that help companies meet energy efficiency or carbon pollution reduction targets has risen from 49% to 83% between 2010 and 2015
- Companies actively working to reduce their greenhouse gas emissions have increased from 52% to 96%.

CDP's platform of data, scores and rankings feeds into the new tools, products and research that have been helping low-carbon investing to go mainstream. These financial products are based on sophisticated analytical tools that calculate the carbon footprint of a company, an index or a mutual fund, and include estimates for non-disclosing companies. Research showing that the best companies on climate are often the most profitable overall is challenging the long-held view that investing according to environmental principles lowers returns.

The first generation of low-carbon products excluded fossil fuel companies and carbon-intensive energy companies such as utilities, but increased the risk of veering off of their benchmark index, or failing to capture big swings in energy prices. A second generation of indexes went on to include more shares of the most energy efficient companies and reduce their holdings of the least efficient, and manage to match the full returns and risk of a benchmark index.

Now, Wall Street has opened a new chapter in climate-based investing, turning the tools designed to create green products toward mainstream stock indexes, corporate bond ratings, and ordinary mutual funds. The headlines from recent months, reproduced in this report, show that America's largest asset managers, index providers and ratings agencies are moving quickly to build out their environmental, social and governance (ESG) offerings.

Low-carbon products already were an important business segment at the start of 2014, with nearly $3tn of assets held in 672 environmental investment vehicles, according to the Sustainable Investment Forum of the US.

Asset managers heralded the US Labor Department, which issued new guidance for pension plans and retirement funds allowing their trustees to choose among plans based on ESG factors. This move opens the door for U.S. pension funds to follow their European counterparts, who have championed sustainable investing for many years.

The mainstreaming of sustainable investing parallels dramatic changes in US corporate culture. Will investors now lead the change we need to meet scientific targets to reduce carbon pollution?

This report crystalizes the movement among blue-chip investors to address climate risks and opportunities, and includes interviews with some of Wall Street's largest firms.

It also includes CDP's annual list of S&P 500 leaders on both transparency and climate performance, as well as the list of companies failing to provide disclosures to their investors.

"Over the last two years, ESG has become more central to our clients, and they would like our help in finding a way do it that is robust and rigorous from an investment perspective. Climate change is clearly on people's minds." said Hugh Lawson, head of ESG at Goldman Sachs Asset Management.

T Rowe Price stated in its disclosure to CDP that: "With regard to climate change, we have observed that a growing number of our clients have adopted investment objectives that expand beyond traditional expectations of relative financial performance... For example, some clients define their investment objectives in terms of relative carbon efficiency of the portfolio. In order to meet this growing need within our client population, we have made significant investments in internal expertise, external resources, training, and technology."

CDP has asked companies to clearly describe the risks and opportunities climate change presents to their business for 15 years. The resulting disclosures to investors look set to become more relevant than ever and have helped enable the creation of a variety of financial products including State Street's LOWC: the first low-carbon exchange-traded fund (ETF) and BlackRock's iShares CRBN exchange-traded funds. Standard & Poor's and MSCI are also fuelling the low-carbon shift on Wall Street as they work to design new low-carbon indexes to provide sophisticated and nuanced ways to screen out and screen in companies based on environmental performance.

"You can't address something you can't quantify, therefore carbon data are paramount," said Mamadou-Abou Sarr, Northern Trust's managing director of ESG investing. "CDP has been key for Wall Street getting data and integrating it into their processes, and the role of disclosure is crucial, whether it's for awareness or risk assessment or for investment decisions."

Elizabeth McGeveran, director of Impact Investing at McKnight, noted that the "microactions" of hundreds of investors signing CDP's disclosure request led to the data that forms the basis of Mellon's carbon efficient strategy. "The micro-actions of a number of investors enabled Mellon Capital to take a "macro-action," she said.

CDP's executive chairman and co-founder Paul Dickinson says: "The influence of the corporation is mighty. The momentum of business action on climate change suggests we have reached a tipping point, where companies are poised to achieve their full potential. They need ambitious policy at both a national and international level that will support them in this regard and will catalyze participation from industry at scale."

Meg Whitman, President and CEO at Hewlett Packard Enterprise, formerly Hewlett-Packard, which has achieved top marks for both performance and transparency for the second year in a row, says: "We must take swift and bold action to address the root causes of climate change. This means disrupting the status quo—changing the way we do business, holding ourselves and others accountable, and creating innovative solutions that drive a low-carbon economy."

CDP's president for North America, Lance Pierce says: "The businesses that provide the goods and services Americans use every day know that linking action on climate change to company performance is the new normal. Companies' investors and customers are demanding products and performance with less carbon, and by incentivizing staff to meet these needs, corporate America is starting to embed this issue into how the company makes decisions".

The mainstreaming of low-carbon on Wall Street

Wall Street is waking up to climate-conscious investing. Financial giants are acquiring investment boutiques and quickly building departments to address environmental opportunities and risks.

The world's largest asset managers are designing products that capture the full returns of the S&P500 and other indexes but with half of their greenhouse gas emissions, and adding green bonds to their fund offerings. And now, ratings agencies and index makers are planning to use the tools they developed for climate-based products to rate mainstream stock indexes, corporate bonds, and mutual funds.

"The milestones are coming at us rapidly since the business case around climate is so compelling," said David Blood, managing partner of Generation Investment Management, which he co-founded with former US Vice President Al Gore.

Low-carbon investing has expanded from excluding fossil fuel companies and energy producers to also "screening in" the most energy-efficient companies, those poised to succeed when emissions are constrained. Now, the bedrock firms of Wall Street are ready to calculate the carbon footprint of mainstream products, and as a result the presence of high-emitting companies in indexes and mutual funds may not be guaranteed. This also represents a new stage in disclosure, a process CDP set in motion 15 years ago when it first asked investors to request company disclosure of their climate impacts.

> *Disclosure is the critical piece to capital markets, and to ensuring a sustainable allocation of resources.*
>
> **David Blood**
> **Managing Director & Co-Founder**
> **Generation Investment Management**

"The field would not be where it is today without CDP," said Curtis Ravenel, global head, sustainable business & finance for Bloomberg LP, whose terminals display CDP data, scoring and rankings that feed into new financial tools and products. "They mobilized the investment community to recognize climate change and to drive disclosure from companies."

Bloomberg terminals feature CDP data, scores and rankings in its Environmental Social and Governance (ESG) section, which gets some 718 million data hits per month. There are more than 20,000 regular users of ESG data on the Bloomberg platform, double the number in April 2014, when usage accelerated.

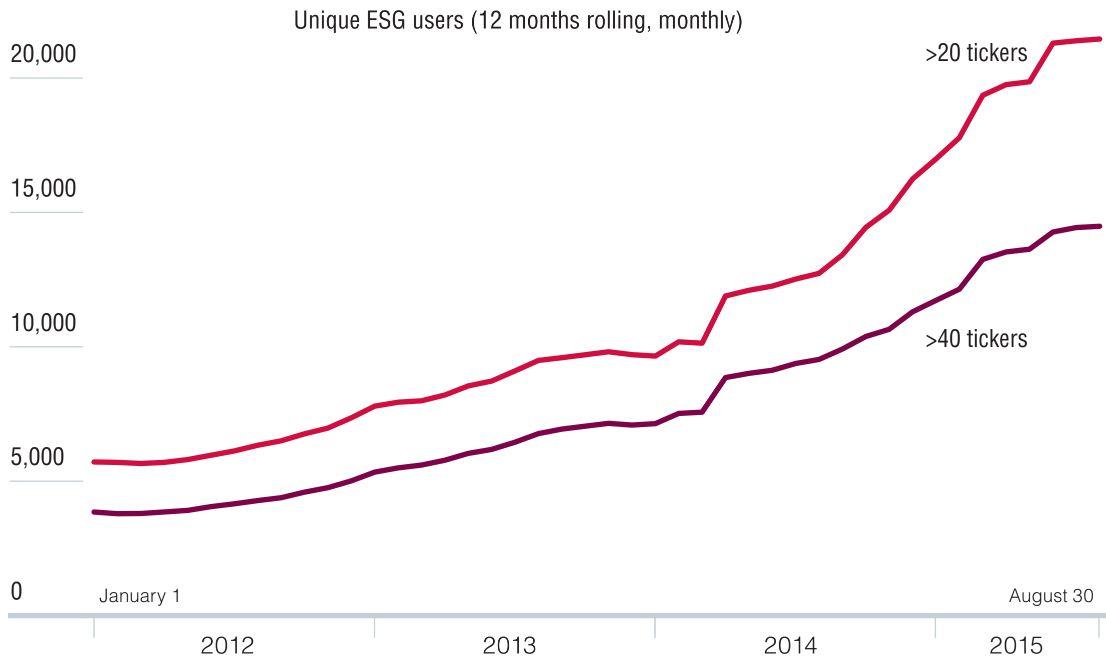
Research changing minds

A decade of corporate disclosures enabled critical research showing that best-in-class climate performers can financially outperform their peers and that good disclosure is a proxy for good management globally. This has made it far easier to win over pension trustees, endowments and other influential investors and has driven interest on Wall Street, which lags Europe in climate investing.

"When these actions come from strong institutions, they create a change in mindset; they elevate the importance of the topic for financial institutions and they help put on the agenda of boards how much their companies are exposed to climate change," said researcher George Serafeim, professor at Harvard Business School. "If you have financial institutions that can model that risk, you might see real changes in investment decisions based on this."

This type of analysis is already happening. In March, Morgan Stanley concluded that "sustainable investments have usually met, and often exceeded, the performance of comparable traditional investments … on both an absolute and risk-adjusted basis, across asset classes and over time."

Rapid growth in Bloomberg's ESG users and data consumption corroborates growing corporate interest



Source: Bloomberg LP

The signal and the noise

Sandra Carlisle, head of responsible investing at Newton Investment Management, a subsidiary of BNY Mellon with $68.4 billion of assets under management, has long believed in examining companies' environmental, social and governance (ESG) impact. It helps "separate the noise from the signal to tell us if this is a sustainable business that will make money for our investors over the long term," she said. "We don't do this to save the planet."

When CDP's founders came together, they decided that investors were the group that had yet to be mobilized at scale to act on the environment. "We thought that government was failing and corporations were lobbying against new regulations, but investors had an eagle-eye view of the whole economy, because they owned a whole slice of it," recalls Paul Simpson.

In 2000, when CDP first asked investors to sign a letter requesting companies complete its first questionnaire, most fund directors were indifferent to climate change issues. Now CDP is backed by mainstream investors representing one-third of the world's investment dollars. They include giants of financial lending and Wall Street investing—Bank of America Merrill Lynch, BlackRock, BNY Mellon, Goldman Sachs, J.P. Morgan Chase, Morgan Stanley, State Street, Wells Fargo and UBS—as well as an expanding field of other active investors who are engaging with portfolio companies with the expectation they prepare for a low-carbon economy.

Qualitative answers to CDP's climate change questionnaire offer fodder for investors engaging companies. Investment manager Rockefeller & Co. sees in CDP disclosures how companies are dealing with water and emissions challenges, and the transparency of their supply chain.

"We like to put the financial metrics in context," said Farha-Joyce Haboucha, Rockefeller's director of Sustainability & Impact Investing. "All those nitty-gritty details help us talk to management. We can show one company's details to another, and say: 'You can do better on this.'"

Shareholder engagement with major petroleum companies reached new success with the 'Aiming for A' investor coalition, which in January asked BP, Royal Dutch Shell, and Statoil to achieve an "A" in CDP's annual ratings. Corporate management uncharacteristically supported the resolutions, which were approved by 98% of shareholders. The resolutions required increased disclosure on issues including executive incentives and company attempts to influence climate policy.

In 2015, CDP revised its climate change scoring methodology, so achieving an A requires robust carbon management as well as disclosure. And this year's questionnaire asks companies to disclose their lobbying efforts, often through trade associations, to block government action on climate change.

By the beginning of 2014, $6.57tn or $1 of every $6 in U.S. assets under professional management were invested according to a sustainable mandate, according to the Forum for Sustainable and Responsible Investment in the US (US SIF). The US still lags Europe, where 61 percent of institutional funds have some form of environmental or social mandate, according to the Global Sustainable Investment Alliance.

Bruno Bertocci, portfolio manager of UBS's International Sustainable Equity Fund, says climate and social requirements are becoming the norm for European pension funds and endowments. In the US, he is receiving six to seven times more inquiries now than in 2010. "I personally think that in 10 years, this will just be part of the investment routine, not a separate investment category," said Bertocci, which offers strategies across developed and emerging markets, small and medium firms as well as global players, and focused on water.

Carbon risks and opportunities

Investors small and large are realizing the risks of holding companies not managing for a low carbon world, and the benefits of buying into the ones that are. Financial analysts are using terms such as "carbon asset risk" and seeing the potential that fossil fuel reserves may become worthless or "stranded" if regulations prevent them from being extracted or burned.

"Our investment dollars are going to follow companies with strong environmental practices," said Vicki Fuller, Chief Investment Officer, New York State Common Retirement Fund.

15 years of CDP

- **2000** — CDP launches as Carbon Disclosure Project at 10 Downing Street, London
- **2001**
- **2002** — 35 investors with $4.5tn in assets endorse CDP's first climate information request
- **2003** — First CDP global climate change report
- **2004**
- **2005**
- **2006** — Forms Climate Disclosure Standards Board at the World Economic Forum
- **2007** — Pioneers carbon footprint measurement and disclosure through company supply chains

> ***Many of our clients would like us to measure the ESG alignment of their portfolios, whether along environmental or other criteria. CDP is an important data source for us in this endeavor.***
>
> **Hugh Lawson**
> **Global Head of ESG Investing**
> **Goldman Sachs Asset Management**

Already, Bank of America Merrill Lynch, BlackRock, Morgan Stanley, US Trust, and UBS have established dedicated ESG investing platforms for their fleets of wealth advisors in recent years. With this, financial advisors across the country serving clients in places like Miami Beach, Beverly Hills, Colorado Springs and Mission, Kansas, can advise on the environmental as well as financial performance of the companies in their portfolios.

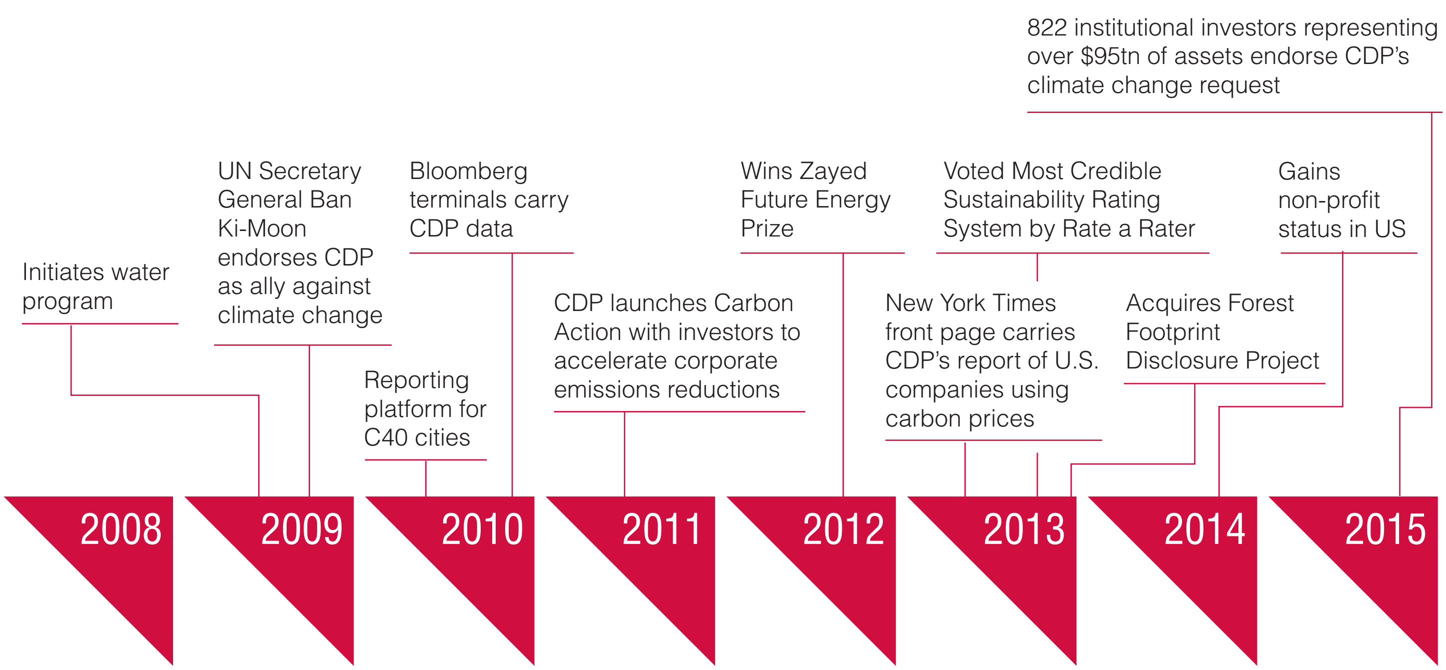
BlackRock, the world's largest money manager, launched an impact investing initiative that lets clients align their portfolios with their values in climate and other ESG issues. They appointed Deborah Winshel, president of the Robin Hood Foundation, to lead its impact and ESG strategies, which cover $225bn in assets.

Lowering carbon exposure

Improved products and algorithms, as well as lower oil prices, helped managers demonstrate they could significantly lower the carbon-intensity of an investment portfolio without lowering its return. The Rockefeller Brothers Fund (RBF), which had $867m in assets, decided to eliminate fossil fuels from its holdings in September 2014.

RBF made this choice for moral reasons, and board member Hugh Lawson guided Rockefeller's efforts to ensure the decision could be successfully aligned with the financial goals and targets of the fund. In June, Goldman Sachs, Wall Street's largest and most influential investment bank, named him its first head of ESG Investing of its asset management arm, and, and the next month acquired Imprint Capital, a boutique impact investing firm, and brought on 15 of its staff.

"Many of our clients would like us to measure the ESG alignment of their portfolios, whether along environmental or other criteria," said Hugh Lawson of Goldman Sachs Asset Management. "CDP is an important data source for us in this endeavor."



Happening now

ESG investing is mainstreaming rapidly

Goldman Acquires Impact Investing Firm Imprint Capital
Jul 13, 2015 marketwatch.com

Morningstar to Launch First Environmental, Social, and Governance (ESG) Scores for Funds Globally
Aug 13, 2015 Chicago

Sustainalytics to Acquire ESG Analytics of Zurich
Sept 8, 2015 Amsterdam; New York

Ethix SRI Advisors Acquired by Institutional Shareholder Services in Responsible Investment Business Expansion
Sept 15, 2015 Rockville, MD.; Stockholm

Three New Climate Change Index Series Launched by S&P Dow Jones Indices
Sept 17, 2015 London

Carbon footprints loom large for investors
Sept 25, 2015 Financial Times

BlackRock Launches Impact Equity Funds
Oct 13, 2015 New York

ESG research agencies Vigeo of France and EIRIS of UK announce merger
Oct 13, 2015 Paris

DOL Gives Green Light For ESG Investments In Retirement Plans
Oct 22, 2015 Financial Advisor

Investors push for mandatory ESG reporting
Oct 29, 2015 Environmental Finance

Deutsche Bank pledges to embrace sustainable investing by 2020 amid sweeping overhaul
Oct 29, 2015 responsible-investor.com

S&P and Toronto exchange launch new climate indices
Oct 30, 2015 Toronto

Goldman to invest $150bn in clean energy by 2025
Nov 2, 2015 Environmental Finance

Goldman Sachs AM to integrate environmental considerations into proxy voting in ESG push
Nov 2, 2015

S&P expands low-carbon indexes with three Canadian additions
November 3, 2015 Environmental Finance

The mainstreaming of low-carbon on Wall Street

2000

CDP asked investors to sign a letter for the first questionnaire

2015

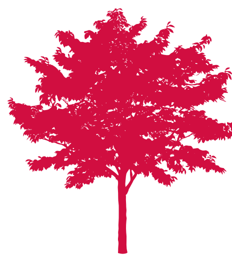
CDP is backed by mainstream investors representing one-third of world's investment dollars:

- Giants of Wall Street
- Active investors who demand that companies prepare

Before

Screening out fossil fuels and energy products

Now

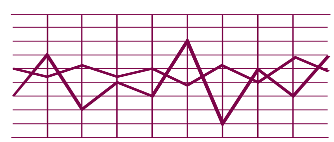


"Screening in" companies poised to succeed in low-carbon economy

Managers demonstrated they could lower carbon intensity of investment portfolio without losing returns

Best-in-class climate performers can outperform their peers. Good disclosure is a proxy for good management globally

The biggest names on Wall Street have established dedicated ESG investing platforms, and acquired investment boutiques



ESG investment goes mainstream

Corporate bonds

S&P has begun applying ESG factors to the rating of "vanilla" corporate bonds

Indexes

in 2016, MSCI will release the carbon footprint of 160,000 indexes it produces

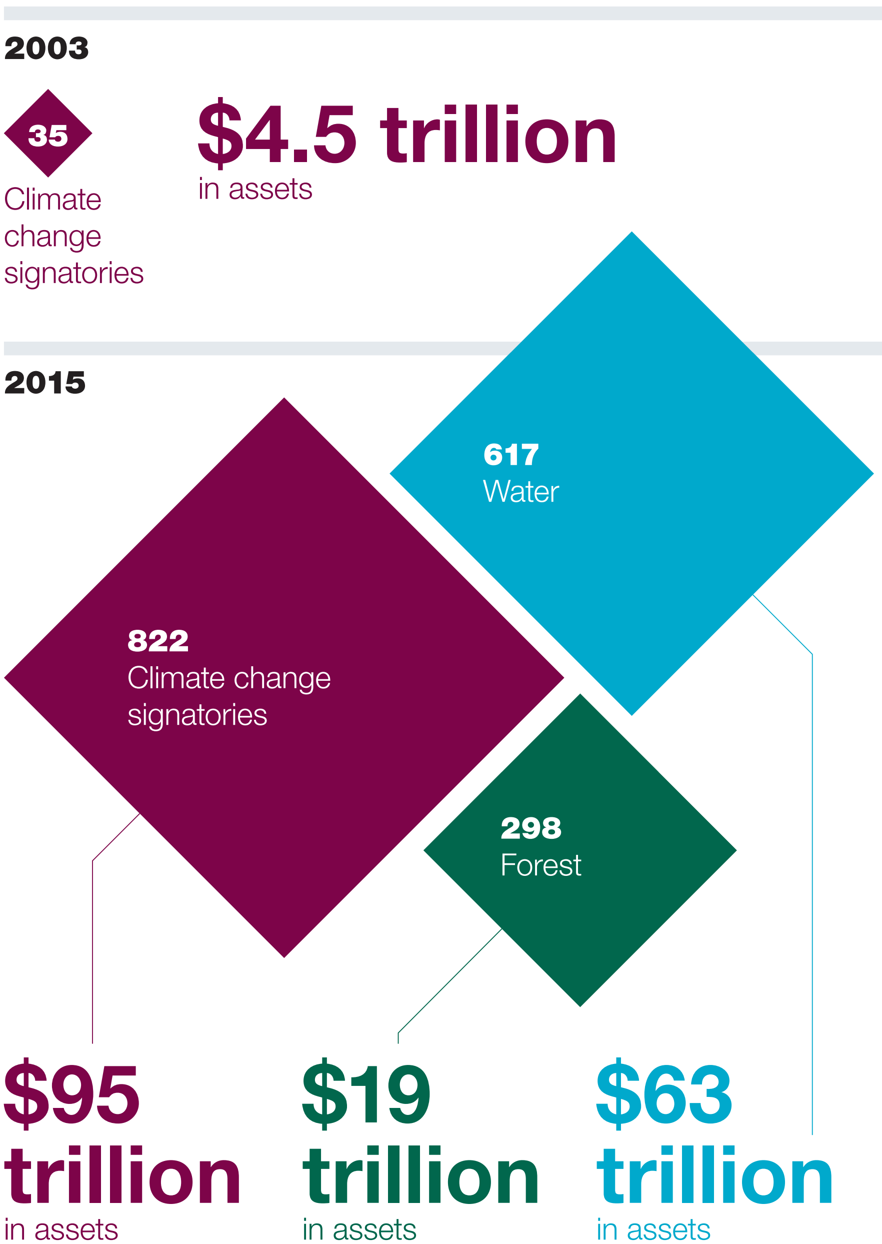
Mutual funds

Morningstar will assign ESG ratings to mutual funds and ETFs by end of this year

New standards

- US Pension Law ERISA
- Financial Stability Board
- Fiduciary Duty
- UN Principles for Responsible Investment

CDP investor signatories and assets 2003–2015



"Over the last two years, ESG has become more central to our clients, and they would like our help in finding a way do it that is robust and rigorous from an investment perspective," Lawson said. "Climate change is clearly on people's minds."

