

solutions

+ Getting Ahead of the Curve:

Corporate Strategies

That Address Climate Change

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by

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PEW CENTER

ON

Global CLIMATE CHANGE

Don't Switch Tracks When the Train is Already Moving

Whirlpool*

At the ninth meeting of the Conference of the Parties of the Kyoto Protocol in 2003, Whirlpool became the world's first appliance manufacturer to announce a greenhouse gas (GHG) reduction strategy. But unlike many other companies that have made similar pledges, Whirlpool's approach to climate change involves neither dramatic changes to its operations nor significant bottom-line costs. Its strategy is laser focused on leveraging its current core competencies, and continuing down the same path it has been on for years: bringing the most energy efficient products to the market and, in so doing, reducing GHG emissions through its consumers. In fact, given the company's on-going drive for energy efficiency, the words "climate change" are not often stated as an explicit concern among the workforce. The mantra is "energy efficiency" plain and simple. In the words of Mark Dahmer, Director of the Laundry Technology Division, "We've got a train moving on efficiency. We'd just start confusing things if we tried to throw more on the train or start a new train."

Company Profile

Based in Benton Harbor, MI, Whirlpool is the world's largest home appliance manufacturer. With annual sales of over \$14 billion and nearly 50 manufacturing and research facilities worldwide, the company sells to consumers in more than 150 countries. Among its many major brand names are Whirlpool®, KitchenAid®, Brastemp®, Bauknecht®, and Consul®.¹⁴⁷ The company's broad vision is to have the company's products in "every home, everywhere."

Two aspects of Whirlpool's culture above all others drive the company's attention to addressing climate change. The first is a continual search for ever increasing energy efficiencies. This is born out of the company's historic focus on cost and quality in a low margin industry. The second is a close connection to its Midwestern roots, out of which emerges a strong belief in corporate citizenship. According to Dahmer, one of the core corporate principles is that there is "no right way to do a wrong thing." The company's Corporate Social Responsibility (CSR) statement expresses it simply as an aim to operate in "ways that honor ethical values and respect people, communities and the natural environment. Equal to protecting the health and safety of our employees, we consider environmental stewardship among our most important business responsibilities."¹⁴⁸ That aim is echoed

Table 13

Whirlpool's Footprint (2005)

Headquarters:	Benton Harbor, MI
Revenues:	\$14.3 billion
Employees:	65,682
Percentage of Emissions in Kyoto Ratified Countries:	31 percent
Direct CO ₂ e Emissions:	0.8 MMtons*
Indirect CO ₂ e Emissions**:	146.5 MMtons
Aggregate CO ₂ e Emissions:	147.3 MMtons
Target:	Three percent below 1998 levels by 2008 while increasing sales 40 percent.
Year Target Set	2003

* Million metric tons.

** Measured as emissions from product use.

* We would like to thank Tom Catania, Dick Conrad, Mark Dahmer, JB Hoyt, Bob Karwowski, Casey Tubman and Steve Willis for their contributions to this case study.

At the time of writing, Whirlpool was in the process of acquiring Maytag Corporation. However, Whirlpool successfully acquired Maytag March 31st 2006, and is in the process of incorporating the Maytag emissions footprint into its overall greenhouse gas emissions reduction target.

in the statements of employees as the primary reason for addressing climate change. In the words of many, the company is just trying to “do the right thing.” According to Dahmer, “the company is about providing for the country and the customer.”

Climate Change Program Implementation

In 2003, the company announced a plan to decrease total GHG emissions from global manufacturing, product use and end-of-life by three percent from a 1998 baseline by 2008, while increasing sales by 40 percent over the same period. According to Whirlpool, these reductions were equivalent to the CO₂ emissions of 28 coal-fired plants or 10 million cars. On announcing the reductions, Tom Catania, Vice President of Government Relations, commented, “Whatever political solution the global community agrees to as the best mechanism for collectively addressing climate change, our company will continue its efforts to do our part, while at the same time bring unique, innovative and energy-efficient products to our customers.”¹⁴⁹

And customers are the key to Whirlpool's efforts to address climate change. Studies have shown that the majority of lifecycle GHG emissions from home appliances come from the use phase. Whirlpool's internal studies conclude that of the nearly 30 metric tons of CO₂e emitted over the life of an average washing machine, over 93 percent come from the use phase. Of the remaining amount, two percent come from manufacturing and five percent come from end-of-life disposal. This is corroborated by a 1992 study by the United Kingdom-based PA consulting group which also shows that over 93 percent of washer emissions come from use.¹⁵⁰

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The concentration of emissions in the use phase presents an opportunity for focused efforts toward reducing those emissions. While the company still seeks energy reductions throughout the supply chain, it has determined that further improvements in the manufacturing process would be hard to find. Bob Karowski, Director Environmental Health and Safety for North America, relates a story from the late 1990's when a group of Enron energy analysts came to evaluate Whirlpool's opportunities for further efficiencies. None were found.

