



CARBON POLLUTION STANDARDS FOR POWER PLANTS:

The Investment Case



THE COUNTRY'S LARGEST INVESTORS WANT ACTION ON CLIMATE

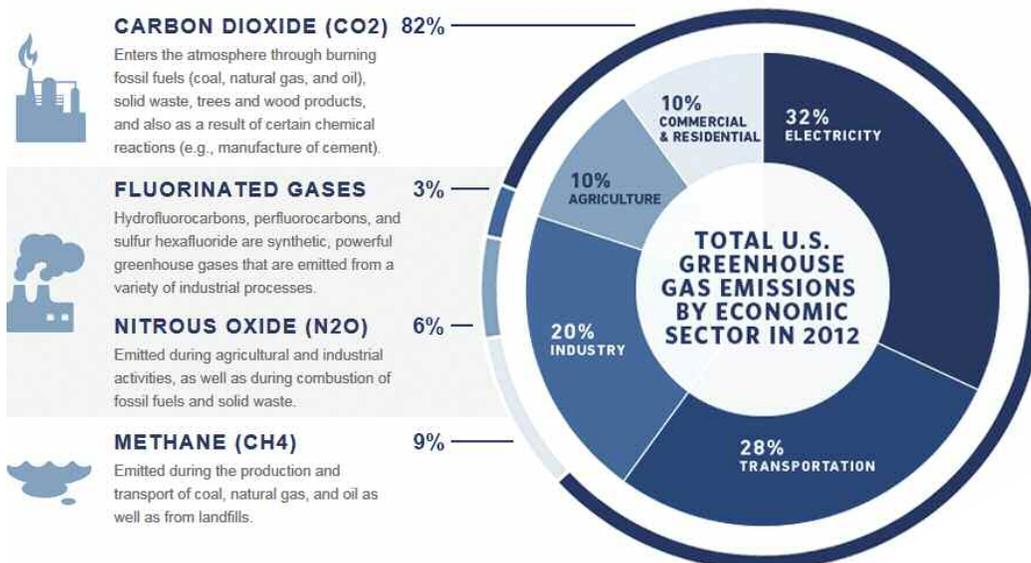
Institutional investors have a stake in the long-term future of the U.S. power sector. Many of these investors, including members of Ceres' Investor Network on Climate Risk (INCR), recognize the value of clear and consistent policies. In tackling the challenge of climate change, investors support policies like the U.S. Environmental Protection Agency's (EPA) recently proposed Carbon Pollution Standards for existing electric power plants, and the proposed standards for new electric power plants.

The new standards reflect what forward-looking investors already know: climate change poses real financial risks and substantial economic opportunities. From their positions as fiduciaries, the need to reduce carbon pollution is particularly important. There are billions of dollars of publicly traded equity in the country's 20 largest utilities—and combined, INCR members hold nearly one out of every 10 dollars of that equity. These investors are calling for predictable energy policies, like the proposed carbon pollution standards, to help shield investors from the risks associated with costly and environmentally harmful assets like coal-fired power plants.

As long-term shareholders, institutional investors are already engaging regularly with the electric power sector to improve environmental performance and manage long-term risk. By advocating for carbon pollution standards, they join many others in the financial community—and within the industry itself—who see the standards as both achievable and beneficial to the electric power sector in the long term.

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U.S. Greenhouse Gas Pollution Includes:



Source: U.S. Environmental Protection Agency

WALL STREET CONSENSUS: THE MARKET IS ALREADY TURNING AWAY FROM CARBON-INTENSIVE POWER PLANTS

Opponents of the carbon pollution standards often portray the standards as part of a “war on coal;” however, Wall Street analysts who closely track the electric power industry tell a different story. The consensus finds coal is falling behind lower-carbon alternatives like natural gas and renewable energy due to simple economics.

In a recent paper, Hugh Wynne of Bernstein Research cited natural gas’s economic advantage arguing that, “Building a new gas plant already makes more sense [than building a coal plant].” But cheap natural gas is not the only factor dogging coal. Wynne further added that coal faces other market-based challenges that raise costs for power plant operators. The report notes that “The rail transportation cost to some of the coal-fired fleets in the Southeast and the Northeast raise the delivery cost of Appalachian coal to a point where its uneconomic to burn if [utilities] have the alternative of running a combined cycle gas turbine instead.”

A Goldman Sachs report from May of 2014 indicates a severe slowing of growth for worldwide coal imports. While coal imports grew by 8% per year between 2008 and 2012, that figure is expected to drop to only 2% per year between 2013 and 2018. This follows a report Goldman Sachs released in July of 2013 in which its global outlook for coal investments was bleak, but not because of proposed regulations. Indeed, in their report the company remarks that:

Even when carbon prices are low or non-existent, the downside risks of future regulation can offset the cost advantage of coal relative to alternative energy sources, 2) demand for coal-fired generation remains strong in India and southeast Asia but the number of new plants is expected to decline by the end of the decade and 3) the energy sources with the most upside potential include gas and solar power.