Of the $3tn invested according to environmental factors, climate change is the most important for money managers who in total represent $276bn and for institutional investors who represent $552bn, according to US SIF. Fossil fuel restriction or divestment policies accounted for $29.4bn in money manager assets and $13.5bn in institutional investor assets at the beginning of 2014.

"Environment is special since it lends itself more than other social issues to metrics," said John Buckley, who leads corporate social responsibility for BNY Mellon. These metrics feed into products and tools to reduce carbon intensity in portfolios and into new low-carbon indexes developed by Standard & Poor's, MSCI and FTSE/Russell. They, in turn, underpin new index-based products including exchange-traded funds at State Street and BlackRock, Mellon Capital's Carbon Efficiency index fund, and a low-carbon emerging markets portfolio at Northern Trust.

Reaching mainstream

Standard & Poor's now factors in environmental and climate in its credit ratings of mainstream, so-called vanilla, corporate bonds. This has resulted mainly in downgrades, but some upgrades including Tenneco, a supplier of clear air auto products.

MSCI published the carbon footprint of 19 headline indexes in September, and will expand to all 160,000 indexes it produces in 2016. It has developed a tool for investors to understand, measure and manage the carbon footprint and exposure of their portfolio. Morningstar has announced it will assign ESG ratings to mutual funds and ETFs enabling investors to compare funds using ESG data by the end of this year.

White house effort

In October 2015, the Obama Administration revisited the question of ESG investment. US Labor Secretary Thomas Perez repealed a 2008 rule that he said had a "chilling effect" on ESG investing.

Under the main US pension law, known as ERISA, environmental, social and other factors "are more than just tiebreakers, but rather are proper components of the fiduciary's analysis of the economic and financial merits of competing investment choices," the department said in an Oct. 22 statement.

Secretary Perez cited improved ESG metrics and analytical tools with enabling the growth of the ESG market. "It's become quite mainstream," he said.

> ***As asset owners and fiduciaries, we cannot address these complex issues without the analytics and tools that our consultants and managers provide. They have to be our working partners in this challenge.***
>
> **Vicki Fuller**
> **Chief Investment Officer**
> **New York State Common Retirement Fund**

Merger wave

Goldman's acquisition of Imprint is one of the more apparent signs of the maturity of the ESG industry. MSCI has created a 220-person ESG group and acquired four specialty firms since 2009. In September, governance watchdog Institutional Shareholder Services bought the Scandinavian firm Ethix SRI Advisors, whose clients represent more than €300bn, and research provider Sustainalytics, announced its acquisition of software maker ESG Analytics of Zurich. In October, ESG research agencies Vigeo of France and EIRIS of the UK announced their merger.

Activists with 350.org and student groups pressing universities and other endowments to divest from fossil fuels deserve credit for forcing investors to think of alternatives.

"Grassroots campaigning has become a lot more successful in persuading investors to take action within their portfolios on the risk of high-carbon assets becoming prematurely uneconomic, or in other words, stranded," said Chris McKnett, managing director and head of ESG investing at State Street Global Advisors. "Part of that building momentum is just … safety in numbers, when you see peers doing it. You're not out there, naked."

Tragedy of horizons

Investment managers taking a longer-term view are crucial to avoiding the "tragedy of the horizon" of short-term investing, according to Mark Carney, Chairman of the Financial Stability Board and Governor of the Bank of England.

Carney made his case to the insurance industry, which has had to adjust its models as once-in-a-century weather disasters have been occurring every few years, consistent with the extreme weather predictions resulting from climate change. In a September speech to Lloyd's of London, Carney said that the global economy's resilience depends on better disclosure worldwide, and he held up CDP as a model. He said clear prices on carbon, another focus of CDP, and stress-testing would buttress this.

As mainstream investors take a longer view, these new products, tools, and ratings will better able to assess how well companies have future-proofed their business to take account of environmental risks and opportunities to stabilize, maximize and grow shareholder return. It also puts companies on notice that their cost of credit and continued inclusion in mainstream portfolios of pension and insurance funds, ETFs, mutual funds depends on outperforming their peers in environmental as well as financial terms.

"When you have comparable data across a broad range of companies, this can spark innovation within companies," said George Serafeim, a professor at Harvard Business School. "Companies want to see what their competitors are doing, so this provides a platform upon which companies can improve themselves."

BlackRock impact

BlackRock, the world's largest asset manager, this year launched a dedicated global sustainable investment platform to unify its existing ESG capabilities, which cover more than $200b in assets under management.

Launched in February, BlackRock Impact is a recognition by the firm that sustainable investment strategies are becoming more mainstream, as growing numbers of investors seek to achieve impact, defined as targeting positive social or environmental outcomes alongside financial goals.

BlackRock Impact, the firm's central resource for its sustainable investment strategies, partners with clients to define and achieve their social or environmental goals.

"One of BlackRock Impact's differentiating characteristics is the focus on the measurement and transparency of financial and social and environment outcomes embedded in our portfolios," said Deborah Winshel, managing director and global head of Impact Investing. "We believe the next generation of sustainable solutions will need to offer clear criteria about the investments that are made as well as reporting on the resulting impact."

Before BlackRock, Winshel was president and chief operating officer of The Robin Hood Foundation, which strives to eliminate poverty in New York City. Earlier, Winshel was chief administrative officer of the Metropolitan Museum of Art and an investment banker at J.P. Morgan.

Many longstanding institutional clients have looked to BlackRock to reduce or eliminate their exposures to certain types of companies, natural resources or emissions.

Exclusionary screens allow investors to avoid companies or sectors that conflict with their social objectives or values, such as fossil fuels, tobacco or weapons. ESG Factors allow investors to back companies whose performance along broad or narrow themes meets their social and financial objectives, by integrating ESG factors into the investment process. Targeted impact outcomes advance investors' social and financial objectives through measurable results.

Over the past three years, BlackRock has built out offerings in green bonds, renewable energy and, in October, an impact fund of publicly traded companies.

The BlackRock Impact U.S. Equity Fund is a mutual fund for investors that seeks measurable social and environmental outcomes as well as competitive financial returns. The fund, which trades under the name BIRAX, is run by BlackRock's Scientific Active Equity (SAE) team, which has more than 30 years' experience leveraging systematic and quantitative techniques to build differentiated equity portfolios.

For the Fund, SAE leverages CDP data and employs its research process to score more than 8,000 companies daily across three societal impact outcome areas: health, the environment, and corporate citizenship. In addition, the fund screens out certain companies or industries, including alcohol, tobacco, and weapons manufacturers.

In addition to the BlackRock Impact U.S. Equity Fund, BlackRock recently created other impact funds in Europe and Japan.

"This new investment strategy will help move impact investing from a niche to a core allocation", said Jeff Shen, Managing Director and Co-head of BlackRock's SAE Investment Group. "We have designed a portfolio that combines innovative investing capabilities with a transparent and tangible set of social and environmental impact outcomes."

Green bonds are another aspect of BlackRock's impact investing platform, which have potential to lower carbon emissions by financing specific projects. BlackRock has partnered with industry groups and non-profits to develop best practices and reporting metrics to help this sector grow its investor base and attract liquidity. While issuance is limited in the sector right now, a recent report by the Climate Bonds Initiative, UNEP, and The World Bank predicted that $1 trillion in green bonds could be issued per year by 2020.

Corporate disclosures have unleashed a torrent of new data on carbon risk, reflecting its growing importance in driving investment decisions. BlackRock is increasingly incorporating data reported from third-party aggregators to supplement companies' disclosures, in sustainability reports, and security filings, using its own analytical capabilities to ascertain to what degree firms are positioned to be sustainable for the long-term. However, current disclosures aren't perfect and will need continual improvement.

Based on its investment, hiring and product development, it's clear that BlackRock believes sustainable investing is a long-term trend, not a passing fad.

"Investors' financial and social goals may have been perceived to be at odds historically. Increasingly, however, asset owners and managers are pursuing strategies that can viably achieve both," concluded Winshel. "Clients are looking to marry purpose and performance in their portfolios."

Low-carbon product evolution

New financial products that take environmental risks and other factors into account are increasing dramatically. These include exchange-traded funds, indexes, and mutual funds aimed at emphasizing environmental positives and reducing environmental negatives. There were 672 environmental investment vehicles in the US at the start of 2014, according to US SIF, with nearly $3tn in assets.

The section below describes a new generation of indexes and products. They both "screen in" the most energy efficient companies and "screen out" the least efficient ones, while otherwise hugging a benchmark index. These products were based on sophisticated analytical tools that are better able to estimate the carbon footprint of companies that did not disclose. These analyses often combine various data sources and model company performance against peers.

On desktops

This capability has reached the desktops of wealth advisors, with tools enabling them to check the environmental impact of their clients' portfolios—using actual and estimated values of mainstream stocks, bonds and mutual funds or their bonds. Also, the world's largest pension funds have seeded new products, using their resources and influence to create pooled funds for others to join. While the number and size of such products is increasing, they remain specialized instruments. New developments, such as guidance from the US Department of Labor opening the door to climate and other sustainable investing strategies for US pensions and retirement savings plans, may help channel flows into these products.

Clearly, the tool box of sustainable investing has grown sufficiently to support a broader section of investors as they make decisions based on the risks and opportunities of climate change.

Following is a look at several innovative products, and at some of the tools designed by analytics firms.

Exchange-Traded Funds (ETFs)

Exchange-traded funds carry lower fees over traditional funds because they trade as a single stock that follows an index, rather than as the basket of stocks.

State Street Global Advisors and BlackRock, two of the world's largest asset managers with trillions of dollars under management have developed ETFs in response to inquiries about climate products from their institutional clients and their consultants. In late 2014, State Street launched LOWC, the first low-carbon exchange-traded fund (ETF) under the SPDR brand, followed weeks later by BlackRock's iShares launch of CRBN. The UN Joint Staff Pension Fund and the University of Maryland were the initial investors in the ETFs, which focus on carbon efficient companies and reduced exposure to carbon reserves and emissions.

Both were built on a low-carbon version of MSCI's All-Country World Index, a primary benchmark for institutional investors with broad diversification in terms of sectors and countries.

Outperformance

"Frankly, these low-carbon and ex-fossil fuels strategies have outperformed, and that makes them more appealing to investors," said Christopher McKnett, head of ESG Investments at State Street. "It's a proof point to rebut the other side that says 'I can't take on the financial risk of divesting.'"

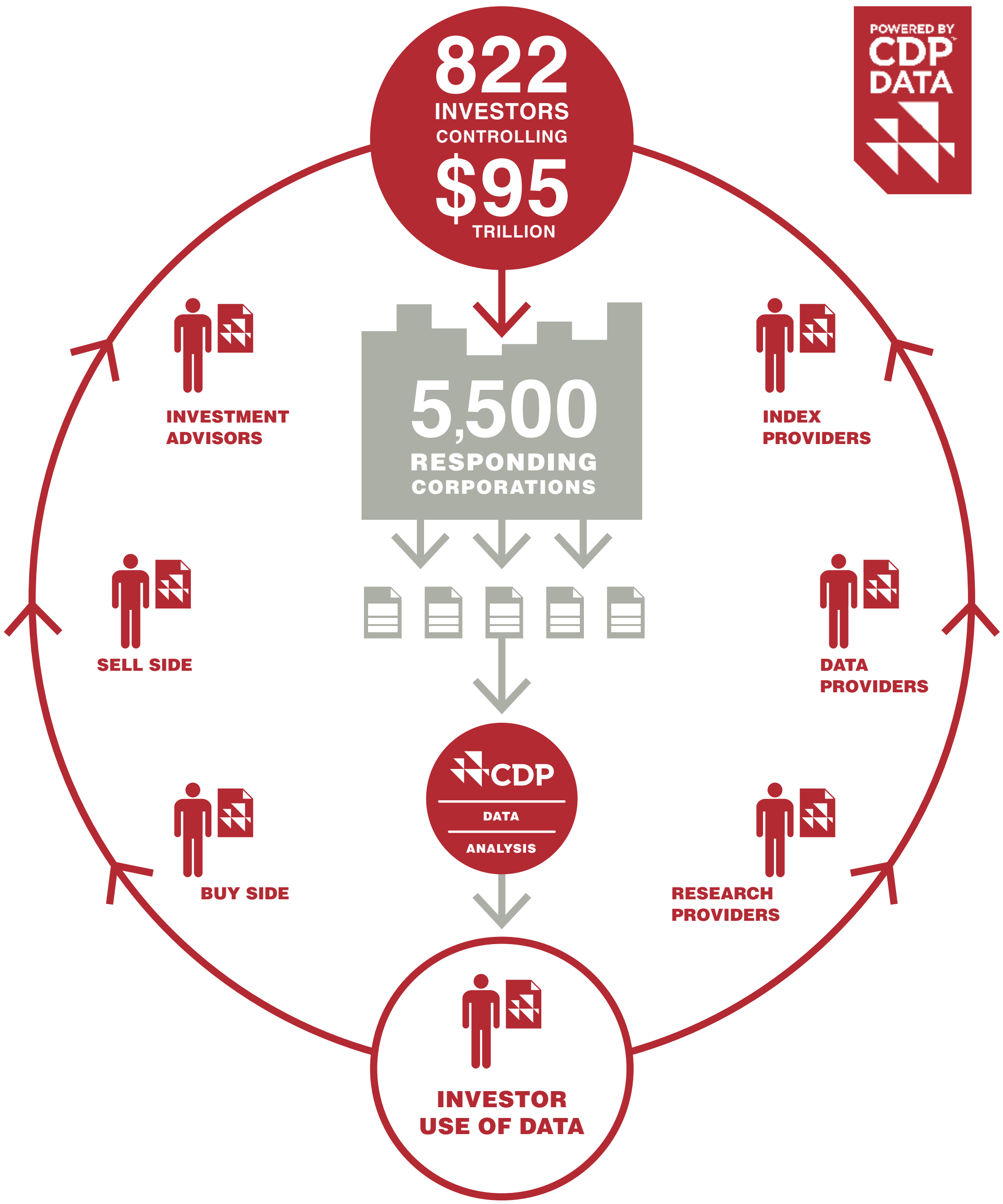
The prolonged slump in oil prices, and new regulations restricting the burning of coal, have made fossil fuel reserves assets look vulnerable and generated increased inquiries about climate products. Investors are still assimilating these results, which defy the long standing bias that low carbon means lower returns, but analysts have confidence that the results will continue to make the case.

"There was a lot of smoke, but not a lot of fire," said McKnett. "They are asking questions and doing analysis but there is still not a lot of capital flowing or asset reallocation—yet."

Mellon Capital Carbon Efficiency

Mellon Capital, a subsidiary of BNY Mellon, developed its Carbon Efficiency Strategy with the McKnight Foundation, which wanted to be a leader in low-carbon investing. The $2bn foundation, based in Minneapolis, wanted to develop a marketable model—a product that would halve the portfolio's exposure to carbon emissions, while retaining the full returns of a broad market index. Mellon calls this its Green Beta Investment approach.

CDP: Providing data to educate and inform the market



In late 2013, Mercer Consulting examined McKnight's portfolio and determined that most of its carbon emissions were from an index product based on the Russell 3000, an index of the 3,000 largest U.S. companies that represents 98% of the U.S. equity market. Working with Mercer and the boutique firm Imprint Capital (acquired this year by Goldman Sachs), Mellon Capital designed the product to exclude coal-mining and production companies, but to include companies in all economic sectors.

Forward-looking metrics

The strategy gives greater weight to low-carbon companies and less weight to high-carbon companies, using a forward-looking scoring system called carbon-readiness. "We overweight environmentally efficient companies because we believe they may realize a competitive advantage," Gabby Parcella, chief executive officer of Mellon Capital, said in a statement. In addition, the proxy voting and governance team at parent BNY Mellon encourages companies to disclose their environmental footprint and to improve their performance, and MSCI provides estimates for companies that don't disclose, according to Karen Q. Wong, managing director and head of equity portfolio management at Mellon Capital.

Global leadership

"McKnight wanted to be a leader in the US and the beauty of this is knowing that this model can help them be a global leader," said Wong.

Elizabeth McGeveran, director of Impact Investing at McKnight, noted that the "micro-actions" of hundreds of investors signing CDP's disclosure request led to the data underlying Mellon's carbon efficiency strategy. "Notable how the micro-actions of a number of investors enabled Mellon Capital to take a "macro-action," she said.

Northern Trust

The Swedish fund AP4 partnered with Northern Trust to develop a low carbon index fund for addressing climate change risks in emerging markets. Developing countries are expected to generate 70% of global emissions by 2050, according to Trucost, a CDP data partner that helps clients understand the economic consequences of natural resource dependency.

The Dublin-domiciled fund launched in November 2013 and had $451m in investments at the end of September. Mamadou-Abou Sarr, Northern Trust's managing director of ESG investing said the underperformance of clean energy funds with the financial crisis and the lack of reliable emerging markets data deterred the interest in renewable energy and climate funds, but that improvements in emissions data, company disclosures, and the push to divest from fossil fuels, with the campaign led by 350.org and others, have renewed interest in decarbonizing portfolios and alternative energy funds.

"You can't address something you can't quantify; therefore carbon data are paramount," said Sarr. "CDP has been key for Wall Street getting data and integrating it into their processes, and the role of disclosure is crucial, whether it's for awareness or risk assessment or for investment decisions."

Ahead of the market

Sarr expected moves in France to pass legislation requiring institutional investors to disclose their carbon footprint, the December 2015 COP-21 Climate Summit in Paris, and other changes would create a tipping point toward low-carbon investing.

"We were ahead of the market with the launch of our Low Carbon Emerging Market index fund," said Sarr, whose role at Northern Trust is to formulate ideas to ensure that ESG thinking remains central to the bank's business development.

Index Providers

The main U.S. index providers, MSCI and Standard & Poor's, are designing new low-carbon indexes to provide sophisticated and nuanced ways to screen out and screen in companies based on environmental performance.

Standard & Poor's

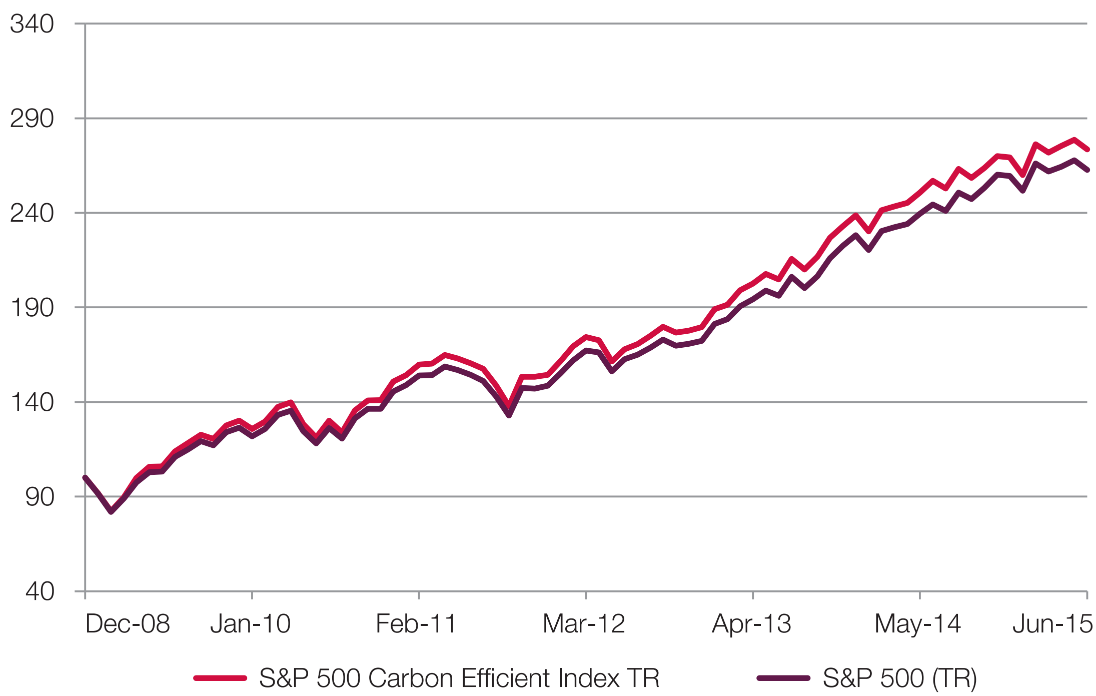
Standard & Poor's, the world's largest rating agency, began incorporating climate and other environmental factors into its corporate bond ratings two years ago. It has issued analysts with 38 key credit factors, pointing out the industry-specific risks and opportunities to watch.