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Driven by mandatory (such as national energy efficiency standards) and voluntary (such as Energy Star™) programs, as well as competitive pressure and consumer demand, Whirlpool has been engaged in a constant search for energy efficiencies with its appliances. The company (and the industry) has achieved dramatic energy savings over the past 30 years. Compared to models from 1970, today's refrigerators use less than half as much energy and washing machines and dishwashers use approximately one-third as much. Since 1980, the overall percentage of U.S. home energy use that is dedicated to appliances has dropped by two-thirds, to between 18 and 20 percent.

Yet these improvements have not always been easy. In the past, the company has felt that it was paddling upstream against consumer demand. For example, in 1993 the company was the winner of the Super Efficient Refrigerator Program (SERP) competition sponsored by the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy (DOE) and 27 national utilities. Though the company received the \$30 million prize for winning the challenge and enjoyed the accolades that came with it, some in the company felt that the corporate

investment far outweighed the reward. In the end, the prize money barely defrayed the development dollars and the company was forced to go to great lengths to elicit consumer interest in the product. This experience planted concerns within the company that you cannot get too far ahead of the market; efficiency gains must not exceed manufacturing costs or consumer demand.

According to Mark Dahmer, American consumers believed that efficiency was tied to inferior performance. Like the falsehood that higher automobile fuel efficiency necessitates compromised performance, customers believed that an efficient machine would not clean as well. At one point, the situation was so disconcerting that the company engaged in an internal debate over the merits of featuring the Energy Star™ label so prominently on its products. In the end, they decided to keep the label to educate the consumer. While using less water and less energy could elicit concerns from some consumers, the company felt that it had merits as a proxy for quality and performance.

Just after this dampening experience with efficient refrigerators, the company faced a challenge from competitors on efficient washers that, in the end, had a positive effect. In the early 1990's, small European-style front loading, horizontal axis washers were sold in the United States in limited quantities. The sales volume was low, as these products lacked the size or features preferred by consumers. In the late 1990's, the introduction and early consumer acceptance of a new full-sized, front load washer led Whirlpool to rapidly leverage its European technology to introduce a American-style product of its own. This technology was available to Whirlpool through its 1989 acquisition of the Philips business in Europe. The Whirlpool Duet® is a front loading washing machine that uses the more efficient horizontal axis orientation to yield efficiencies of 68 percent less energy, 67 percent less water and 50 to 70 percent less detergent than traditional top loading machines. Most importantly, the machine has been extremely successful in the marketplace and served to counter internal resistance that had been generated by the earlier SERP experience.

Over the past two years, Whirlpool executives sense a market shift as consumers have become increasingly interested in energy efficiency. This, they believe, is driven by both increasing awareness of climate change and environmental issues as well as increasing energy costs. According to Casey Tubman, Brand Manager of Fabric Care Products, "In the 1980s, energy efficiency was number ten, eleven or twelve in consumer priorities. In the last four or five years, it has come up to number three behind cost and performance, and we believe these concerns will continue to grow." But energy efficiency still requires education of the consumer. The most efficient washers can cost up to \$500 more than traditional washers (absent any rebates). But, depending on utility rates, they can save between \$75 and \$100 per year, yielding a payback of five years. According to Catania, "We are getting better and better at making this visible to consumers. This is good for the environment, good for the consumer and good for Whirlpool."

Going forward, Whirlpool believes that the focus on efficiency will have other long-term benefits for the company in terms of market share. According to Tubman, energy efficiency is becoming a source of competitive advantage by building brand loyalty: "Once someone buys a high efficiency device, they never go back to buying

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a traditional machine.” Whirlpool’s market research supports this conclusion. According to Steve Willis, Director of Global Environment, Health and Safety, Whirlpool surveys have demonstrated that “there is a strong correlation between a company’s performance in appliance markets and their social response to issues such as energy efficiency and pollution.” While not uniform across products or regions, Whirlpool believes that environmental attributes (water and energy conservation) yield customer loyalty and repeat purchases.

