

Sustainability Initiative at MIT Sloan 2013–2014 Annual Report



AQUACULTURE
 maximize PROFIT thru SUSTAINABILITY
 SEAFOOD

DEMAND: 250 M tons
 2011 2050
 131M tons

NEED MULTIPLE SPECIES
 NEED INNOVATION
 MUST FARM SEAFOOD

OPPORTUNITIES BY THE SEA
 SUSTAINABLE DEVELOPMENT ECONOMIC WELFARE ENVIRONMENTAL PROTECTION

DECREASE GREENHOUSE GAS EMISSION

BOSTON'S PLAN FOR TOMORROW!

BUILD ENERGY POSITIVE HOMES
 • MORE EFFICIENT
 • BETTER INSULATION
 • PROGRAMMABLE THERMOSTATS
 • SOLAR ENERGY

NON-RESIDENTS DON'T CAR POOL!
 39% OF WORKERS IN BOSTON

82 MILES OF BIKE LANES!

CLIMATE CHANGE
 COAL OIL → NATURAL GAS
 MULTIPLE LINES OF DEFENSE

RE-USE = RETENTION!

DEFEND RULE OF LAW
 MAINTAIN INFRASTRUCTURE
 JUSTICE & EQUITY



Letter from the Director



Dear Friends,

I am pleased to report on the activities of the Sustainability Initiative at MIT Sloan of the past year.

What a year it was. We launched a strategic rebranding and a new website. We expanded and deepened our educational programming with new teaching materials and broader outreach to students across the MIT Sloan programs. We introduced a Sustainability Lunch Series that involved guest lectures by practitioners, alumni, and faculty and we forged new alliances with companies and non-profits. In May, MIT convened the sixth annual MIT Sustainability Summit, an intensive two-day workshop organized entirely by students, with more than 200 leaders from around the world. Participants walked away with big ideas and strong relationships to help make their communities and businesses thrive.

It was also a big year for me personally: In the spring, my daughter Uma was born—my second child. My family reminds me why I work for a better future. So too do our students here at MIT.

The challenges of sustainability are big, messy, and exceedingly complex. It's easy to feel overwhelmed by the problems and hopeless about solutions. But the Sustainability Initiative—and the passionate, committed community that supports it—keeps us all optimistic. Our students are concerned for the future of the planet, and they believe in the intellectual and spiritual potential of people to overcome the challenges we face. MIT Sloan, through its alumni, faculty, and allies in the business and nonprofit world, empowers them to apply their technical and managerial skills to these problems.

This report is structured around the three performance objectives we use to help gauge our success. We measure *Student Engagement* by the breadth and depth of student participation in sustainability-related events, projects, and courses. We consider the extent of *Alumni Innovation* as another significant measure, which we support by educating, networking, and celebrating the accomplishments of our alumni. (As one example, this past year we saw a landmark in the life of Zipcar, a car-sharing company with an innovative business model that helps reduce traffic and air pollution: The company, founded by MIT Sloan alumna Robin Chase, sold to Avis for \$493 million.) *Changing the Conversation* demonstrates the impact of our research on practice in industry.

This report outlines these and other significant developments of the last fiscal year. The last section of the report, *Institution Building*, offers a look at our visibility and fundraising strategies that help us build momentum to sustain our efforts for the long term.

I hope you agree the progress we have made thus far is remarkable, reflecting not only the creativity of our community but also the enthusiasm and support of our alumni and other allies. We see our work making a difference for people in our community and around the world. And there is more to come in the years ahead.

A handwritten signature in green ink that reads "Jason Jay". The signature is fluid and stylized, with a long horizontal stroke at the end.

Jason Jay, Senior Lecturer MIT Sloan
Director, Sustainability Initiative at MIT Sloan

Our Mission

The goal of the Sustainability Initiative at MIT Sloan is to create and spread innovative management practices, business models, and supporting market infrastructures that make effective, sustainable use of natural and human resources and advance human welfare. We do this by building a community of innovators for sustainability with MIT students and alumni, faculty and researchers, and allies in business, government, non-profit, and hybrid organizations.

