



RiskMetrics Group

ISSUE REPORT

Sustainability Background Report

Global Climate Change

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Emily McAteer, Megan Good and Doug Cogan
climate@riskmetrics.com

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KEY TAKEAWAYS

- U.S. climate change policy shifts with election of President Barack Obama: Newly elected U.S. President Barack Obama has committed to reverse the Bush administration's climate change policy and take a new leadership role in addressing climate change—both through domestic legislation and international negotiation. Secretary of State Hillary Clinton has also committed to emphasizing climate change in U.S. foreign policy.
- At the core of President Obama's proposed climate change policy is the implementation of a federal cap-and-trade program to reduce GHG emissions 80 percent by 2050. In his first address to a joint session of Congress on Feb. 24, Obama called on Congress to send him legislation that “places a market-based cap on carbon pollution and drives the production of more renewable energy in America.” President Obama then released his budget blueprint, which projected \$645 billion in revenue from the auction of emissions allowances under a cap-and-trade system that would begin in 2012.
- President Obama's climate change plans also include a national low carbon fuel standard, increased fuel economy standards, a national building efficiency standard, and renewable energy standards that would require 25 percent of U.S. electricity to come from renewable sources by 2025. The President proposes that investments in a clean energy economy—in areas such as clean technology, energy efficiency and a new digital electricity grid (aka “smart grid”)—would also build a new “green” work force of approximately five million new jobs.
- Economic recovery plans focus on climate change measures: President Obama has also signed into law an emergency stimulus package that puts clean energy and energy efficiency at the center of economic recovery plans. The stimulus plan—13 percent of which is devoted to climate and energy issues—includes nearly \$41 billion in funding for renewable energy research and development, energy efficiency and building retrofit programs, smart grid development, a loan guarantee program for rapid deployment of clean technology, carbon capture and storage demonstration, and green job training. The stimulus also extends the production tax credit and adds an investment tax credit for renewable energy installations.
- Several European countries have taken similar measures; in Germany, climate change initiatives make up 19 percent of the country's stimulus package, and France is spending 8 percent of its economic recovery on climate-related programs. As in the United States, these stimulus packages place particular emphasis on renewable energy development and energy efficiency gains.
- Cap-and-trade programs gather momentum: Programs to cap-and-trade GHG emissions are fast becoming the preferred government means of addressing climate change. 2009 opened with the launch of the Regional Greenhouse Gas Initiative, the first mandatory cap-and-trade scheme in the United States. The program covers roughly 225 fossil fuel-fired power plants in Northeastern and Mid-Atlantic states. Western states are not far behind. In September 2008 the Western Climate Initiative, which includes seven western states and four Canadian provinces, released its outline for a regional cap-and-trade scheme for a broader set of industries. The first phase of the program is expected to launch in 2012.
- Congressional leaders in the hope to have federal cap-and-trade legislation enacted by the end of 2009. In anticipation of such regulation, the Environmental Protection Agency proposed rules in March 2009 that would require an estimated 13,000 facilities that emit at least 25,000 metric tons of CO₂ per year to report their direct (Scope 1) emissions. Affected industries include suppliers of fossil fuel and industrial chemicals, manufacturers of motor vehicles and engines, and large direct emitters of GHGs such as metals, minerals, food processing and ethanol production. Most

affected industries would be required to issue their first annual report in 2011 for calendar year 2010.

- Elsewhere, Australia has announced its Carbon Pollution Reduction Scheme (CPRS), a cap-and-trade system to be implemented in 2010. New Zealand also passed climate change legislation that establishes an emissions trading scheme beginning in 2009. Japan has proposed a voluntary cap-and-trade scheme, and the electric power sector has voluntarily pledged to reduce its GHG emissions intensity (per kilowatt-hour) by 20 percent below 1990 levels over five years.
- The European Union Emissions Trading Scheme (EU ETS) was the first cap-and-trade program to go into effect, in 2005. Now in its second phase, it plans to expand coverage to all major GHG-emitting industries after 2013. Carbon prices in the EU ETS hit new lows in early 2009, raising questions about the flexibility and effectiveness of the system during periods of economic downturn and reduced manufacturing. Two major U.S. companies—Exxon Mobil and FedEx—recently endorsed a carbon tax as a more effective means of regulating emissions.
- Companies across many sectors call for climate change legislation: In November 2008, five companies—Nike, Starbucks, Levi Strauss, Sun Microsystems and Timberland—launched a new business coalition calling for strong U.S. climate and energy legislation to be adopted in 2009. The group, called Business for Innovative Climate and Energy Policy (BICEP), outlined eight key principles to guide climate change policy, emphasizing that climate change will affect all sectors of the economy. In January 2009, the U.S. Climate Action Partnership (USCAP), a coalition of approximately 25 major U.S. corporations and environmental groups, released a detailed framework to guide policymakers. The Blueprint calls for a federal cap-and-trade program that would phase out free permit allowances in favor of permits purchased at auction over time. Coal-burning utilities initially would receive 40 percent of their permits for free under this proposal, which calls

for an 80 percent reduction in US GHG emissions by 2050.

- New international treaty expected in 2009: Government negotiators are also preparing for a pivotal climate meeting in Copenhagen, Denmark, in December 2009 to arrive at a successor agreement to the Kyoto Protocol, the 1997 climate treaty that is due to expire in 2012. One of the key issues to be addressed is whether developing countries with rapidly growing GHG emissions will make any binding commitments to curb their growth in emissions. China surpassed the United States as the world's largest GHG emitter in 2006. China along with India and countries in the Middle East are expected to account for three-quarters of the growth in energy-related carbon emissions through 2030.
- Of the 37 developed countries that have committed to GHG emission targets under the Kyoto Protocol, only 16 are meeting their goals at present. These are mainly countries in Eastern Europe that have benefited from modernization of their antiquated industrial bases. The United States, which opted out of the Kyoto agreement during the Bush administration, is 24 percent above the target set forth under the treaty. President Obama's energy plan would have U.S. emissions return to 1990 levels by 2020, which is still 6 percent above the target Kyoto had set for the nation by 2012.
- One of the main scientific policy questions to be addressed in Copenhagen is what limit should be set on GHG concentrations in the atmosphere to prevent catastrophic warming from occurring. (See box on pps. 6-7.) Whatever is decided will almost certainly propel further investments in renewables and energy efficiency. Nuclear power and "clean coal" (with carbon capture and storage) might also benefit from a new agreement. Major sticking points in the talks are likely to include the extent to which emissions trading will continue under the Clean Development Mechanism of the Kyoto Protocol, how much subsidized access developing countries will have to environmentally advanced technologies and Western firms' concerns

about possible loss of control over intellectual property rights.

