

## Environmental Education in Business School

ARE BUSINESS SCHOOLS training managers to tackle the tough environmental issues that they will face in the future? Is environmental education an integral part of the MBA curriculum? Unfortunately, the answer to both questions is "no." Environmental issues remain a tough sell at today's business schools. Most of them offer only one course in this area, and enrollment is low. In a recent survey of U.S. business schools, the World Resources Institute found that "only 16 percent of schools [integrate the] environment into core or

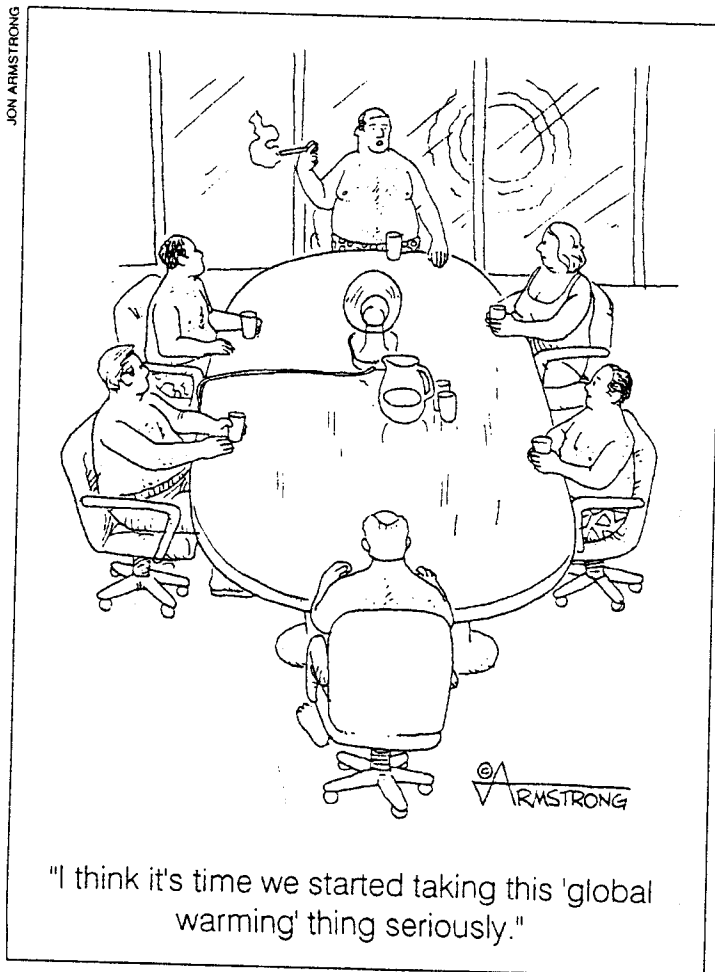
departmental requirements, thus only a few MBAs truly receive environment-business training."

One major impediment to increasing student interest is the fact that environmental management is generally perceived as part of "socially responsible business." As such, it lies on the periphery of "real" business decisionmaking and is thus outside the standard business curriculum. In the core curriculum, students are taught to increase efficiency, return on equity (ROI), and shareholder value. In courses on environmental management, on the other hand, they are taught to pursue moral goals related to general social welfare. As a flier from Students for Responsible Business proclaims, the principles of environmental management are generally "stuff we'll never see in class." This is no way to interest students in environmental issues, nor does it accurately represent what is now happening in the business world.

Corporations today are not wrestling with a social responsibility agenda. Rather, many are searching for ways to turn environmental problems into profit centers by connecting business metrics like ROI to environmental initiatives. That is, they are looking for rewarding opportunities in such areas as electrically powered cars, biotechnology, and alternative sources of energy. The simple fact is that in many ways environmental factors and corporate strategy have become inextricably intertwined. The Carrier Corporation, for instance, invested \$500,000 to eliminate the use of toxic solvents in the manufacture of air conditioners. By the end of one year, they claimed to have saved \$1.2 million in operating costs. In the same vein, British Petroleum enjoyed a public relations bonanza after CEO John Browne made a speech acknowledging the reality of climate change and announcing the company's plans to reduce its emissions of carbon. And Interface, Inc. is pursuing an innovative strategy to reduce its use of virgin materials by leasing carpets to commercial customers instead of selling them. These efforts are not responses to an appeal for socially responsible management; on the contrary, they are all part of corporations' new competitive strategy in a changing business climate.