Mike Wilkins, managing director and head of infrastructure finance ratings for S&P, says environmental and climate factors have caused the downgrade of companies including Volkswagen and energy generator GenOn, now part of NRG, and the upgrade of Tenneco, a maker of automotive emissions filters and other products.

"We have seen considerable movement," Wilkins said. "And 80% of the cases have been negative."

S&P Dow Jones Indices developed its first low-carbon index in 2009 for investors aiming to cut costs with index-based or passive investing who had embraced ESG.

S&P 500 Carbon Efficient Index performance: Close tracking of S&P 500



Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of June 30, 2015. Index performance is based on total return index levels in USD. Charts and graphs are provided for illustrative purposes. The beginning index level was set at 100 for comparison purposes. Past performance is no guarantee of future results. Some information shown reflects hypothetical historical performance. Please see the Performance Disclosure Performance Disclosure on page 3 for more information regarding the inherent limitations associated with back-tested performance.

Families of funds

S&P has two families of funds based on its flagship S&P500, which benchmarks 500 leading large-cap companies, and a separate S&P Green Bond Index. The S&P500 Carbon Efficient Index is based on same 500 US companies, but overweights companies with lower levels of carbon emissions and underweights those with higher levels. S&P partners with Trucost, a CDP data partner, which estimates a company's GHG footprint on a revenue-adjusted basis. A variation of this index, the Carbon Efficient Fossil Fuel Free Index, screens out companies that own fossil fuel reserves.

As of fall 2015, the S&P Carbon Efficient Index has been closely tracking with the S&P 500.

S&P's new S&P500 Environmental and Socially Responsible Index excludes oil, gas and coal companies, as well as companies associated with tobacco, military sales, nuclear weapons, cluster bombs and landmines. It then excludes the bottom 25% of the remaining stocks according to environmental and social scores.

"Millennials don't want fossil fuels and tobacco and arms, and we excluded the bottom 25% of companies in each sector, and to our own surprise, we still get a benchmark-hugging return," said Alka Banarjee, vice president of strategy and global equity indices at S&P. "So if you want to invest in the index and don't want to pay for philosophies with which you don't agree, these indexes are a good way to go."

Green bonds

S&P's Green Bond fund is based on the performance of 500 green bonds, a market that expanded greatly in 2014 to $36.6bn. Issuance this year already had reached $29.9m by October, as green bond issuance grows among corporations.

"The mantra is so far that the pricing is the same for vanilla and green bonds," notes Mike Wilkins, managing director for infrastructure finance ratings, but research from Barclays is showing that there is a premium in the secondary market. "There has been such an increase in take-up that there's an uptick in the price of 15 basis points."

S&P, a pioneer in low-carbon index products, continues to refine its methods and expand the reach of its risk and return metrics based on climate and environment. This suggests that companies that are insufficiently astute to their potential environmental liabilities and opportunities will continue to face risk of lower credit ratings or being left out of important market benchmark indexes.

MSCI

The MSCI Global Low Carbon Target Index, released in 2014, minimizes exposure to carbon emissions and reserves, by overweighting energy efficient companies and underweighting the heaviest emitters. The indexes maintain a low tracking error and are broadly representative of the market. The MSCI Global Low Carbon Leaders Indexes exclude the most carbon-intensive companies in each sector, and the largest owners of carbon reserves, while minimizing the tracking error.

There are 22 new exchange-traded funds (ETFs) tracking MSCI ESG indexes since September 2014, which have attracted a total of $2.4bn in assets. MSCI has approximately 900 clients using its ESG research and data, of which more than 120 are asset owners.

“While the conversation used to be about negative screening, new growth in the market is driven primarily from looking at ESG through the lens of risk and opportunity,” said Laura Nishikawa, head of ESG fixed income research at MSCI. “It started in Europe, but the US is catching up, particularly with students and other groups pushing the climate issue.”

Portfolio metrics

MSCI’s ESG CarbonMetrics includes carbon emissions data and estimates for gaps in company disclosures. Its CleanTech Metrics provides data on revenues from five cleantech themes. Its Carbon Portfolio Analytics is a footprinting tool that assesses current emissions, future emissions in reserves, and leadership in new technologies and risk management.

“Investors are just starting to assess their footprint and exposure and compare their portfolio to the benchmark,” Nishikawa said. “Having carbon metrics alongside financial data furthers the conversation about smart climate investing.”

MSCI combines CDP’s disclosure data with its own analysis of company sales figures, and estimates for companies that may not disclose. It also aims to verify the data.

Filling in the gaps

Improved analytical tools and data shine a light on companies that don’t disclose. While smaller companies may feel they lack the resources to calculate and reveal their environmental impact, other companies make a decision not to make public their GHG emissions. But their carbon pollution will still be measured, scored and ranked based on peer-to-peer estimates and sales figures, adding new pressure on companies to reveal their climate impacts.

Shifting dynamics and long-term investment

While the quarterly call still dominates Wall Street analysis, leading investors, companies and financial institutions are building support for allocating capital for the long-term. These investors are asking companies about their approach to climate, water, governance, and social issues to gauge whether to bet on the long-term profits of that business in a resource-constrained world.

Changing the way companies report results is an essential step toward expanding low carbon investment. At present, US public companies are required by law to report their results quarterly and guide analysts on their earnings expectations. Many stock brokers following companies, and many chief financial officers, devote much energy to predicting and managing each quarter's results. By definition, this can exaggerate the focus on the next 90 days.

Generation Investment Management, whose co-founders include former US Vice President Al Gore and David Blood, advocates long-termism through what it calls "Sustainable Capitalism." This includes several steps that start with assessing carbon risk and pricing carbon in all capital allocation decisions. "If you accept that climate change is real, it's your long-term duty to analyze the business case around these risks and opportunities," said Blood, a former co-CEO of Goldman Sachs Asset Management.

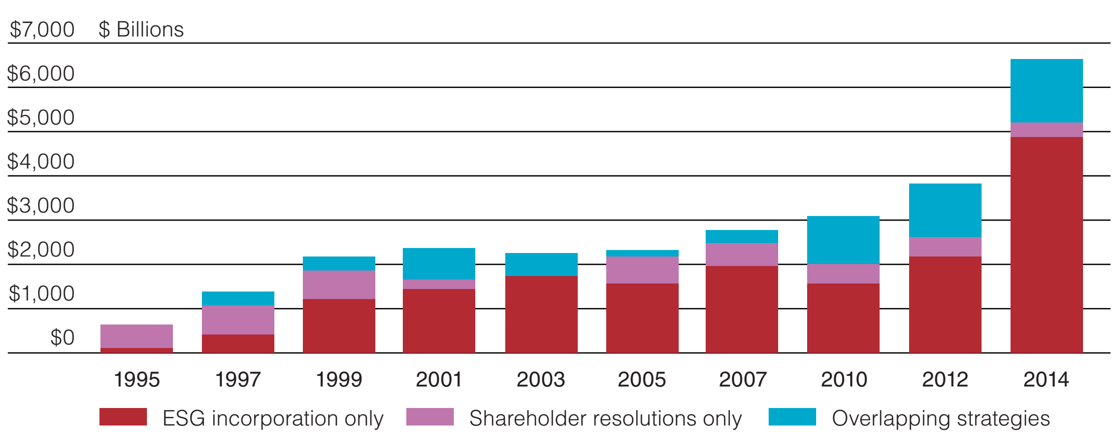
Generation invests over short and long time horizons not geared to the quarterly cycle, and integrates sustainability into strategic decisions and asset valuations. The asset manager also notes that global trends in health, water, and poverty will drive the future economy. Thinking about how these trends will reshape industries helps investors to determine which companies are best-positioned to succeed in the long term.

Fiduciary duty

For Generation and a growing number of European investors, integrating climate factors into analysis is a fiduciary duty. "It's not a nice-to-have, it's a need-to-have: ESG factors drive the long-term success of business," he said. "If investors have a main strategy and a separate sustainability strategy, then they don't get it."

Another issue is incentives. Over the last few decades, there has been an intense focus on tying executive pay to "shareholder value"—defined as the company's stock price plus dividends. But some executives are advocating that ESG factors have a bigger role in determining compensation.

Sustainable and responsible investing in the United States, 1995–2014



Source: US SIF Foundation

This is a focus of the Coalition for Inclusive Capitalism, a group of leading financiers.

In his contribution to the Coalition's manifesto, Jeroen van der Veer, chairman of the Dutch groups ING and Philips, suggested that financial success should account for no more than half of compensation calculation, with the rest "tied to objectives around People and the Planet." His proposal is that salaries should be mostly fixed, with bonuses paid in stock that must be kept for at least seven years.

The focus on sustainability requires investors to engage more directly with management.

Pascal Blanqué, chief investment officer of the French investment group Amundi, supported this view: "We are convinced that there is value in engaging companies: long-term performance can be improved by helping companies set a course for long-term success in a resource-constrained world."

Focusing capital

Another group with similar aims is Focusing Capital on the Long-Term, set up in 2013 by the Canadian Public Pension Investment Board, and by the management consulting firm McKinsey. It has won the backing of major institutional investment groups, including the world's largest asset manager, BlackRock.

Focusing Capital suggests that there are two forces prodding companies toward short-termism that should instead oblige them to look to the long term—directors, and institutional investors.

When it conducted a global survey it found that almost half (47%) of business leaders thought that boards were "the primary source of pressure" to focus on short-term performance. Meanwhile, 20% named investment institutions. But according to Focusing Capital, "these two groups can—and should—play a pivotal role in fostering long-term thinking and action across our investment and business worlds."

This year's disclosures to CDP indicate an increase in board-level accountability for climate change, which rose from 67% to 95% of the S&P500 over the past five years. In addition, 83% of S&P500 companies offer staff incentives to improve energy efficiency or reduce carbon pollution, up from 49% in 2010.

But corporate directors still need to broaden their view beyond governance and compliance. The founders of Focusing Capital, Dominic Barton of McKinsey and Mark Wiseman of the CPPIB, suggest that boards can "by taking an independent view on strategy … advocate for enhanced long-term value for the company, its shareholders, and society."

> ***You don't just want new financial products, you want sustainability to be integral to the mainstream business challenges we are currently facing.***
>
> **David Blood**
> **Managing Director & Co-Founder**
> **Generation Investment Management**

A subsidiary of the environment

Paul Dickinson, co-founder of CDP, recently cited research by the consulting firm Mercer, which advises many long-term investment institutions, showing that reducing emissions to keep global warming below 2°C would not lower returns for diversified long-term investors.

Summing up the basic relationship between economics and environmental stewardship, Dickinson said: "We must always remember that the global economy is a 100 percent owned subsidiary of the global environment."

It is this attitude that active investors need to promote among corporations large and small, to help push their thinking beyond the quarterly call and to allocate capital for the long-term health of their business and the environment. The calls for long-term thinking are starting to reach the ears of Wall Street.

Carbon pricing and investor momentum: A worldwide tableau and emerging international language

A cannon fired golden confetti into the air to celebrate the opening of China's first cap-and-trade pilot program in Tianjin in 2008. It was a landmark occasion. Then, in 2015, after establishing six additional pilot programs, China announced it would soon be implementing a national cap-and-trade system, an indisputable sign that China planned to use carbon pricing to reduce its greenhouse gas emissions (GHG), through a combination of policy and markets.

The European Union also continues to use cap-and-trade to reduce greenhouse gases while in the United States, as national policy continued to evolve, California and states in the northeast took the lead and established state-based cap-and-trade systems. And as the world prepared for the 21st Conference of the Parties to the Framework Convention on Climate Change (COP-21), discussions continued worldwide on how to link existing market systems, while also examining carbon taxes and other pricing policies.

> **As investors become more attuned to minimizing environmental risks, and as investor interest in greening portfolios grows, carbon pricing will concomitantly become a new factor in decision-making.**

But regardless of form or location, carbon pricing systems are of increasing relevance for global investors because they make visible otherwise hidden costs, projected and actual, by attaching a cost to each ton of emissions that must be reported and verified, much like other financial information. As investors become more attuned to minimizing environmental risks, and as investor interest in greening portfolios grows, carbon pricing will concomitantly become a new factor in decision-making.

Of course, the immediate and primary goal of carbon pricing is to make emissions expensive and reducing them less costly. This offers incentives for cutting emissions and triggers investments in technologies that lead to low-carbon rather than high-carbon practices. A company that emits millions of tons, in a carbon-priced system would be carrying potentially multi-millions of dollars of potential liability. Let us recall that only a decade ago, allowances in the European Union system were trading at 30 Euro per ton.

A clear price tag hung on every ton cannot be ignored, even though the tons themselves are noxiously invisible as they rise into the atmosphere.

By making otherwise hidden costs visible, carbon pricing is relevant for investor decisions because it means investors can calculate relatively easily the cost liability an emitting company may face now and in the future, as public policy evolves and mandatory reductions become the norm. Conversely, carbon price signals illuminate possible eventual cost savings from emissions reductions and can serve as a surrogate to estimate the value of innovation and emerging new technologies. As carbon pricing becomes integral to global economics, “cost of carbon” will gradually emerge as a fundamental indicator in evaluating corporate near-term performance and management, as well as strategic vision and prudence.

CDP’s annual Report on Carbon Pricing reflects this increasing corporate recognition of how important it is to prepare for having to pay the cost of GHG. The 2015 report showed a tripling in the number of companies reporting using internal carbon pricing to gauge their risks and costs—up from 150 companies in 2014 to 437 a year later. In Asia, over ten times as many corporations disclosed they put an internal price on their carbon emissions this year—93 in total up from 8 in 2014—pointing to the influence of China’s expected national emissions trading system, similar systems emerging in South Korea and South Africa, and the general expectation of increasing regulation of emissions.

For now, absent a global carbon pricing policy guideline, companies disclose various pricing levels, and express or apply them in local currencies for internal planning purposes only. But, as regulatory regimes emerge worldwide, and carbon markets evolve into full-fledged commodities markets like any other, ultimately carbon prices will be expressed in international currencies and become fungible as markets and policies link. In this way, carbon pricing can emerge as an international language, translating the language of tons to the language of money. Investors can then more easily compare costs one company to another, and monitor how well a company is preparing for the demands of a low-carbon economy over time.

Investor decisions depend on a combination of analysis, experience, judgment, strategy and data. As mainstream investors become increasingly aware that addressing climate change is important to policy makers and the general public and that low-carbon investment choices and strategies are preferred by clients, carbon pricing is likely to become a key data point in the mix of investor financial tools.

Paula DiPerna
Special Advisor
CDP North America

Global corporate overview

The case for corporate action on climate change has never been stronger and better understood. With the scientific evidence of manmade climate change becoming ever more incontrovertible, leading companies and their investors increasingly recognize the strategic opportunity presented by the transition to a low-carbon global economy.

Global	2010	2015
Analyzed responses	1,799	1,997
Market cap of analyzed companies US$m*	25,179,776	35,697,470
Scope 1	5,459 $MtCO_2e$	5,382 $MtCO_2e$
Scope 2	1,027 $MtCO_2e$	1,301 $MtCO_2e$
Scope 1 like for like: 1306 companies	4,135 $MtCO_2e$	4,425 $MtCO_2e$
Scope 2 like for like: 1306 companies	794 $MtCO_2e$	887 $MtCO_2e$

* Market capitalization figures from Bloomberg at 1 January 2010 and 1 January 2015.

And they are acting to seize this opportunity. The latest data from companies that this year took part in CDP's climate change program—as requested by 822 institutional investors, representing US$95 trillion in assets—provide evidence that reporting companies are taking action and making investments to position themselves for this transition.

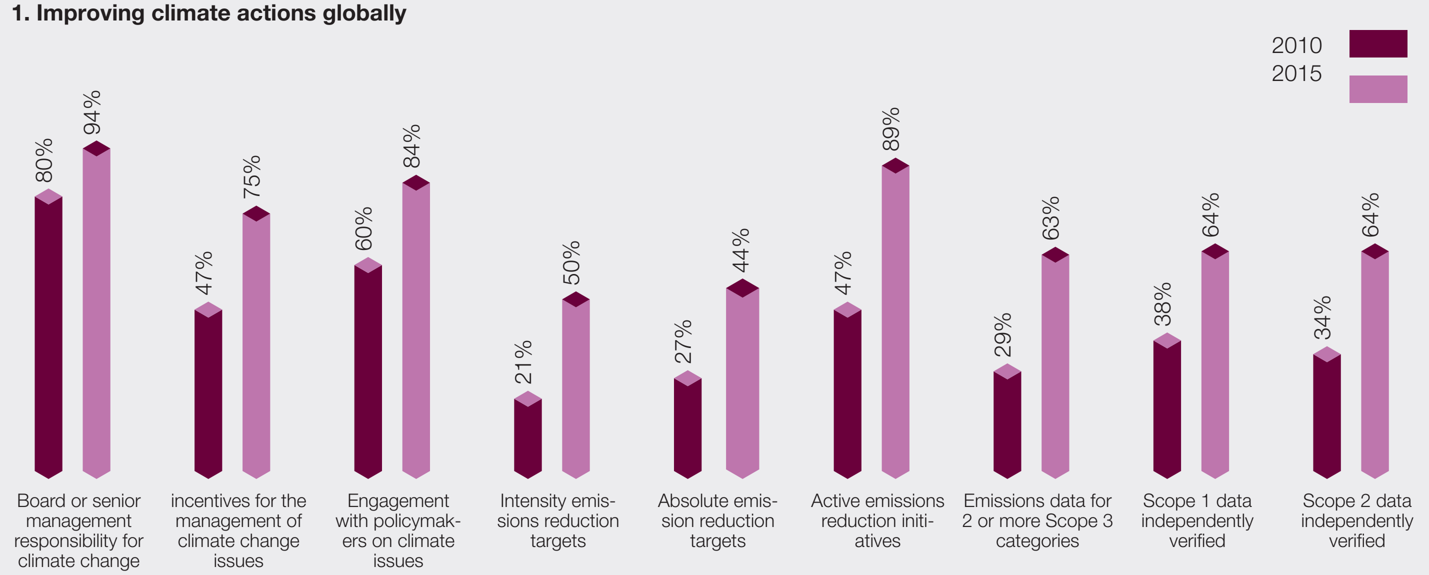
Growing momentum from the corporate world is coinciding with growing political momentum. Later this year, the world's governments will meet in Paris to forge a new international climate agreement. Whatever the contours of that agreement, business will be central to implementing the necessary transition to a low-carbon global economy.

Business is already stepping up. The United Nations Environment Programme estimates that existing collaborative emissions reduction initiatives involving companies, cities and regions are on course to deliver the equivalent of 3 gigatons of carbon dioxide reductions by 2020. That's more than a third of the 'emissions gap' between existing government targets for that year and greenhouse gas emissions levels consistent with avoiding dangerous climate change.

Those investors who understand the need to decarbonize the global economy are watching particularly closely for evidence that the companies in which they invest are positioned to transition away from fossil fuel dependency.

By requesting that companies disclose through CDP, these investors have helped create the world's most comprehensive corporate environmental dataset. This data helps guide businesses, investors and governments to make better-informed decisions to address climate challenges.

1. Improving climate actions globally



At Sempra Energy, our focus is on creating long-term value. To do this, we must balance the needs of many stakeholders.

- Our shareholders look to us for financial performance, growth and income.
- Regulators and policymakers expect us to operate safely and efficiently, while delivering cleaner energy and meeting our environmental commitments.
- Our employees want to work for a stable company that operates safely and responsibly, with a forward-looking strategy that aligns with public policy and market demand.
- And our customers want energy that is clean and affordable, delivered safely and reliably.

To succeed as an energy company, we must balance these needs—and make complex choices.

How we do this is key. Our low-carbon business model describes our priorities: energy efficiency, natural gas, renewable energy and innovation. The results: Our emissions rate is 40 percent below the U.S. national average and we are on track to reduce our emissions intensity 10 percent by 2016.

In this, our 10th year of reporting data to CDP, we believe growth and environmental responsibility can co-exist successfully in a carbon-constrained world.

Debra L. Reed
Chairman and CEO
Sempra Energy

We are targeting the full operational emissions for the organisation, including electricity, natural gas, diesel and refrigerant gases used in operational buildings and fleets.
J Sainsbury Plc

CDP has changed the way investors are able to understand the impact of climate change in their portfolio... promoting awareness of what risks or benefits are embedded into investments.
Anna Kearney
BNY Mellon

This report offers a global analysis of the current state of the corporate response to climate change. For the first time, CDP compares the existing landscape to when the world was last on the verge of a major climate agreement. By comparing data disclosed in 2015 with the information provided in 2010, this report tracks what companies were doing in 2009, ahead of the ill-fated Copenhagen climate talks at the end of that year.

The findings show considerable progress: with corporate and investor engagement with the climate issue; in leading companies' management of climate risk; and evidence that corporate action is proving effective. However, the data also shows that much more needs to be done if we are to avoid dangerous climate change.

Growing corporate engagement on climate change...

For the purposes of this 2015 report and analysis, we focused on responses from 1,997 companies, primarily selected by market capitalization through regional stock indexes and listings, to compare with the equivalent 1,799 companies that submitted data in 2010. These companies, from 51 countries around the world, represent 55% of the market capitalization of listed companies globally.

The data shows significant improvements in corporate management of climate change. What was leading behavior in 2010 is now standard practice. For example, governance is improving, with a higher percentage of companies allocating responsibility for climate issues to the board or to senior management (from 80% to 94% of respondents). And more companies are incentivizing employees through financial and non-financial means to manage climate issues (47% to 75%).

Importantly, the percentage of companies setting targets to reduce emissions has also grown strongly. Forty four per cent now set goals to reduce their total greenhouse gas emissions, up from just 27% in 2010. Even more—50%—have goals to reduce emissions per unit of output, up from 20% in 2010.

Companies are responding to the ever-more compelling evidence that manmade greenhouse gas emissions are warming the atmosphere. This helps build the business case for monitoring, measuring and disclosing around climate change issues. But greater corporate engagement with climate change is at least partly down to influence from increasingly concerned investors.

