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# Walmart's Sustainability Journey: Defining Sustainable Products (A)

It was July 2008 in Bentonville, Arkansas. Matt Kistler, Senior Vice President for Sustainability at Walmart was reflecting on his first year in the job, and more particularly the challenge of selling sustainable products, one of Walmart's three broad sustainability goals. He already had concluded that the goal of selling sustainable products was unobtainable unless Walmart could find a better way to define, measure, and communicate about environmental standards. It needed a credible, science-based system to support any product environmental claims—otherwise the company could be accused of greenwashing when trying to achieve its goals.

In many ways, developing such a system was similar to any other classic make-or-buy decision. Walmart could develop its own standards in-house or go to the open market to purchase or license an existing set of standards. Other advisors suggested a third option: participate in a multistakeholder effort, open to all firms, to develop public standards. This intriguing option could address the inherent problems of credibility and capabilities that Walmart would face if it moved alone, but it also raised some new and serious concerns.

Kistler and his team spent nearly a year evaluating the benefits and drawbacks of the three options: make, buy, or collaborate. Ultimately, though, Kistler must decide which direction to take. Should Walmart establish a new set of product standards in-house, buy or license an existing set of standards on the open market, or lead a collaborative effort to develop public standards, together with other large corporations and stakeholder groups?

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#### Walmart and Sustainable Products

Walmart's product sustainability efforts began in 1989, with an early and unsuccessful effort to introduce environmentally friendly products identified by green-colored shelf tags. Environmental advocacy groups attacked the company and its suppliers, asserting that some of the products simply did not live up their environmental claims.<sup>i</sup> That strategy was ultimately abandoned, yet in 2004, when Sam's Club buyer Coral Rose purchased organic cotton yoga outfits, they were wildly successful with customers. As Walmart CEO Lee Scott recognized, "We gave our customers something they wanted, but something they might not have been able to afford at specialty stores."<sup>ii</sup> That consumers were interested in affordable, sustainable products became a critical point in the company's nascent product sustainability strategy. As Kistler remarked, "It has democratized sustainability—customers should not have to pay more for products that are better for their families or the environment."<sup>iii</sup>

On October 24, 2005, CEO Lee Scott gave a pivotal speech—"Twenty First Century Leadership"—that called for an expanded effort to make Walmart an environmentally sustainable company. He set out three aspirational and broad goals: (1) to be supplied 100% by renewable energy; (2) to create zero waste; and (3) to sell products that sustain resources and the environment. To achieve these goals, Scott asked company strategist Andy Ruben to become the first Vice President of Strategy and Sustainability, and Ruben had worked with senior staffers such as Tyler Elm and Janelle Kearsley to form 14 boundary-spanning, cross-functional "sustainable value networks" (SVNs), focused on different dimensions of the three goals.

These networks were meant to integrate sustainability within and across the business units, to emphasize that sustainability was more than just a corporate function. The sustainability office primarily guided and coordinated activities that were initiated through the networks and business units. The SVNs extended beyond the boundaries of the company to include supplier firms, nongovernmental organizations (NGOs), regulators, and other stakeholders. Of the 14 networks established, 7 were specific to sustainable product development: Jewelry, Seafood, Food and Agriculture, Chemicals, Wood and Paper, Textiles, and Electronics. The Packaging network related mainly to waste but also had clear ramifications for product sustainability.<sup>iv</sup> As the SVNs came into being, Ruben suspected that unless the company could find a way to measure product sustainability, it could not make sufficient progress toward meeting its goals.

Not that they weren't progressing at all: Walmart had significant successes in the highly publicized introduction of CFL light bulbs and *All Small-and-Mighty*® condensed laundry detergent, and had made significant commitments and progress in organic cotton and certified seafood. Walmart had just announced a partnership with CI to certify a line of jewelry, known as the *Love, Earth* collection, with criteria that addressed environmental, human rights and community issues. Sam's Club had introduced a range of gourmet coffees with three different certifications: fair trade certified by Transfair (Fair Trade); responsible harvesting certified by the Rainforest Alliance; and organic certified by the USDA. The coffee beans were roasted by Café Bom Dia, a Brazil-based company that was the world's first CarbonNeutral® coffee roaster.

But focusing on individual products or categories was different than creating a measurement system that could be leveraged to provide a consistent framework for assessing the relative sustainability of all the products that Walmart sold. Accordingly, for Kistler, who took over for Ruben in the fall of 2007, this measurement issue became central to making product sustainability *real*.

