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Changing Course
A Global Business Perspective on Development and the Environment

Stephan Schmidheiny
with the Business Council
for Sustainable Development

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Lessons Learned

- Companies in Eastern Europe can be made efficient, achieving productivity and quality as high as Western companies. This can be accompanied by rapid reductions in pollution and resource use toward Western levels.
- Success is often achieved through the total commitment of all parties involved and through a willingness to leave as much as possible in the hands of local management.
- Considerable moves toward sustainable development can happen very swiftly.

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Case 12.3
Eternit: Technology Cooperation for a Safer Working Environment

After World War II, enterprises for the production of asbestos-cement products were founded in several Central American countries by the Swiss Eternit Group (SEG) together with local partners. During the 1970s, asbestos became the object of increasing criticism. Fibrosis was recognized as an occupational disease common among workers in insulation, construction, and other industries, and evidence was growing that asbestos fibers, when inhaled, increased the risk of lung cancer. In several countries, trade unions campaigned vigorously against the use of asbestos, and demands for a ban became louder and louder.

The group management of SEG thoroughly evaluated the social and political dynamic of the health risks controversy posed by asbestos. The conclusion was that sooner or later the opposition against this raw material would create serious problems, even though asbestos was being handled in increasingly safer ways. Since scientific opinion about a safe threshold of exposure to asbestos dust continued to differ widely, a strategy to continue producing and using the material under "safe" conditions could not be defined.

After carefully weighing risks and opportunities, SEG decided in 1980 to adopt the precautionary approach and to replace asbestos entirely by 1990 or earlier where feasible. This decision was taken without having a technical alternative ready, and many specialists in the field kept arguing that this was outright impossible. In fact, it proved to be a difficult undertaking.

Finding a substitute for the "miracle fiber" was not enough. No fiber with comparable characteristics but without the health risks involved was available. Fibers of different sorts had to be blended and used together with modified binders. This required fundamental changes in a well-established technology, including the preparation and mix of raw materials and the manufacturing technique as well as final treatment of the product. Leadership and tenacity of management would be required to motivate the research and development team to stick to the target. Moreover, solutions in different parts of the world would have to be tailored to local circumstances, climate, and building traditions.

SEG launched a campaign with its licensees to participate in the search for substitute raw materials and for new manufacturing technologies. The engineers and technicians working at SEG's Costa Rican subsidiary, RICALIT, argued that European asbestos substitutes were inappropriate for Latin American conditions, being too costly and creating balance-of-payments problems, because they would have to be imported. The company encouraged them to develop technologies adapted to local conditions. After several false starts, the first trials with reinforced cement, later called Plycem, began in 1981. The new material was made up of a blend of fibers essentially composed of different grades of cellulose, recycled newspaper, and used banana boxes widely available in this region.

Commercial production started in 1982 on an experimental basis using rudimentary machines. The first sheets of Plycem were dried in a simple baker's oven. The characteristics of the new material made it ideally suitable to be used as a wallboard, a market that could not be penetrated with asbestos-cement sheets. As this new market developed, it proved to have far bigger potential than that for roofing sheets. During the following years, close cooperation between the Swiss parent and Industries Eureka in El Salvador also resulted in the development of corrugated fiber-cement sheets for roofs in 1989. Following the pioneering

work at RICALIT, SEG's other Central American subsidiaries are manufacturing similar fiber-cement sheets.

The technological challenge was not the only obstacle the company faced. At the start there was both inertia and negative reactions at different levels throughout the company. Some of the managers in Central America and in Switzerland were not convinced by the warnings of asbestos health risks. There were also economic concerns. The production line for Plycem proved to be more expensive than the existing asbestos equipment. RICALIT had to invest $3.7 million in addition to $1.5 million in research, development, and testing costs. And the manufacturing of the new fiber-cement product was more complicated than expected. The company's marketing people greeted the new material with reluctance. The risk of losing core traditional buyers seemed very real. Existing product lines had to be redesigned and a new marketing strategy had to be devised, all of which required money and time.

