

Creating A Culture of Environmental Awareness and Commitment

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Introduction

My colleagues at DuPont have witnessed the successful efforts by Shanghai in raising the awareness of and encouraging public participation in building Shanghai into a resource-conserving and environment-friendly city.

I am honored to have this opportunity to share my thoughts on how to further motivate public participation in the city's pursuit of sustainability. DuPont has been active in promoting sustainability in all the markets where the company operates, including Shanghai and China as a whole. I am happy to report that we have made progress and have been recognized as a leader in sustainability. I hope our experiences in shaping this concept throughout our company, in offering environmentally smart products, and in partnering with customers, regulators, NGOs and other stakeholders, will be a valuable reference for the city.

Sustainability: An Evolving Process

At DuPont, our mission of sustainable growth can be traced back to decisions and commitments we began making decades ago. In the 1970s and 1980s our focus was on internal safety and meeting environmental regulations. In the late 1980s and 1990s we added voluntary footprint reductions, going beyond regulatory requirements. We looked to increase shareholder value with a goal of zero safety and environmental incidents as we decreased raw material and energy inputs into our products and reduced emissions at our manufacturing sites.

Now we see ourselves in a third phase of sustainable growth, characterized by a holistic approach that is fully integrated into our business models. In this phase, sustainability is broadened to include human safety as well as environmental protection, and it becomes our market-driven business priority throughout the value chain. The transition to products that meet the definition of "sustainable" will take place over time. But the pace will quicken as the synergistic effects of market demand, societal expectations and product innovation create collaborations up and down the value chain. Sustainability will increasingly become central to the total value proposition. This will impact not only *our* business, but every customer and – through *their* products – every consumer we touch.

How to accomplish that is changing in this new century of sustainability. For innovation to be successfully introduced into the marketplace and accepted by society, it must be based on many forms of partnership and continuous dialogue with stakeholders, including governments, NGOs and academia. Science and innovation that does not address pressing human needs will not advance sustainability. Likewise a vision of sustainability detached from science and technology will not succeed. We need both the commitment to sustainability and the accomplishments of science.

Implications for Shanghai

Along with the rapid economic growth in the last two decades in particular, Shanghai has been doing a very good job exposing its citizens to modern managerial concepts and business ethics, such as environmental protection, clean manufacturing, and sustainable growth. Modern technology, especially telecommunications and information technologies, allow local businesses and the general public to be exposed to new concepts and ideas as quickly as their counterparts elsewhere in the world. The responsibility of city government is to direct its people and business community to those ideas that would benefit the city's and its people's long-term benefits and advancement. Sustainability is a concept worthy of the government's further efforts to promote and cascade.

In the science and technology arena, in its mid-to-long-term science and technology development strategy, Shanghai has set itself the goals of developing into one of the world leaders in knowledge competition and one of the global knowledge-based production and service centers. Some of the focused areas under Shanghai's 8561 direction for science and technology development*, e.g., bioscience, new materials and applications, strategic energy, nanotechnology, to name a few, are the areas identified by the global research and development community as key to sustainable growth. Hence, if Shanghai would integrate its R&D and sustainability strategies, it would promote advancement on both fronts.

* Shanghai's 8561 direction for science and technology development: 8 identified technology development fields and 5 sub-fields, establishment of 6 technology engineering centers and 1 major project.

Employee commitment is essential

We also need the commitment of our employees to the idea of sustainability as well as environmental protection and conservation.

When presented with the challenge to protect the environment, every person will ask himself or herself, "what is in it for me?" Some people have an instinctive desire to protect nature and natural resources. Others are moved by a wish to leave the world a better place for their children and grandchildren. Others may simply be motivated by their understanding that sustainable growth is vital to the future success of the company that employs them. But the first consideration of any effort aimed at forming among the public an environmental awareness and a conservation ethic is to help people discover the resonance between these broader goals and their personal goals.

We announced our first environmental goals to the public in 1989. During the nearly 20 years since, our employees have been central to our accomplishments and progress. But our employees did not immediately understand their role, nor were they all automatically committed to conservation and sustainability. Actions we took as a company helped them see the value of our mission to achieve sustainable growth. At the same time, we listened to our employees, and many of them had outstanding ideas that contributed to our company's progress in this area.