#### The Demand for Environmental Standards

In his first months on the job, Kistler learned that progress on the sustainable products goal was lagging behind Walmart's progress on energy and waste. Perhaps even worse, it had become painfully clear that there was no definitive way to measure this progress. The challenge of figuring out what counted as a sustainable product crystallized for Kistler when he asked suppliers for proposals for a 2008 Earth Day promotion. They responded with such a range of product sustainability claims, across so many dimensions (e.g., reduced packaging material, percentage recycled content, use of non-toxic ingredients, product recyclability) that Walmart could not arbitrate effectively among the competing claims. Even a committee of external thought leaders rarely agreed in their advice. As Kistler recalled:

We were doing the circular for Earth Day and were struggling to figure out which products to put into the circular—which ones were truly "green." And we were wracking our brains over what qualified. So we ended up creating a council of elders—a leadership council of NGOs and academics to vet the products that the merchants had given us. It was after that we realized we must have a science-

based tool—this council approach was not going to work. We were going to get labeled as greenwashers—it's just not scientific.

The lack of understanding of how to evaluate product sustainability claims had already led to some embarrassing promotions—one Walmart flyer cited Campbell's Condensed Soup as a sustainable alternative, simply because it was condensed.<sup>v</sup> (See Exhibit 1.) This choice generated some external criticism and accusations of greenwashing, pointing to a fundamental problem in terms of achieving the stated goal of sustainable products: No one had a clear idea of what constituted a sustainable product, yet increasing consumer interest compelled firms to make environmental claims. Because there was no commonly agreed-upon standard for measuring sustainability, a proliferation of measurement models, usually product or vendor specific, were emerging that often promised some type of certification. (See Exhibit 2.) These conditions often led to "ecobabble"—a profusion of environmental claims that led to consumer confusion over what any particular product claim, standard or certification actually meant (e.g., "natural"). (See Exhibit 3.)

To cope with these challenges, downstream companies often sought to add validity to their environmental claims by using extensive scorecards, which they expected suppliers to complete. Walmart's suppliers complained that other retailers issued different assessments and scorecards; even worse, they pointed to variation in Walmart's own scorecards. With this proliferation of sustainability measurement tools, even representatives of the NGO community expressed concerns that neither companies nor customers could be sure what each one represented or whom to believe. As Miranda Ballantine, Director of Sustainability, described the situation:

We were hearing more and more from our suppliers that they received the Walmart sustainability scorecard, but they were getting asked roughly the same questions, but in slightly different ways, dozens of times from their different customers. And even within Walmart, we had developed a lot of scorecards. We've got the supplier sustainability assessment. We've got a packaging scorecard. We've got a program called GreenWERCS, which assesses chemical intensive products. I've heard concern from the NGO community about how we're implementing those tools and that there's too many of them.<sup>vi</sup>

The lack of standardized methods to measure the relative sustainability of a product was more than a theoretical problem. It was an effective barrier to Walmart merchants, and it was creating a substantial reputation risk. Kistler was acutely aware that greenwashing—that is, misleading publicity or propaganda designed to present a false image of environmental responsibilitymight be a strategy adopted by some of Walmart's suppliers (or its suppliers' suppliers), which posed a risk not just to the supplier firms but to Walmart as well. Consumers and government agencies that regulate advertising seemed increasingly skeptical of environmental claims, which could mislead by focusing on narrow product attributes. Increases in supply chain transparency, mostly afforded by the Internet, also meant that even seemingly innocuous claims (e.g., the Campbell's Soup Earth Day promotion) could produce substantial negative publicity. The company's credibility could be damaged by accusations of greenwashing, even if there had been no intention to mislead. Just as the lack of good information prevented accurate measures of sustainability, it hindered Walmart's ability to respond to greenwashing accusations.