Staff & Faculty



Jason Jay

Senior Lecturer MIT Sloan; Director, Sustainability Initiative at MIT Sloan



Bethany Patten

Associate Director, Sustainability Initiative at MIT Sloan



John Sterman

Jay W. Forrester Professor of Management; Director, MIT System Dynamics Group; Faculty Director, Sustainability Initiative at MIT Sloan

Gloria Clark

Program Assistant

Karen Horwitz

Strategic Marketing Manager

Christina Ingersoll

Special Projects Coordinator

The scholars who comprise the Sustainability Initiative work in a wide array of disciplines and industries. They provide the thought leadership and management solutions necessary to find timely solutions to the complex environmental, societal, and economic sustainability issues facing our world.

Matthew Amengual

Work & Organization Studies Group

William Aulet

Technological Innovation, Entrepreneurship, & Strategic Management

Barbara Dyer

Work & Organization Studies Group

Steven Eppinger

Operations Management

Charles H. Fine

Operations Management

Stephen Graves

Operations Management

Leigh Hafrey

Ethics & Managerial Communication

Yasheng Huang

Global Economics & Management

Simon Johnson

Global Economics & Management

Valerie Karplus

Global Economics & Management

David Keith

System Dynamics

Chris Knittel

Applied Economics

Tom Kochan

Work & Organization Studies Group

Don Lessard

Technological Innovation, Entrepreneurship, & Strategic Management; Global Economics & Management

Shari Loessberg

Technological Innovation, Entrepreneurship, & Strategic Management

Thomas Malone

Information Technology

Robert McKersie

Work & Organization Studies Group

Harvey Michaels

Department of Urban Studies & Planning

Fiona Murray

Technological Innovation, Entrepreneurship, & Strategic Management

Wanda J. Orlikowski

Information Technology

John Parsons

Center for Energy & Environmental Policy / Finance

Nelson Repenning

Operations Management / System Dynamics

Roberto Rigobon

Applied Economics

Anjali Sastry

Operations Management / System Dynamics

Otto Scharmer

Work & Organization Studies Group

Peter Senge

Work & Organization Studies Group / System Dynamics

Jeffrey Shames

Finance

Susan Silbey

Sociology & Anthropology

Tavneet Suri

Applied Economics

Zeynep Ton

Operations Management

Karen Zheng

Operations Management

About the Initiative

Founded in 2006, the Sustainability Initiative at MIT Sloan began with the creation of the Laboratory for Sustainable Business action learning course (S-Lab) and the incorporation of sustainability into the school's core curriculum.

Today the Initiative encompasses a broad portfolio of people and programs including:

- **A rigorous curriculum for students** through the Sustainability Certificate program, which is designed for those who wish to become leaders in the field
- **A core group of faculty engaged in cutting-edge, collaborative research projects**—ranging from energy to climate strategy to labor standards to global supply chains—that seek to engage people in dialogue and influence industry and policy
- **Executive education and comprehensive leadership programs for practitioners** that teach managers how to drive social and business value across their organizations, markets, and communities
- **Professional development opportunities for alumni** that include career seminars, internships, mentoring, and other specialized offerings in an ongoing mission of lifelong learning

The Sustainability Initiative underscores our commitment to action that has meaningful global impact, and encapsulates MIT Sloan's mission: *to develop principled, innovative leaders who improve the world and to generate ideas that advance management practice.*



John Sterman,
co-creator of the
S-Lab course

Since 2007,

382

students have taken
S-Lab, completing

97

projects with

80

companies and
organizations

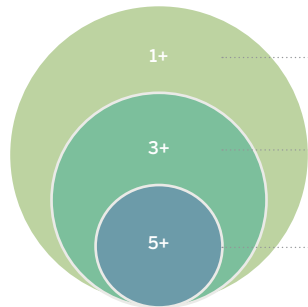
Student Engagement

Sustainability is an integral part of the MIT Sloan experience—whether students seek a general understanding of the subject, or they want to make it a core part of their education. Our goal is to challenge students; enable them to build new skills; and inspire them to make a lasting impact.

