GREENER POSTURES

GE's Environment Push Hits Business Realities

CEO's Quest to Reduce Emissions Irks Clients; The Battle of the Bulbs

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Two years ago, General Electric Co. Chairman Jeffrey Immelt vowed to make GE a corporate leader in addressing climate change. Since then, Mr. Immelt says, he's heard a refrain from some big GE customers: "'Can't you just shut up and sell us stuff?' That would be a paraphrase, maybe with a few blanks in between."

Customer grumbling isn't the only hurdle facing the effort to bring earth-friendly policies to a $163 billion-a-year conglomerate that sells everything from airplane engines to light bulbs. Some of Mr. Immelt's underlings have questioned whether carbon-dioxide emissions are a proven cause of climate change.

ECO-EVOLUTION

- **The Situation:** The two-year-old campaign at General Electric Co. to address climate-change issues touts successes but still faces skepticism.
- **The Potential:** GE could profit from earth-friendly innovations and at the same time win praise from the public and from environmentalists.
- **The Hurdles:** Politicians already are seizing the initiative from industry, skepticism about global warming exists even among some GE employees and the company is determined not to sacrifice profits in the quest for a cleaner planet.


Jeffrey Immelt

And he himself is willing to push GE only so far. "I don't want to change the economic flow of the company," Mr. Immelt says. So GE continues to sell coal-fired steam turbines and is delving deeper into oil-and-gas production. Meanwhile, its finance unit seeks out coal-related investments including power plants, which are a leading cause of carbon-dioxide emissions in the U.S.

Yet these limitations haven't stopped GE from making a big marketing to-do of its commitment to the environment. Indeed, the primary focus of the conglomerate's marketing efforts these days is a $1 million-a-year campaign to publicize its search for "innovative solutions to environmental challenges."

GE has dubbed its campaign "ecomagination," and Mr. Immelt calls it a success. GE is on track to sell $14 billion of its self-described environmentally friendly products this year, and projects the total will grow more than 10% annually through 2010. GE says it reduced its own greenhouse-gas emissions by 4% between 2004 and 2006, even as revenue grew 21%.

In January, Mr. Immelt backed a proposal to cap industrial carbon-dioxide emissions in the U.S. A government-imposed cap would likely limit CO2 emissions by big manufacturers and power plants, both of which are important GE customers.

Lorraine Bolsinger

His own lieutenants acknowledge that Mr. Immelt is creating friction. "Is there a tension there? Of course there is," says Lorraine Bolsinger, who runs the ecomagination program. "This is a big tough issue. The whole world is moving in a new direction. We've got to try to keep pace."

GE is "looking toward the future but they are not yet giving up all of the past," says Dan Bakal, director of electric-power programs for Ceres, a coalition of investors and environmental groups.

Mr. Immelt's environmental outlook was shaped in part by GE's long struggle with regulators and advocacy groups over New York's Hudson River, where GE had legally discharged toxic polychlorinated biphenyls in the 1960s and 1970s. Mr. Immelt also dealt with environmental rules while at GE's plastics division in the 1980s and 1990s. Shortly after taking over as GE chairman in 2001, Mr. Immelt agreed with the U.S. Environmental Protection Agency to develop a cleanup plan for the Hudson.

Another big environmental issue arose quickly. In 2002, religious groups submitted a shareholder proposal asking GE to count its emissions of global-warming gases. GE opposed the resolution, which won a surprisingly strong 20% of shareholder votes.

The following year, Mr. Immelt surprised the shareholder activists by pledging at the annual meeting to count GE's global-warming emissions.

Mr. Immelt says several factors contributed to his decision. GE had a growing roster of technologies, including wind turbines and a fuel-efficient airplane engine, that could be marketed as environmentally friendly. GE's factories in places like Europe and Japan faced limits on their carbon-dioxide emissions. Mr. Immelt also says a 2001 National Academy of Sciences report had convinced him that global warming was a "technical fact."

Mr. Immelt wanted GE to help draft government rules on climate change, instead of playing defense as it had with the Hudson River. "We are much better as a company getting ahead of [climate-change policy] than we are pretending like it doesn't exist," he says.

Mr. Immelt says global warming isn't a moral issue for him. "I never put it in right versus wrong," he says. Rather, he believes that making changes to address potential climate change is a political necessity.

As GE officials set out to count the company's emissions, Mr. Immelt consulted executives who had launched environmental programs, including DuPont Co. Chairman and CEO Charles Holliday Jr.

Mr. Holliday, whose company had attacked carbon-dioxide emissions in the early 1990s, advised Mr. Immelt to repair GE's old environmental problems and to consult with customers on product ideas to avoid leaping too far ahead. "You have to get that balance right," Mr. Holliday says.

Inside GE, some of Mr. Immelt's top aides cautioned him to move slowly; others were skeptical about the science of climate change. Mr. Immelt says he initially had few supporters within the company.