#### The Search for Standards

To address the emerging problem of measuring sustainable products, Kistler and Rand Waddoups, Senior Director for Strategy/Sustainability, had already begun a systematic, comprehensive exploration and analysis of standards and other measurement systems, including existing environmental standards in the marketplace. (See Exhibit 4 for a sampling of the standards reviewed.) Waddoups reported on the first steps of the search process:

We began having conversations with a lot of different groups. For instance, we talked to Goodguide and others that were doing projects similar to what we were contemplating. We even talked to Metacritic—the people who figure out how to rate a movie by analyzing all of the critical analyses that's been done for that movie.vii

They first explored standards in the NGO community because of that sector's presumed credibility and independence. They met with organizations like the Carbon Disclosure Project (CDP), the U.S. Green Building Council, and its Leadership in Energy and Environmental Design (LEED) committee. They interacted with industrial ecologists who used life cycle assessment (LCA) databases. One promising model was Earthster, an open source software platform for sharing sustainability information across supply chains. It had been developed by the New Earth NGO lead by LCA expert Greg Norris. Earthster provided a means for suppliers to enter detailed, proprietary data (e.g., energy inputs) about their products, which was then converted into nonproprietary data—to overcome resistance to sharing data. And there were others, too. As Waddoups described, "we went through a broad list of NGOs to try to find someone who had this competency for measuring sustainable products." Always, the Walmart

team asked: "How do you measure? How do you create a system to gather all the data? How do you create something that can turn that into a measurement?"

They also moved beyond the environmental community to explore how other industries addressed collective standard setting. For example, in meetings with representatives from the software industry, they learned innovative ways to create virtual communities focused on building common knowledge bases. They met with people from Wikipedia, Metacritic, CSA International, Microsoft, IBM, and others. And these meetings revealed to the sustainability team that Walmart faced several distinct problems. First, it needed data that its partners likely considered propriety, so it had to come up with incentives to encourage individual firms to participate, as well as achieve sufficient credibility to allow them to provide that information. Specifically, Walmart would need to conceal or transform any proprietary data, using a score that could be shared, as well as verify the accuracy and credibility of the process and the data. Second, once it collected all these data, Walmart had to decide what to do with them. As Waddoups explained:

We always had the same two questions: One, how do you gather and purpose data? How do you do it in a way that is really efficient and effective? Two, once you get all that data, how do you purpose it to ensure that you will actually get value from it? Because an enormous amount of data will be useless unless you can extract value.

But as the search continued, few comprehensive solutions arose for measuring product sustainability. Waddoups reported: "We struggled to find someone who could really help us do this; but increasingly we realized that the solutions we saw were only different parts to the puzzle—there was no holistic solution." For example, the Carbon Disclosure Project was an exceptional standard but still had significant limitations: It only addressed carbon, and in a limited way. The Environmental Working Group (EWG) had developed SkinDeep, but that system emphasized chemical toxicity. The system that was the closest to what Walmart was looking for was GoodGuide, which came from a company founded in 2007 by Dara O'Rourke, a professor of environmental and labor policy at the University of California, Berkeley. According to Waddoups, "GoodGuide was much more holistic, but it did not meet our criteria for transparency." The mechanisms by which the scores were calculated for a particular product were not disclosed, likely because that disclosure could allow firms to manipulate the inputs to influence their scores. Data behind these scores came from more than 1,000 sources, including

the media and companies that manufactured the products rated, but also included scientific data if available. GoodGuide thus remained a serious consideration, because of its LCA approach and aspirations for transparency; however, Waddoups also found that GoodGuide had concerns about Walmart's own long-term commitment to transparency.

Government, a traditional purveyor of standards (e.g., nutrition labeling), was of yet little help in defining the sustainability of products. Following a decades-long emphasis on "end-of-pipe" regulations to deal with waste management, the Environmental Protection Agency (EPA) was shifting its focus to materials management with life-cycle approaches.<sup>viii</sup> In addition, the EPA seemed to have no more knowledge of product sustainability than industry. For its developing strategy, the governmental agency would rely increasingly on business to provide sustainability solutions around materials management. The NGO community also appeared open to collaborating with business to produce environmental outcomes that would be precursors to effective regulation. Once NGOs demonstrated that an environmental improvement was not harmful to business, then they could be more effective in advocating for regulatory change. Kistler and Waddoups thus were becoming convinced that a single standard did not currently exist, and business would need to provide the solution.

#### **Designing Environmental Standards**

Waddoups had worked with Jib Ellison and John Buffington of Blu Skye, an environmental consultancy, to form a steering committee of prominent sustainability thinkers, including representatives of the Environmental Defense Fund, Conversation International, Rocky Mountain Institute, University of Arkansas, Arizona State University, and General Mills. Beginning in March 2008, the group met three times to explore how Walmart could build a credible index to measure the sustainability of products.

