



Action Report

Environment: Climate Change

Exxon Mobil

May 4, 2011

Ticker	Exchange	Meeting Date	Record Date	Annual Meeting Location
XOM	NYSE	5-25-11	4-6-11	Dallas, Texas

Agenda

Item	Proposal
1	MGT: Elect directors
2	MGT: Ratify selection of auditors
3	MGT: Advisory vote on executive compensation
4	MGT: Advisory vote on frequency of advisory vote on executive compensation
5	SH: Establish independent chair of board
6	SH: Report on political spending
7	SH: Adopt sexual orientation non-discrimination policy
8	SH: Adopt policy on human right to water
9	SH: Report on oil sands risks
10	SH: Report on hydraulic fracturing
11	SH: Report on sustainable energy leadership
12	SH: Adopt goals to cut greenhouse gas emissions

Si2 Briefing [Environment: Climate Change, Special Report on Exxon Mobil, Investor Pressures and the Environment](#)

Report Author [David Hauck](#)

Links [Proxy Statement](#)

Item 11 (Sustainable Energy Technology)

Resolved Clause **RESOLVED:** shareholders request Exxon Mobil's Board of Directors to establish a Committee of independent and Company experts in climate and technology to make recommendations and report to shareholders within six months of the annual meeting (barring competitive information and disseminated at a reasonable expense), on how Exxon Mobil, within reasonable timeframes, can become the recognized industry leader in developing and making available the necessary technology and products to become an environmentally sustainable energy company at every level of its operation.

Lead Proponent Province of St. Joseph of the Capuchin Order (Midwest Capuchins)

Vote History Similar resolutions from the Capuchins received 6.7 percent support in 2010 and 9.4 percent support in 2008.

Summary The proponents believe that the company’s business plans which are based on its projections of continued growth in demand for fossil fuels between now and 2030 is not sustainable because of the negative consequences that growth poses for the world’s climate and public health. The company sees the requested report as unnecessary since it already routinely reports on its development and commercialization of new energy technologies and products. According to the company, these new energy technologies will take decades to develop and deploy and during that time oil and gas will be essential to meet growing demand for energy.

Item 12 (GHG Goals)

Resolved Clause **THEREFORE, BE IT RESOLVED:** shareholders request that the Board of Directors adopt quantitative goals, based on current technologies, for reducing total greenhouse gas emissions from the Company’s products and operations; and that the Company report to shareholders by September 30, 2011, on its plans to achieve these goals. Such a report will omit proprietary information and be prepared at reasonable cost.”

Lead Proponent Sisters of St. Dominic of Caldwell New Jersey

Vote History Investors have been considering this resolution at Exxon Mobil for many years. Most recently, it received 27.2 percent support in 2010, 29.0 percent in 2009, 30.9 percent in 2008 and 31.1 percent in 2007.

Summary The proponents believe that the threat greenhouse gas emissions pose to the climate is clear and that the company should develop a cohesive strategy that sets goals for deep emission reductions. They note that the company has set quantitative goals to reduce energy use, flare gas volumes, and emissions of volatile organic chemicals, NO_x and SO₂ and argue that now is the time to set similar goals for greenhouse gas emissions.

The company does not believe setting quantitative GHG reduction goals is the best way to manage climate change risk. Instead, it feels a better way to address the proponent’s concerns is to use its management and technical expertise to make its operations more energy efficient and develop innovative technical solutions that can reduce GHG emissions.

Note: Separate Si2 Action Reports cover climate-related [Item 9 \(oil sands\)](#) and [Item 10 \(hydraulic fracturing\)](#).

I. Exxon Mobil and Climate Change

ExxonMobil is the world's largest publicly traded oil and gas company. Its business covers the whole range of oil- and gas-related activity, including exploration, extraction, refining, transportation and sale of natural gas and petroleum products, plus petrochemicals. (See Si2's Special Report on ExxonMobil for more detail.)

Financials					
Revenue	\$370,125 million	Net Income	\$30,460 million	Reporting Year	2010

Reserves: In its 2010 Form 10-K, Exxon reported that total proved oil and gas reserves of 24.8 billion barrels of oil equivalent. With the June 2010 completion of its merger with XTO Energy, a company with extensive unconventional natural gas holdings, Exxon Mobil's continuing transition from petroleum toward natural gas was reinforced. The company's natural gas reserves now make up 53 percent of its total reserves.