The skeptics included GE's lead regulatory lawyer Steve Ramsey, whom Mr. Immelt had put in charge of developing the emissions inventory. Mr. Ramsey suggested his staff lawyers read a speech by novelist Michael Crichton, in which the author compared belief in global warming to religious fanaticism.

A former EPA lawyer, Mr. Ramsey says, "I'm not a scientist. I'm an English major and a lawyer."

Nonetheless, Mr. Ramsey says it made sense for GE to count its emissions, because other companies were doing so and some countries required it. "The science didn't make much difference," says Mr. Ramsey, who adds that, ""We know enough today to act on climate change."

Counting the emissions was a big challenge for a company with more than 3,000 facilities in 73 countries. One nettlesome question: How should GE count emissions from power plants in which its financing arm owned a stake?

Executives from the finance unit argued against counting the emissions, according to people familiar with the matter. The executives worried that counting the emissions could limit their investments and force them to cut emissions, under Mr. Immelt's initiative. The executives argued that GE shouldn't count these emissions because it didn't operate many of the plants. For the moment, these executives prevailed.

GE's first official inventory estimated its 2004 emissions of global-warming gases at 11.26 million metric tons, roughly equal to the emissions from two million cars. It did not include emissions from GE's power-plant investments, an unknown but unquestionably significant amount.

In July 2004, Mr. Immelt gathered several dozen utility executives at GE's corporate-training center in Crotonville, N.Y. Many were big customers of GE's energy unit, which has annual sales of about $20 billion. Power plants emit about 2.5 billion tons of carbon dioxide a year, roughly one-third of the U.S. total.

Attendees included the CEOs of Southern Co., American Electric Power Co., Duke Energy Corp. and TXU Corp., many of whom Mr. Immelt was meeting for the first time. He invited economist Jeffrey Sachs, director of Columbia University's Earth Institute, to discuss climate change and potential regulatory responses.

The executives peppered Mr. Sachs with questions. Michael Morris, recently named AEP's chairman and CEO, challenged Mr. Sachs on why he was so certain that the climate was changing, and asked about opposing science. Mr. Sachs said the science appeared compelling. Mr. Immelt, standing in the rear of the theater-style room, agreed with Mr. Sachs that the U.S. government would someday limit carbon-dioxide emissions. Mr. Immelt advised the CEOs that they would be better off if they participated in crafting those rules.

At the time, most utility executives opposed mandatory carbon-dioxide limits. Duke Energy Chairman and CEO James Rogers, who backed carbon-dioxide limits before the GE meeting, says Mr. Immelt was direct. "That's a tough thing to do in front of people who are your customers," he says. "Generally you want to say what [your customers] want to hear."

Soon after, Mr. Morris proposed building a new coal-fired plant using technology that makes it easier to capture and store CO2; he now supports mandatory CO2 limits. Of course, a growing number of industries are now embracing the idea of carbon caps, although every one wants to be spared the tightest limits.

Mr. Immelt launched his campaign in May 2005. In a speech at George Washington University, he said GE would "develop and drive the technologies of the future that will protect and clean our environment." Mr. Immelt pledged to double investments in energy-efficient technologies to $1.5 billion by 2010 and projected $20 billion in annual sales of products like solar panels, wind turbines, and lower-emission locomotives.

GE works with GreenOrder, an environmentally focused marketing consulting firm, to "certify" the products' environmental benefits, then wraps them in its ecomagination label. GreenOrder also advises BP's Americas unit and Office Depot Inc. How much credibility a GreenOrder certification carries with environmental groups isn't clear.

Many of GE's ecomagination products, such as fuel-efficient aircraft engines, locomotives and gas turbines, were already on the market or in the lab before the campaign. But Mr. Immelt pushes managers to develop others; he sped development of a hybrid locomotive, for example. He also backs investments in projects such as solar-energy farms.

But he stresses that the projects must make economic sense. "We invest in the basic strategies that we think are going to fit into [the program], but make money for our investors at the same time," Mr. Immelt says.

To cut energy use, GE has launched more than 5,000 "energy hunts," which Mr. Immelt says have saved GE $100 million a year. At its Erie, Pa., locomotive operations, GE switched to natural-gas fired power, from oil, saving money and cutting emissions in the manufacture of locomotive engines. GE has installed solar panels on many buildings, including its headquarters, and energy-efficient light bulbs in many factories. Mr. Immelt says he's so pleased with the results that he's considering tougher targets for product sales and emission reductions.

Ms. Bolsinger told Mr. Immelt to first hit his original targets. Mr. Immelt had tapped her for the ecomagination program in September 2005, with instructions to make it "part of the fabric of what we do everyday."