The steering committee recommended that Walmart pursue a system that was both transparent and based at least in part on international standards, such as the science-based life cycle analysis (LCA) for environmental metrics. A starting point was the International Standards Organization (ISO), an international standard-setting body composed of representatives from various national organizations that promulgates worldwide commercial and industrial standards. According to ISO, LCAs represent the "compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle," including information about raw material acquisition, transportation and manufacturing, energy use and efficiency, and end-of-life recycling, disposal, or repurposing. (See Exhibit 5.) LCA was central to the ISO's protocol for business-to-business communications about product environmental impacts, such as carbon emissions and water usage, because the LCA framework supports the development of common metrics that can be scored and compared. For Walmart, the construction of a LCAbased index would provide standards against which they could evaluate their progress in selling sustainable products.

When the Walmart team hosted the Sustainability Index Summit in July 2008, it hoped to broaden the conversation and explore with stakeholders how to create such an LCA-based index. Walmart representatives described the broad need for product sustainability, outlined its own research, and proposed an approach. The participants, including 145 suppliers, NGO participants, and academics, settled on "four buckets that an index should address: natural resources, energy and climate, material efficiency, and people." As Waddoups described the outcomes:

We ended the last day with three key insights. Generally, we had a much keener perspective on how little knowledge existed about building an index such as we were contemplating. As such, there were no easy starting places. But first we realized we had to start with the supplier and understanding supplier sustainability at a macro level. Second, we should then focus on categories and understanding by category where the hot spots are and how we develop better insights to improve at the category level. Third, we should focus on individual products, how they score, how one product scores versus other products.

# **Supplying Environmental Standards**

The meeting produced some valuable outcomes, but Kistler still confronted a number of questions. Should Walmart lead in the development of standards for product sustainability? If so, how? Should it buy an existing standard and adapt it to its needs or develop its own standard inhouse? Or should it work collaboratively to seek a comprehensive solution in tandem with other large corporations and stakeholder groups? And if it chose to collaborate, how much should Walmart contribute in terms of effort and funding? To analyze these questions, three dimensions needed to be considered: capabilities, credibility, and competitiveness.

### Capabilities

Kistler and Waddoups had learned a lot about measuring product sustainability. They also had a better sense of what they didn't know. Their experiences in their own Earth Day promotions and

the outcomes of their search efforts convinced them that no one had all the answers. The science was not there, and neither was there agreement on the fundamental assumptions of what a sustainable product was. There was no comprehensive solution, only fragmented approaches (though some of them were quite good), and most solutions referred to single or related product categories (e.g., seafood, forest products). As a big box retailer, Walmart needed to measure in multiple dimensions across multiple categories in multiple markets. Thus,

The more we explored, the more we discovered that there are resources, beginning points, but we needed so much more. How were we going to measure water and the importance of water? What's the difference between water in waterstarved regions in India versus water in North Dakota, where they've got plenty of it? How do you deal with the differences in geography and the real impacts associated with decisions you have to make?

Complicating the situation was the nature of the information that would provide the basis for any comprehensive system. Such information came from complex, global supply chains and was very difficult to obtain. Few products in the global marketplace were sourced, manufactured, distributed, consumed, and disposed of in a single country. As a retailer, Walmart would need to amass comparative information on many products, and there was no way to sort out all the information without the help of other firms. But it would require substantial market power to compel others to provide information. As Waddoups realized, "there are lots of metrics programs in use or being developed, and lots of big companies are working on this problem; but these are all bodies in random motion. Walmart can establish orbits." Walmart's huge size and scope might move supply chains around the world in a manner that other retailers could not, but undertaking such an endeavor in-house required a set of capabilities that Walmart did not presently possess. Waddoups believed that defining standards simply was not a core competence Walmart could easily leverage: "We're a retailer and building an index is not our core capability."

The decentralized sustainability function in Walmart also meant there would be significant organizational implications for developing an index in-house. It would be necessary to bring in scientists to work on LCA and other environmental and social dimensions that would be incorporated into any proposed standards. Just as problematic, Walmart would have to verify any data it managed to collect and incorporate into an index. How could it determine if suppliers were providing correct information? Or suppliers' suppliers? Taking responsibility for the accuracy of the information it presented to consumers would necessitate Walmart to be certain of

the veracity of the information it received, an accomplishment that would require significant investment in new capabilities and relationships.