✔ Sustainability Coursework

81%

of MIT Sloan 2014 graduates took at least one Sloan sustainability class



647 Students took 1+ class

273 Students took 3+ classes

106 Students took 5+ classes

Graduating students from MIT Sloan's six full-time masters programs

Sustainability Certificate

22

graduating students received the Sustainability Certificate—**our largest cohort yet.**

- 13 full-time MBA students
- 4 Sloan Fellows
- 3 Master of Science in Management Studies students
- 1 System Design & Management student
- 1 Master of City Planning student

The Sustainability Initiative leverages student, alumni, faculty and staff networks across MIT and Sloan.

Contributors include representatives from: MIT Sloan program offices for MBA/MSMS, Sloan Fellows, MFin, LGO, and EMBA; the MIT Sloan Student Life, Educational Services, Career Development, Admissions, External Relations, and Deans' Offices; the Department of Urban Studies and Planning; Office of Sustainability at MIT; and Climate Co-Lab. Student groups that work closely with the Initiative include: Net Impact, Sloan Entrepreneurs for International Development, Sloan Women in Management, MIT Energy Club, MIT Water Club, and the MIT Food and Agriculture Collaborative.

42

COURSES AVAILABLE as part of the Sustainability Certificate

“My favorite part about the sustainability community at Sloan is how many different programs are involved in the classes and discussions. We hear perspectives from urban planners, designers, MBAs, and engineers. It is one of the closest communities at MIT.”



Emily Feldman MBA '14, Management Consultant, LEK Consulting, Boston, MA

Highlights from 2013–14

Expanded extracurricular programming through 17 Sustainability Lunch Series events, which were attended by nearly 300 students. The Lunch Series brought practitioners and prominent researchers together with the MIT Sloan community to explore careers in sustainability. As part of the series, we hosted a five-session mini-series on: *Financing the Transition to Sustainability*.

“One of the big drawcards for me to apply to attend MIT Sloan was the Sustainability Initiative. The Sustainability Initiative and Certificate definitely set Sloan apart from other business schools and were a highlight of my first year. Before I even started school Bethany reached out to me to talk about the program and all the faculty involved: Jason Jay, John Sterman and Matt Amengual, have been great lecturers, role-models and sustainability advocates. I have learnt a ton through the S-Lab Course and Lunch Series, as well as felt a great sense of community with my like-minded peers and faculty. Looking forward to another year of it!”



Michael Carter, MBA 2015, Net Impact Co-President

Enhanced mentorship and guidance for our students and alumni with the addition of Bethany Patten, who earned her Executive MBA at MIT Sloan. As the Associate Director of the Sustainability Initiative, Bethany oversees our student and alumni engagement activities, manages the day-to-day operations and finances for the Initiative, and works on strategy development.

Created synergies across MIT by building a cohort of students interested in careers and opportunities in sustainability. This included the sponsorship of three student projects at Conservacion Patagonica to develop a sustainable energy infrastructure plan for the Patagonia National Park in South America, and the placement of four students with summer internships focused on sustainability.

Highlights for 2014–15

Focus on recruitment by deepening our relationship with the admissions department to ensure more sustainability-oriented students are considered. We will also intensify our marketing efforts to Masters-level students across MIT—particularly those in Supply Chain Management (SCM), Masters in City Planning (MCP), and Masters in Engineering (M.Eng)—to encourage enrollment in sustainability classes.

Increase investment in sustainability-related programming across the Institute by, for instance, offering a three-day Sloan Innovation Period (SIP) immersion workshop on the issue of reducing and redirecting food waste. Additionally, we continue to infuse sustainability themes into MIT Sloan’s core curriculum, with an emphasis on Organizational Processes and entrepreneurship.

Attendance Trends at Sustainability Events

Ranging from small leadership meetings of decision makers around campus to standing room only presentations by sustainability leaders at major corporations like Nike and PwC.

20

events in 2013–2014

41

average event attendance

“From my one-on-one meetings with all the sustainability faculty and staff to the weekly lunch series events that provide access to leading sustainability practitioners, I feel like I am getting unique, personalized support.”