Some of our experiences in this regard, are I believe, relevant to the Shanghai government's desire to encourage public participation in conservation and to raise awareness of environmental protection and actions that individuals can take.

Implications for Shanghai

A city has both corporate citizens and individual citizens. Each has a role to play to realize the city's sustainability vision.

I am aware that in China there is a saying that businesses are the cells for a society's healthy growth. Business investment in R&D aimed at sustainable development can contribute much to the future of technology. Business products and solution offerings will also have big impact on behavior throughout the value chain and on public consumption. Business can be a role model for the general public in encouraging pursuit of sustainability. Shanghai may want to spend more time and energy in channeling corporate behaviors to its citizens.

Among general public stakeholders, it is especially important to involve the generation of young people now in their twenties who will be the leaders of tomorrow. Young people the world over learn from first-hand experiences and from having fun. Maybe Shanghai could consider programs or other vehicles to enable young leaders to exchange ideas on sustainability with their counterparts from other countries.

Six Key Actions

We have identified six actions that have been helpful in our company and which we believe could be applied by governments and civic organizations as well. The six key actions I will mention could be adopted by Shanghai both to engage its corporate citizens and to enlist individual citizens in progress toward sustainability.

1. Vision clearly defined by leadership at the top

At DuPont, we trace our current sustainability efforts back to 1989 when our CEO at that time, E. S. Woolard, Jr., signaled a new approach to environmental performance that would go beyond what were the minimum requirements of the regulations where we operated. From the outset it was clear to all our employees that our enhanced commitment to environmental performance was being championed by the chairman of the company. Mr. Woolard was the first chief executive of DuPont to say that "CEO" stood for "Chief Environmental Officer" as well as "Chief Executive Officer." Each of his successors has made the same statement.

As time went on, we created other important messages to communicate to all employees the seriousness of our commitment to environmental performance. In the 1990s we began a campaign to promote "The Goal is Zero." By that we meant that our goal was zero for wastes and emissions and environmental incidents.

In the late 1990s, we adopted “sustainable growth” as the mission of DuPont. By sustainable growth we mean the creation of shareholder and societal value while we reduce our environmental footprint along the value chains in which we operate.

Most importantly, we identified “environmental stewardship” as one of the four core values of DuPont –on a par with Safety and Health, Ethical Behavior, and Respect For People. Employees know that the expectation is that all our actions will be guided and informed by and examined and evaluated in light of each of these values. In this way, environmental and sustainability concerns became ingrained in the way we do business and conduct all our affairs and operations.

Key to the reception and understanding of these ideas and concepts was their repeated emphasis by the senior leaders of the company. We believe that “tone at the top” is essential if the people in an organization or a community are going to accept and work toward environmental goals and practice conservation measures.

Implications for Shanghai

I understand that Mayor Han and his colleagues have been the designers and drivers of the city’s sustainability efforts. You may want to consider making sustainable development part of the charter for the city. And, of course, there is no more powerful way to promote sustainability than by the city’s leaders setting a personal example by the “green” decisions they make in the way in which they work and live.

2. Assign an “implementer,” who will develop systems to ensure implementation of the environmental vision and objectives.

Once a commitment is made, it is crucial that a leader be identified who can help the organization implement the actions necessary to achieve the vision and objectives that the organization has embraced and who can track progress. In our company that role falls to a vice president who thinks creatively, acts decisively, and communicates persuasively to the entire organization.

It is important to emphasize that this leader is not solely responsible for program success and is not the lone implementer of the work toward environmental objectives. That is part of the responsibility of leaders at every level of our company and in every organization.

But it is vital that a center of excellence exist that can provide examples, ideas, methodologies and evaluations to which the rest of the organization can turn for assistance and information.

Implications for Shanghai

Shanghai is huge metropolitan area in terms of geographic coverage, population and the way the city works. It might be a good idea for Shanghai to integrate its sustainability efforts by establishing a single agency to coordinate matters related to sustainability. Doing so would send a message to the people and businesses in Shanghai about the city’s

direction and focus, and provide a single point of contact for people to raise ideas, make contributions, and debate issues.