- Evidence mounts of accelerated warming: 2008 was the ninth warmest year on record. While slightly cooler than 2007, the long-term trend is toward rapid warming. Eighteen of the last 20 years have been the hottest on record, dating back to 1861. The global temperature has been rising at a rate of 2-3 degrees Fahrenheit per century since 1975. If the global temperature rises another 1 degree F—which at the current rate will take less than 30 years—it will be warmer than it has been in the history of human civilization.
- Warming is occurring fastest toward the poles of the earth. The Arctic Ocean has lost 40 percent of its year-round ice cover since 1985 and could be completely ice-free in summer months within the next five to 10 years. Meanwhile, the rate of glacial melting in parts of Greenland and West Antarctica has nearly

doubled since 1996. Such melting of land-borne glaciers suggests that associated sea level rise could be much higher than forecast in a 2007 report by the Intergovernmental Panel on Climate Change (IPCC), an international scientific advisory panel. Instead of eight inches to two feet of sea level rise, as projected by the IPCC, new studies suggest there could be as much as six feet or more of rise in the 21st century, with dire consequences for coastal population centers.

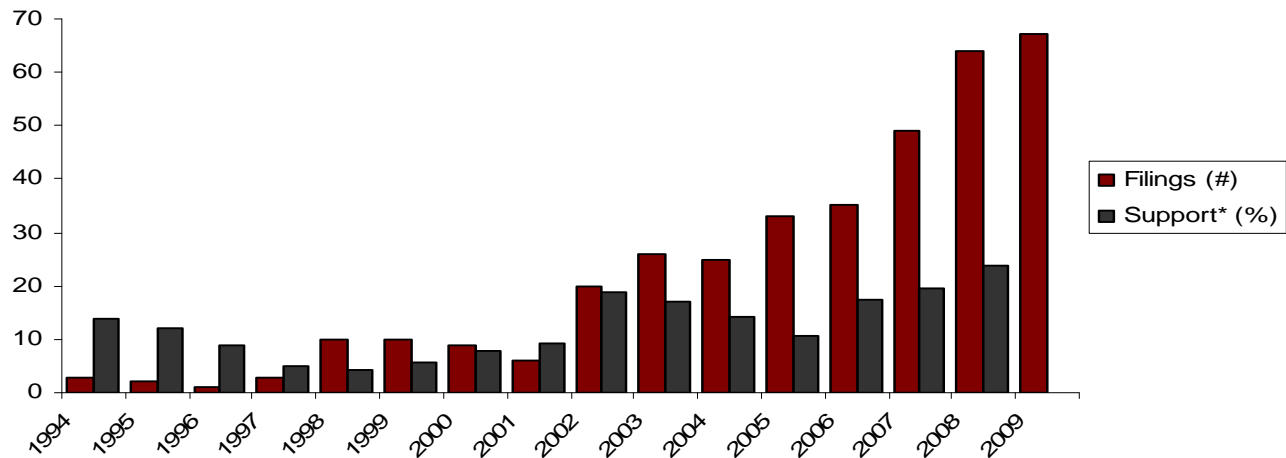
- Investor support for climate disclosure grows: The Carbon Disclosure Project (CDP), an investor-backed organization to promote corporate climate change disclosure, reported record investor interest in 2008. The number of CDP investor signatories grew to 475 (from 315 in 2007), representing \$57 trillion in assets. Corporate disclosures through CDP and support for climate change-related shareholder proposals also reached record levels in 2008.

Past Resolutions on This Issue

Issue code 3410	2006	2007	2008
Voted on	5	4	1
Withdrawn	4	5	6
Average support	18.4%	22.0%	27.5%
Issue code 3425	2006	2007	2008
Voted on	2	10	20
Withdrawn	11	13	15
Average support	15.0%	18.7%	23.7%

Issue Code 3428	2006	2007	2008
Voted on	5	5	8
Withdrawn	0	0	0
Average support	5.4%	5.0%	3.7%
Key			
3410 = Report on energy efficiency and renewables			
3425 = Report or take action on climate change			
3428 = Defend climate policy (filed by skeptics)			

US Climate Change Shareholder Resolutions: 1994 - 2009



EXECUTIVE SUMMARY

Climate change is one of the largest ESG campaigns in history and has received strong shareholder support. A total of 68 climate change-related proposals have been filed thus far for the 2009 proxy season. The numbers of resolutions, filers and industries receiving proposals all have increased substantially in recent years. The movement has expanded well beyond the filing of shareholder resolutions, however. Many more companies now are engaged in some form of dialogue with investors about this issue. The political environment—with increased state/regional emissions regulation, pending federal legislation and new international controls—has made climate change a material issue for many industries that are energy-intensive and/or major emitters of greenhouse gases.

New government policies are promoting cleaner and more efficient use of energy. President Obama has signed into law the American Recovery and Reinvestment Act of 2009, a \$787 billion stimulus package of which \$38 billion will be implemented by the Department of Energy. This package and related Obama administration initiatives aim to create 5 million “green collar” jobs to build and install renewable energy systems, modernize the electric grid, weatherproof homes and introduce a more fuel-efficient vehicular fleet. This in turn will cut down on greenhouse gas emissions and dependence on foreign oil. Congress is aiming to pass cap-and-trade legislation by the end of this year that would directly affect more than a dozen industries. While critical details remain to be worked out, the legislation is expected to put a price on carbon and redirect hundreds of billion of investment dollars.

New international climate change policies will also be enacted this year. In Copenhagen this December, the United States will join other nations in trying to reach a successor agreement to the Kyoto Protocol that expires in 2012. Major issues are whether large developing countries like China and India will commit to controls on their fast-growing GHG emissions, how much subsidized access developing countries will have to environmentally advanced technologies and

the implications for Western firms’ control over intellectual property rights.

Concerns remain whether new policies will go far enough to arrest global warming. At present, fossil fuels provide 80 percent of the world’s energy demand, and dependence isn’t expected to drop much by 2030 under business as usual. The International Energy Agency estimates that energy-related investments would have to rise by \$10 trillion over the period, from \$26 trillion to \$36 trillion, to limit the atmospheric concentration of carbon dioxide to 450 parts per million. This would require deployment of new technologies at an unprecedented scale, yet still lead to 2° C of expected warming that could lead to permanent loss of coral reefs, mountain glaciers and onset of ice sheet melting that produces substantial sea level rise in the coming century.