Production: In 2010, Exxon Mobil produced an average of 2.42 million barrels of oil a day and processed 12.1 trillion cubic feet of natural gas (with an energy content equivalent to 2.0 million barrels of oil a day). Natural gas production now accounts for 46 percent of Exxon Mobil's energy production, up from 39 percent in 2009 and a reflection of the company's acquisition of XTO Energy's natural gas assets.

Energy Demand and Continued Reliance on Fossil Fuels

Exxon Mobil forecasts that worldwide energy demand will increase by 35 percent from 2005 to 2030—an average of 1.2 percent a year. It says oil will continue to be the largest single source of energy in 2030 (meeting 32 percent of global energy demand) even though its importance will decline from the 36 percent share it held in 2005. Coal's importance also will fall, from 24 percent in 2005 to 21 percent in 2030, the company says. But the portion of world energy needs met by natural gas will grow from 21 percent in 2005 to 26 percent in 2030 according to Exxon Mobil's estimates.

Despite projected drops in the *relative* importance of oil and coal, Exxon Mobil's projections show that the *absolute amount* of these two fossil fuels produced and consumed will be higher in 2030 than in 2005.

Two other key things to note in Exxon Mobil's projections are its prediction that nuclear power supplies will grow by two-thirds from 2005 to 2030 and that renewable power output from sources other than hydro will be almost seven times higher in 2030 than in 2005, but still only make up 3 percent of all the power consumed worldwide.

Strategic outlook: Exxon sees significant growth opportunities for its current business model that is focused on fossil fuel products and a gradual shift from petroleum to natural gas. And, while renewable energy will grow rapidly from a low base, by 2030, according to Exxon Mobil's projections, it still would only equal five percent of the energy supplied by oil and gas in 2030.

Exxon Mobil's Energy Outlook to 2030				
World Energy by Fuel Type	Energy Demand (Quadrillion BTUs)		Share of Total	
	2005	2030	2005	2030
Oil	171	204	36%	32%
Gas	101	164	21%	26%
Coal	112	134	24%	21%
Nuclear	29	50	6%	8%
Biomass/Waste	44	48	9%	8%
Hydro	10	16	2%	3%
Other Renewables	3	20	1%	3%

Source: Exxon Mobil, [The Outlook for Energy: A View to 2030](#), p. 53

(A more detailed summation of *Outlook for Energy* appears in Si2's [Special Report on Exxon Mobil, Investor Pressures and the Environment](#). This report also includes information on general environmental and climate change risk disclosures made by Exxon in its securities filings.)

Greenhouse Gas (GHG) Emissions

If Exxon Mobil's estimates of fossil fuel use in 2030 are accurate, then their implications for climate change are dire. *Outlook for Energy* projects that global CO₂ emissions will increase by 0.9 percent annually through 2030. While this rate of increase is lower than the 1.2 percent projected annual growth rate of total energy use—because more energy from nuclear, hydro and other renewables generate zero carbon emissions—it still results in more greenhouse gases being released into the atmosphere.

Implication for climate change: Exxon Mobil's projections for future global energy use and the resulting greenhouse gas emissions match those of the International Energy Agency's "New Policies Scenario" presented in its [World Energy Outlook 2010](#). The "new policies scenario" assumes cautious implementation "of the policy commitments and plans announced by countries around the world, including the national pledges to reduce greenhouse gas emissions and plans to phase out fossil fuel subsidies." In this scenario, dramatic gains in energy efficiency are made around the world, investment in renewable energy is encouraged through government incentives and research, and subsidies which encourage fossil fuel consumption are phased out.

Even with these changes, there would still be a 0.9 percent annual growth in CO₂ emissions, putting us on track for atmospheric greenhouse gases to reach 650 parts per million (ppm), which would result in a likely temperature rise of more than 3.5° C in the long term.

The International Energy Agency also outlines a "450 Scenario" that looks at what changes in energy consumption patterns would be required to stop greenhouse gas concentrations at 450 ppm, which would likely hold temperature increases to 2° C—the maximum rise that most climate scientists feel is acceptable. In the "450 scenario," oil production peaks at 88 million barrels per day just before 2020 and falls to 81 million barrels per day by 2035—less than the 84 million barrels per day produced in 2009. In contrast, in the "New Policies Scenario", which Exxon Mobil's projections closely track, oil production grows steadily and reaches 99 million barrels per day in 2035.