Carolyn DuPont
dual MIT Sloan/Harvard Kennedy School program '16, Gates Foundation Summer Intern

Alumni Innovation

The Sustainability Initiative at MIT Sloan forms a passionate and engaged alumni community. We support our alumni through regional groups, networking events, and peer-coaching opportunities around the globe. To strengthen this community, we promote and celebrate alumni success through the website and social media.

Recent Alum Jobs & Project Vignettes



Alice Hartley MBA '12
Manager, Sustainable Innovation,
Gap Inc.

"My team is working to raise the bar on sustainability in the apparel supply chain by testing out and scaling up new practices. MIT Sloan gave me the space and support to make sense of a world in need of rebalancing, and the skills and courage to work toward that change."



Patrick Flynn MBA '12
Group Leader, Applied Intelligence
& Sustainability, IO

"Using big data analytics, my team and I are finding ways to both reduce the data center's environmental impacts and use its unique role as a flexible form of energy demand to drive change in the energy industry... MIT Sloan provided me with a foundation to conceptualize and realize a vision for sustainable business strategy at IO."



Clara Brenner MBA '12
Co-founder and CEO, Tumml

"After graduation, my co-founder, Julie Lein (also MBA '12), and I started Tumml, an urban ventures accelerator based in San Francisco. Our mission is to empower entrepreneurs to solve community problems in cities."

Number of Cities & Attendees at Alumni-focused Events



Highlights from 2013–14

- Cultivated sustainability-focused communities in Boston, San Francisco, and Beijing to support alumni innovation
- Connected MIT Sloan students and alumni with sustainability-focused career opportunities
- Piloted a peer-coaching and mentoring program for new alumni in Boston
- Created opportunities at reunion for alumni to discuss sustainability's most pressing issues with faculty

Highlights for 2014–15

- Conduct research on alumni-led projects related to sustainability
- Raise the profile of alumni success on the Initiative's website
- Establish virtual and real-time learning opportunities for alumni in sustainability-related jobs
- Strengthen alumni network by deepening ties with MIT Sloan's Career Development Office

Media mentions of student and alumni innovators

Bilikiss Adebisi MBA '12 CEO, Wecyclers
Wecyclers is a company determined to fix the urban waste management system in Nigeria (Nigeria Communications Week, May 2014)

Geoff Chapin MBA '02 CEO, Next Step Living
How Next Step Living 'Practivism' Is Raising The Profile Of Energy Efficiency And Fighting Climate Change (Forbes, May 2014)

Shayna Harris MBA '11, Cocoa
Sustainability Manager, Mars
Meet the Woman Helping to Save Us From a Global Chocolate Drought (Bloomberg Businessweek March 2014)

Adam Rein MBA '10, **Ben Glass** SB '08, SM '10
Co-Founders, Altaeros Energies
Altaeros Energies has developed the world's first commercial airborne wind turbine. (Laboratory Equipment, May 2014)

Changing the Conversation

Innovating for sustainability requires new ways of thinking together. We promote this process by bringing business and societal leaders together with academics and students at our annual Sustainability Summit and through our research and practice in four focal areas:

- **Driving the Future:** Exploring markets for alternative fuel vehicles through interactive system dynamics simulations
- **Hardwiring Sustainability:** Designing and deploying a platform for management tools focused on sustainability
- **Social Sustainability Hub:** Improving labor conditions, promoting good jobs, and increasing productivity through workplace innovation
- **Climate of Change:** Broadening engagement on the issue of climate change through conversations around science-based learning simulations

Highlights from 2013–14

Developed a management flight simulator focused on the market for alternative fuel vehicles and conducted workshops with Ford, GM, and Toyota to explore scenarios for the automobile market

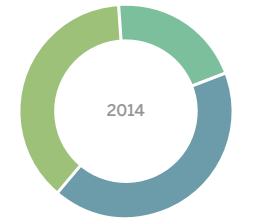
Forged powerful alliances including one with Sustainable Brands and the MIT Sloan Management Review to convene the developers and users of sustainability management tools to help advance the field