Clear investment winners and some possible losers will emerge in the years ahead.

- Technologies and companies that promote more efficient use of all forms of energy are now in the driver’s seat, and will be for years to come.
- Renewables will be the fastest growing new energy source, especially as a global market price is attached to fossil fuels’ carbon emissions.
- Nuclear power may also benefit, but still faces many challenges, including high capital costs and unresolved concerns over supply and proliferation of enriched uranium, permanent disposal of waste and local community opposition.
- Coal—as the most carbon-rich fuel—is likely the biggest loser, along with tar sands and oil shale, which have a coal-like CO₂ content. The future of these industries rests largely in successful adoption of carbon capture and storage technologies.

I. THE SHAREHOLDER CAMPAIGN

Climate change continues to be a front-running shareholder issue this year, with 68 climate change-related proposals filed in the 2009 proxy season setting a new record for the climate change shareholder campaign. Of these proposals, 35 directly address greenhouse gas emissions and related goals and targets. Five others focus on energy efficiency and renewables to reduce companies' carbon footprints. Climate change skeptics have also filed seven proposals this year, down from 15 that were proposed in 2008. The remainder request sustainability reports in which climate change strategies are specified as among the issues to be discussed.

At the core of this shareholder campaign is an examination of the financial risks and opportunities posed by climate change and corporate policies and strategies to address it. Shareholders are seeking to determine how companies are managing their climate-related exposure—and ultimately how this may affect shareholder value. These risks and opportunities have become more apparent as global attention to climate change has increased, and the United States stands poised to adopt nationwide legislation to reduce GHG emissions. At the same time, however, the Securities and Exchange Commission has continued to tighten its policy around shareholder resolutions it judges to be requesting assessments of corporate financial risk, allowing their omission on ordinary business grounds. As a result, filers have worked, not always successfully, to phrase their requests around GHG reporting rather than disclosure of financial risks.

While the content of the climate change resolutions filed this year varies, shareholders' requests can be grouped into three key areas:

- **Disclosure** - Investors are looking to companies to publicly report their GHG emissions and disclose their strategies to address climate-related risks and opportunities. This year, several filers are emphasizing the Carbon Disclosure Project as an important forum for climate disclosure.
- **Targets** - A growing number of resolutions this year ask companies to set absolute targets to reduce their GHG emissions. Shareholders continued to focus on GHG emissions reduction goals for companies' products as well as operations.

- **Policy** - Shareholders are asking companies to adopt specific policies related to energy efficiency, renewable energy or other climate change issues.

2009 Climate Change Resolutions

A total of 68 climate change-related proposals have been submitted at U.S. companies this year. Forty of these proposals address climate change specifically, while another 21 proposals focus on climate change within a wider range of sustainability or environmental issues. Seven more proposals come from climate change skeptics challenging companies on their climate change actions. Another seven resolutions focus on more general environmental issues that relate to climate change (these resolutions are not included in the climate change tally - see Sustainability Reporting and Environmental Management Background Reports).

As in recent years, shareholders have targeted companies across a number of different industries, with a primary focus on the oil and gas, electric power, coal, homebuilder, and big box retail sectors. Filings in the oil and gas sector were slightly lower than last year, with 13 proposals compared to 16 in 2008. The number of proposals in the electric power sector also slightly declined, with nine shareholder resolutions filed compared to last year's 11 proposals. The New York City pensions funds have focused on the coal industry this year, filing four resolutions in this sector in addition to the Unitarian Universalist Association's resolution with Foundation Coal. The Nathan Cummings Foundation is continuing its campaign targeted at homebuilders, a sector where it has focused on energy efficiency issues for several years.

Withdrawals and omissions: In 2008, the number of climate change resolutions withdrawn reached a record 21 withdrawals — surpassing the record achieved in 2007. To date in 2009, nine climate change proposals have been withdrawn following positive dialogue between shareholder proponents and management. Another eight sustainability proposals with some focus on climate change have been withdrawn. Six proposals have been omitted following company challenges at the SEC.

Shareholder proponents: When the climate change shareholder campaign took off in 1994, most proponents coordinated their climate change resolution filings through the Interfaith Center on

Corporate Responsibility. In 2002, the Ceres investor and environmental group coalition began sharing this role with ICCR, with the network of filers expanding beyond religious investing institutions and managers of socially screened mutual funds to include some foundations and public pension plans. Many of these investing institutions are also active in the Investor Network on Climate Risk, founded in 2003, which has grown to represent more than 70 institutional investors with nearly \$7 trillion in assets under management.

Among public pension plans, the New York City Pensions Funds has filed eight climate-related proposals this year, the California State Teachers Retirement System (CalSTRS) has filed six proposals, and the Connecticut Retirement Plans have filed four proposals on climate change. Among socially screened mutual funds, the Calvert Group has filed 11 proposals related to climate change and sustainability disclosure with a climate emphasis. The Nathan Cummings Foundation has also continued to take an active role in the campaign, filing six resolutions. Trillium Asset Management has co-filed three resolutions this year, and Walden Asset Management has filed seven proposals—five of which are focused on broader sustainability issues but refer to climate change issues as well. People for the Ethical Treatment of Animals (PETA), an animal rights organization, is a new filer this year, submitting two proposals with packaged foods and meat companies that have already come to votes.

For the fourth year, Action Fund Management LLC is also sponsoring seven resolutions that question companies' need to address climate change and the effects of these policies on shareholder value. The main fund representative is Steven Milloy, a conservative commentator who maintains a website called "junkscience.com" that questions the science of climate change. Reflecting the growing public consensus around the dangers of climate change, average support in 2008 was only 3.7 percent for eight proposals from Milloy and other climate skeptics.

The resolutions filed this year with U.S. companies are as follows (pending proposals in bold):

GHG Emissions Targets

Avis Budget Group, Chevron, ConocoPhillips, Dominion Resources, Dynegy, ExxonMobil, General Motors, Hertz Global Holdings, IDACORP, Lennar Corp., Pulte Homes, Southern Company, Standard Pacific, Spectra Energy, The Ryland Group

After the success of last year's proposals, with support averaging 25.4 percent, shareholders stepped up the number of resolutions filed this year that ask companies to "adopt quantitative goals...for reducing total greenhouse gas emissions." A total of 15 proposals requesting GHG emissions target have been filed this year, with 11 of them focusing on both operations *and* products. Emissions targets for products was a new focus in 2008, when the Sisters of St. Dominic filed resolutions with Chevron, ConocoPhillips and ExxonMobil; all three resolutions have been resubmitted this year. The California State Teachers' Retirement System (CalSTRS) has filed a similar resolution with Spectra Energy in 2009, focused on emissions targets, but it has been withdrawn after the company agreed to issue the requested report by 2010.