As an added benefit, Whirlpool executives believe that the company’s focus on energy efficiency, like its other responsibility efforts, helps to draw and retain people who feel good about the company and perform better. In Tubman’s words, “The values stay here because the people stay here and the people stay here because the values stay here.”

All of this leads to the conclusion that a focus on GHG reductions through energy efficiency is central to the company’s core strategy. The company states that it will continuously develop new energy efficiency technologies, and at times, license them to competitors. If necessary, the company will also aggressively guard those innovations. In the summer of 2003, Whirlpool sued Korea based LG Electronics for patent infringement, claiming that LG copied technology developed by Whirlpool that delivers sharply higher energy and water savings to customers. When commenting on the suit, David L. Swift, Whirlpool’s executive VP for North America, remarked, “Whirlpool has invested heavily in developing innovative fabric care wash technology that delivers meaningful benefits to our customers.... Whirlpool will tirelessly and aggressively work to protect our assets from competitors who choose to disregard U.S. patent law.”¹⁵¹

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The motivation behind the lawsuit, according to Catania, is both to protect the company’s assets but also to maintain a level playing field where the company believes that it can win. Toward that end, Whirlpool has worked aggressively through its trade association to develop rigorous techniques for measuring energy efficiency, keeping them up to date and uniformly applied.

Organizational Integration

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Unlike other companies in this report, the impetus to address GHG emissions at Whirlpool did not originate from the CEO’s office. Rather, the ideas were formed in the ranks, then reviewed with the CEO who enthusiastically endorsed the product-based emission reduction target. In the words of CEO Jeff Fettig, “At Whirlpool Corporation we take our environmental responsibilities very seriously. Just as we have taken a global approach to our home appliance business, we believe our world’s environmental issues, such as climate change, must be addressed in a similarly comprehensive way. This is why we continue to develop innovative products that minimize their impact on the environment while making our consumers’ lives easier.”

JB Hoyt, Director of Regulatory and State Government Relations, admits that top down leadership would have been more important at the outset if the company were starting from scratch, but the company had already been working on energy efficiency for years. There was no need to push a new mindset through the organization. In

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fact, some at the company believe that introducing the concept would do more harm than good, confusing what is already an on-going initiative.

Whirlpool first began attending to climate change in the same way it addresses other environmental issues: through the company's Environmental Council. Comprised of representatives from the six business units (North America, Europe, China, India and Brazil white goods and compressors), the group meets by phone, six to eight times per year to consider the environmental and employee safety concerns facing the corporation. These issues are brought before the Council through suggestions from the Council members based on their efforts to identify best practices, new challenges and emerging trends. In 2003, the Council selected climate change as an issue that necessitated review, particularly in terms of developing better tracking and control of GHG emissions. In addition, the company was motivated by its involvement with the Business Roundtable's challenge to commit to the voluntary Climate RESOLVE initiative. Since Whirlpool's commitment to energy-efficient appliances was central to its long term strategy, the additional focus on GHG emissions was a natural step to take, and had the potential to help create a competitive advantage.

To develop targets for GHG reductions, Willis went to each of the product groups (refrigeration, fabric care (washers/dryers), dishwashers, cooking, air conditioning, and portables) and compiled data on sales volume projections, consumer use, average age of each type of product when taken out of use, and introduction schedules for new, more energy efficient models. He then calculated total energy consumed by all the products over their average life and converted that energy consumption to GHG emissions using country-specific conversion factors. The result was the determination that the total GHG emissions from product sold in 2008 would be three percent less than the total GHG emissions from the product actually sold in 1998. +

Willis admits that the three percent goal will not be a tremendous stretch for the company, but according to Hoyt, they may commit to a stretch goal "after we get a track record." Nevertheless, Willis is extremely confident they will meet their target. Returning to the company's mantra of producing efficiency improvements for its consumers, he comments, "We were going to do this stuff anyway. Energy efficiency is one of our priorities."