Exxon Mobil's GHG emissions: Extracting and transporting oil and natural gas and refining petroleum into gasoline, diesel fuel and petrochemicals requires significant amounts of energy which, depending on its source, can also generate substantial greenhouse gas emissions. In addition, flaring of waste gas at refineries and wells releases methane—a greenhouse gas 21 times more potent than CO₂—into the atmosphere.

The company has reported on enterprise-wide greenhouse gas emissions data since 1998, and since 2003 on all operations on an equity ownership basis. Its emissions reporting figures were externally assured through Lloyd's of London.

Direct emissions—Exxon Mobil's operations released the equivalent of 128 million metric tons of CO₂ into the atmosphere in 2009—down 7 percent from 138 million tons in 2005 (see table). Efforts to reduce hydrocarbon flaring in Nigeria were an important factor in the reduction, cutting two million metric tons between 2008 and 2009. But the company also says that its energy efficiency improvements have been a critical component of its improvements, as well. It launched a Global Energy Management System in 2000 that has identified opportunities to improve energy efficiency by 15 to 20 percent at its refineries and chemical plants, and has implemented more than half of these projects to date, it told the Carbon Disclosure Project.

Indirect emissions from electricity use—The company also reported to the Carbon Disclosure Project on its emissions from electricity purchases, known as “Scope 2” emissions under the GHG Reporting Protocol. Net Scope 2 emissions in 2005 to 2009 from Exxon Mobil have been negative because of its own generation exported to third parties globally.

Exxon’s use of cogeneration, which produces power for its operations from the heat and steam they generate and is often more efficient than purchasing power from local sources, is an important reason for its overall emissions cuts. (The company has interests in about 100 cogeneration facilities at 30 global locations.) According to the company’s 2010 CDP response, it self-produced 70 percent of the electric power needs of its refineries and 50 percent of the electric power needs of its chemical plants. These cogeneration facilities have 4,900 megawatts (MW) of capacity and the company is constructing a new cogeneration facility in Singapore with an additional 250 MW of capacity.

Indirect emissions from products—The company does not report on “Scope 3” emissions from the use of its products, which according to International Energy Agency estimates account for 90 percent of the emissions from petroleum products. Using this estimate, the company’s total emissions footprint for 2009 would be more than one billion metric tons if the carbon emissions from consumer petroleum and natural gas use are included.

Greenhouse Gas Emissions at Exxon Mobil (millions of metric tons)						
	2005	2006	2007	2008	2009	Change, 2005-2009
Scope 1 (Direct Emissions)						
Absolute GHG emissions ¹	138	146	141	131	128	-7%
Normalized GHG emissions ²						
Upstream	21.2	22.5	21.3	19.0	18.2	-14%
Downstream (Refining)	17.3	17.6	17.4	17.0	16.8	-3%
Chemical	44.3	43.9	41.6	42.2	40.4	-9%
Hydrocarbon flaring	7.7	8.2	8.1	5.7	4.1	-47%
Scope 2 (Indirect Emissions from Electricity Purchases)						
Absolute GHG emissions ³	-1	-4	-4	-3	-4	-300%
Scope 3 (Other Indirect Emissions)⁴						
Absolute GHG emissions	Not reported. Exxon notes in its CDP response that consumer use of petroleum products come from its customers’ use, which it does not report.					
¹ Direct equity, CO ₂ -equivalent emissions ² Direct equity, CO ₂ -equivalent emissions, excluding cogeneration and Hong Kong power, metric tons per 100 metric tons of throughput or production ³ The company reported to CDP its net indirect equity GHG emissions, which were its indirect equity GHG emissions from purchased electricity and steam globally less the indirect equity GHG emissions from production of electricity and steam exported to third parties globally (emissions which it included in its Scope 1 reporting each year). ⁴ Other indirect emissions include those from employee business travel, external distribution and logistics, use and disposal of company products and supply chain. Sources: Exxon Mobil 2008 Corporate Citizenship report and Carbon Disclosure Project annual reports from Exxon Mobil.						