Shareholders have also filed similar resolutions with four companies in the electric power sector - Dominion Resources, Dynegy, Idacorp and Southern Company. Trillium and the General Board of Pensions and Health Benefits of the United Methodist Church (GBPUMC) have withdrawn their resolution with Dominion. The other three resolutions, filed by NYC Pension Funds (Dynegy), As You Sow Foundation/Trillium (Idacorp), and Connecticut Retirement Plans/Evangelical Lutheran Church of America (Southern), are still pending. The Southern Company resolution is a resubmission from the Sisters of St. Dominic that received 12.3 percent support last year.

In 2008, CalSTRS filed and withdrew a different climate change proposal with Dynegy. Dynegy had come under fire by some investors and environmental groups for its merger with LS Power. As a result of the merger, Dynegy inherited LS Power's plans to construct eight new conventional pulverized coal plants, which if operated would be a major new source of GHG emissions. At the beginning of 2009, however, Dynegy announced that it had abandoned plans for at least five of these coal plants. Dynegy has also agreed to step up its disclosure on GHG emissions and climate change in its securities filings as part of a consent agreement reached with New York Attorney General Andrew Cuomo last fall.

Nathan Cummings has re-filed its resolutions with homebuilders Pulte Homes, Standard Pacific, and Ryland Group after the 2008 proposals received 27 percent average support. This year Nathan Cummings submitted the same proposal at Lennar Corp. as well. GHG emissions reduction targets for the companies' products is particularly key for this

sector, where the majority of GHG emissions comes from the energy use of homes built for long-term customer use. So far Nathan Cummings has withdrawn its resolution at Pulte Homes.

For the first time this year, shareholders have filed resolutions regarding GHG emissions targets with two car rental companies, Avis Budget and Hertz. The resolutions, filed by CalSTRS (Avis) and Calvert (Hertz), ask the companies to report on the feasibility of “adopting quantitative goals, based on current and emerging technologies, for reducing total greenhouse gas emissions from the company’s rental car operations.” Like the homebuilder sector, the products offered by car rental companies (the rental fleet) make up the greatest portion of the companies’ climate change impact.

Finally, Sisters of St. Dominic and the Connecticut Retirement Plans have resubmitted their proposal at General Motors, which received 15 percent support last year. The resolution now not only asks the company to adopt quantitative GHG emissions goals but also to report on its “plans to achieve these goals within the restructuring plan.”

Climate Change Disclosure

Climate change report - Alpha Natural Resources, Consol Energy, Foundation Coal, International Coal, Massey Energy, Mirant Corp, Westar Energy

Carbon Disclosure Project - Apple, Assurant, Cardinal Health, Dover Corp, Metlife, Noble Energy, Range Resources, Ultra Petroleum

Basic disclosure on climate change has long been a core focus of this campaign, and this year is no exception. Fifteen proposals request that companies produce a specific report describing their response to climate change, while additional proposals ask companies for sustainability reports, citing specific climate change concerns.

Climate change report: The New York City pension funds, the Unitarian Universalist Association and GBPUMC have collectively filed seven resolutions that ask companies to report on “how the company is responding to rising regulatory and public pressure to significantly reduce the social and environmental harm associated with carbon dioxide emissions from the company’s operations and from the use of its primary products.” New York has taken the lead on these resolutions, filing six of the seven proposals with this request. However, the SEC ruled that this type of resolution is excludable on ordinary business grounds, because it bears on corporate financial risk, but not all the targets challenged it.

New York City has targeted five coal companies—Alpha Natural Resources, Consol Energy, Foundation Coal, International Coal, Massey Energy—and two electric power companies, Mirant Corp. and Westar Energy (now withdrawn from Westar). This is Massey’s third year receiving this proposal. The UUA also re-filed with Foundation Coal for a second year, following last year’s 22.4 percent vote, but the resolution was successfully challenged at the SEC and has been omitted from the proxy ballot.

Alpha Resources and Consol Energy have also successfully challenged the proposal at the SEC and omitted the resolution from their 2009 proxy statements. Since the SEC issued its Bulletin 14C in June 2005, companies have been able to omit resolutions if they can demonstrate that they involve “an internal assessment of the risks or liabilities that the company faces as a result of its operations that may adversely affect the environment or the public’s health.” Last year, the SEC determined that this standard applied to climate change disclosure resolutions New York City filed at Arch Coal and OneOK, allowing the companies to omit the 2008 proposals. Ironically, an earlier generation of SEC staffers had helped the New York City Pension System draft the wording of this proposal to avoid omission. In hopes of avoiding more omissions, New York City modified the proposal for 2009 to add the phrase “reduce social and environmental harm” but the companies that asked that it be omitted argued that the change was merely cosmetic and the proposal still dealt with corporate risk, and the SEC staff agreed.

Carbon Disclosure Project: The second set of disclosure-related climate change proposals filed this year focus specifically on the companies that declined to participate in the 2008 questionnaire from the Carbon Disclosure Project (CDP), an investor-backed organization seeking corporate climate change disclosure from roughly 3,000 of the world’s largest companies. CalSTRS and Calvert have spearheaded the effort this year to draw attention CDP non-respondents and request that companies prepare a report on the company’s plans to address climate change. CalSTRS, which filed with Assurant, Metlife, Noble Energy, and Range Resources, has successfully negotiated withdrawal agreements with Metlife, Noble and Range Resources and is in the process of withdrawing at Assurant. The companies have agreed to respond to the 2009 iteration of the CDP questionnaire, the seventh in a series dating back to 2003, and have substantially increased the amount of information on their websites.

Calvert's resolutions with Dover (a resubmission from last year) and Cardinal Health are still pending, but a filing technicality at the SEC eliminated the resolution to Apple (although As You Sow still has a sustainability report/climate change hybrid resolution filed there). The Nathan Cummings Foundation has gone back to Ultra Petroleum for the fourth time with this proposal, which received 36.6 percent support in 2008.

Hybrid resolutions. Building on the success of last year's resolutions in this area, shareholders have increased the number of "hybrid" proposals that couple a request for climate change disclosure with a request for a sustainability report. These resolutions are discussed further in the Sustainability Reporting Background Report. Many of these resolutions request that the company prepare a sustainability report that includes disclosure of GHG emissions or climate change strategies. Another group of resolutions request a sustainability report in light of the company's decision not to participate in CDP.