Despite the initial opposition both within and outside the enterprise, the fiber-cement sheets soon proved themselves in local markets. The advantages of the new material became widely recognized. RICALIT found it was able to offset higher initial investment costs by lower material costs, making Plycem actually cheaper to produce. The final product was both less expensive and more manageable than asbestos cement. The customers got a better and safer product—and it costs less. Architects and designers found more possibilities for their creativity; it was, as one of them remarked, "easier to play with the material." City planners were also able to develop a new type of inexpensive dwelling using Plycem.

In El Salvador, Industrias Eureka began to produce low-cost prefabricated houses made of reinforced cement sheets. For the governments of the region, the removal of asbestos brought significant economic benefits. In 1982, RICALIT spent $700,000 to import asbestos. The introduction of Plycem cut hard-currency foreign exchange requirements to zero, since all the raw materials are available locally.

For the corporation as a whole, there have been many other advantages. After an introductory "shakedown period," the discovery of the asbestos substitute brought a fresh drive into the whole business. The skills and motivation of employees were improved. Last but not least, the asbestos-free, fiber-cement sheets eliminated potential health risks, while

the use of recycled material and of waste made it possible to minimize the consumption of natural resources.

Production of the new materials grew rapidly and became highly profitable. In the mid-1980s, RICALIT at times had difficulty keeping up with demand. Sales grew from just over $3 million in 1983 to more than $6 million in 1991; this compares with asbestos-cement sales of under $3.5 million in 1982. The company is currently investing an additional $1.5 million to increase capacity and keep up with rising demand. SEG sees considerable potential for marketing Plycem in other parts of the world with similar climatic, social, or economic conditions, especially in the rest of Latin America. The United States also represents a promising market, and Plycem has been approved for import by the U.S. authorities. Plycem could thus be one of the many examples of South to North technology transfer, earning valuable hard currency.

Lessons Learned

- Environmentally safe substitute products can often provide better services at lower costs than existing materials.
- Strong and determined leadership is needed to overcome resistance to change, particularly if the replaced material, like asbestos, is a commercial success.
- Technology cooperation offers the possibility of producing competitive products in developing countries that could also succeed in industrial-country markets.

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Case 12.4
S.C. Johnson: Catalyzing Improved Supplier Performance

Changing regulations and consumer expectations mean that companies will have to reexamine their supplier relationships if they are to build sustainable business ventures in the future. In many companies, a growing amount of product components come from outside. In addition to ensuring that these meet quality, cost, and time requirements, managers will increasingly have to check that they meet environmental standards.

A commitment to life-cycle product stewardship, however, goes beyond assessing the environmental impact of the component itself. It means checking that the production and sourcing processes for that component are environmentally sustainable. Although introducing environmental criteria into supplier contracts could be seen as an added burden, as with quality considerations, companies are finding that the environment can be a stimulus for unexpected improvements and stronger business relationships.

S.C. Johnson, a U.S. producer of household cleaning materials, had commercialized innovative environmentally responsible packaging across its consumer and commercial businesses in 1990, including introducing the "enviro-box," which reduces the amount of material used in packaging by 92 percent; increasing the recyclable content in packaging for its floor care products; developing new 100-percent recyclable PET bottles for the product Future; reducing the packaging content of another Johnson product, Shout, by 90 percent; and introducing 100-percent recyclable packaging for its line of carpet cleaning materials. The company believes that it achieved a competitive advantage through working with suppliers to be the first to introduce these environmentally improved package options into the marketplace.

In November 1990, S.C. Johnson adopted a series of worldwide, long-term environmental goals consistent with the concept of sustainable development. The company recognized that to achieve these it would need to foster relationships with suppliers on environmental issues and to improve environmental performance further. The goals included, for example, phasing out certain environmentally suspect chemicals, which inevitably meant telling suppliers to find acceptable replacements. "Clearly, the company's environmental messages could have been com-