And this leads to one final and important point about Whirlpool's global appliance portfolio. Catania points out that "You'd be hard pressed to tell the difference between a Whirlpool appliance sold in a Kyoto ratified and a Kyoto non-ratified country. We're trying to get as much global leverage on our factories as possible." So, whether the United States ratifies Kyoto or not, the most efficient technologies the company produces (such as seals, the primary source of cooling loss in refrigerators) will migrate around the world. According to Catania, "When we build a factory, we want to milk it and use the technology throughout our product line." +

External Outreach

Whirlpool, like other companies in this study, places great emphasis on external outreach. But the direction of that outreach is sharply focused on enhancing consumer awareness and demand. For example, to address consumer misconceptions about the efficacy of energy-efficient appliances, the company has actively worked to educate retailers (such as Lowes and Sears) and consumers on their benefits, including their average five year payback period. Since the more efficient machines need high-efficiency detergents to attain the best cleaning experience (at no additional cost per load, the company is quick to point out), Whirlpool worked closely with Procter & Gamble to help educate consumers and assure availability of the detergents. Further, the company was pivotal in convincing *Consumer Reports* magazine to include energy efficiency in the rankings of appliances.

Like other companies in this report, the company has not shied away from stepping out in front of its industry on these issues. This has not always been welcomed by its competitors. Early on, the company faced criticism by some who felt that Whirlpool was trying to use energy efficiency as a way to disadvantage the competition, particularly those with lower capital spending plans. This criticism played out with the American Home Appliance Manufacturers (AHAM), the industry lobbying organization in Washington, D.C. of which Whirlpool is the largest member. In 1993, Whirlpool introduced highly efficient refrigerators in the belief that this would spur federal mandates to require manufactures to meet its efficiency level. However, following the Gingrich revolution of 1994, other manufacturers convinced the AHAM to lobby against the new regulations. Since the organization had a policy of one vote per company regardless of market share, Whirlpool's interests were overruled. The organization was successful in convincing the DOE to hold off on the new regulations and, in response, Whirlpool withdrew from the organization in March 1997. After months of negotiations, the company rejoined the AHAM following amendments to the organization's bylaws that require 75 percent membership approval (by market share) of all public policy positions. Today, Catania points out that much of the industry shares Whirlpool's concern for energy efficiency.

Finally, the company has also worked closely with some non-governmental organizations (NGOs) to develop and promote energy efficiency incentives. For example, the company worked closely with the Sierra Club, Natural Resources Defense Council, the Alliance to Save Energy and others to promote manufacturers tax credits within the recently passed Energy Policy Act of 2005. Unlike consumer tax incentives, these credits can offset substantial manufacturer development investments, allowing producers to provide a less expensive product to the end consumer. In the words of Tom Catania, the credits provide a "win-win for everyone. NGOs and the government get environmental gains while the consumer gets a better product."

Policy Perspectives

Whirlpool has a long history of working with the government. Since 1975, the company has played a leadership role in crafting every major appliance efficiency regulation, and has been an Energy Star™ Partner of the Year every year since 1999.

On the issue of climate change, the company's primary focus on end-use emissions leads executives to feel strongly that any national policy aimed at addressing climate change must include credit for use-cycle reductions. "Who gets the use credits?" asks JB Hoyt. "Should the utility get it? The user? The manufacturer? We're feeling our way along on CSR and climate change. We want to provide a leadership voice." Catania adds, "If the government wants to motivate appliance manufacturers to participate in a meaningful cap-and-trade program, then it needs to provide credit for the power plant emissions reduced or avoided through the increased energy efficiency of our products." Willis echoes this sentiment, "If the company is going to move forward on climate change, we need to get credits for indirect emissions." This is the number one issue, even though the company has been working on emissions reductions for a long time. Says Hoyt, "We would love to get credit for the gains we've made in the 1980s and early 1990's, but the real line in the sand for us is the 1998 baseline for our GHG reduction commitments."

When pressed, Catania adds that the company would be just as satisfied with manufacturer's tax credits rather than carbon credits. In either case, the company will be rewarded for producing energy-efficient products. The least attractive solution, in Catania's view, would be consumer credits for efficient products. "The consumer credit does not have nearly the stimulative effect that the manufacturer's credit." Competitors could easily undercut the stimulus of a consumer rebate by cutting margins.

One final area where Catania has very strong feelings is the topic of state-level climate change regulations. "This would be a huge misdirection of resources and much less would be achieved if we are subjected to a Balkanized set of standards from fifty different sources." In his view, 50 separate policies would benefit neither consumers nor businesses.

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Challenges Ahead

Whirlpool is still struggling with the growing pains of recent expansion and acquisitions. Coordination regarding environmental matters among the various divisions of the company is loose. While each plant has an "energy facilities engineer," for example, there is presently no one person in the company who focuses on company-wide energy conservation. (The company is considering creating such a position.) Whirlpool has a highly decentralized culture and its units value and protect their autonomy. Technology sharing is a major thrust of the corporation in areas such as six sigma, process control and lean manufacturing. On environmental matters, there is little technology transfer among plants domestically or globally. These factors have cemented the belief within Whirlpool that the company has reached the limits on energy efficiency in manufacturing process.