Not surprisingly, Moody’s analytics rates bonds from Peabody Energy, the world’s largest private-sector coal company, as being non-investment grade (“junk”) status.

Multiple recent analyses have demonstrated the cost-competitiveness of renewables when compared with even the cheapest forms of fossil energy. Morgan Stanley’s Stephen Byrd says that this is especially the case in the Midwest, where “wind plants are many times of the day competing” with coal, and “power agreements are being signed with wind farms at as low as \$25 per megawatt hour,” beating the all-in cost for new gas plants. Citigroup has gone so far as to announce that the “age of renewables” has begun, predicting that “solar, wind, and biomass continue to gain market share from coal and nuclear into the future.”

This increasing viability of renewables, combined with the relative weakness of coal, means the objectives of the national Climate Action Plan and the Carbon Pollution Standards are not only within reach, but will likely be exceeded. Indeed, UBS released a note to investors just days before the release of the standards for existing plants, stating that, “With the upcoming release of EPA’s much anticipated regulations on existing sources of GHGs/CO₂ on June 2nd, we see President Obama’s existing target of a ~17% emission reduction nationally below 2005 levels by 2020 as quite achievable.” UBS released another note just a day later, expressing the belief that carbon pricing is liable to apply to a larger and larger share of global emissions, resulting in an implicit carbon price becoming a part of investment decisions.

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Goldman Sachs

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Hugh Wynne, Bernstein Research

“Calpine supports the EPA’s proposal because we believe it will ensure continued progress toward cleaner energy in a way that supports ongoing grid reliability while allowing market forces to work to deliver the lowest-cost solution for reducing GHG emissions.”

**Thad Hill,
Chief Executive Officer,
President & Board Member,
Calpine**

ELECTRIC POWER CEOs: INDUSTRY IS ALREADY IN LOW-CARBON TRANSITION

Electric power companies have offered similar assessments of the existing power plant standards' impact. After the release of the standards, utility executives around the country announced that they are prepared to meet the new standards. Several endorsed the new regulations.

“Calpine supports the EPA’s proposal because we believe it will ensure continued progress toward cleaner energy in a way that supports ongoing grid reliability while allowing market forces to work to deliver the lowest-cost solution for reducing GHG emissions,” said Thad Hill, Chief Executive Officer, President and Board Member at Calpine. “With our modern, flexible, efficient fleet, Calpine is ready to meet this challenge head on.”

Officials at Sempra Energy have also agreed that regulation of carbon emissions from power plants makes sense. “Sempra Energy supports the sensible regulation of carbon-dioxide emissions and actions that help develop a modernized energy grid that is both clean and reliable,” said Jessie J. Knight, Jr., Vice President of External Affairs, Sempra Energy.

Utilities from around the country have echoed these sentiments, and have stated their ability to meet the emissions reduction targets regardless of whether or not they support new regulations. Chuck Barlow, vice president of environmental strategy and policy at Entergy Corp. described the proposal for existing power plants as “stringent,” and yet he does not believe that there will be any significant impact in terms of costs or plant closures, saying, “We feel like we’re in a good position to go forward here.” Likewise, Scott Reigstad, spokesman for Alliant Energy, said, “We knew these carbon regulations were coming, so we’ve been incorporating it into our generation plan. We’re at a good starting point.” Entergy and Alliant are emblematic of the fact that all regions of the country are able to meet the standard; Entergy serves much of the Gulf Coast and South, while Alliant serves several states in the Midwest.

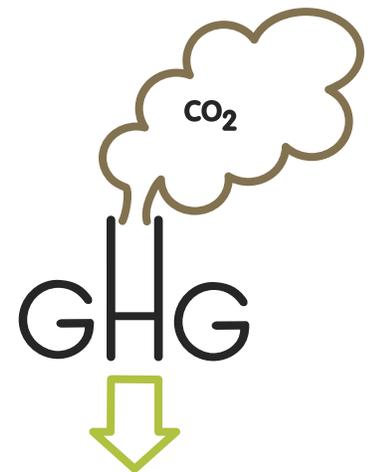
SHAREHOLDERS PUT FOCUS ON CARBON REDUCTION

Given the changing economics of the electric power industry, coal-fired power plants are quickly becoming liabilities for utilities. Investors also face risks from their exposure to utilities that rely primarily on coal for power generation. As a result, institutional investors have encouraged electric power companies to reduce their exposure to coal and invest in lower-risk, lower-cost resources such as renewable energy and energy efficiency.