Energy Efficiency and Renewables

Dominion Resources, Exxon Mobil, Halliburton, Home Depot, NV Energy

Six resolutions filed this year focus specifically on energy efficiency and renewable energy issues. The Connecticut Retirement Plans has filed an energy efficiency-focused resolution with Home Depot asking the company to "assess its current companywide energy use, in its buildings, transportation, and the supply chain, [and] set targets to reduce energy use in the future." Connecticut has also withdrawn a resolution with NV Energy, a Nevada-based utility, requesting that the company "assess actions the company is taking or could take to meet projected electricity demand, build shareholder value and reduce greenhouse gas emissions by expanding transmission capacity, energy efficiency, renewable energy, and distributed generation." An individual filer has a proposal pending before Dominion Resources calling for a report on the feasibility of developing a generating base that is 80 percent fossil-free.

Focusing on renewable energy, GBPUMC has filed a first-time resolution with Halliburton requesting that the company "adopt a policy for low-carbon energy research, development and production." Steve Viederman has re-filed last year's high scoring resolution asking ExxonMobil to develop renewable energy alternatives, which received 27.5 percent support.

Focus on Exxon: In addition to its renewable energy alternatives resolution, ExxonMobil received three other climate change resolutions this year. Exxon has long been a target for shareholders filing climate change proposals; the company received its first climate-related resolution in 1990, and has since received dozens more. As noted above, the Sisters of St. Dominic have re-filed a resolution requesting GHG emissions reduction targets. Descendants of John D. Rockefeller have filed again this year, asking the company to report on ways it can become a leader in creating sustainable energy technologies that can be used by developing countries threatened by climate change. The Capuchins have withdrawn another re-filed resolution, which received a 9.4 percent vote in 2008, asking the company to become a leader in advancing sustainable energy independence. Exxon challenged these last two resolutions, claiming they raised the same issues as Viederman's resolution on renewable energy; the challenge to the proposal from the Rockefeller descendants is still pending. The Capuchins told RiskMetrics they withdrew for "strategic reasons," rather than because they reached agreement.

Other Climate Change Resolutions

GHG emissions labeling: New to this year's climate change shareholder campaign is People for Ethical Treatment of Animals (PETA), an animal rights organization. The group has submitted resolutions with Hormel Foods and Tyson Foods requesting that the companies label all products with the GHG emissions associated with their products. PETA is asking that these labels specifically cite levels of carbon dioxide, nitrous oxide and methane per serving and that calculations "include all facets of company-owned and contract operations." PETA has filed these resolutions based on the high level of GHG emissions associated with livestock management and meat production.

Oil sands and forestry: Green Century and Trillium have again filed resolutions with Chevron and ConocoPhillips regarding the impact of their oil sands operations (see Environment: Management and Reporting Background Report). The energy required to extract and process oil sands produces 10 to 40 percent more carbon dioxide emissions than from conventional oil, making the carbon content of processed oil sands even higher than coal.

Domini has also filed resolutions with three paper/forestry companies—International Paper, Meredith Corp. and R.R. Donnelly—requesting

increased use of FSC-certified fiber and recycled fiber (see Environment: Management and Reporting Background Report). The proponent notes in the resolutions that “climate change impacts from deforestation and poor forest management can be reduced by increasing the use of recycled fiber and sourcing virgin fiber from well-managed forests.”

Climate skeptics: Action Fund Management re-filed its 2008 resolution asking companies to provide a “Global Warming Report” discussing how their actions to reduce the impact of climate change have “affected global climate in terms of any changes in mean global temperature and any undesirable

climatic and weather-related events and disasters avoided.” This resolution is coming up again at ConocoPhillips and Exelon. It has been omitted at Alcoa as moot and at DuPont because the proponent failed to show up at the annual meeting to move the resolution last year.

In addition, Action Fund Management has a new proposal at Citigroup, JPMorgan Chase and NRG Energy asking for a report on the impact of the Carbon Principles, which aim to address carbon risks in U.S. power-sector financing, particularly coal-fired power plants.

II. ENERGY POLICY IMPLICATIONS OF CLIMATE CHANGE

When negotiators gather in Copenhagen, Denmark, in December 2009 to reach a new global agreement to reduce GHG emissions, their first-order challenge will be to address a key policy question: What limits should be set to stabilize atmospheric emissions in order to mitigate the effects of climate change? The answer will have dramatic implications for the environment and global energy policy. According to the latest analysis from the Intergovernmental Panel on Climate Change:

- The world is on course to double the amount of carbon dioxide equivalent (CO₂e) in the atmosphere to 700 parts per million (ppm) by the end of this century.
- This concentration would lead to an eventual average temperature increase of up to 6 degrees Centigrade (6° C), or nearly 11 degrees Fahrenheit, with catastrophic environmental consequences for the globe.
- Holding the concentration to 550 ppm might reduce the eventual temperature to a more tolerable 3° C increase.
- A more ambitious goal of holding the concentration to 450 ppm might limit the temperature increase to a safer level of a 2° C.

None of these stabilization targets come with any climate guarantees, and there is ongoing debate as to which stabilization target is most prudent and achievable. Even 2° C of warming would lead to permanent ecosystem changes including loss of coral reefs, mountain glaciers and onset of ice sheet melting that produces substantial sea level rise over time. Few policymakers seem willing to consider

targets beyond 3° C of warming that portend far more serious consequences for the world’s coastlines, freshwater and agricultural resources.

Yet even the higher 550 ppm target, with the greater environmental risks it entails, presents a huge challenge for the world’s energy producers. According to the latest baseline outlook from the International Energy Agency (IEA) that extends through 2030:

- World primary energy demand and related CO₂ emissions are forecast to grow by 45 percent, to 41 gigatonnes (GT) annually by 2030, equal to 1.6 percent growth per year.
- Fossil fuels in 2030 are projected to account for 80 percent of the world’s primary energy mix, down only slightly from today.
- In this baseline forecast, \$26 trillion of cumulative energy-sector investments will be required in 2007-2030 (in 2007 dollars), with the power sector accounting for 52 percent (\$13.2 trillion) of this total. Slightly over half of the energy sector investment will be simply to maintain fossil energy infrastructure and current supply capabilities.

To alter this business-as-usual forecast in favor of a plan to achieve a 550 ppm stabilization target, the IEA estimates:

- Growth in world primary energy demand would have to be cut to 32 percent through 2030, equal to 1.2 percent per year.