Impacted practice by expanding Executive Education offerings, including two three-day leadership courses for corporate executives on Strategies for Sustainable Business (SSB), which had a total of 60 attendees

Raised the profile of complementary MIT Sloan initiatives, including:

- The sixth annual student-led MIT Sustainability Summit, with more than 200 attendees
- Climate CoLab, a global, internet-based community that strives for promising solutions to combat climate change
- Fishbanks, MIT Sloan’s management flight simulation, which explores economic and environmental issues facing the fishing industry
- *Can Business, Labor, and Civic Groups find Common Ground on the Future of Work?* an MIT Action Lab, led by Tom Kochan, that brought together leaders and experts in employment issues
- *The Good Jobs Strategy*, a book by Zeynep Ton outlining a sustainable, competitive approach for organizations

Sustainability Summit Attendance by Sector



- Student
- Private Sector
- Academic, NGO, Start up founder, or Government

“Being surrounded by visionary researchers and thinkers at the Summit, and meeting bright, energetic students, made me see new possibilities and gave me hope about creating a more sustainable future.”

KC Hardin is a social entrepreneur and the co-founder of Conservatorio, which is dedicated to the urban revitalization of a UNESCO World Heritage Site in Panama City. He hired three MIT interns for the summer of 2014.

Climate CoLab Growth

In the past year, Climate CoLab has tripled the number of members.

170,000
website visits

12,000
registered members

18
contests completed in 2013

20
contests completed in 2014

Highlights for 2014–15

Foster collective action on sustainable auto-mobility by convening carmakers, fuel and infrastructure companies, and public policy organizations to challenge conventional understanding and create new strategies

Increase visibility of quantitative assessments of corporate sustainability strategies by co-hosting the Sustainable Brands New Metrics Conference. The conference is a major industry gathering that provides the opportunity to showcase MIT Sloan student and faculty research

Support Institute-wide efforts on the new initiative on the environment announced by MIT President L. Rafael Reif. That initiative, directed by Susan Solomon, the Ellen Swallow Richards Professor of Atmospheric Chemistry and Climate Science, aims to promote transformative, cross-disciplinary research relating to issues like climate change and water

Highlights of Supported Research

The Itaú Fund for Research on Sustainability and Latin America has provided approximately \$100,000 in funding for five research projects, two based at MIT Sloan, one in MIT's Political Science Department, one in the MIT Engineering Systems Division, and one at the Community Innovators Lab, a center within the MIT Department of Urban Studies and Planning (DUSP).

Edgar Blanco, the Research Director at the MIT Center for Transportation & Logistics, conducted research in collaboration with scholars and students at the University of São Paulo. His research looked at the environmental, social, and economic effects of the logistics system currently in place there. This experiential research project is part of a larger investigation into the logistics of megacities worldwide.

Libby McDonald, the Program Director of Global Sustainability Partnerships at MIT, led research on social entrepreneurship in Brazil related to converting waste cooking oil into transportation fuel. This research engaged MIT students, scholars at the University of São Paulo, and co-op members from Rede CataSampa based in São Paulo.

Selected publications on Sustainability at MIT Sloan...

Amengual, Matthew 2013

Pollution in the Garden of the Argentine Republic: Building State Capacity to Escape from Chaotic Regulation

POLITICS & SOCIETY 41(4)

Amengual, Matthew 2014

Pathways to Enforcement: Labor Inspectors Leveraging Linkages with Society in Argentina

INDUSTRIAL AND LABOR RELATIONS 67(1)

Blanco, Edgar and Ken Cottrill 2013

Delivering on the Promise of Green Logistics

MIT SLOAN MANAGEMENT REVIEW

Holland, Stephen P., Jonathan E. Hughes, Christopher R. Knittel, and Nathan C. Parker 2013

Unintended Consequences of Transportation Carbon Policies: Land-Use, Emissions, and Innovation

WORKING PAPER 19636. NATIONAL BUREAU OF ECONOMIC RESEARCH

Jay, Jason 2013

Navigating Paradox as a Mechanism of Change and Innovation in Hybrid Organizations

ACADEMY OF MANAGEMENT JOURNAL 56(1)