3. Set goals so everyone has something to measure progress against

DuPont is very much an engineering company, and we often have said that what gets measured gets done. It is no exaggeration to say that our progress toward sustainability has been goal-driven.

To keep us on track, we found it useful to create goals so everyone in the company knows what we are aiming for and everyone outside the company can hold us to it. We take such commitments very seriously. For example, in 1994, we set a goal to reduce greenhouse gas emissions by 40 percent by the year 2000. We achieved that goal on schedule. Then we challenged ourselves to reduce our greenhouse emissions by 65 percent by 2010. We made that goal as well. In fact, we achieved a 72 percent reduction by 2004, six years ahead of schedule, and avoided costs of over \$3 billion by holding our energy use six percent below 1990 levels – while production increased!

Now we've created a set of 2015 Sustainability Goals that renew and expand our commitment to sustainability. Our 2015 Sustainability Goals span every sector of our operations from R&D to manufacturing to marketing. They go beyond traditional footprint reductions to include goals that tie our business growth even more directly to the development of safer and environmentally improved products for the many global markets we serve – transportation, communications, construction and agriculture, to name a few. They also make sense from a business performance perspective because revenues from our current safety and environmental offerings are increasing at double our average revenue growth rate.

First and most important among this newest set of goals are what we call our “market-facing goals.” These build on markets and opportunities where we believe our integrated science capabilities in chemistry, biology and materials science can make a difference for our shareholders and society. For example, not only will we work to develop alternative fuels, but we also will create products that help make the use of those fuels more efficient. To intensify our ongoing efforts to minimize the environmental impact of our operations around the world, we have updated and expanded what we call our “footprint goals.”

Implications for Shanghai

The city already has many specific goals for its businesses, such as energy conservation goals and emission reduction. Could those goals be coordinated or combined as part of an overall sustainability objective? Also, with the Shanghai Expo scheduled in two years, now is an opportune time for Shanghai to set sustainability goals for the Expo, such as new technologies to control greenhouse gas emissions, the percentage of exhibits that are sustainability oriented, and so on. As participants are recruited, exhibition halls constructed and Expo operations begin, reports could be made on progress toward the sustainability goals.

4. Have strategic reviews with key organizations to discuss their role in achieving goals. Discuss potential roadblocks that might affect success.

Goals are pointless unless effort is made to track progress toward achieving them. At DuPont senior leaders and those responsible for directing our environmental activities meet regularly with other leaders in the company to review their strategies for implementation and to assess their progress. These reviews are valuable for a number of reasons. Not only do they reveal progress, but they often indicate areas of opportunity that can be of value to the entire organization. In these reviews we can identify best practices that can be shared and implemented by other groups.

These reviews are also “reality checks.” They help us understand the feasibility of success in areas and often enable us to identify obstacles that may require extra effort or innovation to overcome.

Reviews are also an opportunity for senior leaders to listen. In the end, a philosophy and commitment to the environment is not only top down it is also bottom up. The real achievements in any environmental effort will be made not by single broad actions but by countless everyday decisions taken by employees at every level of the company. At the heart of the review process is the understanding that everyone in the company is, in a manner appropriate to his or her job, accountable for our progress and our success in the environmental arena.

5. Develop awards/recognition to highlight key programs and significant accomplishments.

Early on in our sustainability journey we created an annual awards program to single out and honor individuals and teams whose environmental efforts were especially noteworthy and instructive. More than 15 years later, we continue this today with what we call our Sustainable Growth Excellence Awards. Such a program is first and foremost about making people feel successful and valued. We bring employees from around the world to our headquarters for this recognition. Included with the medal and certificate, each winning team is given the opportunity to direct a contribution of USD5,000 to a nonprofit organization of their choice that engages in environmental or sustainability actions or education.

The judges for these awards include leaders within the company to be sure, but half the panel of judges are sustainability experts from outside the company. The program underscores the seriousness with which we approach sustainability.

However, an award program also has benefits to the overall company. The quantity and quality of projects nominated for the awards is a good barometer of the level of enthusiasm for sustainable growth in the company. As the details of the winning projects are shared, they encourage and inspire others groups to follow similar paths, learn from the success of others, and adopt practices that improve performance throughout the organization.