... Amid growing investor concern

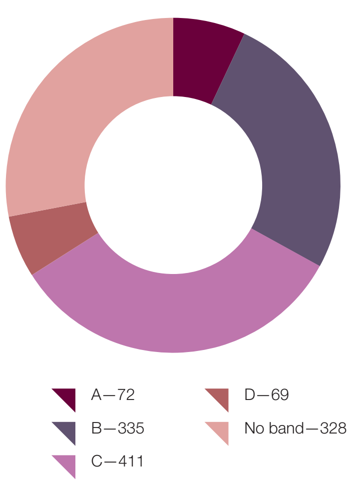
Since 2010, there has been a 54% rise in the number of institutional investors, from 534 to 822, requesting disclosure of climate change, energy and emissions data through CDP.

Investors are also broadening the means by which they are encouraging corporate action on emissions. In recent years, they have launched several other initiatives.

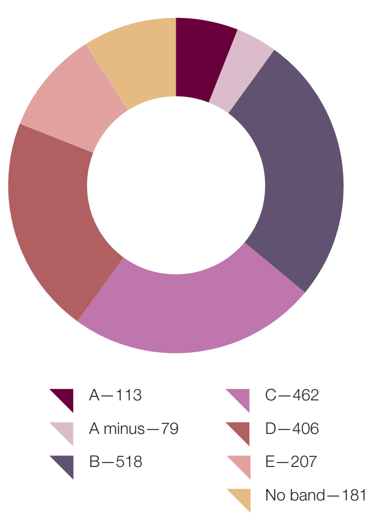
For example, a number of institutional investors have come together in the 'Aiming for A' coalition to call on specific major emitters to demonstrate good strategic carbon management by attaining (and maintaining) inclusion in CDP's Climate A List. The A List recognizes companies that are leading in their actions to reduce emissions and mitigate climate change in the past CDP reporting year. In 2015, following a period of engagement with the companies, the coalition was successful in passing shareholder resolutions calling for improved climate disclosure at the annual meetings of BP, Shell and Statoil, with nearly 100% of the votes in each case.

Investors are also applying principles of transparency and exposure to themselves. More than 60 institutional investors have signed the Montréal Carbon Pledge, under which they commit to measure and publicly disclose the carbon footprint of

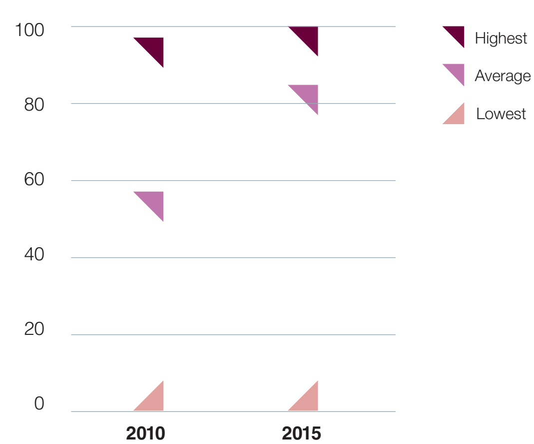
2. 2010 performance bands globally*



3. 2015 performance bands globally



4. Disclosure scores over time globally



* in 2010 and 2015 not all companies were scored for performance

As a leading provider of technology products and services, Best Buy is committed to sustaining our planet and our communities. The scale of our operations provides us an opportunity to positively impact the transition to a low-carbon economy and the unique ability to provide consumers with innovative energy-efficient solutions.

We believe that effectively managing our own carbon emissions, setting science-based goals and advancing energy-efficient consumer products creates long-term value for our stakeholders. We have committed to reduce our carbon emissions by 45 percent by 2020 through operational reductions and renewable sourcing. Our carbon emission strategy centers around small yet significant improvements, such as store lighting retrofits, a centralized energy management system and fleet enhancements, that are scaled across Best Buy.

Best Buy's commitment extends to making energy-efficient solutions accessible to consumers, and to providing convenient repair, re-use and recycling services that prolong the product life. Since 2009, Best Buy has sold more than 135 million ENERGY STAR® certified products, helping our customers realize $550 million in utility bill savings and preventing nearly 8 billion pounds of CO_2 emissions.

Our ongoing participation in CDP disclosure has enabled us to accurately disclose carbon data to the financial community, and strengthened our ability to assess the risks and opportunities associated with climate change. This, in turn, enables us to create meaningful programs that favorably impact our business and our customers.

Laura Bishop
Vice President of Public Affairs & Sustainability
Best Buy Co., Inc.

We have a public commitment to meet 100% of electricity requirements through renewables by fiscal 2018 and we will be investing in about 200 MW of solar PV plants.
Infosys

Google uses carbon prices as part of our risk assessment model. For example, the risk assessment at individual data centers also includes using a shadow price for carbon to estimate expected future energy costs.
Google

their investment portfolios on an annual basis. It aims to attract commitment from portfolios totaling US$3 trillion in time for the Paris climate talks.

Investors are seeking to better understand the link between lower carbon emissions and financial performance, including through the use of innovative investor products such as CDP's sector research, launched this year, which directly links environmental impacts to the bottom line. Some investors are taking the next logical step, and are working to shrink their carbon footprints via the Portfolio Decarbonization Coalition (PDC). As of August, the PDC—of which CDP is one the founding members—was overseeing the decarbonization of US$50 billion of assets under management by its 14 members.

Leading to effective corporate action

Companies are responding to these signals. In total, companies disclosed 8,335 projects or initiatives to reduce emissions in 2015, up from 7,285 in 2011 (the year for which the data allows for the most accurate comparison). The three most frequently undertaken types of project are: improving energy efficiency in buildings and processes; installing or building low carbon energy generators; and changing behavior, such as introducing cycle to work schemes, recycling programs and shared transport.

More than a third (36%) of reporting companies have switched to renewable energy to reduce their emissions. On average, the companies that purchased renewable energy in 2015 have doubled the number of activities they have in place to reduce their emissions, showing their growing understanding or capacity to realize the benefits of lower carbon business. Further, 71% (1,425) of respondents are employing energy efficiency measures to cut their emissions, compared with 62% (1,185) in 2011, demonstrating that companies are committed to reducing wasted energy wherever possible.

Companies are also quietly preparing for a world with constraints—and a price—on carbon emissions. In the past year particularly, we have seen a significant jump in the number of companies attributing a cost to each ton of carbon dioxide they emit, to help guide their investment decisions. This year 435[2] companies disclosed using an internal price on carbon, a near tripling of the 150 companies in 2014. Meanwhile, an additional 582 companies say they expect to be using an internal price on carbon in the next two years.

However, these efforts have not proved sufficient to adequately constrain emissions growth. On a like-for-like basis, direct ('Scope 1') emissions from the companies analyzed for this report grew 7% between 2010 and 2015. Scope 2 emissions, associated with purchased electricity, grew 11%. There are many factors that might explain this, not least economic growth but this rise in emissions is also considerably lower than would have been the case without the investments made by responding companies in emissions reduction activities.

Good progress—but it needs to accelerate

Companies disclosing through CDP's climate change program have made substantial progress in understanding, managing and beginning to reduce their climate change impacts. However, if dangerous climate change is to be avoided, emissions need to fall significantly.

Governments have committed to hold global warming to less than 2°C above pre-industrial levels. The Intergovernmental Panel on Climate Change calculates that to do this, global emissions need to fall between 41% and 72% by 2050. Although more companies are setting emissions targets, few of them are in line with this goal. In most cases, targets are neither deep enough nor sufficiently long term.

More than half (51%) of absolute emissions targets adopted by the reporting sample extend only to 2014 or 2015. Two fifths (42%) run to 2020 but only 6% extend beyond that date. The figures for intensity targets are almost identical. This caution in target setting is likely the result of the uncertain policy environment: many companies will be awaiting the outcome of the Paris climate talks before committing to longer-term targets.

However, a number of big emitters—such as utilities Iberdrola, Enel and NRG—have established long-term, ambitious emissions targets that are in line with climate science. These companies recognize that there is a business case for taking on such targets and setting a clear strategic direction, including encouraging innovation, identifying new markets and building long-term resilience. Many other companies have pledged to do so through the We Mean Business 'Commit to Action' initiative.

CDP aims to work along a number of fronts to help other companies, especially in high-emitting sectors, join them. With its partners, CDP has developed a sector-based approach to help companies set climate science-based emissions reduction targets. The Science Based Targets initiative uses the 2°C scenario developed by the International Energy Agency.

Looking forward, CDP will encourage more ambitious target setting through our performance scoring, by giving particular recognition to science-based targets. We are planning gradual changes to our scoring methodology that will reward companies that are transitioning towards renewable energy sources at pace and scale.

In addition, CDP is working with high-emitting industries to develop sector-specific climate change questionnaires and scoring methodologies, to ensure that disclosure to CDP, and the actions required to show leading performance, are appropriate for each sector. In 2015, we piloted a sector-specific climate change questionnaire and scoring methodology privately with selected oil and gas companies, ahead of their intended implementation in 2016.

And business needs a seat at the table in Paris

The Paris climate agreement will, we hope, provide vital encouragement to what is a multi-decade effort to

The numbers for companies using or planning to implement internal carbon pricing are based on the sample analyzed for Putting a price on risk:Carbon pricing in the corporate world. Of the 1,997 companies analyzed in this report 315 have disclosed that they set an internal carbon price, with 263 planning to do so. For more detail, see https://www.cdp.net/CDPResults/carbon-pricing-in-the-corporate-world.pdf

Today, like so many of our partners and customers, we are faced with pervasive mega trends that cannot be overlooked: global climate change, water scarcity, increasing world populations and health and wellness needs. And increasingly, customers and consumers are calling for responsible products from responsible companies throughout the supply chain. We are committed to providing our customers with responsible products while reducing our overall environmental footprint as we continue to grow our business around the world.

Our sustainability strategy drives the innovation that results in social and environmental improvements—from our responsibly sourced raw materials, to our eco-effective manufacturing facilities, to carefully designed products that consider critical sustainability attributes. We take this mandate seriously and our achievements to date are significant.

When it comes to sustainability, we won't accept the status quo.

Andreas Fibig
CEO and Chairman
IFF

> **The climate negotiations in Paris at the end of the year present a unique opportunity for countries around the world to commit to a prosperous, low carbon future. The more ambitious the effort, the higher the rewards will be. But Paris is a milestone on the road to a better climate, not the grand finale.**
> **Unilever**

bring greenhouse gas emissions under control. It will hopefully give private sector emitters the confidence to set longer-term emissions targets aligned with climate change. Companies and their investors therefore will be, alongside national governments, arguably the most important participants in ensuring the success of the global effort to rein in emissions.

Companies that have an opinion on a global climate deal are overwhelmingly in support: when asked if their board of directors would support a global climate change agreement to limit warming to below 2°C, 805 companies said yes, while 111 said no. However, a large number of respondents (1,075) stated they have no opinion, and 331 did not answer the question. This suggests either a lack of clarity around the official board position on the issue, or that many companies are not treating the imminent climate talks with the necessary strategic priority.

Conclusion

The direction of travel is clear: the world will need to rapidly reduce emissions to prevent the worst effects of climate change. And the political will is building to undertake those reductions. The majority of those reductions will need to be delivered by the corporate world—creating both risk and opportunity.

CDP and the investors we work with have played a formative role in building awareness of these risks and opportunities. Our data has helped build the business case for emissions reduction and inform investment decisions. The corporate world is responding with thousands of emissions reduction initiatives and projects. But the data also shows that efforts will need to be redoubled, by both companies and their investors, if we are to successfully confront the challenge of climate change in the years to come.

A deeper dive into corporate environmental risk

Central to CDP's mission is communicating the progress companies have made in addressing climate change, and highlighting where risk may be unmanaged. To better do so, CDP has introduced sector-specific research for investors.

This forward-looking research links environmental impacts directly to the bottom line and directs investors as to how they can engage with companies to improve environmental performance.

The research flags topical environmental and regulatory issues within particular sectors, relevant to specific companies' financial performance and valuation, and designed for incorporation into investment decisions. Sectors covered to date include automotive, electric utilities and chemicals. The research is intended to support engagement with companies, providing actionable company-level conclusions.

To better equip investors in understanding carbon and climate risk, CDP is also developing further investor tools such as a carbon footprinting methodology, and is working continuously to improve the quality of our data.

Working towards water stewardship

CDP has this year introduced the first evaluation and ranking of corporate water management, using scoring carried out by our lead water-scoring partner, South Pole Group.

The questions in the water disclosure process guide companies to comprehensively assess the direct and indirect impacts that their business has on water resources, and their vulnerability to water availability and quality.

Introducing credible scoring will catalyze further action. It will illuminate where companies can improve the quality of the information they report, and their water management performance. Participants will benefit from peer benchmarking and the sharing of best practice.

Water scoring will follow a banded approach, with scores made public for those companies reaching the top 'leadership' band. Scoring will raise the visibility of water as a strategic issue within companies and increase transparency on the efforts they are making to manage water more effectively.

Furthermore, scoring will be used to inform business strategies, build supply chain resilience and secure competitive advantage.

We hope that keeping score on companies and water will reduce the detrimental impacts that the commercial world has on water resources, ensuring a better future for all.

Welltower Inc. (NYSE: HCN) is an essential partner in the ongoing transformation of health care infrastructure. Together with our partners, we create environments that deliver better quality care, promote health and wellness, and offer innovative approaches to living with diseases associated with aging. The company owns more than 1,400 properties across the United States, Canada and the United Kingdom.

Our focus on sustainability extends from the daily operation of our properties to the most long-range issues affecting our business. Participating in the CDP process has strengthened our sustainability program. It allows us to provide current and potential investors and partners with detailed information about our sustainability goals and results.

Rick Avery
Vice President Sustainability,
Engineering & Project Management
Welltower Inc.

S&P 500 corporate synopsis

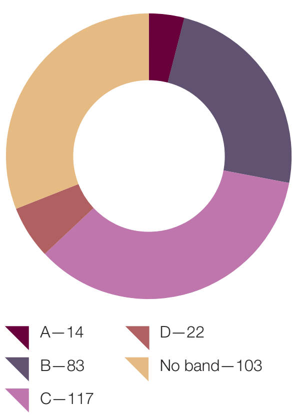
S&P 500	2010	2015
Analyzed responses†	346 (6)	334 (16)
Market cap of analyzed companies US$m	8,996,809	15,517,298
Scope 1	1,540 $MtCO_2e$	1,315 $MtCO_2e$
Scope 2	288.9 $MtCO_2e$	327.1 $MtCO_2e$
Scope 1 like for like: 268 companies	1,127 $MtCO_2e$	1,121 $MtCO_2e$
Scope 2 like for like: 268 companies	254.3 $MtCO_2e$	295.6 $MtCO_2e$

† the number in brackets refers to companies that responded after the deadline, or referred to a parent company. They are not included in analysis.

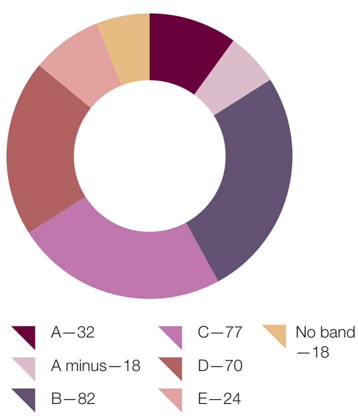
The constituents of the S&P500 equity index exhibit high levels of climate accountability, with some two-thirds (334) disclosing climate change information through CDP. Companies are also demonstrating a growing appetite for climate action, with a mainstreaming of climate change occurring over the last five years.

Board-level responsibility has jumped from two-thirds in 2010 to 95% in 2015. The percentage of companies setting absolute emissions targets has increased from a quarter (24%) to almost half (46%), and those pursuing emissions reduction initiatives has increased from just over a half (52%) to almost all

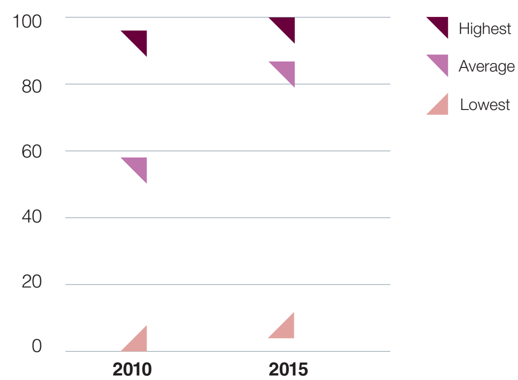
1. 2010 performance band



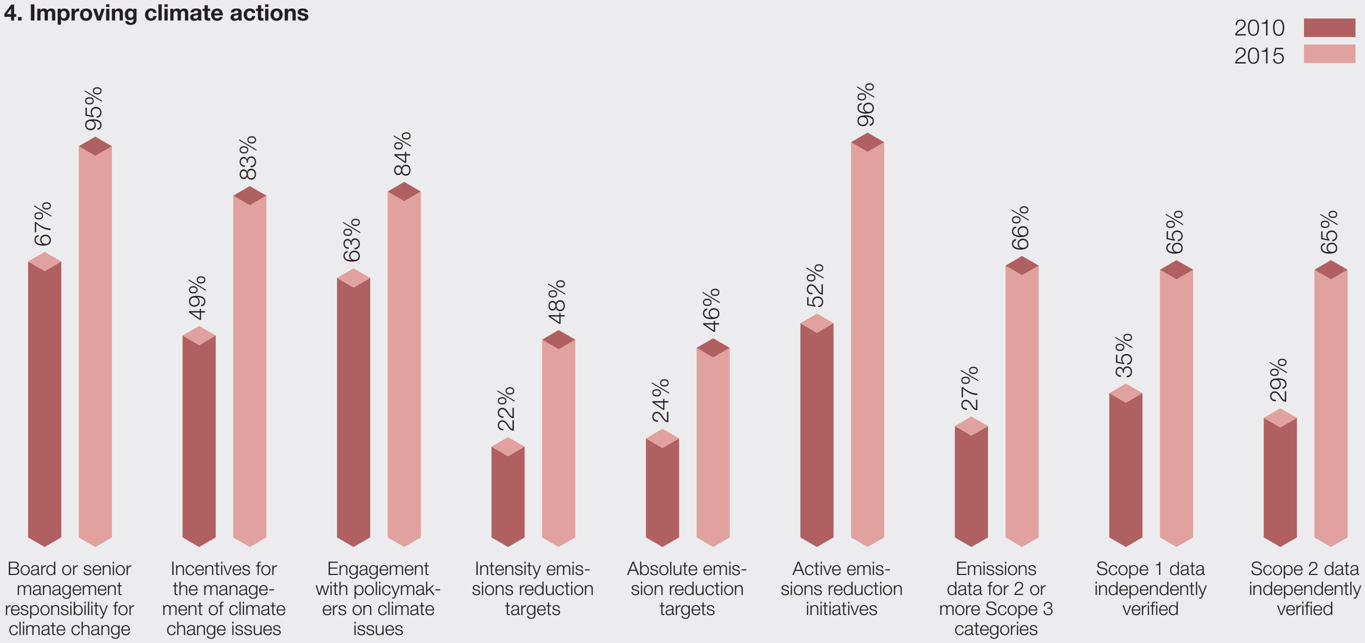
2. 2015 performance band



3. Disclosure scores over time



4. Improving climate actions



96%

of companies have initiatives in place to reduce emissions

(96%). In addition, the proportion engaging in external emissions verification has doubled, to two-thirds.

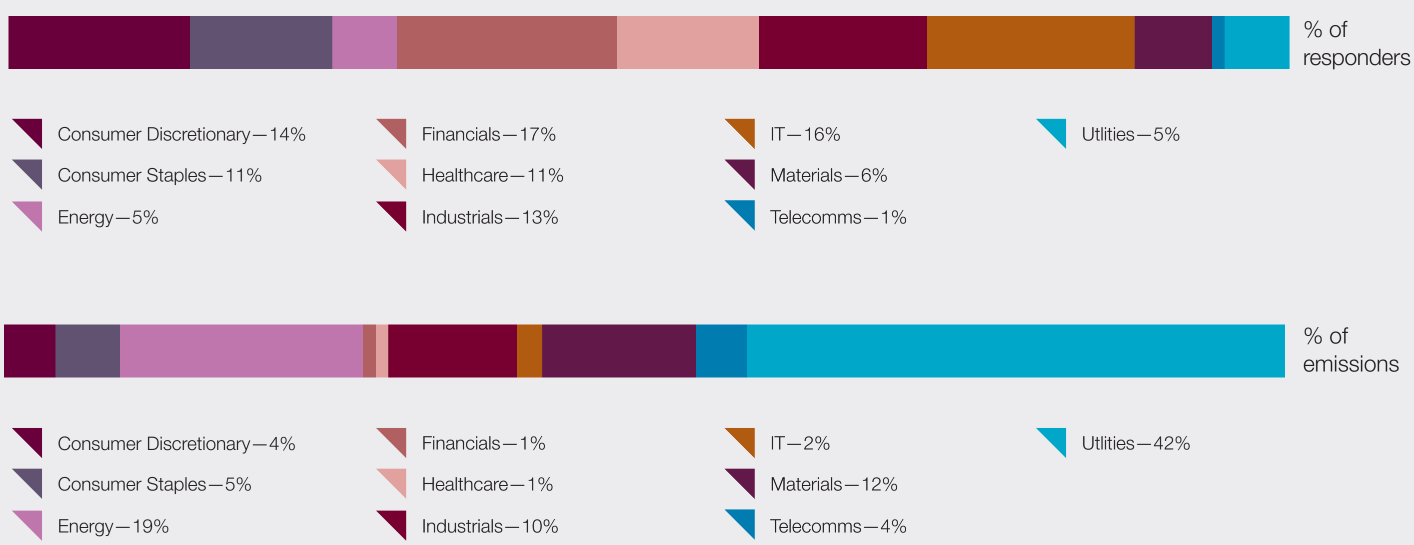
When analyzing the 268 companies that disclosed in both 2010 and 2015, Scope 1 emissions are broadly flat (down just 0.5%). However, Scope 2 emissions are up 16%. And only 46% of companies are consuming renewable energy to reduce emissions—a decrease from 52% in 2011. This is a surprising finding, given the increased penetration of renewables into the US electricity mix and the growing popularity of renewables among CDP's global sample.

These findings indicate that governance, management and goal-setting structures are in place, but companies need to build on these foundations, set robust targets, and fully realize both the environmental and economic benefits provided by emissions reductions.

In support of continued reductions, the success of cap-and-trade programs on the East and West Coasts should encourage more companies to put a financial number on their carbon emissions, as should the administration's Clean Power Plan, which many analysts believe could see carbon pricing much more widely applied across the US. In fact, 74 companies in the S&P 500 report that they currently use an internal price on carbon or expect to in the next two years. For example, Energy giant **Exxon Mobil** states: "We address the potential for future climate change policy, including the potential for restrictions on emissions, by estimating a proxy cost of carbon. This cost, which in some geographies may approach US$80 per ton by 2040, has been included in our outlook for several years."