- Energy-related CO₂ emissions would have to fall to 33 GT annually by 2030 or 19 percent less than the baseline forecast.
- The price of CO₂ as a tradable commodity would reach \$90 per metric ton.
- \$1.2 trillion extra would have to be invested in power plants, mainly in industrialized countries.
- \$2.9 trillion extra would have to be invested in more energy-efficient equipment and appliances.
- This added \$4.1 trillion investment (equal to 0.24 percent of projected

annual world GDP) would yield \$7 trillion in energy savings over the period.

- Coal plants with an installed capacity of 160 gigawatts (GW) would be equipped with carbon capture and storage (CCS) technology by 2030 to make them carbon neutral. (Notably, CCS capacity is negligible in IEA's baseline forecast.)

The 450 ppm stabilization target would involve even stronger, broader and quicker policy goals that, if technologically achievable, "would certainly be unprecedented in scale and speed of deployment," according to the IEA. In the 450 ppm scenario:

International Energy Agency Outlook: 2007 - 2030		
Projections for 2030	550 ppm	450 ppm
Estimated degrees of warming	3° C	2° C
Energy-related carbon dioxide emissions	33 gigatons	25.7 gigatons
Price of carbon dioxide emissions	\$90/ton	\$180/ton
Added investment in new power plants	\$1.2 trillion	\$3.6 trillion
Added investment in energy efficiency	\$2.9 trillion	\$6.6 trillion
Added investment relative to world GDP	0.24%	0.55%
Coal plants equipped with CCS (gigawatts)	190 GW	350 GW

- Growth in energy-related CO₂ emissions follows the same trajectory as in the 550 ppm scenario through 2020, but then falls much more quickly as
- renewable energy technologies are deployed on a massive scale.
- By 2030, hydropower, biomass, wind and other renewables would account for 40 percent of total generation worldwide, almost double the baseline forecast.
- Energy-related CO₂ emissions in OECD countries would be almost 40 percent lower than today, while other major economies would limit their future growth in emissions to 20 percent.
- The price of CO₂ would reach \$180 per metric ton by 2030.
- \$3.6 trillion extra would be invested in power plants, mainly after 2020.
- \$6.6 trillion extra would be invested in more energy-efficient equipment and appliances.

- This added \$9.2 trillion investment (equal to 0.55 percent of projected annual world GDP) would yield \$5.8 trillion in energy savings over the period, with higher electricity costs outpacing the value of the energy savings.

- Coal plants with an installed capacity of 350 GW would be equipped with CCS, more than double the amount in the 550 ppm scenario.

If the 450 stabilization target were to be achieved, global energy-related CO₂ emissions would be held to 25.7 GT annually by 2030; that is less than projected now for just developing (non-OECD) countries in 2030. This means industrialized (OECD) countries could not bring about this global target on their own, even if their emissions were to fall to zero. It also means that developing countries must play an active role as their emissions start to catch up to those of OECD nations, even if they never match them on a per-capita basis, even after 2030.

III. INDUSTRY UPDATE: CLIMATE AND ENERGY

The companies targeted with climate change proposals this year span a range of industry sectors, including oil and gas, coal, electric power, automotives, homebuilder, big box retail, and packaged foods and meat sectors. This section provides an overview of climate change issues facing these industries and major climate-related developments in the past year.

Automotives

General Motors and two rental companies—Avis Budget Group and Hertz—have received climate change proposals in 2009. The U.S. transportation sector is the fastest growing source of the nation's GHG emissions, accounting for 28 percent of total emissions in 2006. Car rental companies are large purchasers of new vehicles and contribute notably to this total. Calvert Asset Management, which has filed the resolution at Hertz, estimates that its active fleet of around 500,000 vehicles emits more than a million tons of carbon dioxide each year.

The auto industry is facing a one-two punch from gasoline prices that topped \$4 a gallon last summer followed by the credit crisis and a severe economic downturn that has cut US retail vehicle sales almost 40 percent on a year-over-year basis. General Motors posted a loss of nearly \$31 billion for 2008 and now faces the possibility of bankruptcy. Along with Chrysler, GM is seeking nearly \$22 billion more in U.S. government loans on top of \$17.4 billion already granted. Shareholder proponents have long argued that U.S. auto makers should be investing more in fuel-efficient vehicles to ward off foreign competition, protect against gasoline-price spikes and reduce their contribution to GHG emissions.

The U.S. auto industry has not faced any major tightening of fuel economy standards for more than two decades. But that is changing now. Under the 2007 Energy Independence and Security Act, domestic auto makers are supposed to increase their car fleet averages from 27.5 miles per gallon to 35 mpg by 2020. Meanwhile, in Europe, a new standard is expected to go into effect in 2012 that would limit carbon dioxide emissions to 130 grams per kilometer (equal to 48.9 mpg).

At the same time, President Obama has ordered the U.S. Environmental Protection Agency to re-evaluate its denial of a waiver request from the State of California to regulate vehicular CO₂ emissions under the Clean Air Act. In 2004, California adopted new regulations that would require a 30 percent

reduction in passenger fleet-wide carbon emissions from new vehicles sold in the state by 2016 (approximately 33 mpg), with the phase-in starting in 2009. The state has also passed a law requiring all new vehicles sold beginning in 2009 to display an updated Environmental Performance label with global warming scores that take into account emissions from vehicle use and fuel production.

Sixteen other states and three provinces in Canada have adopted or are considering adopting California's standards. Therefore, if the EPA does grant a waiver, it would effectively extend to 45 percent of the U.S. auto market. The auto industry has argued that a uniform federal standard should be maintained to reduce the complications and costs that could arise from a patchwork of state-level regulations.

Banking/Finance

The financial sector is also reeling from the credit crisis. Consumer lending practices are being called into question and highlighting the need for better long-term risk management practices. Against this backdrop, Ameriprise and Fifth Third Bancorp have received resolutions this year requesting the preparation of sustainability reports that address climate change strategies; the Ameriprise resolution has been withdrawn. State Street Global Advisors also received a novel proposal from Walden Asset Management that sought a review of the proxy voting policies of the firm's Global Advisors unit, which votes shares for clients. The proposal, which was challenged and has been omitted on ordinary business grounds, argued that the firm's proxy voting record "seems to ignore [its] proclaimed environmental commitment and stated position regarding the impact of key environmental factors on shareholder value."

The largest influence that financial institutions typically have on climate change is through their lending and investment operations. As a result, attention is shifting from how banks manage their direct GHG emissions in buildings and employee travel, which are relatively minimal, to the carbon intensity—and potential financial exposure—of their finance portfolios.

