

Executive Summary

Natural capitalism is about choices we can make that can start to tip economic and social outcomes in positive directions. And it is already occurring—because it is necessary, possible, and practical.

Natural Capitalism, p. 322.

The H.P. Bulmer, Ltd. management group has a vision of Bulmers becoming a leading corporate entity dedicated to sustainability, a leading-edge role model throughout the world and particularly in Herefordshire. In support of this vision, Rocky Mountain Institute (RMI) orchestrated a four-day sustainability charrette, *Building a Sustainable Hereford*, 21-24 May 2001. The charrette—an intensive transdisciplinary workshop that facilitates effective problem solving and decision-making—provided facilitated dialogue focused on capturing environmental performance improvements in six areas of Bulmers operations, and two areas of community influence: Land-use, Sustainable Agriculture, Manufacturing Processes, Packaging and Transportation, Marketing, Management, Community, and Bulmers Stakeholders.

The charrette's recommendations and suggestions aim to increase operational effectiveness and profitability, and at a minimum, *in no way to reduce profitability or competitive strengths*. RMI's experience suggests that with highly efficient end-use, the quality of Bulmers products and services will generally improve; existing system or infrastructural constraints are often corrected; and the economics should be attractive.

This report is an effort to document the discussions that occurred at the charrette. It is hoped to serve as a roadmap for some, but not all, of the salient opportunities meriting closer study by Bulmers. Further actions should be based on additional evaluation by qualified specialists.

Emerging Themes

Bulmers' sustainability charrette produced a vast store of ideas regarding how HP the company and the community within which it operates might enhance their triple bottom line goals—economic, environmental and social. Some of these ideas became specific recommendations or action items that are outlined in this report. Others—goal-oriented discussions—generated general ideas but not specific actions for Bulmers or the community. Others fell somewhere in between.

Some key themes/areas of focus emerged repeatedly and were shared among the different discussion groups. These larger themes cut across department, corporate and community boundaries. They are iden-

tified in this summary, and are likely to be excellent indicators of exactly which initiatives will have the best triple bottom line value.

The excitement among the roughly 100 attendees at the charrette indicated that there is strong support both inside and outside Bulmers for sustainability.

Management Strategies

Sustainability needs to become the best solution to Bulmers current and long-term primary challenges. This requires real experience and practice using a sustainability model for decision-making. The ability to develop a sustainability solution for each critical management challenge will be a giant step forward.

Management must ensure there is only one strategic management structure, and that Triple Bottom Line sustainability is integrated into it.



Figure 4: Mike Hughes summarizes the charrette findings. Photo by Huston Eubank.

Sustainability should be seen as an organizing principle that guides and enhances the existing environmental-health-safety (EHS) management structure, making it a whole-system and an indispensable part of corporate strategic decision-making. Utilize a plan-do-check-act (PDCA) system such as the existing ISO14001 Environmental Management System (EMS) to insure that sustainability is not pigeonholed—as the EMS is currently—but becomes a part of everything.

Bulmers framework for sustainability should include the following qualities:

- Inspiration-Engagement-Inclusiveness
- Comprehensiveness
- Measurability and Transparency
- Clarity and Shared Mental Model
- Credibility and Integrity (Defensibility)
- Flexibility and Responsiveness
- Stakeholder Impact
- System Integration and Impact

Evaluate capital expenditures based upon all relevant potential savings; these include energy, maintenance, hiring cost, lost production cost, and product quality improvements. Base investments upon achieving lowest owning and operating cost, not the lowest first cost. Pre-authorise implementation of any improvements that meet agreed-on performance criteria.

Designate people whose entire positions are centered on Bulmers sustainability strategy and implementation, with curiosity, technical and diplomatic skills, and direct access to the CEO. Create a position for at least one dedicated energy efficiency staff.

Review Bulmers rewards system and modify as needed to insure that promotion, compensation, and recognition clearly reinforce sustainability strategies. Modify the current gain-share system to reward sustainability results. Reward employees both for sustainability projects they personally initiate, and for offering ideas. Evaluate sustainability effectiveness in employees' performance reviews; this sends an unmistakable message from management.

Measure

A business that functions as a learning organization—rewarding measurement, monitoring, critical thought, and continuous improvement—will always outpace a corporate culture peopled by dial-watchers and button-pushers.

Natural Capitalism, p. 68.