Since 2011, large shareholders and pension funds have filed 77 shareholder resolutions with some of the largest investor-owned utilities in the United States, raising important questions of how the utilities will deal with the new EPA regulations and highlighting the increasingly difficult economics of continued reliance on coal-fired power. The New York State Comptroller, Calvert Asset Management and the California State Teachers’ Retirement System—INCR members with a combined \$374 billion in assets—have been particularly vocal on the importance of reducing utilities’ carbon emissions, increasing investments in energy efficiency and renewable energy, and encouraging companies to disclose the risks climate change poses to their business model and financial stability.

Investors have filed resolutions with companies calling on them to:

- **Implement** company-wide goals for reducing greenhouse gas emissions and specific, quantifiable targets and plans to do so
- **Develop** better sustainability reporting and disclosure methods
- **Invest** in renewable energy resources and promote energy efficiency programs in order to diversify their energy portfolio and maintain market share.



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**Thomas DiNapoli,
New York State Comptroller**

Shareholders subsequently agreed to withdraw 28 of the 77 resolutions after utilities agreed to address issues raised in the resolutions. Others received significant support from shareholders at company annual meetings. One example is a recent resolution filed with DTE Energy by the New York State Comptroller's office, which received almost 30 percent of the vote. The resolution called for the company to adopt specific goals for reducing greenhouse gases and other pollution in response to EPA regulations.

“Reducing pollution is not just an imperative for the world, it’s a necessary step for companies to remain at the cutting edge of this industry,” said **New York State Comptroller Thomas DiNapoli**, in relation to his office’s resolution. “We are urging companies to find ways to be transparent, sustainable and profitable in the context of our current regulatory environment.”

INVESTORS EAGER FOR CLEAN ENERGY OPPORTUNITIES

Institutional investors in the United States invest roughly three-quarters of their assets in the public capital markets (e.g., stocks and bonds). Given the emerging state of the industry, the public capital markets have thus far been only a fraction of the funding for clean energy projects. However, public capital market investment opportunities are growing, and where they exist there is ample interest among the country’s largest investors.

→ **In June of 2014, Warren Buffett announced his intention to double Berkshire Hathaway’s investment in solar and wind.** By that point, Berkshire Hathaway had already invested \$15 billion in renewables, with Buffett commenting, “There’s another \$15 billion ready to go, as far as I’m concerned.” An example of this activity is MidAmerican Energy, subsidiary of Berkshire Hathaway, which has twice issued a bond for \$700 million only to raise more than \$1 billion each time due to better than expected demand. This includes especially strong demand from institutional investors like pension funds. In an uncertain economic climate it is noteworthy that bond issuances for clean energy projects are drawing such high demand.

→ **In April 2014, SolarCity closed a second lease-backed bond, raising \$70 million for the installation of primarily residential solar panels.** The bond was ultimately oversubscribed, allowing SolarCity to limit their debtors to institutional investors. This was the second bond of this type issued by SolarCity, with the first coming in November 2013 and raising \$54 million.

Prior to this, SolarCity, like other solar companies, was unable to access inexpensive capital from the capital markets to finance solar projects. However, precipitously falling prices for solar panels and successful solar projects have significantly increased acceptance of solar as a profitable enterprise. The issuance of bonds will enable SolarCity to tap into large amounts of cheaper capital as they rapidly expand their business.

→ **Bank of America issued the first corporate “green bond” ever in November 2013** as part of the company’s environmental business initiative with a 10-year goal of investing \$50 billion in spurring the development of a lower-carbon economy. The bond’s principal aggregate amount was \$500 million, with funds earmarked for renewable energy and energy efficiency projects and programs.

Bank of America described the issuance of the bond as “an opportunity to expand its investor base and to support an important market.” Multiple institutional investors, including some of the largest in the world, participated. These investors included AP4, BlackRock, Breckinridge Capital Advisors, CalPERS, Calvert Investment Management, Pax World Management LLC, Praxis Intermediate Income Fund, State Street Global Advisors, Standish Mellon Asset Management Company LLC, TIAA-CREF, and Trillium Asset Management LLC.



INVESTORS APPLAUD THE CARBON POLLUTION STANDARDS

Given the trends that investors see and the actions they are taking as shareholders, it is not surprising that they support the Environmental Protection Agency's Carbon Pollution Standards for new and existing power plants.

In June of 2014, institutional investors managing in excess of \$800 billion sent President Obama a letter supporting the EPA's proposed carbon pollution standards for existing power plants. This letter followed their support of the Carbon Pollution Standards for new power plants announced in September of 2013. The letters both noted that climate change presents significant risks and opportunities, including the fact that climate change (and related policy uncertainty) could add as much as 10 percent to portfolio-wide risk over the next 20 years.

Congress and state lawmakers should note the opinion of these investors and resist efforts to block the implementation of the standards, limit EPA's authority, or otherwise prevent the Agency from moving forward in finalizing and implementing these important standards.



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