> **Apple's executive leadership believes that a strong, effective agreement at COP21 is an important element of harnessing the business community in the global fight against climate change. Making renewable energy more predictable, accessible, and economical will accelerate the transition from fossil fuels to clean sources of electricity…we have shown that data centers, which consume tremendous amounts of electricity, can run on renewable energy generated from solar, wind and micro-hydro sources.**
>
> **Apple**

5. Proportion of 2015 companies and emissions by sector



Corporate perspectives

Through the combination of green products and ESG screening for clients and with tested global business continuity in times of climate stresses we are positioned to offer a full investment lifecycle of products that accounts for climate change which other financial firms might not offer. This enables BNY Mellon to obtain business from clients who desire ESG products, such as carbon efficient equity indices, and provides a competitive advantage over other financial firms as a direct result of climate change related business decisions.

—BNY Mellon

Morgan Stanley's commitment to renewable energy and clean technology flows from understanding that these markets, when developed in an appropriate regulatory environment, enable us to achieve significant impacts in mitigating climate change while generating a financial return.

—Morgan Stanley

We believe that by pursuing these initiatives we will strengthen our central business objective of creating long-term value for our shareholders and serving the long-term interests of our clients.… One of the roles we play as a financial institution in the transition toward a low carbon future is to invest alongside our clients in helping to scale up clean technology and other environmentally beneficial projects.

—Goldman Sachs Group Inc.

We see more and more investors linking sustainability performance to long term financial performance and will introduce increasingly sophisticated investment products to meet this demand.

—State Street Corporation

With regard to climate change, we have observed that a growing number of our clients have adopted investment objectives that expand beyond traditional expectations of relative financial performance. Generally, these clients want matters of environmental or social importance to be considered as factors within the overall management of their portfolios. For example, some clients define their investment objectives in terms of relative carbon efficiency of the portfolio. In order to meet this growing need within our client population, we have made significant investments in internal expertise, external resources, training, and technology.

—T. Rowe Price Associates, Inc.

ADP believes that by incorporating climate change into its short-term and long-term decision-making processes, the company can reduce costs, increase market size, while helping to conserve environmental resources both for ADP and our clients. The resulting financial edge, as well as increased employee engagement scores, and positive perceptions among our employees, investors, clients, and the market at large, yields a competitive advantage.

—Automatic Data Processing, Inc.

In the longer term, we are developing strategies to integrate renewable energy, recyclable materials, and developing a better understanding of how would can incorporate the principles of green chemistry into our business to address the risks and opportunities associated with climate change. We understand that renewable energy is an important component of satisfying the energy requirements of a growing global economy without depleting the natural resources upon which we depend. We have long been a proponent of renewable energy sources as we realize that the only way to ensure the long term viability of our organization is to ensure that renewable energy markets are created.

—Estée Lauder Companies Inc.

Aflac is looking to achieve long term "Sustainable growth" which means the ability to meet the needs of our shareholders and customers while taking into account the needs of future generation and also equates to the long-term preservation and enhancement of the company's financial, environmental and social capital.… Aflac carefully considers the environmental impact our actions will have not only today, but in the years to come.

—AFLAC Incorporated

We believe integrating climate change into our business strategy will allow us to gain strategic advantage as we develop resilience in our operations through development and implementation of adaptation and mitigation. We also expect to realize benefits of regional competitive advantage in corporate reputation on sustainability and corporate citizenship by our focus on climate change and the we believe that over time this will translate to business value benefits as we continue to engage with our stakeholders, including our customers and suppliers.

—Brown-Forman Corporation

We believe that our [climate change] efforts and transparency improve our bankability and are attractive for investors and customers. At the same time, we benefit from growing expertise on [climate change] issues and the widening of our product portfolio, as well as from an improved risk management approach. Unum's commitment to social and environmental responsibility and good reputation as a proactive and responsible player has positioned us advantageously among our competitors.

—Unum Group

2015 leadership criteria

Each year companies that participate in CDP's climate change program are scored against two parallel assessment schemes: performance and disclosure.

The performance score assesses the level of action, as reported by the company, on climate change mitigation, adaptation and transparency. Its intent is to highlight positive climate action as demonstrated by a company's CDP response. A high performance score signals that a company is measuring, verifying and managing its carbon footprint, for example by setting and meeting carbon reduction targets and implementing programs to reduce emissions in both its direct operations and supply chain.
The disclosure score assesses the completeness and quality of a company's response. Its purpose is to provide a summary of the extent to which companies have answered CDP's questions in a structured format. A high disclosure score signals that a company provided comprehensive information about the measurement and management of its carbon footprint, its climate change strategy and risk management processes and outcomes.
The highest scoring companies for performance and/or disclosure enter the A List (Performance band A) and / or the Climate Disclosure Leadership Index (CDLI). Public scores are available in CDP reports, through Bloomberg terminals, Google Finance and Deutsche Boerse's website. In 2015 the climate change scoring methodology was revised to put more emphasis on action and as a result achieving A is now better aligned with what the current climate change scenario requires.
CDP operates a strict conflict of interest policy with regards to scoring and this can be viewed at
https://www.cdp.net/Documents/Guidance/2015/CDP-conflict-of-interest-policy.pdf

What are the A List and CDLI criteria?

To enter the A List, a company must:

- Make its response public and submit via CDP's Online Response System
- Attain a performance score greater than 85
- Score maximum performance points on question 12.1a (absolute emissions performance for GHG reductions due to emission reduction actions over the past year 4% or above in 2015)
- Disclose gross global Scope 1 and Scope 2 figures
- Score maximum performance points for verification of Scope 1 and Scope 2 emissions (having 70% or more of their emissions verified)
- Furthermore, CDP reserves the right to exclude any company from the A List if there is anything in its response or other publicly available information that calls into question its suitability for inclusion. CDP is working with RepRisk in 2015 to strengthen this background research.

Note: Companies that achieve a performance score high enough to warrant inclusion in the A List, but do not meet all of the other A List requirements are classed as Performance Band A- but are not included in the A List.

To enter the CDLI, a company must:

- Make its response public and submit via CDP's Online Response System
- Achieve a disclosure score within the top 10% of the total regional sample population*

*Note: while it is usually 10%, in some regions the CDLI cut-off may be based on another criteria, please see local reports for confirmation.

Communicating progress

Central to CDP's mission is communicating the progress companies have made in addressing climate change, and highlighting where risk may be unmanaged. To better do so, CDP is changing how our climate performance scoring is presented, and we have introduced sector-specific research for investors.

Banding performance scores

Starting with water and forests in 2015 and including climate change and supply chain in 2016, CDP is moving to present scores using an approach that illustrates companies' progress towards environmental stewardship. Each reporting company will be placed in one of the following bands:

- **Disclosure** measures the completeness of the company's response;
- **Awareness** measures the extent to which the company has assessed environmental issues, risks and impacts in relation to its business;
- **Management** measures the extent to which the company has implemented actions, policies and strategies to address environmental issues;
- **Leadership** looks for particular steps a company has taken which represent best practice in the field of environmental management.

We believe that this approach will be clearer and easier to understand for companies, investors and other stakeholders. Water and forest scores will use this new presentation of banded scores in 2015, while the updated scoring methodology for climate change will be available in February 2016 with results in late 2016.

Climate A List

Company	Both indices	Years on CPLI, including 2015*
Consumer discretionary		
Best Buy Co., Inc.	○	◥◥◥
Wyndham Worldwide Corporation		◥◥
Consumer staples		
Brown-Forman Corporation		◥◥
Philip Morris International	○	◥◥◥
Financials		
Bank of America	○	◥◥◥◥◥◥
BNY Mellon	○	◥◥◥
Citigroup Inc.	○	New
Host Hotels & Resorts, Inc.	○	◥◥◥
Macerich Co.		New
Principal Financial Group, Inc.	○	◥◥◥
Simon Property Group	○	◥◥
State Street Corporation	○	New
The Hartford Financial Services Group, Inc.	○	◥◥◥
Industrials		
CSX Corporation	○	◥◥◥◥◥
Pitney Bowes Inc.	○	New
Raytheon Company		◥◥
Stanley Black & Decker, Inc.	○	◥◥◥
United Technologies Corporation		New

Company	Both indices	Years on CPLI, including 2015*
Information technology		
Accenture	○	◥◥
Adobe Systems, Inc.	○	◥◥◥
Apple Inc.	○	◥◥
Autodesk, Inc.	○	◥◥◥◥
Cisco Systems, Inc.	○	◥◥◥◥◥
EMC Corporation	○	◥◥
Google Inc.	○	◥◥
Hewlett-Packard	○	◥◥◥
Juniper Networks, Inc.	○	◥◥
Microsoft Corporation	○	◥◥◥
Materials		
International Flavors & Fragrances Inc.	○	New
Sealed Air Corp.	○	New
The Mosaic Company	○	◥◥◥
Utilities		
Entergy Corporation	○	◥◥◥

US-based non-S&P 500 companies A List

Company	Score	Both indices
Las Vegas Sands Corporation		○
Sprint Corporation		

* From 2010 to 2014. In 2010, CDP had a different methodology for scoring performance. However, performance leaders for that year are included in this total.

Disclosure leaders
Climate Disclosure Leadership Index

Company	Score	Both indices	Years on S&P 500 CDLI
Consumer discretionary			
Best Buy Co., Inc.	100	○	▼▼▼▼
General Motors Company	100		▼▼
Twenty-First Century Fox	100		▼▼▼▼▼▼▼
Carnival Corporation	99		▼▼▼▼▼
DIRECTV	99		**New**
Johnson Controls	99		▼▼▼▼▼
The Home Depot, Inc.	99		▼▼▼
Consumer staples			
Coca-Cola Enterprises, Inc.	100		▼▼
Constellation Brands, Inc.	100		▼▼
Philip Morris International	100	○	▼▼▼▼
Colgate Palmolive Company	99		▼▼▼▼▼
Estée Lauder Companies Inc.	99		▼▼▼
Energy			
Chevron Corporation	99		▼▼▼▼▼▼
Hess Corporation	99		▼▼▼▼▼▼▼
Financials			
Bank of America	100	○	▼▼▼▼▼▼
BNY Mellon	100	○	▼▼▼▼
CBRE Group, Inc.	100		▼▼▼
Comerica Incorporated	100		▼▼▼▼▼
Goldman Sachs Group Inc.	100		▼▼▼▼▼
JPMorgan Chase & Co.	100		▼▼▼
Morgan Stanley	100		▼▼▼▼▼▼
Simon Property Group	100	○	▼▼▼▼▼▼▼
Wells Fargo & Company	100		▼▼▼▼▼▼
Ace Ltd.	99		▼▼
Citigroup Inc.	99	○	▼▼
Health Care REIT, Inc.	99		**New**

Company	Score	Both indices	Years on S&P 500 CDLI
Financials, continued			
Host Hotels & Resorts, Inc.	99	○	▼▼
KeyCorp Financials	99		▼▼
PNC Financial Services Group, Inc.	99		**New**
Principal Financial Group, Inc.	99	○	▼▼
State Street Corporation	99	○	▼▼
The Hartford Financial Services Group, Inc.	99	○	▼▼▼▼▼▼
Unum Group	99		▼▼▼
Health care			
Bristol-Myers Squibb	100		▼▼▼▼▼
Humana Inc.	100		**New**
Abbott Laboratories	99		**New**
Baxter International Inc.	99		▼▼
Johnson & Johnson	99		▼▼▼▼▼▼
Merck & Co., Inc.	99		**New**
UnitedHealth Group Inc	99		▼▼▼
Industrials			
CSX Corporation	100	○	▼▼▼▼▼
Cummins Inc.	100		**New**
Eaton Corporation	100		▼▼▼▼▼▼▼
Lockheed Martin Corporation	100		▼▼▼▼
Northrop Grumman Corp	100		▼▼▼
Ryder System, Inc.	100		**New**
Stanley Black & Decker, Inc.	100	○	▼▼
UPS	100		▼▼▼▼▼▼▼
Boeing Company	99		▼▼▼▼▼▼
Ingersoll-Rand Co. Ltd.	99		**New**
Norfolk Southern Corp.	99		▼▼
Pitney Bowes Inc.	99	○	**New**
Union Pacific Corporation	99		▼▼▼
W.W. Grainger, Inc.	99		**New**

Company	Score	Both indices	Years on S&P 500 CDLI
Information technology			
Adobe Systems, Inc.	100	○	◥◥◥◥
Apple Inc.	100	○	◥◥◥
Autodesk, Inc.	100	○	◥◥◥◥◥
Cisco Systems, Inc.	100		◥◥◥◥◥◥◥◥
EMC Corporation	100	○	◥◥◥◥◥◥◥
Hewlett-Packard	100	○	◥◥◥◥◥◥◥
Juniper Networks, Inc.	100	○	◥◥◥
Accenture	99	○	◥◥
Akamai Technologies Inc	99		◥◥◥
Google Inc.	99	○	◥◥◥
Microsoft Corporation	99	○	◥◥◥◥
Oracle Corporation	99		New
Symantec Corporation	99		◥◥◥
Xerox Corporation	99		New
Materials			
Air Products & Chemicals, Inc.	100		◥◥◥◥◥◥◥
International Flavors & Fragrances Inc.	100	○	◥◥
Praxair, Inc.	100		◥◥◥◥◥◥◥◥
Sealed Air Corp.	100	○	◥◥
The Dow Chemical Company	100		◥◥◥
The Mosaic Company	100	○	◥◥◥
Alcoa Inc.	99		◥◥
E.I. du Pont de Nemours and Company	99		◥◥◥◥◥
MeadWestvaco Corp.	99		◥◥◥◥
Sigma-Aldrich Corporation	99		◥◥

Company	Score	Both indices	Years on S&P 500 CDLI
Telecommunication services			
AT&T Inc.	99		◥◥◥◥
Level 3 Communications, Inc.	99		New
Utilities			
Exelon Corporation	100		◥◥◥◥◥◥
PG&E Corporation	100		◥◥◥◥
Sempra Energy	100		◥◥◥◥◥
Entergy Corporation	99	○	◥◥◥◥◥◥◥

US-based non-S&P 500 companies on CDLI

Company	Score	Both indices
Caesars Entertainment	100	
Owens Corning	100	
Dell Inc.	99	
Las Vegas Sands Corporation	99	○
WhiteWave Foods	99	

Appendix I
Scores, emissions, and company detail by sector

Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
Consumer discretionary							
Best Buy Co., Inc.	BBY	100 A	98 A-	218,436	475,329	abs	
BorgWarner	BWA	AQL	DP	Answered questionnaire late			
Carnival Corporation	CCL	99 B	75 C	10,319,475	67,921	int	
CBS Corp.	CBS	56 E	41	—	223,656		
Coach, Inc.	COH	88 D	NR	1,896	56,951		
Comcast Corporation	CMCSA	AQL	DP	Answered questionnaire late			
D.R. Horton, Inc.	DHI	SA	AQL	See parent company—Restaurant Brands International			
Darden Restaurants, Inc.	DRI	97 B	89 B	401,614	745,996	int	
Delphi Automotive Plc	DLPH	90 D	77 C	72,522	634,974	int	
DIRECTV	DTV	99 B	93 A	100,519	98,652	abs	
Expedia, Inc.	EXPE	68 E	62 E	Response not public			
Ford Motor Company	F	97 B	81 D	1,507,605	3,081,733	int	
Gap Inc.	GPS	76 D	79 B	31,275	468,584	abs	
General Motors Company	GM	100 A-	100 A	2,480,802	5,751,940	abs int	Yes
Goodyear Tire & Rubber Company	GT	97 B	74 C	1,110,459	1,942,109	int	
H&R Block Inc	HRB	18	26	—	—		
Harman International Industries Inc	HAR	92 D	78 C	3,031	46,403	int	
Hasbro, Inc.	HAS	86 C	73 B	7,282	15,084	abs	
Interpublic Group of Companies, Inc.	IPG	42	28	Response not public			
Johnson Controls	JCI	99 B	94 A	881,716	1,538,230	abs int	
Kohl's Corporation	KSS	80 C	76 C	40,510	767,718	abs	
L Brands, Inc.	LB	81 D	79 D	28,360	293,429		
Leggett & Platt, Inc.	LEG	30	20	—	—		
Lowe's Companies, Inc.	LOW	90 D	85 D	365,484	2,562,420	int	
Macy's, Inc.	M	37	33	—	—		
Marriott International, Inc.	MAR	97 C	85 C	670,092	3,101,736	int	
Mattel, Inc.	MAT	87 D	75 C	14,901	188,370	int	
McDonald's Corporation	MCD	93 D	85 C	206,502	1,786,744	int	
Mohawk Industries, Inc.	MHK	AQL	DP	Answered questionnaire late			
Newell Rubbermaid Inc.	NWL	51 E	50 E	21,800	263,005	abs int	
News Corp	NWS	98 B	96 B	28,521	211,523	abs int	
NIKE Inc.	NKE	92 D	80 C	Response not public			
Nordstrom, Inc.	JWN	89 D	84 C	45,123	263,670	int	
Omnicom Group Inc.	OMC	AQL	59 E	Answered questionnaire late			
Royal Caribbean Cruises Ltd	RCL	92 C	80 C	4,404,403	10,608	int	
Scripps Networks Interactive Inc.	SNI	76 E	64 D	0	17,513		
Staples, Inc.	SPLS	94 C	85 C	117,780	338,100	abs	
Starbucks Corporation	SBUX	98 C	94 B	288,782	969,310	int	
Starwood Hotels & Resorts Worldwide, Inc	HOT	93 C	96 B	476,084	2,450,197	int	
Target Corporation	TGT	91 C	89 C	701,558	2,472,470	int	
The Home Depot, Inc.	HD	99 A-	93 A-	388,664	2,249,712	abs int	
Tiffany & Co.	TIF	94 C	94 C	2,959	43,429	abs	
Time Warner Cable Inc.	TWC	AQL	DP	Answered questionnaire late			
Time Warner Inc.	TWX	55 E	63 E	16,739	155,213		
TJX Companies, Inc.	TJX	96 C	98 B	83,432	758,068	int	
Twenty-First Century Fox	FOX	100 B	99 B	50,061	158,122	int	
VF Corporation	VFC	97 C	90 B	78,398	174,190	int	
Viacom Inc.	VIAB	97 C	76 D	Response not public			
Walt Disney Company	DIS	93 C	65 C	826,492	801,586	abs	Yes
Wyndham Worldwide Corporation	WYN	98 A	97 A	97,735	312,746	int	
Yum! Brands, Inc.	YUM	92 D	95 B	90,894	2,846,226	abs	

Legend

◥ CDLI leader
◥ A List

AQL answered questionnaire late
DP declined to participate
IN provided information, but did not answer questionnaire
NR no response
— information not available
× company was not on S&P 500

Targets

abs absolute
int intensity

	Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
	Consumer staples							
	Altria Group, Inc.	MO	98 B	85 B	202,085	236,691	abs	
	Archer Daniels Midland	ADM	68 D	68 C	15,594,669	2,495,947	int	Yes
	Avon Products, Inc.	AVP	85 D	83 D	58,034	75,533	abs	
A List	Brown-Forman Corporation	BF/B	98 A	93 A-	95,740	70,605	abs	
	Campbell Soup Company	CPB	93 C	79 C	385,116	317,208	int	Yes
	Clorox Company	CLX	98 B	84 B	80,682	248,623	abs int	
CDLI leader	Coca-Cola Enterprises, Inc.	CCE	100 B	94 B	105,133	79,117	abs int	Anticipate in the next 2 years
CDLI leader	Colgate Palmolive Company	CL	99 B	94 B	225,243	430,912	int	Yes
CDLI leader	ConAgra Foods, Inc.	CAG	99 C	93 B	1,078,551	1,078,707	int	
CDLI leader	Constellation Brands, Inc.	STZ	100 B	97 B	159,460	47,894	int	
	Costco Wholesale Corporation	COST	AQL	DP	Answered questionnaire late			
	CVS Health	CVS	96 C	95 A	185,550	1,467,700	int	
	Dr Pepper Snapple Group Inc	DPS	95 B	85 B	251,737	165,321	int	
CDLI leader	Estee Lauder Companies Inc.	EL	99 B	98 A-	31,000	63,700	int	
	General Mills Inc.	GIS	91 C	80 B	299,921	720,189	int	Anticipate in the next 2 years
	Hormel Foods	HRL	92 D	74 C	863,759	598,591	abs int	Yes
	Kellogg Company	K	94 C	94 B	573,329	736,284	int	
	Keurig Green Mountain	GMCR	85 D	AQL	38,102	0	int	
	Kimberly-Clark Corporation	KMB	97 B	69 C	2,213,712	2,713,884	abs	
	Kraft Foods	KRFT	95 B	90 B	400,408	628,442	int	
	Kroger	KR	89 C	60 D	2,264,003	4,141,082	abs	
	McCormick & Company, Incorporated	MKC	83 D	84 C	28,370	74,927	int	
	Mead Johnson Nutrition Company	MJN	97 B	92 B	47,277	117,351	int	
	Molson Coors Brewing Company	TAP	97 B	96 B	194,700	119,047	int	
	Mondelez International Inc	MDLZ	90 C	87 B	1,061,261	765,933	int	
	PepsiCo, Inc.	PEP	98 B	90 B	3,931,000	1,924,000	abs	
CDLI leader, A List	Philip Morris International	PM	100 A	96 A	404,337	341,949	abs int	Anticipate in the next 2 years
	Procter & Gamble Company	PG	70 D	70 D	2,685,000	2,668,000	int	
	Reynolds American Inc.	RAI	98 B	64 C	106,156	164,064	abs	
	Safeway Inc.	SWY	84 C	74 B	1,598,305	1,901,689	abs	
	Sysco Corporation	SYY	87 D	80 D	791,995	317,696	int	
	The Coca-Cola Company	KO	98 B	83 B	1,528,428	1,098,141	abs int	
	The Hershey Company	HSY	90 D	81 C	102,812	262,485	int	
	The J.M. Smucker Company	SJM	94 C	85 C	130,842	214,292	int	
	Walgreen Boots Alliance	WBA	89 D	87 C	280,612	1,953,256	int	
	Wal-Mart Stores, Inc.	WMT	96 B	98 A	6,761,814	15,121,560	abs int	Anticipate in the next 2 years
	Whole Foods Market, Inc.	WFM	72 D	61 D	374,782	443,176		