Only that which is measured can be effectively managed. Discussions of measurement were central to many of the charrette groups. Sustainability activities must be measurable, and a sustainability framework needs to bring measurable goals to an organization's core strategy. Bulmers should identify, measure and pursue the synergies that result from a whole-system approach to sustainability.

Including natural capital in corporate accounting is an important component of accurately measuring the sustainability of Bulmers' operations. Currently, most estimates of a manufacturer's cost of producing a product do not accurately measure the product's costs or its benefits. Accurate accounting of the full costs of production is essential; if energy costs are folded into overhead, for example, product managers have no incentive to minimize processing energy costs.

A key concept of resource efficiency is improved design that substitutes information for mass. In facilities management, information can displace energy use. The most valuable forms of information in this effort are performance metrics, especially those that drive continuous improvement.

Better measurement and control systems are an inexpensive way to increase efficiency in farming. Substituting information for resources permits more intelligent management, results in more and better crops, and saves soil, time, water, and money. Instead of guessing how moist the soil is, what nutrients the crops have or need, how fast they're growing, or how many of what sorts of pests they have, farmers are beginning to use measuring devices to guide their day-to-day decisions.

This puts the focus on the type of question that is asked. What is the value to Bulmers of a unit of pressure, a watt of heat, or a one-percentage-point increase in system efficiency? Some firms have relabeled meters and gauges with such financial metrics. Dollar-equivalent units can also be incorporated into management systems software displays. Calculating and disseminating this type of information can help engineering staff and management to understand—and thereby improve—the effect of their decisions on Bulmers' bottom line.

The process group strongly recommends an overall audit of current energy usage flows and temperatures to establish a detailed energy balance and metrics for the site. This is an essential first step in determining energy saving possibilities.

What is the economic value of adding 1 week to mill season? Determining this is the basis for evaluating various strategies dealing with improving mill productivity.

Trapped Equity/Waste Streams

Waste is "unsaleable production." Learning to use waste in some productive way causes the cost of disposal disappear and a revenue stream to appear. Bulmers waste streams should be thoughtfully and critically examined by experts and regarded as the base material for creating other useable, non-toxic, non-polluting products. This was one of the strongest lessons from the charrette; discussion occurred in most of the groups.

Fungi expert Gunter Pauli of Zero Emissions Research and Initiatives (ZERI) explained how Bulmers' orchard clippings could be used to grow shiitake mushrooms, creating a revenue stream of millions of pounds annually—possibly in excess of the value of the apples currently grown. Gunter and others showed that pomace and yeast "waste streams" also have profitable extended uses.

Critically examine non-organic byproducts for re-usability. The current lack of leadership on PET recycling represents an opportunity. Despite grassroots support for recycling PET, most nations have not established effective and economical recycling systems. The firm smart enough to figure out profitable recycling (or influential enough to push legislation

requiring recycling) will become a widely respected industry leader and consultant.

Waste streams of food production also include heat, steam, "coolth," electrical inefficiency and other things. Pasteurizer steam, pasteurized water, rinse water, mechanical heat and compressed air are all prime examples of waste streams that might be used for other purposes. Bulmers may want to hire a process specialist to assess the value of each processing aid and whether it can be eliminated or reused.

Turning waste streams into non-polluting revenue streams cuts across department, social and corporate boundaries. It engages many stakeholders, just as it inspired several discussion groups during the charrette.

Sustainable Agriculture

For economic, health, and environmental reasons, a major overhaul of current agricultural production methods is needed to achieve adequate, acceptable, and sustainable food and fiber supplies. Many practitioners in both developed and developing countries are therefore adopting new or modernizing old methods of agriculture that are more clearly based on natural models. Their overhaul doesn't involve just doing the same things differently, because the problem of agriculture cannot be solved within the mentality that created it. Rather, the new solutions are the result of whole-systems thinking and the science of ecology; they embody the principles of natural capitalism; they follow the logic not of Bacon and Descartes but of Darwin.

Natural Capitalism, p. 198.

The leading initiative from the Sustainable Agriculture discussion group at the charrette was for "Sustainable Orchard Agriculture." The goals for this initiative include a more secure orchard land base and a better apple for Bulmers—higher quality, greater yields, cleaner condition. Action items include experimenting with existing growers in order to encourage organic orcharding; trials with harvesting machinery and understory ground covers; and trying out different types of apples, for sugar content, tannin levels, etc.

