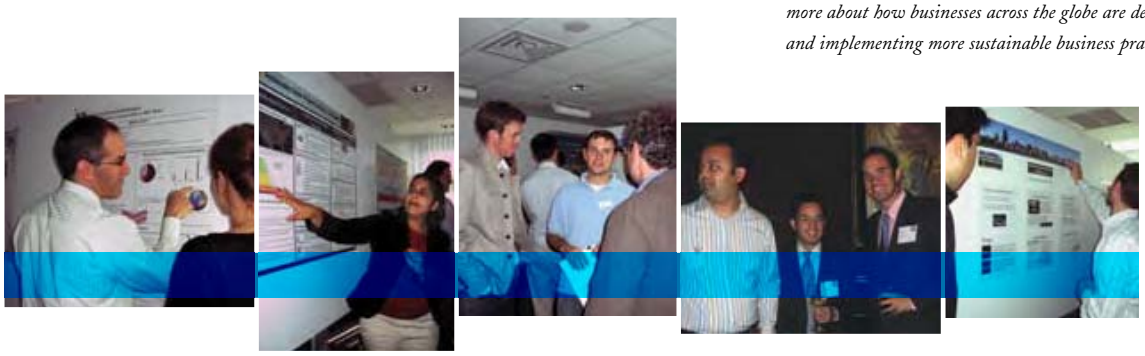
S-Lab

Working for sustainability in all corners of the world

From the main offices of billion-dollar global corporations to the Massachusetts state house, all the way down to the confines of MIT's increasingly green campus, this year's S-Lab students worked to help push the boundaries of what sustainability can mean in this time of economic and environmental urgency.

Designed to explore the connection between business practices and environmental change, S-Lab (Sustainability Lab) is an intensive combination of computer-based simulations, case studies, and lectures. The S-Lab culminates in a three-month consulting project in which teams of students work to solve the real-world sustainability problems of one of the program's partner companies. Through these hands-on experiences students are best given a chance to understand the many challenges, frustrations, and rewards of promoting environmental responsibility in today's increasingly complex economy.

"It's like getting a wake-up call and seeing the state of the world as it is now," says David Hsu, LFM/MBA '09. "You are exposed to some of the latest research, which lets you understand just how much needs to be done. Then you also get to see many of the initiatives being implemented throughout the world in regard to environmental standards and guidelines." Though the challenges are significant, the S-Lab experience left him hoping that increased corporate concern, coupled with the current political environment, could get the ball rolling toward a more sustainable world.



Students who participated in S-Lab presented their final projects May 13, 2008 in Ting Foyer. Members of the MIT community attended the event to learn more about how businesses across the globe are devising and implementing more sustainable business practices.

Improving efficiency at GM

At General Motors (GM) Corporation, where MIT Sloan Fellow Etienne Barritault and his team were asked to find ways to help improve the energy efficiency of their production, students gained a firsthand glimpse into the inner workings of the auto manufacturing industry. Visiting a plant in Pontiac, Michigan, and then meeting with a number of GM employees before putting together a catalog of ideas, they were immediately struck by how dedicated GM is to promoting sustainability worldwide. The recipient of the 2007 Corporate Award for Excellence in Energy Management, GM has been one of the world leaders in promoting environmentally responsible manufacturing. According to GM executive Kamesh Gupta, this is because GM has created a unique, vertically integrated energy management group that controls energy consumption throughout all levels of the company.

"To take advantage of our size," he explains, "and to leverage our resources and purchasing power, we decided that rather than leave our energy resources at the plant level, where everybody becomes their own experts, we would separate the manufacturing part of the business completely from the facilities management part." This model, Gupta says, allows their plants around the world to focus solely on manufacturing, while the energy management team, known as the Worldwide Facilities Group, is able to make large, corporation-wide decisions about all aspects of energy management.

From an environmental standpoint, the students learned that the strategy has made a huge impact. With numerous solar projects in place, GM was the largest solar user in California in 2006. They are also currently ranked the number-two user of landfill gas by the World Resource Institute. With plans to carry their energy mission across all GM regions in Europe, Asia, and Latin America, it seems GM's efficiency will only continue to grow in the coming years.

When asked what keeps other companies from becoming more sustainable, Gupta says in most cases it is the fact that companies do not fully understand all that is possible. He says that initiatives like the S-Lab project help bring those potentials to light. "The greater value to me is raising awareness so we can do our job better," he says. "It's not only awareness of the value, the cost, the savings, and the possibilities—it's awareness about what can be done."