### Credibility

The credibility issue was two-pronged: the credibility of the index and Walmart's own credibility. How would consumers, suppliers, competitors, and other stakeholders react if Walmart created an index? A private standard, just for Walmart suppliers, would make the effort vulnerable to claims that Walmart was using scientific standards that only fit its agenda. Even if the sustainability office could operate an index fairly and transparently, outside observers had no reason to believe it. To outsiders, the credibility of an index or certification depended on a multistakeholder process for developing the standard.

At the Sustainability Index Summit, Kistler asked two academics, Jon Johnson of University of Arkansas and Jay Golden of Arizona State University, to develop a proposal for a university-led effort that would involve industry and stakeholders:

I asked Jon and Jay for a statement of work—what it would take to create an index? I think of colleges and universities as being 'neutral.' If an index like this comes from any particular sector—like business, NGOs, or government—then it's unlikely that the other sectors will see it as credible. So universities are the closest thing I know to an unbiased, science-based source.

One alternative was to employ watchdog organizations that would audit the index metrics, but in that case, the certification might be suspect due to potential conflicts of interest. It also implied higher costs, which would allow competitors to make competing, unaudited claims at lower costs. And if no other firms followed, there was no reason for anyone to believe that Walmart was really doing better for the environment.

Yet Walmart's credibility also was at risk if it failed to act. In his 2005 speech, Lee Scott said that every company had a responsibility to reduce greenhouse gases as quickly as it could. Although an index might help that effort, Scott had not mentioned it explicitly. Instead, in a reflective moment in 2006, Scott hinted at the greater responsibility associated with being one of the world's largest companies:

If we had known ten years ago what we know now, what would we have done differently that might have kept us out of some of these issues or would have enhanced our reputation? It seemed to me that ultimately many of the issues that

had to do with the environment were going to wind up with people feeling like we had a greater responsibility than we were, at the time, accepting.<sup>ix</sup>

### Competitiveness

Walmart had already learned that collaborating with competitors and suppliers was an excellent way to bring innovations to scale faster by lowering costs common throughout the industry, such as energy. It was not competing on electricity costs, so if common solutions could be found that lowered everyone's cost, then everyone gained. As Kistler described it, "Sustainability is something that Walmart has always shared. We share scorecards, we share information, we invite everybody to participate, we work with the other retailers—it's always been a very collaborative approach."

But was collaborating on product standards different? The company did compete on product characteristics. Ultimately, the creation of a sustainability index was a public good that would benefit many firms, as well as the environment. If established collectively and openly, no single organization would enjoy an initial competitive advantage, which made this scenario a "pre-competitive" space. That is, no one could compete on environmental standards before the competitive criteria were defined. Waddoups summarized the collaborative advantages and tensions of developing a collective index: "How could we create an open environment where we can make world a better place, but through collaboration also create the incentive structures to drive the right behavior?"

A key challenge revolved around information disclosure. Some firms were concerned about possible negative outcomes if they participated in a collective effort to build and maintain a meaningful index. Waddoups paraphrased Walmart suppliers' concerns: "I'm not giving Walmart any product information. Why would I give Walmart more information than absolutely necessary if they are just going to use it against me?" Kistler believed though that suppliers could supply the necessary the data without revealing proprietary information, even if creating the incentives for firms to participate would require developing collective rules and trust over time.

A second set of issues pertained to who would develop and run the index. Kistler worried that the introduction of many players into a collaborative effort to build the index might slow down any efforts to introduce collective standards. For example, multiple actors with diverse interests

#### **Defining Sustainable Products**

and perspectives engaged in a complex decision-making process might lead to stalemates rather than innovation. Even if excellent incentive structures and decision-making processes could be developed, someone would still have to pay to build and maintain the index. It was difficult to estimate the total cost, but even conservative estimates suggested tens of millions of dollars.

With regard to funding scenarios, "ultimately, for big companies, we all need the same thing so why don't we work together?" Kistler thus suggested that there should be an "opt-in" system led by Walmart, such that "others could use it if they wanted to, but you would benefit because you would be in the driver's seat and you would have it first." The "early adopters would win because they would be able to use the information." But he also noted the tension between who pays and who benefits:

First of all, funding the index was inconsistent with the principles of sustainability of Walmart. We couldn't invest unless it paid back to the business. And I couldn't justify tens, twenties, or thirties of millions of dollars to do this work because the payoff, quite frankly, would not be there for us, ever, in most of the areas. In some areas it might because of efficiency, but not most of it. The people who stood to gain most were the manufacturers—it wasn't the retailers. If they can make the products more efficiently, they can save money. And so why we would not want them to invest in tools to help them do that? Ultimately though, the consumer wins because we were the catalyst.