The 48-year-old biomechanical engineer prods managers to pursue environmentally friendly products. Ms. Bolsinger, a veteran GE employee who once sold gas turbines, was head of marketing at GE's aircraft engines when Mr. Immelt told her he was "looking for one part marketer, one part salesman and one part technician" to lead the campaign. Now, she finds herself scouting for climate-related business opportunities from China to Brazil and touring the globe with public events touting GE's mission. She has regular calls with Mr. Immelt to update him on ecomagination progress.

Still, she says business leaders decide how hard to push ecomagination in each unit. In some cases, that's meant deeper GE ties to coal. In September 2005, the same month Ms. Bolsinger took her post, GE's energy-financing unit hired a coal-industry veteran and said it hoped to finance more coal-fired plants. "We have targeted coal as a growth area," Matthew Siegel, the unit's managing director for strategic services, said in a statement at the time.

In 2006, GE's energy unit agreed to sell $600 million in steam turbines to TXU, which planned to quickly build 11 new coal-fired power plants. "At the end of the day if [customers] want to buy supercritical steam turbines, [GE] is going to sell them supercritical steam turbines," Ms. Bolsinger says.

In January, not long after the TXU deal, Mr. Immelt was among nine CEOs to join environmentalists in asking the U.S. government to limit carbon-dioxide emissions. Mr. Immelt has since helped recruit several CEOs to the group, including Chevron Corp.'s David O'Reilly and Deere & Co.'s Robert Lane.

The initiative won Mr. Immelt praise from environmentalists, including some old critics. Environmental Defense President Fred Krupp says the campaign "changed the political landscape" of climate change in the U.S.

Others were unhappy. Soon after, Mr. Immelt fielded a call from an angry John Wilder, TXU chairman, who was worried about the potential impact of carbon limits on the proposed coal-fired plants. Mr. Wilder also circulated a letter among utility executives questioning Mr. Immelt's position -- and sent it to GE.

Mr. Wilder, through a spokeswoman, called it a "productive phone call" but declined to elaborate. Mr. Immelt says, "It was a robust conversation." He also declines to elaborate.

Following that exchange, TXU agreed to be acquired by a consortium of private interests. But under pressure from environmentalists, the purchasers agreed to cancel or delay eight of the 11 proposed new plants, which would have emitted more than 70 million tons of CO_2.

In May, GE issued a new emissions inventory, including some from its partially owned power plants. The change added roughly 10 million metric tons of carbon-dioxide emissions, bringing GE's total to more than 20 million metric tons. GE executives say that whether and how to count these emissions is a complex process that is still evolving.

GE still did not include emissions from other power plants in which it owns a stake but are leased to utilities. One such Pennsylvania plant, Homer City, 90% owned by GE, emits almost 12 million metric tons of CO_2 a year, more than all of GE's industrial operations. A GE spokesman says the company is still studying how to count emissions from these plants; one issue is ensuring that the emissions are not counted twice -- by GE and the plants' operators -- if such counts are required.

Now, the energy-financing group is devising guidelines for investing in coal-fired plants, to include the potential costs of carbon emissions. By 2010, the financing group plans to own $4 billion in renewable-energy assets; the business now has about $14 billion in total assets, most in natural-gas and coal-fired power plants.

Mr. Immelt says GE will continue to invest in coal-fired plants when the economics make sense. "I don't want to say no coal," he says. In fact, GE is investing millions in developing technology to capture CO_2 emissions from coal-burning plants.

Likewise, the environmental campaign does not dictate how GE treats its diverse set of businesses. Earlier this year, GE was looking to sell a unit that made equipment for generating hydropower, which does not emit carbon dioxide. Soon after, it bought Vetco Gray, which makes drilling equipment for oil and gas fields. Earlier this month, GE agreed to acquire another oil-and-gas equipment maker, Sondex PLC, for $582 million. Mr. Immelt says oil and gas "are going to be big parts of the future world we live in."

Mr. Immelt's environmental campaign poses new public-relations quandaries. Especially troublesome are proposals in several countries and California to ban incandescent light bulbs -- the technology that made GE founder Thomas Edison a household name. Backers of a ban favor fluorescent lights, which use far less energy.

GE makes fluorescent bulbs, but scrambled to protect its much-larger incandescent business. Lobbyists sought to shift the debate to efficiency standards for lighting, rather than a bulb's technology. GE also announced -- several years ahead of schedule -- plans for an advanced incandescent bulb that would use half as much energy. But that met with a mixed reaction, as some advocates accused GE of trying to thwart a move to fluorescents.

Lloyd Alter, a columnist at environmental Web site treehugger.com, labeled GE's new technology a "vaporbulb" and accused the company of trying to "knock the wind" out of the movement to ban incandescents. Mr. Alter later tempered his criticism, after meeting with several GE officials.

The jolt helped prompt Ms. Bolsinger to better coordinate GE's business, regulatory and eco-marketing goals. This month, she, Mr. Ramsey and GE's top legislative leaders will begin regular conference calls to discuss hot-button environmental issues. Ms. Bolsinger says the calls are "long overdue."