Goals: Exxon has set goals to cut emissions in specific segments of its operations, but has declined to set an overall GHG emissions reduction goal. It explained to CDP in 2010 that it is actively seeking to increase its production of oil and gas, and that this puts “upward pressure on absolute emissions,” although “we are committed to managing this growth as efficiently as possible.” But it said, “We do not believe that absolute GHG emission reduction targets by individual companies will be an effective approach to reduce global GHG emissions while addressing the other fundamental societal challenges of energy security and economic growth.” The proponents of the shareholder resolutions all take issue

with this position, as Section II below points out; they are joined by a broad coalition of global institutional investors.

For energy efficiency, the company has set a goal of 10 percent improvement in its refining and chemical operations between 2002 and 2012, and it is on target to meet this goal. In 2008, it set a goal to reduce the flaring of methane at its upstream facilities by 20 percent—a goal it exceeded in the following year.

In its 2010 CDP report, the company wrote that it had invested \$1.3 billion since 2005 in activities that improve the energy efficiency of its facilities. It also has invested over \$5 billion in gas utilization projects that contribute to reducing routine natural gas flaring.

Outlook: In its CDP response, the company said antitrust laws in the United States and elsewhere that bar the disclosure of sensitive competitive information mean that it cannot provide estimates about its future emissions. Despite the energy efficiency improvements and flaring reductions underway by Exxon, it seems clear that, given the company's projections of future growth in worldwide fossil fuel sales, its absolute GHG emissions will increase in the future, barring significant technological breakthroughs.

Technological solutions? Exxon Mobil believes that holding CO₂ concentrations in the atmosphere to 450 to 550 ppm—a level that climate scientists say still would lead to a temperature rise of 2° C or more—“will require research and development breakthroughs to improve the performance and lower the cost of innovative technologies.” In its 2010 CDP report and on its website, Exxon Mobil highlights several research projects which, if successful, could reduce GHG emissions in the transportation sector. It also is funding a project to capture CO₂ from natural gas flows.

Biofuels from algae—In July 2009, Exxon Mobil joined with Synthetic Genomics to explore photosynthetic algae as a commercially viable option for transportation fuels. The project has successfully met several milestones and by mid-2011 the company expects to open an outdoor test facility. Assuming research and development milestones continue to be met, the company expects to invest more than \$600 million over ten years.

Algae has several advantages over other biofuel feedstocks. It can be grown using land and water unsuitable for food production and has the potential to yield greater volumes of biofuel per acre. Exxon Mobil believes algae could yield more than 2,000 gallons of fuel per acre per year compared to 650 gallons from palm oil, 450 gallons from sugar cane and 250 gallons from corn.

Lithium-ion battery improvements—Through its investment in Toray Tonen Specialty Separator Godo Kaisha, Exxon Mobil has developed new separator films “that are expected to improve the power, capacity, and safety of lithium-ion batteries used in hybrid and electric vehicles.”

Engine research—Company researchers work with major vehicle and engine manufactures to develop more efficient internal combustion engines that could improve the fuel economy of future vehicles. Included in this research is the development of an on-board hydrogen fuel cell system that could emit 45 percent less CO₂ than current vehicles.

Global Climate and Energy Project at Stanford— The Global Climate and Energy Project was launched in December 2002 with corporate financing to conduct fundamental, pre-commercial research into energy options that reduce greenhouse gas emissions. Exxon Mobil will have invested \$67 million in the ten years since this project began in 2002 and plans to invest up to \$33 million more in the next few years to bring its total financial support to \$100 million. Three other major companies also are underwriting the research of this project—GE (\$50 million), Schlumberger (\$25 million) and Toyota (\$50 million).

Funded research projects are in renewable energy (39 percent), carbon-based energy systems (30 percent), batteries and energy storage (16 percent) and hydrogen power (11 percent).

Carbon capture—Exxon Mobil has committed more than \$100 million to develop and test an improved natural gas treating technology which separates CO₂ and other impurities from natural gas, converts them into a high-pressure liquid which is ready for injection into underground storage. The technology is being commercially tested in a new demonstration plant at the company's LaBarge, Wyoming facility.