Appendix I
Scores, emissions, and company detail by sector

Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
Energy							
Anadarko Petroleum Corporation	APC	93 D	79 C	11,807,749	1,374,344		
Apache Corporation	APA	83 D	75 C	7,100,000	1,400,000		Yes
Baker Hughes Incorporated	BHI	97 B	89 B	439,000	387,000	abs	Anticipate in the next 2 years
Chevron Corporation	CVX	99 B	95 A–	55,746,124	4,686,702	abs	Yes
ConocoPhillips	COP	93 C	89 B	26,039,254	1,421,411	abs int	Yes
CONSOL Energy Inc.	CNX	82 D	78 D	7,549,966	7,856,047		Anticipate in the next 2 years
Devon Energy Corporation	DVN	95 C	82 B	5,925,440	679,739	int	
EOG Resources, Inc.	EOG	40	34	6,723,280	—		
Exxon Mobil Corporation	XOM	88 C	76 C	121,000,000	8,000,000		
Halliburton Company	HAL	94 C	58 D	8,524,424	317,351	int	
Hess Corporation	HES	99 B	100 B	5,561,176	427,907	int	Yes
Newfield Exploration Co	NFX	93 B	92 D	982,304	50,708	int	
Noble Energy, Inc.	NBL	92 C	81 C	2,352,253	31,603		
Occidental Petroleum Corporation	OXY	71 D	62 E	10,400,000	5,200,000		Yes
Oneok Inc.	OKE	70 E	49	Response not public			
Range Resources Corp.	RRC	27	NR	Response not public			
Schlumberger Limited	SLB	94 C	84 C	2,100,000	747,000	int	
Financials							
Ace Ltd.	ACE	99 B	93 B	16,471	41,747	int	
AFLAC Incorporated	AFL	97 C	87 B	3,175	17,561	abs int	
Allstate Corporation	ALL	98 B	97 B	52,690	117,019	abs	
American Express	AXP	95 B	86 C	35,503	99,489	abs	Anticipate in the next 2 years
American International Group, Inc. (AIG)	AIG	85 D	62 D	659	14,615	abs int	
Ameriprise Financial, Inc.	AMP	8	2	Response not public			
Aon plc	AON	AQL	AQL	Answered questionnaire late			
Assurant, Inc.	AIZ	AQL	NR	Answered questionnaire late			
AvalonBay Communities	AVB	95 C	75 D	52,219	71,298	int	
Bank of America	BAC	100 A	100 A	109,289	1,224,004	abs	
BlackRock	BLK	99 C	87 D	Response not public			
BNY Mellon	BK	100 A	100 A	8,964	209,722	abs	Yes
Capital One Financial	COF	97 D	79 C	19,900	232,876	abs	
CBRE Group, Inc.	CBG	100 B	99 B	34,654	30,605	abs	
Charles Schwab Corporation	SCHW	66 E	67 D	Response not public			
Cincinnati Financial Corporation	CINF	85 D	77 C	16,658	16,664		
Citigroup Inc.	C	99 A	94 B	31,433	892,819	abs	
Comerica Incorporated	CMA	100 B	93 A	8,523	64,677	abs	
Discover Financial Services	DFS	AQL	DP	Answered questionnaire late			
Fifth Third Bancorp	FITB	94 C	95 C	18,656	85,606		
Franklin Resources, Inc.	BEN	92 C	92 C	8,890	28,765		
General Growth Properties	GGP	78 D	NR	Response not public			
Genworth Financial, Inc.	GNW	92 D	77 E	468	13,317		
Goldman Sachs Group Inc.	GS	100 A–	98 A	12,065	242,228	abs	Yes
HCP Inc.	HCP	98 A–	97 B	33,152	254,310	abs int	

Legend

- CDLI leader
- A List

AQL	answered questionnaire late
DP	declined to participate
IN	provided information, but did not answer questionnaire
NR	no response
—	information not available
×	company was not on S&P 500

Targets

- abs absolute
- int intensity

	Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
	Financials, continued							
CDLI leader	Health Care REIT, Inc.	HCN	99 B	87 C	6,491	155,886	abs	
CDLI leader, A List	Host Hotels & Resorts, Inc.	HST	99 A	98 A	122,444	425,213	int	Anticipate in the next 2 years
	Huntington Bancshares Incorporated	HBAN	91 D	85 D	11,765	72,926		Anticipate in the next 2 years
	Invesco Ltd	IVZ	90 C	60 D	465	11,978	abs	Anticipate in the next 2 years
	Iron Mountain Inc.	IRM	91 C	82 C	145,100	162,103	abs	Anticipate in the next 2 years
CDLI leader	JPMorgan Chase & Co.	JPM	100 B	97 B	89,225	1,073,549	abs	
CDLI leader	KeyCorp	KEY	99 B	80 B	13,583	62,694	abs	
	Kimco Realty	KIM	97 B	98 B	2,712	62,800	abs	
	Legg Mason, Inc.	LM	96 C	99 B	195	4,211	abs	
	Lincoln National Corporation	LNC	91 D	87 D	3,842	15,562		
	M&T Bank Corporation	MTB	82 D	66 D	Response not public			
A List	Macerich Co.	MAC	95 A	DP	28,540	99,019	abs	
	Marsh & McLennan Companies, Inc.	MMC	96 B	98 B	7,054	93,536	abs	
	McGraw Hill Financial Inc.	MHFI	97 B	94 B	8,036	43,423	abs	
	MetLife, Inc.	MET	98 B	99 B	Response not public			
	Moody's Corporation	MCO	AQL	24	Answered questionnaire late			
CDLI leader	Morgan Stanley	MS	100 A–	99 B	31,300	296,000	int	
	NASDAQ OMX Group, Inc.	NDAQ	71 E	38	0	18,059		
	Northern Trust	NTRS	67 D	97 C	2,925	47,570		
	Plum Creek Timber Co. Inc.	PCL	96 C	84 B	43,353	93,748	int	
CDLI leader	PNC Financial Services Group, Inc.	PNC	99 B	86 B	54,150	341,334	abs	
CDLI leader, A List	Principal Financial Group, Inc.	PFG	99 A	99 A	6,374	53,995	abs	
	Prologis	PLD	98 C	86 C	2,461	5,097	abs	
	Prudential Financial, Inc.	PRU	79 D	73 C	7,836	67,070	abs	
CDLI leader, A List	Simon Property Group	SPG	100 A	98 A	24,652	390,459	abs	
CDLI leader, A List	State Street Corporation	STT	99 A	95 C	8,365	108,877	abs int	
	T. Rowe Price Associates, Inc.	TROW	97 D	89 C	799	35,845		
	The Chubb Corporation	CB	94 C	84 D	6,679	10,408	int	
CDLI leader, A List	The Hartford Financial Services Group, Inc.	HIG	99 A	92 A	19,671	42,691	abs	
	The Travelers Companies, Inc.	TRV	83 D	72 D	31,026	44,734	abs	
	U.S. Bancorp	USB	86 D	90 D	47,512	359,662		
CDLI leader	Unum Group	UNM	99 B	99 B	8,244	34,898	abs	
	Ventas Inc	VTR	97 C	92 B	88,044	456,048	abs	
CDLI leader	Wells Fargo & Company	WFC	100 A–	97 A	99,496	1,227,237	abs	Yes
	Weyerhaeuser Company	WY	87 D	81 C	1,515,884	1,281,657	abs	
	XL Group plc	XL	92 E	76 E	Response not public			

Appendix I
Scores, emissions, and company detail by sector

Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
Health care							
Abbott Laboratories	ABT	99 B	93 B	520,000	534,000	abs int	
AbbVie Inc	ABBV	89 D	83 C	317,502	358,441	int	
Actavis plc.	ACT	92 C	93 B	Response not public			
Aetna Inc.	AET	82 E	74 E	6,660	78,958		
Agilent Technologies Inc.	A	89 C	77 D	13,350	96,116	int	
Allergan, Inc.	AGN	94 B	90 B	46,507	56,605	abs int	Yes
Amgen, Inc.	AMGN	70 C	64 C	119,500	258,000	abs	
Anthem Inc	ANTM	83 D	65 D	7,331	107,662	int	
Baxter International Inc.	BAX	99 B	78 C	377,000	480,000	int	Anticipate in the next 2 years
Becton, Dickinson and Co.	BDX	94 B	92 B	69,154	192,270	int	
Biogen Inc.	BIIB	96 C	81 C	50,885	44,532	abs int	
Boston Scientific Corporation	BSX	58 E	46	30,200	90,600	abs	
Bristol-Myers Squibb	BMY	100 C	98 B	261,000	227,600	abs	Anticipate in the next 2 years
Cardinal Health Inc.	CAH	85 D	75 E	137,460	218,219		
Celgene Corporation	CELG	97 C	85 B	8,831	14,857		
Cigna	CI	94 C	86 B	11,908	78,717	abs	
Covidien Ltd.	COV	AQL	78 C	Answered questionnaire late			
DaVita Inc.	DVA	AQL	DP	Answered questionnaire late			
DENTSPLY International Inc.	XRAY	90 D	80 E	4,900	89,052		
Edwards Lifesciences Corp	EW	82 D	AQL	8,014	30,756	int	
Eli Lilly & Co.	LLY	89 C	85 B	445,115	1,105,600	int	
Express Scripts Holding Company	ESRX	88 D	65 D	55	9,305		
Hospira, Inc.	HSP	64 E	58 E	90,570	519,130	int	
Humana Inc.	HUM	100 B	92 B	16,179	112,290	abs	
Johnson & Johnson	JNJ	99 B	99 B	321,076	775,487	abs	
Mallinckrodt plc	MNK	AQL	AQL	Answered questionnaire late			
Medtronic PLC	MDT	80 D	81 D	32,651	169,640	int	
Merck & Co., Inc.	MRK	99 B	88 B	944,000	732,000	abs	
PerkinElmer, Inc.	PKI	61 E	54 D	17,109	23,993	abs	
Pfizer Inc.	PFE	90 B	92 B	885,691	657,514	abs	
Quest Diagnostics Incorporated	DGX	89 D	83 C	82,554	187,770		
Regeneron Pharmaceuticals, Inc.	REGN	59 E	DP	26,728	11,448		
Stryker Corporation	SYK	54 E	52 E	Response not public			
Tenet Healthcare Corporation	THC	37	29	—	—		
Thermo Fisher Scientific Inc.	TMO	77 D	58 D	91,083	308,402	int	
UnitedHealth Group Inc	UNH	99 C	99 B	17,400	252,700	int	
Varian Medical Systems Inc	VAR	93 B	89 C	28,116	22,144	int	
Waters Corporation	WAT	91 D	71 D	16,120	28,417	abs int	
Zimmer Holdings, Inc.	ZBH	62 E	58 E	8,737	55,254		

Legend

◥ CDLI leader
◥ A List

AQL answered questionnaire late
DP declined to participate
IN provided information, but did not answer questionnaire
NR no response
— information not available
× company was not on S&P 500

Targets

abs absolute
int intensity

		Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
		Industrials							
		3M Company	MMM	98 C	82 C	4,390,000	2,240,000	int	Anticipate in the next 2 years
		ADT Corporation	ADT	70 E	6	Response not public			
◥		Boeing Company	BA	99 B	97 B	621,000	1,059,000	abs	
		C.H. Robinson Worldwide, Inc.	CHRW	AQL	48	Answered questionnaire late			
◥	◥	CSX Corporation	CSX	100 A	98 A	5,512,604	327,528	int	
◥		Cummins Inc.	CMI	100 B	91 B	292,559	554,816	int	Yes
		Danaher Corporation	DHR	22	12	Response not public			
		Deere & Company	DE	93 C	81 C	444,539	978,929	int	
		Delta Air Lines	DAL	95 C	93 B	34,112,774	336,787	abs int	Yes
		Dover Corporation	DOV	87 C	89 C	116,213	171,286	int	
		Dun & Bradstreet Corporation	DNB	82 C	86 D	Response not public			
◥		Eaton Corporation	ETN	100 B	97 A-	120,200	669,900	abs int	
		Emerson Electric Co.	EMR	34	17	208,952	761,996		
		Expeditors International of Washington	EXPD	91 C	78 C	6,517	42,630	int	
		FedEx Corporation	FDX	89 B	90 B	13,450,945	960,079	int	
		Flowserve Corporation	FLS	AQL	DP	Answered questionnaire late			
		Fluor Corporation	FLR	70 E	66 E	11,625	55,710		
		General Electric Company	GE	88 C	73 D	2,015,000	3,019,000	abs	Yes
		Honeywell International Inc.	HON	93 D	81 C	3,988,622	1,771,369	int	
		Illinois Tool Works, Inc.	ITW	87 E	82 D	Response not public			
◥		Ingersoll-Rand Co. Ltd.	IR	99 B	93 B	414,391	243,252	abs int	Anticipate in the next 2 years
		Jacobs Engineering Group Inc.	JEC	88 D	73 D	2,595	5,940	abs	Anticipate in the next 2 years
◥		Lockheed Martin Corporation	LMT	100 A-	98 A	244,179	913,922	abs	
◥		Norfolk Southern Corp.	NSC	99 A-	98 B	5,358,750	266,815	int	
◥		Northrop Grumman Corp	NOC	100 A-	98 A	142,879	451,611	abs int	
		PACCAR Inc	PCAR	97 A-	94 B	Response not public			
		Pall Corporation	PLL	69 E	68 C	34,103	100,817	int	
		Parker-Hannifin Corporation	PH	93 C	82 B	68,670	534,373	int	
◥	◥	Pitney Bowes Inc.	PBI	99 A	89 B	29,344	43,841	abs	
	◥	Raytheon Company	RTN	98 A	97 B	92,068	410,519	abs	
		Republic Services, Inc.	RSG	98 A–	93 C	15,091,091	238,694	abs	Anticipate in the next 2 years
		Robert Half International Inc.	RHI	11	11	Response not public			
		Rockwell Automation	ROK	88 D	72 D	43,712	92,888	int	
		Rockwell Collins, Inc.	COL	89 C	65 D	17,781	111,470	abs	
◥		Ryder System, Inc.	R	100 B	96 B	682,436	157,038	abs int	
		Snap-On Inc	SNA	78 E	60 E	Response not public			
		Southwest Airlines Co.	LUV	96 C	89 B	17,784,227	51,228	int	
◥	◥	Stanley Black & Decker, Inc.	SWK	100 A	100 A	102,177	291,109	int	Yes
		Textron Inc.	TXT	77 D	70 D	167,422	454,162	int	
		Tyco International	TYC	75 D	65 D	214,000	109,000	abs int	
◥		Union Pacific Corporation	UNP	99 B	99 B	12,277,484	390,144	int	
		United Rentals	URI	AQL	NR	Answered questionnaire late			
	◥	United Technologies Corporation	UTX	97 A	72 C	873,584	1,133,171	abs	
◥		UPS	UPS	100 B	100 A–	12,000,000	870,000	int	
◥		W.W. Grainger, Inc.	GWW	99 A–	91 B	44,493	98,643	int	
		Waste Management, Inc.	WM	97 B	97 A–	18,671,372	236,977	abs	
		Xylem Inc	XYL	92 C	88 C	39,049	42,984	abs	Anticipate in the next 2 years

Appendix I

Scores, emissions, and company detail by sector

Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
Information technology							
Accenture	ACN	99 A	94 A	29,767	228,030	int	
Adobe Systems, Inc.	ADBE	100 A	99 A	12,943	29,199	abs	
Akamai Technologies Inc	AKAM	99 B	97 A	558	86,532	int	
Alliance Data Systems	ADS	AQL	AQL	Answered questionnaire late			
Altera Corp.	ALTR	98 A-	93 B	2,879	10,507	abs int	
Analog Devices, Inc.	ADI	98 C	88 B	Response not public			
Apple Inc.	AAPL	100 A	99 A	28,500	63,200	abs	
Applied Materials Inc.	AMAT	71 E	72 D	31,909	155,356		
Autodesk, Inc.	ADSK	100 A	100 A	2,331	1,462	abs int	Anticipate in the next 2 years
Automatic Data Processing, Inc.	ADP	61 D	87 C	12,593	112,226	abs	Anticipate in the next 2 years
Broadcom Corporation	BRCM	98 A-	94 B	3,179	57,525	abs int	
CA Technologies	CA	96 D	90 C	11,503	53,493	abs	
Cisco Systems, Inc.	CSCO	100 A	100 A	49,901	710,037	abs	
Cognizant Technology Solutions Corp.	CTSH	86 C	71 D	15,644	188,255	int	
Computer Sciences Corporation (CSC)	CSC	88 C	77 C	Response not public			
Corning Incorporated	GLW	57 E	50 D	351,427	1,211,775		
eBay Inc.	EBAY	92 D	87 D	41,102	229,274		
EMC Corporation	EMC	100 A	100 A-	49,958	405,985	abs int	Anticipate in the next 2 years
F5 Networks, Inc.	FFIV	AQL	52 E	Answered questionnaire late			
Fidelity National Information Services	FIS	27	AQL	—	—		
First Solar Inc	FSLR	96 B	87 C	10,593	320,302	int	
Fiserv, Inc.	FISV	4	15	Response not public			
Google Inc.	GOOG	99 A	94 A	51,802	1,460,762	abs int	Yes
Hewlett-Packard	HPQ	100 A	100 A	210,800	1,760,500	abs int	
Intel Corporation	INTC	98 B	79 B	1,041,044	1,038,668	abs int	
International Business Machines (IBM)	IBM	97 B	81 B	556,653	1,882,012	abs	
Intuit Inc.	INTU	83 C	82 D	4,592	26,126	abs	
Juniper Networks, Inc.	JNPR	100 A	99 A	3,482	77,236	abs int	Anticipate in the next 2 years
KLA-Tencor Corporation	KLAC	46	47	Response not public			
Lam Research Corp.	LRCX	91 C	DP	31,682	38,147	abs int	
Linear Technology Corp.	LLTC	78 D	65 D	Response not public			
MasterCard Incorporated	MA	42	41	2,747	41,994		
Microchip Technology	MCHP	68 D	63 C	170,426	195,903	abs	
Micron Technology, Inc.	MU	36	34	1,310,510	1,529,407		
Microsoft Corporation	MSFT	99 A	99 A	85,188	1,521,370	abs	Yes
Motorola Solutions	MSI	95 B	98 B	25,720	162,400	abs	
NetApp Inc.	NTAP	97 C	97 B	5,964	127,992		Anticipate in the next 2 years
NVIDIA Corporation	NVDA	98 C	92 C	3,601	52,273	int	Anticipate in the next 2 years
Oracle Corporation	ORCL	99 B	95 C	9,430	453,868	int	
QUALCOMM Inc.	QCOM	89 D	64 D	67,793	114,811		Anticipate in the next 2 years
Red Hat Inc	RHT	49	AQL	Response not public			
salesforce.com	CRM	98 B	84 C	5,371	56,982		
SanDisk Corporation	SNDK	94 C	79 B	3,765	141,191	int	
Seagate Technology LLC	STX	98 C	89 C	302,387	999,652	abs	
Symantec Corporation	SYMC	99 C	97 C	10,103	155,412		
TE Connectivity	TEL	73 D	68 D	143,632	472,120	int	
Teradata Corp.	TDC	61 E	45	20,078	924	int	
Texas Instruments Incorporated	TXN	77 D	59 D	1,065,259	1,333,924	int	
Total System Services (TSYS)	TSS	54 E	37	Response not public			
Visa	V	85 D	65 E	11,273	72,958		
Western Digital Corp	WDC	79 D	54 D	55,465	1,040,757	int	
Xerox Corporation	XRX	99 B	95 A-	114,422	201,345	abs	
Xilinx Inc	XLNX	58 E	56 D	1,782	26,040	abs	
Yahoo! Inc.	YHOO	98 B	95 B	10,373	264,224	abs int	Anticipate in the next 2 years

Legend

◥ CDLI leader
◥ A List

AQL answered questionnaire late
DP declined to participate
IN provided information, but did not answer questionnaire
NR no response
— information not available
× company was not on S&P 500

Targets

abs absolute
int intensity

	Company	Ticker	2015 score	2014 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported	Using internal carbon price
	Materials							
◥	Air Products & Chemicals, Inc.	APD	100 B	99 A-	15,884,722	11,568,359	int	
◥	Alcoa Inc.	AA	99 B	93 B	26,876,302	13,531,155	int	Anticipate in the next 2 years
	Allegheny Technologies Incorporated	ATI	AQL	DP	Answered questionnaire late			
	Avery Dennison Corporation	AVY	93 B	87 C	145,372	306,663	int	Anticipate in the next 2 years
	Ball Corporation	BLL	98 B	93 B	357,638	873,899	int	
◥	E.I. du Pont de Nemours and Company	DD	99 B	93 B	13,393,438	4,648,097	abs	Yes
	Eastman Chemical Company	EMN	97 C	47	4,769,635	1,213,395	int	Yes
	Ecolab Inc.	ECL	98 B	96 B	419,754	253,964	int	
	Freeport-McMoRan Inc.	FCX	79 C	85 C	5,237,173	4,344,225		
◥ ◥	International Flavors & Fragrances Inc.	IFF	100 A	97 A-	109,077	133,847	int	
	International Paper Company	IP	AQL	79 B	Answered questionnaire late			
◥	MeadWestvaco Corp.	MWV	99 B	96 B	2,717,280	463,091	abs int	
	Monsanto Company	MON	98 D	76 D	1,570,000	1,080,000	int	Anticipate in the next 2 years
	Newmont Mining Corporation	NEM	86 D	85 C	4,110,000	120,000		
	Owens-Illinois	OI	81 D	56 D	4,529,000	1,600,000	int	
	PPG Industries, Inc.	PPG	64 D	53 D	1,020,000	940,000	int	
◥	Praxair, Inc.	PX	100 A-	100 A-	7,761,000	12,484,000	abs int	
◥ ◥	Sealed Air Corp.	SEE	100 A	97 A-	277,905	462,541	abs int	
	Sherwin-Williams Company	SHW	90 D	78 C	291,565	293,880	int	
◥	Sigma-Aldrich Corporation	SIAL	99 B	99 A-	67,038	161,046	abs int	Anticipate in the next 2 years
◥	The Dow Chemical Company	DOW	100 B	85 B	26,460,000	8,100,000	abs int	Yes
◥ ◥	The Mosaic Company	MOS	100 A	99 A	2,901,368	1,819,730	abs int	
	Telecommunications services							
◥	AT&T Inc.	T	99 B	94 B	1,080,808	8,183,339	abs int	
	CenturyLink	CTL	92 C	71 C	271,362	2,080,188	abs int	Anticipate in the next 2 years
◥	Level 3 Communications, Inc.	LVLT	99 B	AQL	17,076	563,186	abs	
	Verizon Communications Inc.	VZ	98 B	94 B	487,082	54,520,123	int	
	Windstream Corporation	WIN	8	8	—	—		
	Utilities							
	Ameren Corporation	AEE	96 C	87 C	30,674,952	91,479	abs	Yes
	American Electric Power Company, Inc.	AEP	95 C	86 C	130,318,824	102,301	abs	Yes
	CMS Energy Corporation	CMS	96 C	92 C	16,997,509	44,001	abs int	Yes
	Consolidated Edison, Inc.	ED	65 D	86 B	3,155,618	1,085,246	abs	Yes
	DTE Energy Company	DTE	94 C	AQL	35,600,000	2,300,000	abs	Yes
	Duke Energy Corporation	DUK	77 C	72 C	126,000,000	—	abs int	Yes
◥ ◥	Entergy Corporation	ETR	99 A	99 A	34,185,327	286,296	abs	Yes
	Eversource Energy	ES	94 C	76 C	1,799,206	614,910	abs int	Yes
◥	Exelon Corporation	EXC	100 B	100 A-	16,786,457	6,519,495		Yes
	NiSource Inc.	NI	68 E	64 C	19,503,855	237,132		Yes
	NRG Energy Inc	NRG	96 B	74 C	106,472,000	254,000	abs	Yes
◥	PG&E Corporation	PCG	100 A–	95 B	3,774,972	1,204,714	abs	
	Pinnacle West Capital Corporation	PNW	90 D	52 D	14,443,639	16,676	abs int	Yes
◥	Sempra Energy	SRE	100 A–	98 A–	6,739,321	298,237	abs int	Yes
	The AES Corporation	AES	98 B	85 C	74,972,890	577,533	abs	Anticipate in the next 2 years
	Wisconsin Energy Corporation	WEC	AQL	63 E	Answered questionnaire late			
	Xcel Energy Inc.	XEL	95 B	94 B	53,001,264	620,649	abs	Yes