Because environmental issues have become an integral part of business, they must be a key component of the MBA curriculum. Unfortunately,

JON ARMSTRONG



business educators are lagging well behind their counterparts in engineering, law, public policy, and public health in recognizing the relevance of these issues. These other professional schools have incorporated the environment into the core curriculum to give students an opportunity to apply their learning in a broader context. Studying the environment does not compromise the academic disciplines on which these schools' programs are based—on the contrary, it focuses and strengthens them. And students are responding. From 1989 to 1992, for instance, enrollment in environmental engineering programs increased more than 25 percent, and it continues to climb.

Clearly, it is time for schools of management to address environmental issues in a way that reflects the needs and realities of the world their graduates will enter. This is a significant challenge, however, that can only be met by bringing pressure to bear from within and outside of academe. Within the academy, business school faculty must give environmental issues a real place in the curriculum by teaching them in the language of core business disciplines such as business strategy, finance, marketing, and organizational behavior. For example, the Southern Company's decision to engage in pollution credit trading is an

issue of accounting and finance, not strictly environmental responsibility. Similarly, Toyota's decision to design and manufacture the Prius (a hybrid vehicle that gets 70 miles per gallon) and General Motors chairman John Smith's announcement that "[n]o car company will be able to thrive in the 21st century solely with the internal-combustion engine" reflect changing market demands rather than a desire to be greener per se. And outside the academy, business practitioners must insist that these issues be an integral part of the training graduates receive.

To reflect business reality, schools of management must make it clear to students that they can be good managers and good environmentalists at the same time. Environmental goals are indeed consistent with management goals. Environmental management is synonymous with sound business management.

Andrew J. Hoffman

*Boston University School of Management  
Boston, Mass.*

---

1. J. Finlay, R. Bunch, and B. Neubert, *Grey Pinstripes with Green Ties: MBA Programs Where the Environment Matters* (Washington, D.C.: World Resources Institute, 1998).

---

■

Are business schools training managers to tackle the tough environmental issues that they will face in the future?

---

■

## Biomass Energy versus Carbon Sinks: Trees and the Kyoto Protocol

At first reading, the Kyoto protocol appears only to advocate planting and conserving trees (afforestation and reforestation) to create carbon sinks both in the trees themselves and in soils. Little is said about using trees and other biomass as an energy source in place of carbon dioxide-emitting fossil fuels. However, it has been recognized for a decade that substituting biomass for fossil fuels has clear advantages over using it solely as a means to sequester carbon.<sup>1</sup>

Renewably grown biomass is a carbon dioxide-neutral fuel; that is, it produces no net emission of carbon dioxide from the cycle of growth and the use of the biomass. It also has a low sulfur content and can be converted to electricity, heat, and liquid and gaseous fuels. Biomass grows perennially so environmental benefits—for example, soil and biodiversity—accrue continuously unlike with annual crops. In addition, rural communities gain jobs rather than removing land from productive use to sequester carbon. Thus, there are numerous environmental and social advantages to growing and producing biomass energy.<sup>2</sup>

There are two main problems with growing biomass as a carbon sink: Once the trees or plants reach maturity they start losing their stored car-

bon, and maintenance and protection costs are incurred throughout the lifetime of the trees. However, when growing biomass with defined, short rotations and using it as a source of fuel, income is generated continuously, thereby creating local jobs and other benefits. Indeed, trying to maintain carbon sink forests for long periods of time may be very difficult unless rigid legal and fire protection systems are enforced. People may need to be excluded to prevent damage and loss of the sinks. This may not be feasible in many countries unless an effective long-term infrastructure exists.

Naturally, where mature forests exist they should be conserved as both carbon sinks and deposits of biodiversity.<sup>3</sup> Also, biomass plantations (most likely on excess arable and degraded land) must follow ecological guidelines to improve above- and below-ground biodiversity and their usefulness as carbon sinks. Balancing the short- and long-term carbon and income benefits of these two approaches (substitution and sequestration) on a given piece of land depends on numerous factors such as yield and rotation.<sup>4</sup>

What is the potential role of biomass energy as far as Articles 6 and 12 of the Kyoto protocol, (continued on page 39)