Climate Change Governance

The board of directors' Public Issues and Contributions Committee is responsible for overseeing climate change and environmental issues, although the chairman and CEO and the company's management committee also have this responsibility. The board committee's members, who are all independent directors, receive "timely" briefings from the Vice President for Safety, Health and the Environment (SHE), who leads shorter term implementation of corporate policies which have a direct impact on environmental performance. The Vice President for SHE reports to the company's management committee, which in turn reports to the CEO. The board receives in-depth briefings on climate change at least annually, covering "public policy, scientific and technical research, as well as company positions and actions in this area," Exxon told CDP. In 2009, Exxon added a new Environmental Policy & Planning Department (EP&P), with four managers who lead the planning process for longer term environmental issues, including climate risk; all report to the new Vice President for EP&P.

The company does not tie management compensation incentives directly to the achievements of GHG reduction goals. But it does take environmental performance, including climate change-related goals, into account as part of its broader performance evaluations.

II. Proponent Positions

Item 11 (Sustainable Energy Technology)

The Province of the St. Joseph of the Capuchin Order from Milwaukee (also known as the Midwest Capuchins), who are affiliated with the Interfaith Center on Corporate Responsibility (ICCR), is the lead proponent in a group of shareholders sponsoring this proposal, which asks Exxon to study and report to shareholders on how it can develop "the necessary technology and products to become an environmentally sustainable energy company..."

The proponents define energy sustainability as a business approach that avoids consuming non-renewable resources in ways that jeopardize the earth's future. The production and consumption of fossil fuels, by adding greenhouse gases to the atmosphere and forcing climate change, is the antithesis of this, according to the proponents. They quote the assessment by the International Energy Agency (IEA) that if fossil fuel demand does not peak by 2020, the world may not be able to avoid disastrous warming of up to six degrees Celsius later in this century.

Despite this warning by the IEA, the proponents note that Exxon Mobil's *Outlook for Energy: A View to 2030* says "nothing about changing its energy mix so that demand for fossil fuels will decline after 2020." They argue that the company's vision of a future characterized by increasing demand for fossil fuels "will be simply unsustainable for people and our planet."

In addition to its contribution to climate change, burning fossil fuels is unsustainable because of its impact on public health, according to the proponents. They refer to an estimate by the National Academy of Sciences that air pollution caused by fossil fuel consumption costs the United States about \$120 billion a year in health expenses.

Item 12 (GHG Goals)

Another ICCR affiliate, the Sisters of St. Dominic of Caldwell, New Jersey, is the lead proponent of the long-running proposal asking Exxon to establish greenhouse gas (GHG) reduction goals. They call attention to the U.S. Environmental Protection Agency's December 2009 "endangerment finding" that cites carbon dioxide and five other greenhouse gases as likely threats to human health and welfare. Because about 40 percent of global GHG emissions come from the production and use of oil and gas, the proponents conclude that "any global effort to address climate change will require large reductions from our industry."

The proponents believe their request for the company to set GHG gas reduction goals "is consistent with Exxon Mobil's own Environmental Business Planning process which is used "to identify key environmental drivers, set targets in key focus areas, and identify projects and actions to achieve these targets." They point out the company has set quantitative targets for environmental performance in recent years, including a 10 percent improvement in the energy efficiency of its operations by 2012, five percent annual reductions in its emissions of volatile organic chemicals (VOCs), a 23 percent reduction in flaring volumes at the company's upstream facilities from 2008 levels, and a 70 percent reduction of NOx and SO₂ emissions by 2012 from year 2000 levels.

While the proponents acknowledge the company has taken steps to reduce its GHG emissions by increasing the energy efficiency of its operations and reducing the volume of gases it flares, they believe "the time has clearly come for Exxon Mobil to articulate a cohesive strategy for deeper emissions reductions." These more aggressive goals, according to the proponents, need to include "reducing GHG emissions from Exxon Mobil's products AND operations."

III. Management Positions**Item 11 (Sustainable Energy Technology)**

Exxon Mobil opposes the resolution. It says it already "actively and routinely" communicates its efforts regarding research and commercialization of energy technologies and therefore sees the report requested by the proponents as unnecessary.