Appendix II
Non-responding companies

No response

Consumer discretionary	
Amazon.com Inc.	AMZN
AutoZone, Inc.	AZO
Bed Bath & Beyond Inc.	BBBY
Cablevision Systems Corporation	CVC
CarMax Inc.	KMX
Discovery Communications, Inc.	DISCA
Dollar General Corporation	DG
Dollar Tree Inc	DLTR
Family Dollar Stores, Inc.	FDO
Fossil, Inc.	FOSL
GameStop Corp.	GME
Gannett Co., Inc.	GCI
Garmin Ltd	GRMN
Genuine Parts Company	GPC
Harley-Davidson, Inc.	HOG
Lennar Corporation	LEN
Michael Kors Holdings Ltd	KORS
Netflix, Inc.	NFLX
O'Reilly Automotive	ORLY
Petsmart, Inc.	PETM
Polo Ralph Lauren Corporation	RL
Pulte Homes Inc	PHM
PVH Corp	PVH
The Priceline Group Inc	PCLN
Tripadvisor Inc	TRIP
Under Armour Inc	UA
Urban Outfitters, Inc.	URBN
Whirlpool Corporation	WHR

Consumer staples	
Lorillard Inc.	LO
Monster Beverage Corporation	MNST

Energy	
Cabot Oil & Gas Corporation	COG
Cameron International Corporation	CAM
Chesapeake Energy Corporation	CHK
Cimarex Energy Co.	XEC
Diamond Offshore Drilling	DO
Ensco International Incorporated	ESV
FMC Technologies	FTI
Helmerich & Payne	HP
Nabors Industries Ltd.	NBR
National Oilwell Varco, Inc.	NOV
Noble Corporation	NE
Pioneer Natural Resources	PXD
QEP Resources	QEP
Southwestern Energy	SWN
Tesoro Corporation	TSO
Transocean Ltd.	RIGN

Financials	
Affiliated Managers Group	AMG
BB&T Corporation	BBT
Berkshire Hathaway	BRK/B
CME Group Inc.	CME
Crown Castle International Corp	CCI
E TRADE Financial Corporation	ETFC
Equity Residential	EQR
Essex Property Trust, Inc.	ESS
Hudson City Bancorp, Inc.	HCBK
IntercontinentalExchange Inc	ICE
Leucadia National Corp.	LUK
Loews Corporation	L
Navient Corp	NAVI
People's United Financial, Inc	PBCT
Progressive Corporation	PGR
Regions Financial Corporation	RF
SunTrust Banks, Inc.	STI
Torchmark Corporation	TMK
Vornado Realty Trust	VNO

Health care	
Alexion Pharmaceuticals	ALXN
AmerisourceBergen Corp.	ABC
Carefusion Corp	CFN
Cerner Corp	CERN
CR Bard Inc	BCR
Gilead Sciences, Inc.	GILD
Intuitive Surgical Inc.	ISRG
Laboratory Corporation of America Holdings	LH
Mylan Inc.	MYL
Patterson Companies, Inc.	PDCO
Perrigo Co.	PRGO
St. Jude Medical, Inc.	STJ
Universal Health Services	UHS
Vertex Pharmaceuticals Inc	VRTX

Industrials	
Ametek, Inc.	AME
Caterpillar Inc.	CAT
Cintas Corporation	CTAS
Equifax Inc.	EFX
Fastenal Company	FAST
General Dynamics Corporation	GD
Joy Global Inc	JOY
Masco Corporation	MAS
Pentair, Inc.	PNR
Precision Castparts Corp.	PCP
Quanta Services Inc	PWR
Roper Industries Inc	ROP
Stericycle Inc.	SRCL

Information technology	
Electronic Arts Inc.	EA
Facebook	FB
Harris Corporation	HRS
Paychex, Inc.	PAYX
Verisign Inc.	VRSN

Materials	
Airgas	ARG
CF Industries Holdings, Inc.	CF
FMC Corp	FMC
Martin Marietta Materials, Inc.	MLM
Nucor Corporation	NUE

Utilities	
AGL Resources	GAS
FirstEnergy Corporation	FE
NextEra Energy, Inc.	NEE
PPL Corporation	PPL
SCANA Corporation	SCG

Declined to participate

Consumer discretionary

AutoNation, Inc.	AN
Chipotle Mexican Grill	CMG
Ross Stores Inc	ROST
Tractor Supply Co.	TSCO
Wynn Resorts, Limited	WYNN

Consumer staples

Tyson Foods, Inc.	TSN

Energy

Denbury Resources Inc	DNR
EQT Corporation	EQT
Kinder Morgan Inc.	KMI
Marathon Oil Corporation	MRO
Marathon Petroleum	MPC
Murphy Oil Corporation	MUR
Phillips 66	PSX
Spectra Energy Corp	SE
Valero Energy Corporation	VLO
Williams Companies, Inc.	WMB

Financials

American Tower Corp.	AMT
Apartment Investment and Management Co.	AIV
Boston Properties	BXP
Public Storage	PSA
Zions Bancorporation	ZION

Health care

McKesson Corporation	MCK
Zoetis Inc	ZTS

Industrials

Allegion Plc	ALLE
Kansas City Southern	KSU
L-3 Communications Holdings, Inc.	LLL
Nielsen Holdings	NLSN

Information technology

Amphenol Corporation	APH
Avago Technologies	AVGO
Citrix Systems	CTXS
FLIR Systems	FLIR

Materials

LyondellBasell Industries Cl A	DLY
Vulcan Materials Company	VMC

Telecommunications services

Frontier Communications Corp	FTR

Utilities

CenterPoint Energy, Inc.	CNP
Dominion Resources, Inc.	D
Edison International	EIX
Integrys Energy Group, Inc.	TEG
Pepco Holdings, Inc.	POM
Public Service Enterprise Group Inc.	PEG
TECO Energy, Inc.	TE
The Southern Company	SO

Provided information, but did not answer the questionnaire

Information technology

Western Union Co	WU

Appendix III
Other responding companies

CDP would like to recognize all US-based, non-S&P 500* companies that used CDP's climate change questionnaire to manage their carbon and energy impacts this year. CDP also acknowledges those organizations whose vital information was provided to investors through another company's submission. The majority of these disclosures are publicly available at www.cdp.net.

- Abercrombie & Fitch Co.
- Actiontec Electronics
- Advanced Micro Devices, Inc
- AIS
- Alaska Power & Telephone Company
- Allete Inc.
- Alliant Energy Corporation
- American Airlines Group Inc
- American Water Works
- Amtrak
- AptarGroup
- Ashland Inc.
- Bel Fuse Inc.
- Bemis Company
- Bernhardt Design a Division of Bernhardt Furniture Company
- Bernhardt Residential a Division of Bernhardt Furniture Company
- Bernhardt Transportation a Division of Bernhardt Furniture Company
- Berry Plastics
- Big Lots, Inc.
- Birla Carbon
- Broadridge Financial Solutions Inc
- Bunge
- Byrne Electrical Specialists
- Cabot Corporation
- Caesars Entertainment
- Cal Development
- Cargill
- Chicken of the Sea Intl
- Clarion Partners
- Compatico
- Covanta Energy Corporation
- Cypress Semiconductor Corporation
- Davies Office Refurbising, Inc.
- Dean Foods Company
- Dell Inc.
- Diebold
- Dunkin' Brands Group
- Dynatrace
- Ecova, Inc.
- Energen Corp.
- Flextronics International
- Future Electronics
- General Cable Corp
- Grant Thornton
- Hanesbrands Inc.
- Herman Miller
- Hilton Worldwide, Inc.
- Humanscale Corporation
- Hyatt Hotels
- Idacorp Inc
- Informatica Corporation
- Integrated Device Technology, Inc.
- Interface, Inc.
- International Rectifier
- Izzy+
- Jabil Circuit, Inc.
- jcpenney
- JDS Uniphase Corp.
- KNOLL INC
- Krueger International, Inc
- Las Vegas Sands Corporation
- Layne Christensen Company
- Levi Strauss & Co.
- Lexmark International, Inc.
- ManpowerGroup
- Markel Corporation
- Mars
- Marvell Technology Group, Ltd.
- MGM Resorts International
- Minntronix
- ModusLink Corporation
- Molex Incorporated
- Motorola Mobility
- National Office Furniture
- Navistar International Corporation
- Office Depot, Inc.
- OFS Brands
- OGE Energy Corp.
- Ormat Technologies Inc
- Outerwall
- Owens Corning
- PaperWorks Industries Inc
- PMC-Sierra, Inc.
- PrimeAsia Leather Company
- S.C. Johnson & Son, Inc.
- Sanyo Denki America Inc
- Sears Holdings Corporation
- Seating Inc.
- Smithfield Foods, Inc.
- Spansion Inc.
- Sprint Corporation
- Stylex
- SunGard
- SunPower Corporation
- Syniverse
- Teradyne Inc.
- Terex Corporation
- The Hertz Corporation
- Trimble Navigation Ltd.
- Unisys Corporation
- United Continental Holdings
- United States Steel Corporation
- Valeant Pharmaceuticals International, Inc.
- Valspar Corporation
- Vision IT
- Visteon
- VWR International LLC
- WhiteWave Foods
- World Bank Group

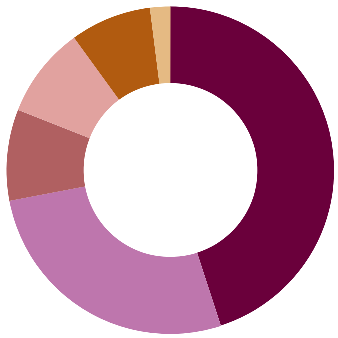
Appendix IV
Investor members

CDP investor members supporting the project in a number of ways over and above being a signatory to the information request.

- ABRAPP—Associação Brasileira das Entidades Fechadas de Previdência Complementar
- AEGON N.V.
- Allianz Global Investors
- ATP Group
- Aviva Investors
- AXA Group
- Bank of America Merrill Lynch
- Bendigo & Adelaide Bank Limited
- BlackRock
- Boston Common Asset Management, LLC
- BP Investment Management Limited
- California Public Employees' Retirement System
- California State Teachers' Retirement System
- Calvert Investment Management, Inc.
- Capricorn Investment Group, LLC
- Catholic Super
- CCLA Investment Management Ltd
- ClearBridge Investments
- DEXUS Property Group
- Environment Agency Pension Fund
- Etica SGR
- Eurizon Capital SGR
- Fachesf
- FAPES
- Fundação Itaú Unibanco
- Generation Investment Management
- Goldman Sachs Asset Management
- Henderson Global Investors
- HSBC Holdings plc
- Infraprev
- KeyCorp
- KLP
- Legg Mason Global Asset Management
- London Pensions Fund Authority
- Maine Public Employees Retirement System
- Morgan Stanley
- National Australia Bank Limited
- NEI Investments
- Neuberger Berman
- New York State Common Retirement Fund
- Nordea Investment Management
- Norges Bank Investment Management
- Overlook Investments Limited
- PFA Pension
- Previ
- Real Grandeza
- Robeco
- RobecoSAM AG
- Rockefeller Asset Management, Sustainability & Impact Investing Group
- Royal Bank of Canada
- Sampension KP Livsforsikring A/S
- Schroders
- SEB AB
- Sompo Japan Nipponkoa Holdings, Inc
- Sustainable Insight Capital Management
- TD Asset Management
- Terra Alpha Investments LLC
- The Wellcome Trust
- UBS Global Asset Management
- University of California

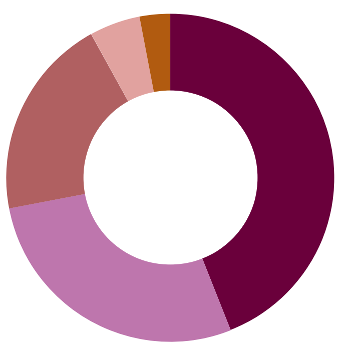
Appendix V
Investor signatories

1. Investor signatories by location



Europe
383 = 46%
North America
220 = 26%
Latin America & Caribbean 75 = 9%
Asia
78 = 9%
Australia and NZ
67 = 8%
Africa
16 = 2%

2. Investor signatories by type

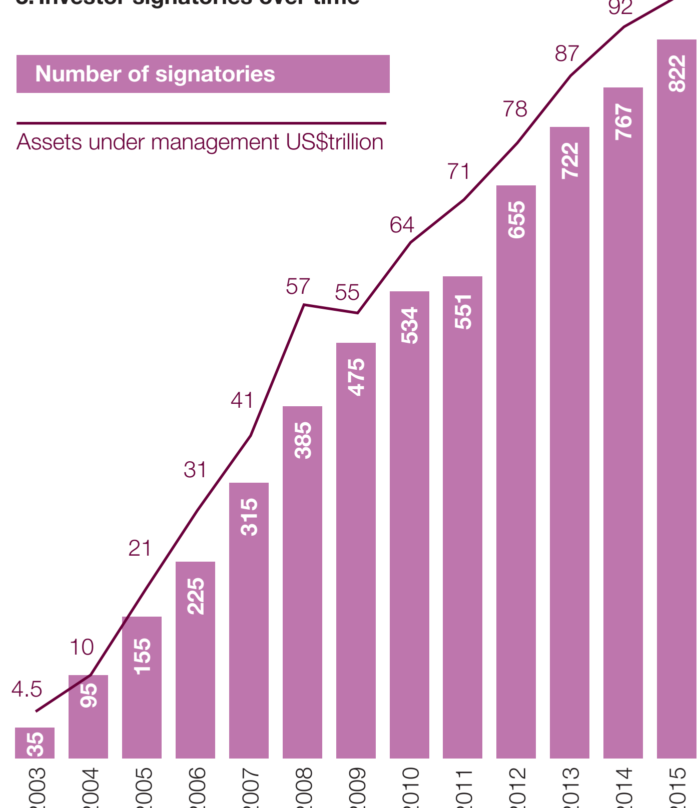


Asset Managers
364 = 44%
Asset Owners
252 = 30%
Banks
162 = 19%
Insurance
37 = 5%
Others
19 = 2%

CDP investor initiatives—backed in 2015 by more than 822 institutional investors representing in excess of US$95 trillion in assets—give investors access to a global source of year-on-year information that supports long-term objective analysis.

This includes evidence and insight into companies' greenhouse gas emissions, water usage and strategies for managing climate change, water and deforestation risks. Investor members have additional access to data tools and analysis.
to become a member visit:
https://www.cdp.net/en-US/Programmes/Pages/what-is-membership.aspx
To view the full list of investor signatories please visit:
https://www.cdp.net/en-US/Programmes/Pages/Sig-Investor-List.aspx

3. Investor signatories over time



Appendix V
Investor signatories

822

financial institutions with assets of US$95 trillion were signatories to the CDP 2015 climate change information request dated February 1, 2015.

3Sisters Sustainable Management LLC
AB
Aberdeen Asset Managers
Aberdeen Immobilien KAG mbH
ABRAPP—Associação Brasileira das Entidades Fechadas de Previdência Complementar
Achmea NV
ACTIAM
Active Earth Investment Management
Acuity Investment Management
Addenda Capital Inc.
Advanced Investment Partners
AEGON N.V.
AEGON-INDUSTRIAL Fund Management Co., Ltd
AIG Asset Management
AK Asset Management Inc.
Akbank T.A.Ş.
Alberta Investment Management Corporation (AIMCo)
Alberta Teachers Retirement Fund Board
Alcyone Finance
Align Impact, LLC
AllenbridgeEpic Investment Advisers Limited
Alliance Trust PLC
Allianz Global Investors
Allianz Group
Altira Group
Amalgamated Bank
AMF Pension
Amlin plc
AMP Capital Investors
AmpegaGerling Investment GmbH
Amundi AM
ANBIMA—Associação Brasileira das Entidades dos Mercados Financeiro e de Capitais
Antera Gestão de Recursos S.A.
APG
Appleseed Fund
AQEX LLC
Aquila Capital
Arabesque Asset Management
Arisaig Partners Asia Pte Ltd
Arjuna Capital
Arkx Investment Management
Arma Portföy Yönetimi A.Ş.
Armstrong Asset Management
ASM Administradora de Recursos S.A.
ASN Bank
Assicurazioni Generali Spa
ATI Asset Management
Atlantic Asset Management Pty Ltd
ATP Group
Australia and New Zealand Banking Group
Australian Ethical Investment
AustralianSuper
Avaron Asset Management
Aviva Investors
Aviva plc
AXA Group
AXA Investment Managers
BAE Systems Pension Funds Investment Management Ltd
Baillie Gifford & Co.
BaltCap
Banca Monte dei Paschi di Siena Group
Banco Bradesco S/A
Banco Comercial Português S.A.
Banco da Amazônia S.A.
Banco de Credito del Peru BCP
Banco de credito social cooperativo
Banco de Galicia y Buenos Aires S.A.
Banco do Brasil Previdência
Banco do Brasil S/A
Banco Popular Español
Banco Sabadell, S.A.
Banco Santander
Banesprev—Fundo Banespa de Seguridade Social
Banif, SA
Bank Handlowy w Warszawie S.A.
Bank Leumi Le Israel
Bank of America Merrill Lynch
Bank of Montreal
Bank Vontobel AG
Bankhaus Schelhammer & Schattera Kapitalanlagegesellschaft m.b.H.
BANKIA S.A.
Bankinter
bankmecu
Banque Degroof
Banque Libano-Française
Barclays
Basellandschaftliche Kantonalbank
BASF Sociedade de Previdência Complementar
Basler Kantonalbank
Bâtirente
Baumann and Partners S.A.
Bayern LB
BayernInvest Kapitalanlagegesellschaft mbH
BBC Pension Trust Ltd.
BBVA
Bedfordshire Pension Fund
Beetle Capital
BEFIMMO SA
Bendigo & Adelaide Bank Limited
Bentall Kennedy
Berenberg Bank
Berti Investments
BioFinance Administração de Recursos de Terceiros Ltda
BlackRock
Blom Bank SAL
Blumenthal Foundation
BM&FBOVESPA
BNP Paribas Investment Partners
BNY Mellon
BNY Mellon Service Kapitalanlage Gesellschaft
Boardwalk Capital Management
Boston Common Asset Management, LLC
BP Investment Management Limited
BPER Banca
Brasilprev Seguros e Previdência S/A.
Breckenridge Capital Advisors
British Airways Pension Investment Management Limited
British Coal Staff Superannuation Scheme
British Columbia Investment Management Corporation
Brown Advisory
BSW Wealth Partners
BT Financial Group
BT Investment Management
Busan Bank
CAAT Pension Plan
Cadiz Holdings Limited
CAI Corporate Assets International AG
Caisse de dépôt et placement du Québec
Caisse des Dépôts
Caixa de Previdência dos Funcionários do Banco do Nordeste do Brasil (CAPEF)
Caixa Econômica Federal
Caixa Geral de Depósitos
CaixaBank, S.A
California Public Employees' Retirement System
California State Teachers' Retirement System
California State Treasurer