Consider an example that indicates the type of projects that we recognize.

One of our large plant sites in the state of Texas is called the Sabine River Works. In 2000, the Sabine River Works renewed its commitment to reduce energy costs. The renewed focus sparked decentralized programs that were easily identifiable and inexpensive to implement across the site. When the easy energy reductions were in place, site and area leaders established a centralized program that to implement non-capital projects for energy-saving. DuPont energy and process consultants conducted an energy assessment to identify new opportunities, and the U.S. Department of Energy (DOE) carried out an independent assessment. Networking with other DuPont sites through the DuPont Energy Center of Competency led to shared learnings and ideas. A total of more than 55 projects resulted which reflect the scrutiny and focus of Sabine employees on energy usage as well as innovative steps to improve efficiencies.

The result was that in 2006, energy consumption was down 20 percent from 2000 levels and had saved USD 33 million per year. Over the period, total reductions amounted to 25,000 BTUs and USD 101 million in costs. The reduction in natural gas consumption is enough to heat 257,000 homes for one year, based on average fuel use in Midwest homes. The greenhouse gas emissions reductions of 1.507 million tons per year equates to the carbon dioxide generated by 276,000 mid-sized cars.

Another example comes from here in China. In 2004, when DuPont acquired our Hubei site in China, due diligence uncovered conditions that did not comply with either local regulations or DuPont Safety, Health and Environment standards. Immediately after acquiring the site, DuPont initiated actions to correct all the problems. The steering team shut down the plant and launched a Phase I Sustainability Project that included outsourcing resin production, using qualified vendors to treat process wastewater, and ending sludge generation by changing the sanding dust collection process.

The team communicated the plans and steps to resolve the problems to employees, the community and government officials. Within six weeks, plant operations resumed, and Phase II began. Phase II focused on groundwater remediation, upgrading the firefighting system, resolving the issue of sanding dust, and providing hearing protection as well as reducing noise levels.

The Hubei Plant received external recognition for these sustainability accomplishments. Huang Gang City named Hubei a Top Ten Environmental Model in December 2005. Xishui County recognized the plant as The Most Excellent Plant in January 2005 and The Most Respected Plant in February 2005. When the Hubei team won a DuPont Sustainable Growth Excellence Award this year, they chose the Environmental Bureau of Xishui County to receive the USD5,000 grant to help reward individuals and companies for improvements to the local environment.

These are just two examples of many dozens of projects that our employees have undertaken and which we have recognized during the past decade and a half.

6. Form relationships with key NGOs and other outside groups.

Just as a variety of perspectives is essential within an organization, so are the viewpoints of groups outside the organization and in different sectors of society. We have worked diligently to develop relationships and cultivate dialog with individuals and organizations who can serve a sounding board and checkpoint on the relevance of our sustainability efforts. We even include interactions with individuals and groups who at one point or another may have been critical of our performance. In so doing, we acknowledge areas where we have room to improve. We also create opportunities for mutual respect and potential partnership in future programs and activities.

One of our proud moments was last year when we announced our 2015 Sustainability Goals at a special press event in Washington, D.C. We had participating at that event a panel of outside experts. These included the presidents of the World Resources Institute, Environmental Defense, and Public Citizen. At one time or another each of these groups had been at odds with us over one or more issues. But the presence of their leaders at an event we sponsored indicated that they understood the depth of DuPont's commitment to sustainability, our readiness to engage in dialog, and our willingness to change when necessary.

Implications for Shanghai

Shanghai and other cities in China have great experience in involving the public in monitoring and correcting corporate behaviors in environmental performance, product quality and hygiene standards. The city government could suggest its businesses to expand such arrangements into the area of sustainability performance. By doing so, the government could leverage third parties to engage business sectors and promote public participation.

Conclusion

I hope my review of what we have been doing at DuPont in terms of sustainability, together with some initial thoughts for Shanghai, is beneficial to the discussion today. I want to emphasize that DuPont is committed to pursuing sustainability in our operations and R&D activities in Shanghai and to supporting the city's efforts in achieving our shared vision of sustainability.

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