The company lists examples of what it is already doing to become a more sustainable energy company including making its operations more energy efficient and supporting its own proprietary research as well as "collaborations with leading academic, business, and government laboratories." These research efforts include developing new methods to extract natural gas, investigating the feasibility of using algae for biofuels, and exploring new methods of carbon capture and storage, as noted above.

However, this research into new energy technologies "will require decades of research and massive investment to achieve significant global deployment," Exxon Mobil asserts. During that time, the company argues, oil and gas "will be essential to meet growing demand, especially in developing nations."

Item 12 (GHG Goals)

The board opposes the resolution because it does not believe "setting absolute emissions goals is the most effective way to manage climate risks." Instead, management feels the company can best address the proponent's concerns by using its technical and management expertise to produce energy more efficiently and by developing technical solutions that can reduce GHG emissions.

Exxon Mobil points to the findings of the International Energy Agency that, even with significant improvements in energy efficiency and changes in global energy policy, "demand for petroleum and natural gas will continue to increase for decades." As a result, the company's efforts to meet this rising de-

mand for oil and gas “will lead to increases in emissions” both from its extraction and refining operations and the end use of these products by its customers.

On a practical level, the company argues that meeting specific GHG reduction goals can be thrown off course by “unforeseeable factors that influence year-to-year market demand” such as global economic conditions, weather and political tensions. “Goals that depend on this many variables would be impractical for guiding business performance.”

IV. Analysis

Key Points At Issue

- Is the company doing enough to find and commercialize energy efficiency, lower carbon fuels and renewable energy?
- Would setting greenhouse gas reduction targets change Exxon Mobil’s business planning?
- Does the company’s strategy have sufficient regard for potential changes in the structure of future energy demand?

Exxon Mobil is the largest oil and gas company in the world and the financial, managerial, technical and communication resources it has at its disposal are truly enormous. With profits of more than \$30 billion in 2010 and more than \$10 billion in the first quarter of 2011, it has the ability to invest game-changing amounts in financially-viable energy conservation projects around the world that would use available technology. These investments would be repaid from the energy savings that result.

The company has first-hand knowledge of the financial feasibility of such projects from its experience in making successful investments in energy efficiency at its own facilities. It also has shown how flare gas—which used to be treated as a waste byproduct of the oil extraction and refining process—can be made profitable with the proper investment in gas capture technology.

With its technical, managerial and financial resources, Exxon Mobil also could invest in more new renewable energy projects and research and help accelerate the pace at which renewable energy comes to meet a growing proportion of the world’s total energy needs.

Investments in energy efficiency: The company has made profitable investments at its refineries and chemical plants that have helped them to reduce their energy use by 10 percent over the last decade. It also has invested in cogeneration plants at many of its facilities that capture some of the waste heat from industrial processes and use it to generate electricity. As a result, 70 percent of the electricity used by its refineries and 50 percent of the electricity consumed by its chemical plants is now generated from this formerly wasted heat.

Exxon Mobil is funding research into developing more efficient internal combustion engines which, if successful, will make it possible for future vehicles to travel further on a gallon of gas. It also is investing in research to improve batteries used in hybrid vehicles and to allow them to travel further on electric power before needing to switch to gas.

About 16 percent of the \$100 million the company is providing the Global Climate and Energy Project at Stanford over 10 years is being used for battery and energy storage research.

Lower carbon fossil fuels: Exxon Mobil is making major investments to position itself for what it predicts will be an increasingly important future role for natural gas. With its acquisition of XTO Energy in 2010, more than one-half of its energy reserves now are in the form of natural gas.

The company also has invested \$100 million in a demonstration project that captures CO₂ from the natural gas stream and converts it into a liquid that could be injected underground.

About 30 percent of the \$100 million the company is providing the Global Climate and Energy Project at Stanford is being used for research into carbon capture and storage and other methods to reduce GHG emissions from coal.

Investments in renewable energy: The company's biggest play in renewable energy is its ongoing efforts to see if oil-producing algae can become a commercially feasible feedstock for biofuels. Assuming milestones continue to be met, Exxon Mobil expects to invest \$600 million over 10 years in this project. Parallel research into the oil-producing potential of algae is underway at several other energy companies.

About 40 percent of the \$100 million the company is providing the Global Climate and Energy Project at Stanford is being used for research into renewable energy.