In 2008, banks and insurance firms collaborated on two separate due diligence frameworks to assess climate change risks. In February, Citigroup, JPMorgan Chase and Morgan Stanley—later joined by Bank of America, Credit Suisse and Wells Fargo—

launched “The Carbon Principles.” This framework aims to address carbon risks in U.S. power-sector financing, particularly coal-fired power plants. This was followed in December by an announcement from Credit Agricole, HSBC, Munich Re, Standard Chartered and Swiss Re of their adoption of “The Climate Principles.” The Climate Principles offer a broader set of best practices for engaging with clients and customers across different financial businesses on climate change—from equity research and asset management to insurance and investment. The Climate Group, a UK-based climate advocacy organization, helped draft the guidelines.

Also of note is the commitment in The Climate Principles to request that project finance clients disclose GHG emissions and seek emissions reductions for projects that release 100,000 tons CO₂-equivalent or more per year. To put this in perspective, the largest GHG-emitting power plants emit about 20 million tons carbon dioxide annually.

HSBC, meanwhile, has adopted a timetable to terminate financing relationships with approximately 30 percent of its forestry clients in high-risk countries, including Malaysia and Indonesia, by the end of 2010. Companies involved in palm oil, soy and timber production are being scrutinized for not meeting the bank’s forestry policy. HSBC also has a new oil sands policy under review, but has not said whether this will involve scaling back or halting lending to such projects. In 2008, HSBC was the top-ranked bank in a study, *Corporate Governance and Climate Change: The Banking Sector*, written by RiskMetrics for Ceres and the Investor Network on Climate Risk.

Coal

As evidenced by the establishment of The Climate Principles and Carbon Principles, the coal industry is under increasing pressure to address the climate change impact of its operations and products. This year five coal companies—Alpha Natural Resources, Consol Energy, Foundation Coal, International Coal and Massey Energy—received resolutions requesting reports on how they are responding to regulatory and public pressure related to reducing carbon dioxide emissions. (As noted earlier, Alpha, Consol and Foundation Coal have successfully challenged these proposals.)

The United States holds one of the world’s largest coal deposits, accounting for 27 percent of identified reserves, and half of the country’s electricity is generated from coal. Coal also accounts for about 80 percent of total CO₂ emissions

from the U.S. electric utility sector. Coal is the most carbon-intensive fossil fuel used for electricity generation. On a per kilowatt-hour basis, coal produces about 2 pounds of CO₂ emissions, compared to about 1.7 pounds for oil and 1.3 pounds for natural gas.

As the potential for federal climate legislation is emerging in the United States, plans for building new coal-fired power plants are facing mounting regulatory and legal challenges. Permits for a total of 10,400 Megawatts (MW) of coal-fired power plants have been denied since late 2005, while applications for another 8,300 MW have been withdrawn. In 2007 alone permits were denied or applications withdrawn for 59 US coal-fired power plants, with several others being contested in court.

In addition, California and Washington have passed legislation that precludes power purchases from new coal-fired plants that are not equipped with carbon capture and storage (CCS) technology. Successful commercial development of CCS technology will be critical to the future of the coal industry, but its prospects remain in doubt. Last year, the US Department of Energy pulled funding from FutureGen, a public-private partnership to build the first large-scale near-zero emission coal-fired power plant using CCS technology. Private investments are continuing, however, with Duke Energy and American Electric Power announcing plans to investigate the possibility of installing CCS at power plants in Indiana and West Virginia, respectively. President Obama’s energy plan calls for the installation of five coal plants with CCS technology by 2015. Several international collaborations in Europe and China are also funding CCS research.

Electric Power

Issues facing the coal and electric power sectors are tied closely together, since half of the nation’s electricity is generated from coal and accounts for more than a quarter of the nation’s total GHG emissions. Seven utilities with substantial investments in coal-fired generation are receiving climate-related resolutions this year: Dominion Resources, Dynegy, Idacorp, Mirant Corporation, NV Energy, Southern Company and Westar Energy. The NV Energy resolution and one of two proposals at Dominion have been withdrawn.

The electric power sector is one of the most affected by climate change regulations. As noted earlier, 10 Northeastern states have adopted a Regional Greenhouse Gas Initiative (RGGI) that applies to all fossil energy plants producing more

than 25 MW of power. Emissions are capped at 2005 levels from 2009-2015, and then will decline to achieve the goal of a 10 percent reduction below 2005 levels by 2019. A more expansive cap-and-trade plan is being prepared for seven Western states and four Canadian provinces. One key restriction is that electricity imported into the region from other states will be subject to CO₂ controls. The first compliance period will begin in 2012, with a target to achieve a 15 percent emission reduction from 2005 levels by 2020.

Some major electric utilities have already announced emission reduction plans, including American Electric Power (the nation's largest carbon dioxide emitter), along with Entergy and Exelon. In addition, Duke, Exelon, FPL, NRG and others, through their participation in the U.S. Climate Action Partnership, have also publicly stated that the United States should reduce its GHG footprint by 60 to 80 percent from current levels by 2050.

Utilities that take early action on the transition to cleaner fossil energy sources like natural gas and renewable technologies like wind and solar power may be in a better position to face pending changes to the regulatory landscape. President Obama has voiced support for a federal renewable portfolio standard (RPS) for electric utilities that would require 25 percent of the nation's electricity to come from renewables by 2025. Already, 33 states have a mandatory RPS or renewable energy goal in place. In February 2009, the Senate began hearings on a federal RPS that would require up to 20 percent renewables in the continental United States by 2021, similar to a goal set in Europe.

Meanwhile, energy efficiency improvements to power transmission lines, buildings and homes are expected to get a boost from the economic stimulus package recently signed by President Obama. The bill includes \$11 billion for the creation of a "smart grid" to allow greater access to remotely sited renewable power supplies and smart meters to regulate electricity use at times of peak demand. By some estimates, future expansion of the electricity grid could entail an investment of as much as \$100 billion.

Homebuilders

Four homebuilders have received resolutions this year on adopting quantitative goals to reduce GHG emissions from operations and products: Lennar, Pulte Homes, The Ryland Group and Standard Pacific. Lennar is receiving its first climate-related shareholder proposal since 2005. The other three

companies are getting resubmissions after high votes last year—33.7 percent support at Standard Pacific, 25.4 percent at Ryland and 22 percent at Pulte Homes. The 2009 resolution at Pulte Homes has been withdrawn.