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An additional challenge is Whirlpool's current difficulty in analyzing emissions data. In order to analyze data collected in 2003 and 2004, the company solicited bids for a data management system to track emissions and conservation. When the proposals came back with costs between \$75,000 and \$225,000, the company decided to develop a system in-house. These efforts have so far been unsuccessful. According to Willis, a data management system and international GHG conversion factors are the company's biggest current needs with regard to climate strategy.

The company is also alert to the balance it must strike between leading and not leading too much. Consumers care about energy efficiency but cannot be pushed too hard to purchase more efficient models. Requiring sacrifices or greater effort of the consumer so as to attain greater efficiency is out of the question. According to one customer survey conducted by Whirlpool, “Consumers expect a comfortable solution with a minimum of inconvenience. Whoever is the bearer of news to the contrary, is subject to consumer disdain and ridicule.”¹⁵²

Looking forward, a focus on energy efficiency gives Whirlpool a premium product well suited for a carbon-constrained future. Though there is relative technological parity between the product offerings of domestic and European manufacturers, the company is concerned that Asian-based manufacturers could overrun the domestic market with cheap, less energy efficient, machines. But increased home energy prices resulting from efforts to reduce GHG emissions could potentially be a windfall to Whirlpool as consumers place an even higher premium on energy efficiency. Banking on this future, Whirlpool has stayed the course and continued to do what it does best—bringing energy efficiency into the home.

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137. In some DuPont processes, steam is generated at a temperature above saturation (superheated). When process steps require saturated steam (which is cooler than superheated steam), water is sprayed into the superheated steam, cooling it down. This desuperheating water must be very high in quality so no deposits are formed when it vaporizes.

138. Speech delivered to the Clinton Global Initiative Panel on Climate Change, New York City, September 17, 2005.

139. Op. cite, Aston, A. and B. Helm. 2005.

140. Op. cite, Cogan, D. 2006.

141. For more on the Smart Trips program, see: <http://www.smarttrips.org/>, viewed 3/3/06.

142. For more on the One Ton Challenge, see: <http://www.climatechange.gc.ca/onetonne/english/index.asp?pid=179>, viewed 3/3/06.

143. Calculated for 2002.

144. Inskip, S. 2005. "Gas Flaring Continues to Plague Nigeria." *National Public Radio*, Aug.25, <http://www.npr.org/templates/story/story.php?storyId=4797953>, viewed 10/18/05.

145. *National Public Radio* 2005. "Oil Firms Learn Trading Lessons." *National Public Radio*, May 9, <http://www.environmental-finance.com/2003/0302feb/bpshell.htm>, viewed 10/18/05.

146. Van der Veer, J. 2006. "A Vision for Meeting Energy Needs Beyond Oil." *Financial Times*, January 25: 21.

147. Reflects Whirlpool Corporation prior to the acquisition of Maytag Corporation in mid-2006

148. The company has been broadly recognized for this commitment, including being named in 2005 as one of the 20 best corporate citizens by *Business Ethics Magazine*. In fact, the company has been named to the list every year since the magazine began publishing it six years ago.

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149. *PRNewswire*. 2005. "Whirlpool Corp. to Cut Greenhouse Gas Emissions by 3 Percent From 1998 Levels." *PRNewswire*, <http://web.lexis-nexis.com/5>, viewed 9/7/06.

150. PA Consulting Group. 1992. *Ecolabelling Criteria for Washing Machines*. (London: PA Consulting Group).

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152. Horst, G. 2005. "Consumer 'White Goods' in Energy Management." <http://ciee.ucop.edu/dretd/Whirlpool.pdf>, viewed 10/28/05.

153. CO₂e.com. 2006. "What are Carbon Dioxide Equivalentents (CO₂e)?" <http://www.co2e.com/common/faq.asp?intPageElementID=30111&intCategoryID=93>, viewed 1/24/06.

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154. Greenhouse Gas Inventory Program. 2002. *Greenhouse Gases and Global Warming Potentials*. (Washington DC: U.S. Environmental Protection Agency): 9.

155. Energy Information Administration. 1997. *Mitigating Greenhouse Gas Emissions: Voluntary Reporting*. (Washington DC: U.S. Department of Energy).