Kistler believed there were both moral and practical issues to consider when it came to the question of whether the company had a responsibility to make the index public:

Consumers are increasingly requiring that companies be responsible for the products that they make and sell. Companies need to do the right thing, and we would rather be the company to drive the change for good than one that rode in the backseat. It's the better story to tell. And from a business standpoint, if you're driving the change, you're gaining efficiencies and reducing costs faster than others. At the same time, it is a collective good for the entire industry, similar to packaging changes. Packaging changes that a manufacturer makes for Walmart tend to ripple through the entire supply chain. We win, and our competitors win too. We know that by reducing packaging, by improving energy efficiency, our competitors gain the same advantages. But ultimately, its consumers we really care about, and the consumer wins regardless.

#### **Defining Sustainable Products**

Kistler reflected back over the past ten months and what he and his team had learned. He and Waddoups agreed that the problem seemed pretty straightforward at first: "The ultimate question around products is: One: what is a more sustainable product? Two, how do you know if it is that?" But the current environment for measuring product sustainability was fragmented. There were multiple ways to measure sustainability and none of them was comprehensive or spanned multiple dimensions and product categories. The development of corporate standards for product sustainability therefore represented a watershed in Walmart's efforts to sell sustainable products. Without credible and measurable standards, it would be difficult to evaluate progress toward this stated objective. Yet, if Walmart were to move alone in developing its own proprietary standards, others might doubt the veracity of its claims, even as Walmart was investing in developing capabilities that it did not currently possess.

If Walmart instead collaborated to develop a public standard, it would face a different set of risks and returns. In particular, a collaborative strategy raised challenging issues associated with the relationship between sustainability and firm-level competitiveness. The benefits of a public standard were likely to accrue across many firms and stakeholders, but many would look to Walmart to bear the costs and risks of leading such a collaborative effort. Any direction chosen would lead to difficulties. But Kistler also knew he and his team had to move quickly on their make, buy, or collaborate decision, otherwise they would need to scale up the product-level approach that had been successful so far if they wished to measure product sustainability across the full range of categories that Walmart sold. Either way, accelerating product sustainability at Walmart was a goal that could not wait.



Exhibit 1. Earth Day Promotion for Campbell's Condensed Soup

**Exhibit 2. Sample Certifications** 



## Exhibit 3. Ecobabble



### Exhibit 4. Index Summit: Diverse Approaches





### Exhibit 5. LCA Model

#### Endnotes

- <sup>i</sup> Ginsberg, J.M. and P.N. Bloom. "Choosing the Right Green-Marketing Strategy" *Sloan ManagementReview* Vol. 46, no. 1 2004. pp. 79–84; see also Plambeck, E.L. and L. Denend. "The Greening of Wal-Mart." *Stanford Social Innovation Review* Spring 2008. pp. 52–59.
- <sup>ii</sup> Scott, L., *Twenty First Century Leadership*, October 24, 2005. Wal-Mart: Bentonville, Arkansas. Text available at: http://news.walmart.com/executive-viewpoints/twenty-first-century-leadership.
- <sup>iii</sup> Kistler, Matt. Personal interview, conducted expressly for the development of this case. July 6, 2011.
- <sup>iv</sup> The remaining networks were Alternative Fuels, Global Logistics, Greenhouse Gas, Sustainable Buildings, Packaging, and Operations/Procurement.
- <sup>v</sup> The label on the can of Campbell's condensed soup included the following information: "By letting you add the water at home, we can make the cans smaller, which saves a lot of metal, and lighter, which saves fuel when bringing it to your local store shelf." Environmental bloggers were quick to note that, according to the manufacturer's website, the soup had been condensed since 1897.
- <sup>vi</sup> Ballantine, Miranda. Personal interview, conducted expressly for the development of this case, July 5, 2011.
- <sup>vii</sup> Waddoups, Rand. Personal interview, conducted expressly for the development of this case, July 6, 2011.
- <sup>viii</sup> Hecht, A. "Government Perspectives on Sustainability" *Chemical Engineering Progress*. January 2009. pp. 41–46.
- <sup>ix</sup> Gunther, M. "The Green Machine" Fortune 2006. July 31. pp. 34–42.