Despite the severe downturn in the US housing market, the building sector remains a critical element to reducing the nation's overall carbon footprint, half of which is building-related. A recent McKinsey study concluded that the residential sector represents the single-largest opportunity to raise energy productivity, noting that, "The adoption of available technologies (including high-efficiency building shells, compact fluorescent lighting, and high-efficiency water heating) would cut ... end-use demand for energy by 32 QBTUs in 2020, equivalent to 5 percent of global end-user demand in that year." Energy efficiency improvements also are one of the most cost-effective GHG abatement solutions, with an average 17 percent internal rate of return, according to McKinsey.

Homebuilders are also included in the economic stimulus package recently signed by President Obama. The new administration aims to increase energy efficiency for all new federal buildings by 40 percent over the next five years and achieve carbon neutrality for all new federal buildings by 2025-2030. This goal is expected to affect other segments of the building and construction industry as well. The stimulus act also provides \$5 billion for the federal Weatherization Assistance Program, which aims to provide assistance and weatherproof 1 million low-income homes per year and create 5 million 'green collar' jobs in energy efficiency and renewables. Additionally, President Obama has ordered the Department of Energy to set new requirements for energy efficiency on a range of home appliances, to be enacted by 2011 (and some of which will go into effect as early as this summer). This requirement will not affect homebuilders directly but will lead to more installation of energy-efficient appliances in new homes.

Oil and Gas

Shareholder resolutions in this critical sector cover a range of climate change issues at eight companies: Chevron, ConocoPhillips, ExxonMobil, Halliburton, Noble Energy, Range Resources, Spectra and Ultra Petroleum. ExxonMobil leads in the number of proposals with four resolutions addressing emissions reduction goals, the impact of climate change on emerging markets, leadership in US energy independence and renewable energy research and

development. Other companies, including Noble Energy, Range Resources and Ultra Petroleum, have been asked to report more generally on their plans to address climate change. Meanwhile, Chevron and ConocoPhillips have received second-year resolutions seeking more disclosure about their oil sands operations in Canada that received high support last year—both around 28 percent.

Despite record profits in recent years, oil and gas companies now face a highly volatile energy market and uncertain future. While oil prices are expected to rebound as the economy recovers, energy companies must confront growing public and regulatory pressure to address long-term climate risks and develop alternative fuels. Shareholders are also calling on oil and gas companies to incorporate a carbon cost in their investment planning. Such accounting could have a particular effect on development of unconventional reserves, such as oil sands that are more carbon-intensive to develop.

ExxonMobil has been a longtime critic of climate change science and policy, making it a lightning rod for shareholder activists. The company has softened its rhetoric in recent years and now touts its GHG reduction plans. It has set a target to raise the energy efficiency of its operations by 10 percent by 2012, in part by installing 5,000 megawatts of additional cogeneration capacity at its refineries by 2011. It also says it is investing \$4 billion to reduce flaring of methane, a highly potent greenhouse gas.

ExxonMobil is also pursuing research and development of lithium ion battery technology and carbon capture and storage. However, the company has avoided renewable energy development, which presents a major growth opportunity for energy companies. President Obama declared in his February address to Congress that the government will invest \$15 billion annually to develop renewable energy technologies, including advanced biofuels for

transportation. The economic stimulus package has also granted \$1.6 billion in funds to the Department of Energy for various research projects, including on biofuels.

Shareholder proponents stress that oil and gas companies could use their core competencies in drilling and geological analysis to contribute to carbon storage and geothermal energy development. This is particularly emphasized in the resolution with Halliburton this year. A January 2007 report from MIT found that tapping geothermal energy in hot dry rock formations could supply a substantial portion of U.S. electricity needs at competitive prices and with minimal environmental impact.

Shareholders are also pressing campaigns at Chevron and ConocoPhillips to highlight their concerns about oil sands operations in Alberta. Virtually all of the major integrated oil companies have interests in these deposits, which rank second only to Saudi Arabia in terms of estimated total deposits. More than \$60 billion has been invested thus far, and another \$100 billion is planned to expand production. While the current oil price slump has put some of these plans on hold, production is still expected to increase by 60 to 100 percent by 2015.

With oil trapped in sand and clay, the oil recovery process is highly resource intensive and environmentally damaging. Oil sands operations require huge volumes of water that must be heated to separate the oil from the soil. This not only raises extraction and processing costs, but also generates 10 to 40 percent more GHG emissions than tapping conventional oil. As a result, Alberta's oil sands operations are Canada's fastest growing source of GHG emissions and could compromise its efforts to meet national GHG reduction targets. In his first state visit, President Obama met with Canadian Prime Minister Stephen Harper in February and agreed to begin a clean energy dialogue.

About the Authors

Emily McAteer is a research analyst with RiskMetrics Group's Climate Risk Management team. She is a co-author of the January 2008 report, *Corporate Governance and Climate Change: The Banking Sector*, the December 2008 report, *Corporate Governance and Climate Change: Consumer and Technology Companies*, and the March 2009 electric utilities sector report for the Carbon Disclosure Project. Prior to joining RiskMetrics, Emily worked on shareholder advocacy, climate change, and other corporate social responsibility issues with Ceres and the Investor Network on Climate Risk. Her work on indigenous rights, shareholder advocacy, and corporate governance in the oil sector has been published in two book chapters and as a journal article. Emily completed her degree in Environmental Studies at Brown University.

Megan Good is a senior analyst with RiskMetrics Group's Climate Risk Management Team. Megan was responsible for company research and analysis for the January 2008 report *Corporate Governance and Climate Change: The Banking Sector* and the December 2008 report, *Corporate Governance and Climate Change: Consumer and Technology Companies* and the March 2009 electric utilities sector report for the Carbon Disclosure Project. Before joining RiskMetrics, Megan completed a Masters degree in Energy Management and Policy at Columbia University's School of International and Public Affairs. Megan has worked on environmental projects with the United Nations Development Programme and the World Bank and spent five years working in China. She speaks Mandarin Chinese and English.

Doug Cogan is Director of the Climate Risk Management team for RiskMetrics Group. Doug's research on investment responses to climate change dates back more than 20 years. He is the author or co-author of a series of recent reports on *Corporate Governance and Climate Change: Making the Connection*, profiling widely held corporations in nearly 20 industry sectors. He is also the co-author of the 2007 Carbon Disclosure Project Report on S&P500 companies and has written many other reports and articles on energy and environmental topics. Doug is a graduate of Williams College, where he graduated *cum laude* and received highest honors in political economics.

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For more information, please visit: www.riskmetrics.com

Contact Us:

North America
+ 1-888-484-1001
cservices@riskmetrics.com

London
+44 20 7063 5810
UK-research@riskmetrics.com

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