The group's second initiative focuses on local procurement and four categories of new crops: glucose sources, new processing fruits, biofuel, and packaging. The goal is a persuasive business case for procuring more ingredients for Bulmers cider from the regional economy, and finding new uses for its milling and pressing machinery. The wider goal is to help stabilize farming in the region by writing contracts that ensure certainty of income to farmers.

Milling fruit on farm with transport of juice to factory should improve the quality of juice, while saving Bulmers the cost of running mill and press machinery.

The group recommended creating a model farm demonstrating organic orcharding/farming techniques. The educational and community-building opportunities are tremendous. A model farm can serve multiple purposes for Bulmers: a place to experiment with agricultural techniques and products, a place for training and evaluating Bulmers employees, and a place for meetings such as negotiating with other firms, investors, media events, etc.

Two central observations emerged from this discussion stream: secure incomes are as important as maximum incomes; and long-term trust in contracting was the crucial tool by which sustainable agriculture would emerge.

Water

Biological processes can improve quality of incoming water from all sources, and treat process effluent. "Living technologies" create water from effluent that is good enough, after sterilization, to be reused anywhere in the process. Overall the systems would produce fish and botanical products with value averaging as much as £375 per square meter per year. There are other synergies such as using waste heat and waste CO₂ to speed the treatment processes, and using sugar produced in the treatment process.

Bulmers Identity Crisis and "The Apple"

Many places use the apple as a symbol of the region. Tourism officials in Hereford promote the apple. Currently, Bulmers main products center on apples. Yet the company that originally inspired the Hereford Tourism Council to promote the apple—Bulmers—barely mentions it.

Charrette participants believe that Bulmers should latch onto the apple—a life-giving, non-destructive, highly portable, cheerful-looking, delicious, enjoyment-creating organic *thing*—as a symbol. Put an apple logo on all Bulmers products. Generate a new Bulmers logo that includes the apple. Purchase the web URL apple.co.uk (currently owned by a small graphics firm that might be willing to sell). Become the lead corporate sponsor of National Apple Day, and create Hereford's own event.

In addition, Bulmers should market the name Bulmers. Most UK residents have heard of Strongbow; not nearly as many have heard of Bulmers. As Bulmers moves its sustainability agenda forward, the company name will begin to stand out in new ways. It will come to mean more than just Strongbow and other alcoholic beverages. It might one day be closely linked with concepts such as a clean envi-

ronment, sustainable farming communities, and good health.

A key idea was how Bulmers could be perceived in the future. *Bulmerness* would become an identifiable quality that means restoring, refreshing, regenerating local communities & doing things differently. Marketing could get into the center of the corporate identity "web" and be responsible for a single corporate identity.

New Products

By tackling sustainability initiatives and remaining open-minded and creative, Bulmers and the community will likely find many kinds of new products.

Association with the apple and its qualities is a natural step towards a new product. Several charrette groups recommended an entirely new Bulmers product: a naturally fermented, naturally sweetened cider. Perhaps grown on the model farm (to start), perhaps marketed with biodegradable packaging, perhaps shipped with other drinks makers equipment, who work in concert with Bulmers to reduce the carbon emissions generated by empty trucks.

Other new products might not even be cider. "Hereford Shiitake" might become as or more important to the company and the community. Perhaps some kind of pomace-based or yeast-based by-product will become Bulmers' next big seller.

New "products" might not even mean foodstuffs. Bulmers and the Hereford community might become a "Center for Excellence" in which knowledge and experience are the products. Bulmers might even start its own consulting division to help guide other firms in their sustainability efforts.

Creative Partnerships

To understand the opportunities offered by the resource productivity revolution and the other principles of natural capitalism, business will need to move across industrial sectors and solicit cooperation from competitors, critics, and perceived adversaries alike.

Natural Capitalism, p. 317.

Most charrette sub-groups discussed partnerships. Partnerships need to include all stakeholders, from Bulmers shareholders and owners to other drinks manufacturers, from farmers to local community members, from Hereford business people to Bulmers' employees. An organization cannot move much faster than its suppliers; thus Bulmers will benefit greatly from sustainability partnerships with suppliers. Good partnerships should improve triple bottom line goals for all involved.

Bulmers should remain creative and open to all partnership ideas and opportunities. Evaluate existing

partnerships for opportunities to turn them into something more sustainable and useful. Often, unexpected partnerships yield the best results.