Gupta also says that the increased focus on energy and sustainability at places like MIT Sloan makes him hopeful that the worldwide business community is finally beginning to realize the responsibility we all share in addressing industry's impact on the planet. "I have been in this energy business for a while," he says. "I worked for General Motors for 35 years, and I have not seen a more exciting environment than what we have now. We can ply our profession and feel good about it."

The Conservation Corporation Africa: Defining eco-tourism

Meanwhile, focusing their attentions halfway around the world, another team of S-Lab students worked with a luxury safari company based in Johannesburg, South Africa. The Conservation Corporation Africa (CCA) is a luxury eco-tourism company with lodges in some of the most exotic locations in the world, including South Africa, Tanzania, Kenya, and India. They have been in the eco-tourism industry for nearly 20 years, but were looking to further develop their image as a sustainable company. They asked the S-Lab students to provide a potential set of metrics to use in order to promote consistency from lodge to lodge. "All of the lodges run fairly independently of one another," explains team member David Hsu, "so they wanted a reliable way to ensure they were reaching for the same goals." The problem, the team quickly realized, was that, unlike the building industry, which has the LEED® (leadership in energy and environmental design) green building standards to judge itself by, eco-tourism is much younger as an industry, and thus much less defined in terms of standards.

After researching existing data in the tourism and hotel industries, the group worked to compile a report that quantified CCA's place within those realms. Then they constructed a set of metrics that could potentially be applied to the entire eco-tourism industry. According to Hsu, the more work done to this effect, the better. "Overall, companies like CCA are making a positive impact," he says. "If they can agree to abide by a common set of standards, it will help push these companies to be even more environmentally friendly."

Hsu's experiences with S-Lab have further solidified his dedication to increasing worldwide sustainability. "I have always loved the environment," he says. "But in the last couple of years, the importance of working to protect it has really started to become more real to me. This drew me to the S-Lab course and I plan to continue working to make a positive impact no matter what company I work for.

S-LAB SPRING '08 CLASS TOPICS

- Organizational Response to Sustainability
- Redefining Traditional Business Models
- Sustainability and New Product Development
- Sustainable Retail: Can Big Box Stores Really Go Green?
- Ensuring Sustainability Along the Supply Chain
- Ensuring the Sustainability of Shared Resources
- Social Sustainability and Labor Standards
- What Is Legal? What Is Politically Feasible?
- Alternative Transportation Networks
- Energy Efficiency as a New Market
- Green Buildings—New Markets & Services
- Sustainable Infrastructure and International Markets
- Organic Foods—Creation of a New Industry
- Setting a Price for Carbon
- Industry Collaborations and Certification
- Efforts, and Partnerships with NGOs
- Action at the Community Level

The Sustainable Cities project: Sustainability and government

Closer to campus, a team of four women faced a different kind of challenge when they worked to promote sustainability through channels of government policy. Their client was Brown Flynn, an environmental consulting firm working to develop software to help cities track their own environmental/sustainability impact. The idea was to study in depth the City of Boston in order to develop a prototype that could be scaled for other cities. What they found is that, although Boston had a strong reputation for being green (ranked third for green cities), many roadblocks remain when it comes to making green initiatives happen in the city.

Speaking with consultants from the mayor's office, the department of neighborhood development, and a special envoy for sustainability, the group worked to understand exactly how money flows and how budgets are created. Their findings gave them a firsthand taste of just how difficult it can be to enact a citywide sustainability initiative. Because Massachusetts is a commonwealth, explains team member Laurel Hoffman, LFM/MBA '09, all funding must come from the state level. This can make it very difficult to pass larger sustainability initiatives. "The city as a company is doing quite well," she says. "They can control the little things that they actually own. The streetlights, for instance, have all been changed to LEDs, and they have passed a bill forcing all new public buildings to be LEED certified. But when it comes to funding larger projects, their hands are often tied."

The experience, says Hoffman, was a bit frustrating, but it only hardened her desire to make a difference in the world. Along with the other S-Lab participants, she feels thankful for the experience.

"On a personal level, I took away the confidence that I can survive in this arena, and that I can direct a project and get results. Outside of that, I gained a deeper understanding of how the world works—dropping some of the naivety, the juvenile outsider perspective of how things come together and what people's motivations are. The more I dive into these issues, and the more they frustrate me, the more I think about public policy and ways to be involved in policymaking. One of the great things about S-Lab is that it works to motivate us, to convince us that if we can't do this, who the hell can? We have this education, we are serious, we are creative, we are talented, and we care. So let's go out and do something." ● ● ●