Karplus, Valerie and Sebastian Rausch 2014

Markets versus Regulation: The Efficiency and Distributional Impacts of U.S. Climate Policy Proposals

THE ENERGY JOURNAL 35

Kraft, Tim, Yanchong Zheng, and Feryal Erhun 2013

The NGO's Dilemma: How to Influence Firms to Replace a Potentially Hazardous Substance

FORTHCOMING IN MANUFACTURING AND SERVICE OPERATIONS MANAGEMENT; DARDEN BUSINESS SCHOOL WORKING PAPER NO. 2255729

Sterman, J. D. et al. 2013

Management flight simulators to support climate negotiations

ENVIRONMENTAL MODELLING & SOFTWARE 44, 122–135)

Institution Building

Meeting the challenges of sustainability requires a concerted, long-term commitment. The fundraising goal of the Sustainability Initiative is to build an endowment that enables us to continue harnessing the collective resources of MIT to make a positive impact in the world.



Why I Give: Bob Ackerley

"The great technological progress of the 20th century has created certain unintended consequences and our society now faces a formidable test to understand a number of complex problems—from climate change to sustainable energy to better food production."

"MIT is uniquely positioned to further our understanding of these issues and get us moving towards effective solutions. As an MIT alumnus, one of my best choices is to offer financial support to the faculty and students at MIT who are dedicating their professional lives to addressing these challenges."



Bob Ackerley is an MIT alum (Course 10, SB '80) and owner of Rio Grande Organics, the largest organic pecan farm in the U.S. He is also the co-founder of Smith & Associates, the semiconductor brokerage firm.

Thank You

We are grateful to the following individuals and organizations, whose generous gifts have helped us to achieve our mission. Gifts over \$1,000 since 2012 are listed in chronological order.

Ms. Lam Yiu Chu
 Mr. Nathan Dohyoung Kang
 and Mrs. Huiyoun Yoo
 Ms. Jian Helen Yang '10
 Thomas Haas Foundation
 Grantham Foundation
 for the Protection of
 the Environment
 Mr. Douglas Drane
 Mr. Gustavo A. Pierini '87
 Mr. Robert G. Ackerley '80
 General Motors
 Foundation Inc.
 Ms. Gabrielle B. Tiven '11
 Ms. Anna Gabriella C.
 Antici Carroll '92
 Mr. D'Arcy Carroll '91
 Boeing Company
 Mr. Alexander L.
 Borschow '14
 Mr. Jeremy Matthew
 Stewart '10

Highlights from Current Year

Fundraising

In the past fiscal year, the Sustainability Initiative received donations of more than \$179,000. Lead gifts to the Initiative included: a significant multi-year commitment from Bob Ackerley; a gift from Gustavo Pierini to support translation of the Fishbanks simulation; multi-year gifts from Ms. Anna Gabriella C. Antici Carroll and Mr. Joseph D. Carroll to support our Sustainable Business Internship Program; and a multi-year gift from graduating MBA student Alex Borschow '14 to support work on sustainable food topics. The Initiative also received a second gift from the Grantham Foundation for the Protection of the Environment.

\$179,000+
collective fundraising

Brand building

We launched a new website, mitsloan.mit.edu/sustainability, which provides an informative entry point for members of our extended community: prospective and current students, alumni, faculty and researchers, potential and current allies, and prospective and current donors. The site features news items, profiles of alumni innovators, videos of thought leaders among our faculty and partners, and detailed information about classes and the Sustainability Certificate for MIT masters students. The Sustainability Initiative is also active on social media, including LinkedIn, Facebook and Twitter.

30,000+
page views on new website

Inspiring the community

We have dramatically increased our visibility externally through the website, alumni events, industry events, and executive education, and on campus through consistent student engagement. As a result, we have expanded opportunities for donor cultivation and fundraising, increased demand from industry leaders and policymakers for programming, and further embedded lessons in sustainability across the MIT curriculum.

461
total event attendance

Sustainability Initiative



100 Main Street, E62-362, Cambridge, MA 02142



Find us on LinkedIn, Facebook and Twitter.

mitsloan.mit.edu/sustainability