Entrepreneurial partnerships within the community represent an area of great opportunity, and likely some big mileage in many other areas of company operations such as marketing, transportation, packaging, and investment. Bulmers can partner with entrepreneurs in mutually-beneficial, sustainably-oriented start-ups to defray such things as redundancy and local unemployment. Bulmers may realize large efficiency gains through partnering with competitors in the areas of transportation and packaging.



Figure 5: Esmund Bulmer quietly leads the sustainability movement from the back of the room. Photo by Huston Eubank.

Education

It was widely agreed that education was crucial to the sustainability of agriculture in Herefordshire and elsewhere. There is strong support for agricultural education in Hereford to interest young people in farming and agrarian lifestyles. To retain in its agricultural basis, Bulmers must strive to reinforce this endeavor.

Education in various forms was a focus throughout the charrette discussions. For example:

1. Bulmers operating a Model Farm, where new employees learn sustainable, organic agriculture, or where existing employees are taught new orcharding techniques
2. agricultural courses being offered in association with Holme Lacey college
3. education of employees on sustainability and best practices of various kinds
4. teach external stakeholders the competitive advantages of sustainability
5. Intrapreneurial Coaching
6. Bulmers sharing its knowledge with other firms as a sustainability consultant.

Education is a key component of every sustainability initiative, possibly with multiple facets and large community involvement.

Funding

In a decade characterized by mega-mergers in the banking industry, one hopeful sign has been the vigorous emergence of the community development finance movement. From small-scale loan funds to start-up banks, and with private and federal support, a whole set of new community institutions provide credit in innovative ways at the community level, rebuilding human and social capital in hundreds of towns and cities. Not surprisingly, it is here rather than in mainstream commercial banks that banking with a natural capital focus has taken root.

Natural Capitalism, p. 319.

The charrette groups generated many interesting ideas for "funding" sustainability, including:

- An Intergenerational Community Investment Trust Instrument, whereby future generations invest in today's trapped equity, creating a revenue-generating asset for the present community as well as the future community
- Funding energy efficiency improvements off the balance sheet using International Performance Measurement and Verification Protocol
- Bulmers and Hereford becoming a company with sustainability expertise that they can sell to other companies and communities
- Obtain funding for planting orchards from "Trees for Travel" programs.

The management group was unanimously enthusiastic that Bulmers should explore the creation of an internal "Sustainability Bank", part of the whole-system "Intrapreneuring" concept developed by group participant Gifford Pinchot. A "Sustainability Bank" with accompanying training for bank applicants in business plan development is likely to have significant advantages over an informal system at anchoring meaningful creative actions at Bulmers, particularly in the creation of an annual budget for sustainability investments. The bank could partner cost-effectively with external funding sources.

Many of the easiest steps towards sustainability require no funding: they are cheap or free or even profitable. Switching off idle equipment, lighting and heating/cooling machinery is one of the simplest steps any company can take to immediately draw revenue from "sustainability" measures. Eliminating waste—other-wise known as "unsaleable production"—usually generates immediate returns. Look for free savings and implement them before developing elaborate investment schemes.

Summary

As this book has shown, however, business will find large, unexpected benefits. While increasing labor productivity to improve competitiveness requires huge investments in capital, materials, and energy supplies to sustain its momentum, increasing resource productivity frees up large amounts of capital that can be invested in strengthening the company and in rebuilding human capital and restoring natural capital. Businesses that are moving toward advanced resource productivity are also discovering an unexpected cultural consequence to their actions. Yes, they save energy and money, create competitive advantage, and help restore the environment. But even more important, they also save people. Not only do they rebalance the roles of workers and of resource-fed machines, but they also create a renewed sense of purpose and mission. For the first time, employees' activities at work are fully and directly aligned with what is best for their children and grandchildren at home.

Natural Capitalism, p. 320.

Bulmers and Hereford have two of the most important characteristics for moving a sustainability agenda forward: commitment and obvious potential. The commitment to do things in a more sustainable manner is, at least outwardly, well-ingrained at Bulmers and within the county.

The second quality is obvious potential. There is much "low hanging fruit"—easy, comprehensible steps that will yield triple bottom line benefits almost immediately, without excessive resources being applied to them. (Switching off unneeded lights is a very low hanging fruit.) Once the small steps are taken successfully, larger ideas and opportunities can be addressed.

With these two characteristics as a backdrop, and the charrette as a more definitive guide to individual projects, Bulmers is well situated to move toward sustainability.