Appendix V
Investor signatories

- Calouste Gulbenkian Foundation
- Calvert Investment Management, Inc.
- Canada Pension Plan Investment Board
- Canadian Imperial Bank of Commerce (CIBC)
- Canadian Labour Congress Staff Pension Fund
- CAPESESP
- Capital Innovations, LLC
- Capricorn Investment Group, LLC
- CareSuper
- Carmignac Gestion
- CASER PENSIONES
- Cathay Financial Holding Co. Ltd
- Catherine Donnelly Foundation
- Catholic Super
- CBF Church of England Funds
- CBRE
- Cbus
- CCLA Investment Management Ltd
- Cedrus Asset Management
- Celeste Funds Management Limited
- Central Finance Board of the Methodist Church
- Ceres
- CERES-Fundação de Seguridade Social
- Challenger
- Change Investment Management
- Christian Brothers Investment Services
- Christian Super
- Christopher Reynolds Foundation
- Church Commissioners for England
- Church of England Pensions Board
- CI Mutual Funds' Signature Global Advisors
- Clean Yield Asset Management
- ClearBridge Investments
- Climate Change Capital Group Ltd
- CM-CIC Asset Management
- Comerica Incorporated
- COMGEST
- Commerzbank AG
- CommInsure
- Commonwealth Bank of Australia
- Commonwealth Superannuation Corporation
- Compton Foundation
- Concordia oeco Lebensversicherungs-AG
- Confluence Capital Management LLC
- Connecticut Retirement Plans and Trust Funds
- Conser Invest
- Co-operative Financial Services (CFS)
- CPR AM
- Crayna Capital, LLC.
- Credit Agricole
- Credit Suisse
- CTBC Financial Holding Co., Ltd.
- Cultura Bank
- Daesung Capital Management
- Daiwa Asset Management Co. Ltd.
- Daiwa Securities Group Inc.
- Dalton Nicol Reid
- Dana Investment Advisors
- Danske Bank Group
- de Pury Pictet Turrettini & Cie S.A.
- DekaBank Deutsche Girozentrale
- Delta Lloyd Asset Management
- Demeter Partners
- Desjardins Group
- Deutsche Asset Management Investmentgesellschaft mbH
- Deutsche Bank AG
- Deutsche Postbank AG
- Development Bank of Japan Inc.
- Development Bank of the Philippines (DBP)
- Dexia Asset Management
- DEXUS Property Group
- DGB Financial Group
- DIP
- DLM INVISTA ASSET MANAGEMENT S/A
- DNB ASA
- Domini Social Investments LLC
- Dongbu Insurance
- DoubleDividend
- Doughty Hanson & Co.
- DWS Investment GmbH
- DZ Bank
- E.Sun Financial Holding Co
- Earth Capital Partners LLP
- East Capital AB
- East Sussex Pension Fund
- Ecclesiastical Investment Management Ltd.
- Ecofi Investissements—Groupe Credit Cooperatif
- Edward W. Hazen Foundation
- EEA Group Ltd
- EGAMO
- Eika Kapitalforvaltning AS
- Eko
- Ekobanken medlemsbank (cooperative bank)
- Elan Capital Partners
- Element Investment Managers
- ELETRA—Fundação Celg de Seguros e Previdência
- Elo Mutual Pension Insurance Company
- Environment Agency Active Pension fund
- Environmental Investment Services Asia Limited
- Epworth Investment Management
- eQ Asset Management Ltd
- Equilibrium Capital Group
- equinet Bank AG
- ERAFP
- Erik Penser Fondkommission
- Erste Asset Management
- Erste Group Bank
- Essex Investment Management Company, LLC
- ESSSuper
- Ethos Foundation
- Etica Sgr
- Eureka Funds Management
- Eurizon Capital SGR
- Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers
- Evangelical Lutheran Foundation of Eastern Canada
- Evangelisch-Luth. Kirche in Bayern
- Evli Bank Plc
- F&C Investments
- FACEB—FUNDAÇÃO DE PREVIDÊNCIA DOS EMPREGADOS DA CEB
- FAELCE—Fundacao Coelce de Seguridade Social
- FAPERS- Fundação Assistencial e Previdenciária da Extensão Rural do Rio Grande do Sul
- FASERN—Fundação COSERN de Previdência Complementar
- Federal Finance
- Fédéris Gestion d'Actifs
- FIDURA Capital Consult GmbH
- FIM Asset Management Ltd
- FIM Services
- Finance S.A.
- Financiere de l'Echiquier
- FIPECq—Fundação de Previdência Complementar dos Empregados e Servidores da FINEP, do IPEA, do CNPq
- FIRA.—Banco de Mexico
- First Affirmative Financial Network
- First Bank
- First State Super
- First Swedish National Pension Fund (AP1)
- FirstRand Ltd
- Five Oceans Asset Management
- Folketrygdfondet
- Folksam
- Fondaction CSN
- Fondation de Luxembourg
- Fondazione Cariplo
- Fondo Pegaso
- Fondo Pensione Cometa
- Fondo Pensione Gruppo Intesa Sanpaolo—FAPA
- Fonds de Réserve pour les Retraites—FRR

Appendix V
Investor signatories

Forma Futura Invest AG
Fourth Swedish National Pension Fund, (AP4)
FRANKFURT-TRUST Investment-Gesellschaft mbH
Friends Fiduciary Corporation
Friends Life
Fubon Financial Holdings
Fukoku Capital Management Inc
FUNCEF—Fundação dos Economiários Federais
Fundação AMPLA de Seguridade Social—Brasiletros
Fundação Atlântico de Seguridade Social
Fundação Attilio Francisco Xavier Fontana
Fundação Banrisul de Seguridade Social
Fundação BRDE de Previdência Complementar—ISBRE
Fundação Chesf de Assistência e Seguridade Social—Fachesf
Fundação Corsan—dos Funcionários da Companhia Riograndense de Saneamento
Fundação de Assistência e Previdência Social do BNDES—FAPES
FUNDAÇÃO ELETROBRÁS DE SEGURIDADE SOCIAL—ELETROS
Fundação Itaipu BR—de Previdência e Assistência Social
FUNDAÇÃO ITAUBANCO
Fundação Itaúsa Industrial
Fundação Promon de Previdência Social
Fundação Rede Ferroviaria de Seguridade Social—Refer
FUNDAÇÃO SANEPAR DE PREVIDÊNCIA E ASSISTÊNCIA SOCIAL—FUSAN
Fundação Sistel de Seguridade Social (Sistel)
Fundação Vale do Rio Doce de Seguridade Social—VALIA
FUNDIÁGUA—FUNDAÇÃO DE PREVIDENCIA COMPLEMENTAR DA CAESB
Futuregrowth Asset Management
GameChange Capital LLC
Garanti Bank
GEAP Fundação de Seguridade Social
Gemway Assets
General Equity Group AG
Generation Investment Management
Genus Capital Management
German Equity Trust AG
Gjensidige Forsikring ASA
Global Forestry Capital SARL
Globalance Bank Ltd
GLS Gemeinschaftsbank eG
Goldman Sachs Asset Management
Goldman Sachs Group Inc.
GOOD GROWTH INSTITUT für globale Vermögensentwicklung mbH
Good Super
Governance for Owners
Government Employees Pension Fund (“GEPF”), Republic of South Africa
GPT Group
Greater Manchester Pension Fund
Green Alpha Advisors
Green Cay Asset Management
Green Century Capital Management
Green Science Partners
Greentech Capital Advisors, LLC
GROUPAMA EMEKLİLİK A.Ş.
GROUPAMA SİGORTA A.Ş.
Groupe Crédit Coopératif
Groupe Investissement Responsable Inc.
GROUPE OFI AM
Grupo Financiero Banorte SAB de CV
Grupo Santander Brasil
Gruppo Bancario Credito Valtellinese
Guardians of New Zealand Superannuation
Hall Capital Partners LLC
Handelsbanken
Hang Seng Bank
Hanwha Asset Management Company
Harbour Asset Management
Harrington Investments, Inc
Harvard Management Company, Inc.
Hauck & Aufhäuser Asset Management GmbH
Hazel Capital LLP
HDFC Bank Ltd.
Healthcare of Ontario Pension Plan (HOOPP)
Heart of England Baptist Association
Helaba Invest Kapitalanlagegesellschaft mbH
Henderson Global Investors
Hermes Fund Managers—BUT Hermes EOS for Carbon Action
HESTA Super
HIP Investor
Holden & Partners
HSBC Global Asset Management (Deutschland) GmbH
HSBC Holdings plc
HSBC INKA Internationale Kapitalanlagegesellschaft mbH
HUMANIS
Hyundai Marine & Fire Insurance Co., Ltd
Hyundai Securities Co., Ltd.
IBK Securities
IDBI Bank Ltd.
Iguana Investimentos
Illinois State Board of Investment
Ilmarinen Mutual Pension Insurance Company
Imofundos, S.A
Impax Asset Management
IndusInd Bank Ltd.
Industrial Alliance Insurance and Financial Services Inc.
Industrial Bank of Korea
Industrial Development Corporation
Industry Funds Management
Inflection Point Capital Management
Inflection Point Partners
Infrastructure Development Finance Company
ING Group N.V.
Insight Investment
Instituto Infraero de Seguridade Social—INFRAPREV
Instituto Sebrae De Seguridade Social—SEBRAEPREV
Insurance Australia Group
Integre Wealth Management of Raymond James
Interfaith Center on Corporate Responsibility
IntReal KAG
Investec Asset Management
Investing for Good CIC Ltd
Investor Environmental Health Network
Irish Life Investment Managers
Itau Asset Management
Itaú Unibanco Holding S A
Jantz Management LLC
Janus Capital Group Inc.
Jarislowsky Fraser Limited
Jessie Smith Noyes Foundation
Jesuits in Britain
JMEPS Trustees Limited
JOHNSON & JOHNSON SOCIEDADE PREVIDENCIARIA
Johnson Private Wealth Management, LLC
JPMorgan Chase & Co.
Jubitz Family Foundation
Jupiter Asset Management
Kagiso Asset Management
Kaiser Ritter Partner Privatbank AG
KB Kookmin Bank
KBC Asset Management
KBC Group
KCPS Private Wealth Management
KDB Asset Management Co. Ltd

Appendix V
Investor signatories

KDB Daewoo Securities
Kendall Sustainable Infrastructure, LLC
Kepler Cheuvreux
KEPLER-FONDS KAG
Keva
KeyCorp
KfW Bankengruppe
Killik & Co LLP
Kiwi Income Property Trust
Kleinwort Benson Investors
KlimaINVEST
KLP
Korea Investment Management Co., Ltd.
Korea Technology Finance Corporation (KOTEC)
KPA Pension
La Banque Postale Asset Management
La Financière Responsable
La Française
Laird Norton Family Foundation
Lampe Asset Management GmbH
Landsorganisationen i Sverige
Länsförsäkringar
LaSalle Investment Management
LBBW—Landesbank Baden-Württemberg
LBBW Asset Management Investmentgesellschaft mbH
LD Lønmodtagernes Dyrtidsfond
Legal and General Investment Management
Legg Mason Global Asset Management
LGT Group
LGT Group Foundation
LIG Insurance
Light Green Advisors, LLC
Living Planet Fund Management Company S.A.
Lloyds Banking Group
Local Authority Pension Fund Forum
Local Government Super
LocalTapiola Asset Management Ltd
Logos portföy Yönetimi A.Ş.
Lombard Odier Asset Management
London Pensions Fund Authority
Lothian Pension Fund
LUCRF Super
Ludgate Investments Limited
Lutheran Council of Great Britain
Macquarie Group Limited
MagNet Magyar Közösségi Bank Zrt.
Maine Public Employees Retirement System
MainFirst Bank AG
Making Dreams a Reality Financial Planning
Malakoff Médéric
MAMA Sustainable Incubation AG
Man
Mandarine Gestion
MAPFRE
Maple-Brown Abbott
Marc J. Lane Investment Management, Inc.
Martin Currie Investment Management
Maryknoll Sisters
Maryland State Treasurer
Matrix Asset Management
MATRIX GROUP LTD
McLean Budden
Mediobanca
Meeschaert Gestion Privée
Meiji Yasuda Life Insurance Company
Mellon Capital
Mendesprev Sociedade Previdenciária
Mercer
Merck Family Fund
Mercy Investment Services, Inc.
Mergence Investment Managers
Merseyside Pension Fund
MetallRente GmbH
Metrus—Instituto de Seguridade Social
Metzler Asset Management Gmbh
MFS Investment Management
Midas International Asset Management, Ltd.
Miller/Howard Investments, Inc.
Mirae Asset Global Investments
Mirae Asset Securities Co., Ltd.
Mirova
Mirvac Group Ltd
Missionary Oblates of Mary Immaculate
Mistra, The Swedish Foundation for Strategic Environmental Research
Mitsubishi UFJ Financial Group
Mitsui Sumitomo Insurance Co.,Ltd
Mizuho Financial Group, Inc.
MN
Mobimo Holding AG
Momentum Manager of Managers (Pty) Limited
Momentum Manager of Managers (Pty) Ltd
Monega Kapitalanlagegesellschaft mbH
Mongeral Aegon Seguros e Previdência S/A
Montanaro Asset Management Limited
Morgan Stanley
Mountain Cleantech AG
MTAA Superannuation Fund
Nanuk Asset Management
National Australia Bank Limited
National Bank of Canada
NATIONAL BANK OF GREECE S.A.
National Grid Electricity Group of the Electricity Supply Pension Scheme
National Grid UK Pension Scheme
National Pensions Reserve Fund of Ireland
National Union of Public and General Employees (NUPGE)
NATIXIS
Natural Investments LLC
Nedbank Limited
Needmor Fund
NEI Investments
Nelson Capital Management, LLC
NEST—National Employment Savings Trust
Nest Sammelstiftung
Neuberger Berman
New Alternatives Fund Inc.
New Amsterdam Partners LLC
New Forests
New Mexico State Treasurer
New Resource Bank
New York City Employees Retirement System
New York City Teachers Retirement System
New York State Common Retirement Fund
New York State Comptroller
Newground Social Investment
Newton
NGS Super
NH-CA Asset Management Company
Nikko Asset Management Americas
Nikko Asset Management Co., Ltd.
Nipponkoa Insurance Company, Ltd
Nissay Asset Management Corporation
Nomura Holdings, Inc.
NORD/LB Kapitalanlagegesellschaft AG
Nordea Investment Management
Norfolk Pension Fund
Norges Bank Investment Management
North Carolina Retirement System
North East Scotland Pension fund
Northern Ireland Local Government Officers' Superannuation Committee (NILGOSC)
NORTHERN STAR GROUP
Northern Trust
NorthStar Asset Management, Inc
Northward Capital Pty Ltd
Notenstein Privatbank AG
Novo Banco
Nykredit
Oceana Investimentos ACVM Ltda
OceanRock Investments
Oddo & Cie
Office of the Vermont State Treasurer
Öhman

Appendix V
Investor signatories

- ÖKOWORLD
- Old Mutual plc
- Oliver Rothschild Corporate Advisors
- OMERS Administration Corporation
- Ontario Pension Board
- Ontario Teachers' Pension Plan
- OP Fund Management Company Ltd
- Oppenheim & Co. Limited
- Oppenheim Fonds Trust GmbH
- OppenheimerFunds
- Opplysningsvesenets fond (The Norwegian Church Endowment)
- OPTrust
- Oregon State Treasurer
- Osmosis Investment Management
- Overlook Investments Limited
- PAI Partners
- Panahpur
- Park Foundation
- Parnassus Investments
- Pax World Funds
- PCJ Investment Counsel Ltd.
- Pensioenfonds Vervoer
- Pension Denmark
- Pension Fund for Danish Lawyers and Economists
- Pension Protection Fund
- People's Choice Credit Union
- Perpetual
- PETROS—The Fundação Petrobras de Seguridade Social
- PFA Pension
- PGGM Vermogensbeheer
- Phillips, Hager & North Investment Management
- PhiTrust Active Investors
- Pictet Asset Management SA
- Pioneer Investments
- PIRAEUS BANK
- PKA
- Plato Investment Management
- Pluris Sustainable Investments SA
- PNC Financial Services Group, Inc.
- Pohjola Asset Management Ltd
- Polden-Puckham Charitable Foundation
- Portfolio 21
- Porto Seguro S.A.
- POSTALIS—Instituto de Seguridade Social dos Correios e Telégrafos
- Power Finance Corporation Limited
- PREVHAB PREVIDÊNCIA COMPLEMENTAR
- PREVI Caixa de Previdência dos Funcionários do Banco do Brasil
- PREVIG Sociedade de Previdência Complementar
- Previnorte—Fundação de Previdência Complementar
- Prius Partners
- Progressive Asset Management, Inc.
- Prologis
- Provinzial Rheinland Holding
- Prudential Investment Management
- Prudential Plc
- Psagot Investment House Ltd
- Public Sector Pension Investment Board
- Q Capital Partners Co. Ltd
- QBE Insurance Group
- Quantex
- Quilter Cheviot Asset Management
- Quotient Investors
- Rabobank
- Raiffeisen Fund Management Hungary Ltd.
- Raiffeisen Kapitalanlage-Gesellschaft m.b.H.
- Raiffeisen Schweiz Genossenschaft
- Rathbones / Rathbone Greenbank Investments
- Real Grandeza Fundação de Previdência e Assistência Social
- REI Super
- Reliance Capital Limited
- Representative Body of the Church in Wales
- Resona Bank, Limited
- Reynders McVeigh Capital Management
- River Twice Capital Advisors, LLC
- Robeco
- RobecoSAM AG
- Robert & Patricia Switzer Foundation
- Rockefeller Asset Management, Sustainability & Impact Investing Group
- Rose Foundation for Communities and the Environment
- Rothschild & Cie Gestion Group
- Royal Bank of Canada
- Royal Bank of Scotland Group
- Royal London Asset Management
- RPMI Railpen Investments
- RREEF Investment GmbH
- Ruffer LLP
- Russell Investments
- Sampension KP Livsforsikring A/S
- Samsung Asset Management Co., Ltd.
- Samsung Fire & Marine Insurance Co.,Ltd.,
- Samsung Securities
- Samsunglife Insurance
- Sanlam Life Insurance Ltd
- Santa Fé Portfolios Ltda
- Santam
- Santander Brasil Asset Management
- Sarasin & Cie AG
- Sarasin & Partners
- SAS Trustee Corporation
- Sauren Finanzdienstleistungen GmbH & Co. KG
- Schroders
- Scotiabank
- SEB AB
- SEB Asset Management AG
- Second Swedish National Pension Fund (AP2)
- Şekerbank T.A.Ş.
- Seligson & Co Fund Management Plc
- Sentinel Investments
- SERPROS—Fundo Multipatrocinado
- Service Employees International Union Pension Fund
- Servite Friars
- Seventh Swedish National Pension Fund (AP7)
- Shareholder Association for Research & Education
- Shinhan Bank
- Shinhan BNP Paribas Investment Trust Management Co., Ltd
- Shinkin Asset Management Co., Ltd
- Siemens Kapitalanlagegesellschaft mbH
- Signet Capital Management Ltd
- Sisters of St Francis of Philadelphia
- Sisters of St. Dominic
- Sixth Swedish National Pension Fund (AP6)
- Skandia
- Smith Pierce, LLC
- Social(k)
- Sociedade de Previdencia Complementar da Dataprev—Prevdata
- Società reale mutua di assicurazioni
- SOCIÉTÉ GÉNÉRALE
- Socrates Fund Management
- Solaris Investment Management Limited
- Sompo Japan Nipponkoa Holdings, Inc
- Sonen Capital
- Sopher Investment Management
- Soprise! Impact Fund
- SouthPeak Investment Management
- SPF Beheer bv
- Spring Water Asset Management
- Sprucegrove Investment Management Ltd
- Standard Chartered
- Standard Chartered Korea Limited
- Standard Life Investments
- Standish Mellon Asset Management
- State Bank of India
- State Board of Administration (SBA) of Florida
- State Street Corporation
- Statewide
- Stockland
- Storebrand ASA
- Strathclyde Pension Fund
- Stratus Group
- Sumitomo Mitsui Financial Group

Appendix V
Investor signatories

Sumitomo Mitsui Trust Holdings, Inc.
Sun Life Financial
Superfund Asset Management GmbH
SURA Peru (AFP Integra, Seguros SURA, Fondos SURA, Hipotecaria SURA)
SUSI Partners AG
Sustainable Capital
Sustainable Development Capital
Sustainable Insight Capital Management
Svenska kyrkan
Svenska kyrkans pensionskassa
Swedbank AB
Swedish Pensions Agency
Swift Foundation
Swiss Re
Sycomore Asset Management
Symphonia sgr
Syntrus Achmea Asset Management
T. Rowe Price
T. SINAİ KALKINMA BANKASI A.Ş.
Taishin Financial Holding Co.,Ltd
Tasplan
Tata Capital Limited
TD Asset Management (TD Asset Management Inc. and TDAM USA Inc.)
TD Securities (USA) LLC
Teachers Insurance and Annuity Association—College Retirement Equities Fund
Telluride Association
Telstra Super
Tempis Asset Management Co. Ltd
Terra Alpha Investments LLC
Terra Global Capital, LLC
TerraVerde Capital Management LLC
TfL Pension Fund
The ASB Community Trust
The Brainerd Foundation
The Bullitt Foundation
The Central Church Fund of Finland
The Children's Investment Fund Management (UK) LLP
The Collins Foundation
The Colorado College
The Co-operators Group Ltd
The Council of Lutheran Churches
The Daly Foundation
The Environmental Investment Partnership LLP
The Hartford Financial Services Group
The Joseph Rowntree Charitable Trust
The Korea Teachers Pension (KTP)
The McKnight Foundation
The Nathan Cummings Foundation
The New School
The Pension Plan For Employees of the Public Service Alliance of Canada
The Pinch Group
The Presbyterian Church in Canada
The Russell Family Foundation
The Sandy River Charitable Foundation
The Shiga Bank, Ltd.
The Sisters of St. Ann
The Sustainability Group at the Loring, Wolcott & Coolidge Office
The United Church of Canada—General Council
The University of Edinburgh Endowment Fund
The Wellcome Trust
Third Swedish National Pension Fund (AP3)
Threadneedle Asset Management
TOBAM
Tokio Marine Holdings, Inc
Toronto Atmospheric Fund
Trillium Asset Management, LLC
Triodos Investment Management
Tri-State Coalition for Responsible Investment
Trust Waikato
Trusteam Finance
Trustees of Donations to the Protestant Episcopal Church
Tryg
Turner Investments
UBS AG
UniCredit SpA
Union Asset Management Holding AG
Union Investment Privatfonds GmbH
Unione di Banche Italiane S.c.p.a.
Unionen
Unipension Fondsmaeglerselskab A/S
Unipol
UNISONS Staff Pension Scheme
UniSuper
Unitarian Universalist Association
United Church Funds
United Nations Foundation
Unity College
Unity Trust Bank
Universities Superannuation Scheme (USS)
University of California
University of Massachusetts Foundation
University of Sydney Endowment Fund
Van Lanschot
Vancity Group of Companies
Ventas, Inc.
Veris Wealth Partners
Veritas Investment Trust GmbH
Veritas Pension Insurance
Vexiom Capital Group, Inc.
VicSuper
Victorian Funds Management Corporation
VietNam Holding Ltd.
Vinva Investment Management
Vision Super Pty Ltd
VOIGT & COLL. GMBH
VOLKSBANK INVESTMENTS
Walden Asset Management
WARBURG—HENDERSON Kapitalanlagegesellschaft für Immobilien mbH
WARBURG INVEST KAPITALANLAGEGESELLSCHAFT MBH
Water Asset Management, LLC
Wells Fargo & Company
Wespath Investment Management
West Midlands Pension Fund
West Yorkshire Pension Fund
Westfield Capital Management Company, LP
Westpac Banking Corporation
WHEB Asset Management
White Owl Capital AG
Wisconsin, Iowa, & Minnesota Coalition for Responsible Investment
Woori Bank
Woori Investment & Securities Co., Ltd.
YES BANK Ltd.
York University Pension Fund
Youville Provident Fund Inc.
Zevin Asset Management, LLC
Zürcher Kantonalbank

CDP North America Strategic Partners

Gold Sponsor

Global Scoring and Sustainability BPO Partner

Silver Sponsors

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David Lubin
Martin Whittaker
Martin Wise

For access to a database of public responses for analysis, benchmarking and learning best practices, please contact **info.northamerica@cdp.net.**

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CDP North America Strategic Partners

Design

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