A lot or a little?: In addition to making low-risk investments in energy efficiency projects at its own facilities, Exxon Mobil has been putting about \$40 to \$60 million a year into riskier research into oil-producing algae, carbon capture systems, improved batteries and more efficient internal combustion engines. A portion of these riskier investments may never pay off if they fail to lead to commercially viable products. The annual total of the company's risky investments in these areas come to about 0.2 percent of its net income.

Another way to assess whether these investments are a lot or a little is to compare them to another type of risky investment the company makes—exploring for new oil and natural gas deposits. These exploration expenses are about \$2 billion a year.

Setting goals: Investors and management at Exxon have been sparring for years over whether it makes sense for the company to set an overall greenhouse gas emissions reduction goal, as the proponents of item 12 want. The company makes no bones about its aim to boost production of oil and gas, which despite mitigating efforts will boost its current substantial CO₂ emissions still further. The proponents reason that if the company can set goals for energy efficiency improvements and flaring, then it should be able to set overall emissions reduction goals, as well.

Depending upon how aggressive its GHG reduction goals were, the amount of financial and managerial resources Exxon Mobil devoted to shifting from a fossil fuel-based energy company to one focused on renewable energy, energy efficiency and finding ways to capture carbon could grow significantly in the future. With robust GHG reduction goals, Exxon Mobil's research focus, capital investments, management incentives and willingness to try to bend the curve of future demand for fossil fuel all could change.

Research priorities—Some of the \$2 billion a year Exxon now spends on exploring for new fossil fuel reserves might be transferred to leading edge research into renewable energy and energy efficiency.

Capital investments—Similarly, some of the money the company now invests to develop new oil and gas fields could be directed toward new, large-scale renewable energy facilities using existing technology, massive distributed solar energy projects, and energy efficiency investments in transportation, industry and commercial and residential buildings.

Management incentives—Managers could be evaluated and rewarded on how well they were achieving their part of the company's overall GHG reduction goals and could be encouraged to find cost-effective ways to lower the GHG emissions from the company's operations and products.

Bend the curve of future fossil fuel demand—Exxon Mobil today seems content to accept the International Energy Agency's projections that global fossil fuel consumption, and the resulting green-

house gases, will continue to rise in the decades to come even with extensive implementation of energy efficiency measures. If these projections prove accurate, GHG concentrations in the atmosphere would rise to 650 ppm and global temperatures by 3.5 degrees Celsius. or more. But, if it had GHG reduction goals, the company might be more likely to become an advocate for global public policies that put a price on carbon to reduce demand for fossil fuels, reduce GHG emissions and reduce climate change pressure.

Voting Considerations

Voting in favor: Shareholders who feel that the company needs to develop a greater sense of urgency in addressing fossil fuel's contribution to climate change are likely to vote in favor of these two proposals. They may feel the company is spending too little on research into renewable energy and on ways to reduce the carbon emissions from fossil fuels and has the resources to do significantly more. In addition, investors who feel that publicly-stated goals and action plans will encourage management to focus even more on how to achieve Exxon Mobil's transition to the new energy economy—and thereby increase the company's long-term economic health—are likely to vote for these resolutions.

Voting against: Investors who feel the company's efforts to increase the energy efficiency of its own operations as well as its willingness to invest in leading edge renewable energy and energy efficiency research shows that Exxon Mobil is acting responsibly are likely to vote against these two proposals. In addition, these investors may feel that, even though the company is extremely large, it cannot change the likely growth of demand for fossil fuel in the future—and the resulting GHG emissions—through any actions it takes on its own. By meeting this increased demand for fossil fuels, the company would inevitably see GHG emissions from its products increase as well.

V. Resources

- Exxon Mobil 2009 Carbon Disclosure Project response
http://www.ExxonMobil.com/Corporate/Files/energy_climate_cdp.pdf
- Exxon Mobil website section, Energy and Environment
<http://www.ExxonMobil.com/Corporate/energy.aspx>
- *Outlook for Energy: A View to 2030*, Exxon Mobil, 2010 update
http://www.ExxonMobil.com/corporate/files/news_pub_eo_2010.pdf
- *World Energy Outlook 2010 Fact Sheet*, International Energy Agency
<http://www.worldenergyoutlook.org/docs/weo2010/factsheets.pdf>