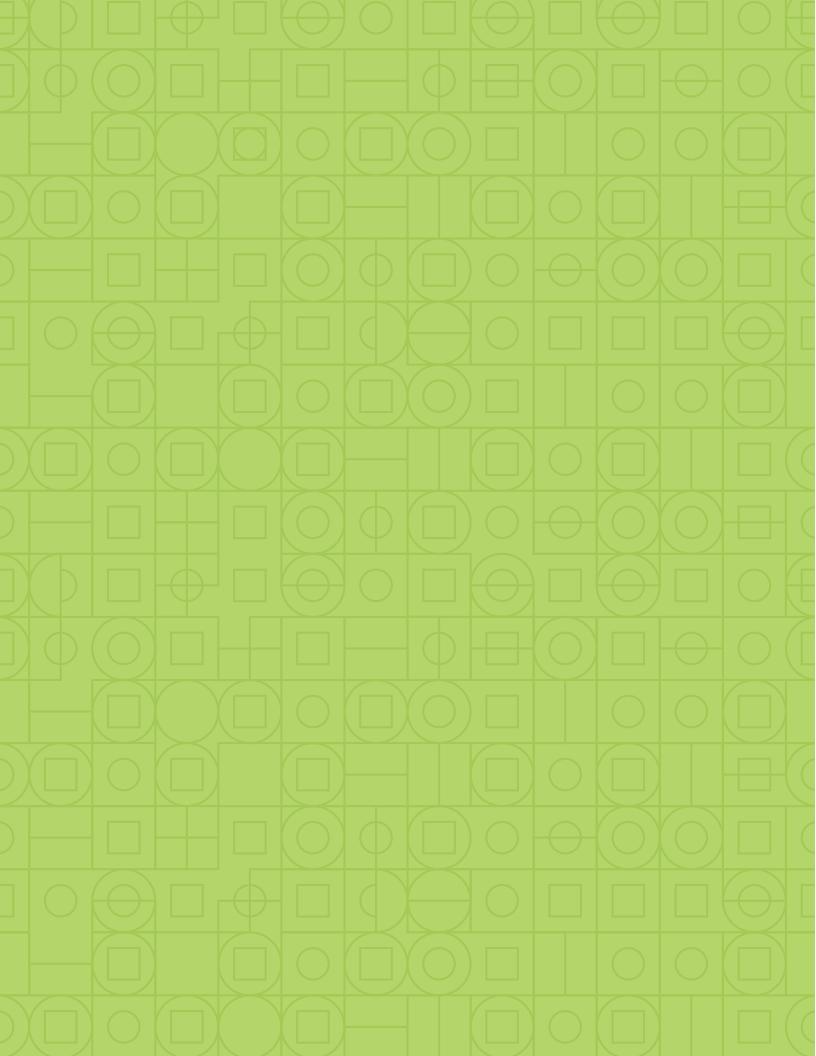
Business & Environment

Annual Report 2023



Harvard Business School



Business & Environment

Annual Report 2023

The Business & Environment Initiative (BEI) educates, connects, and mobilizes current and future business leaders to address climate change and other environmental challenges.

Each year, we write with a mix of concern and hope: concern about the increasingly tangible impacts of climate change; hope derived from the progress being made, including the increased breadth and depth of offerings and collaborations among the Harvard Business School community, and across Harvard University more broadly.

We hope you will benefit from reading through the pages ahead and gain a sense of the work accomplished. We hope it informs you in your work and daily lives and that it prompts new ideas, new inquiries, and new paths to pursue.

So much in these pages derives from collaboration with you, our alumni and other practitioners, students, and faculty, who are exhibiting leadership, whether by developing new businesses, improving practices in existing business, sharing your experiences with the community via case studies, mentoring our students, and participating in alumni events on campus and around the world—and by providing the resources upon which our efforts depend. Thank you for being part of the cycle of learning and climate improvement.

We are delighted to share highlights from the year, and we welcome your feedback, which you can share with us by emailing bei@hbs.edu.



Mike Toffel Faculty Chair



Lynn Schenk Director



Courtney Fairbrother Associate Director



Elise Clarkson Community Manager

INITIATIVES focus on societal challenges that are too complex for any one discipline or industry to solve alone.

Dean Srikant Datar talks about the importance of climate change as a business topic, the role of business leaders in driving climate solutions, and the ways in which Harvard Business School is leveraging its platform to accelerate progress on this topic.



The Snapshot

In 2023, the Business & Environment Initiative helped drive climate leadership by convening faculty for shared learning, engaging student leaders and offering career support, and facilitating alumni networking and continued learning.



Convened hundreds of alumni

through the Accelerating Climate Solutions Conference, Reunions, a virtual networking series, and the Alumni in Climate Networking Series in Boston, Zurich, San Francisco, and New York City.



Served as a hub for MBA students seeking visibility into the School's and University's business and environment resources. BEI collaborated across Harvard's schools and departments to host or co-host over 20 programs and events, including BEI coffee chats, sustainability career panels, networking events for students and alumni, a robust mentorship program, and extracurricular academic

opportunities.



Faculty Affiliates authored 10 scholarly articles, 17 working papers, and 2 books on topics such as climate finance, carbon offsets, and energy storage. A complete list of 2023 publications appear in the appendix (beginning on page 43).



Faculty Affiliates wrote more than 60 new teaching cases and over 50 new teaching notes and plans, and other course materials on business and environment topics. More than 410,000 cases on business and environment topics were sold for use in classrooms around the world.



In 2023, faculty offered **four new climate-related EC courses:**

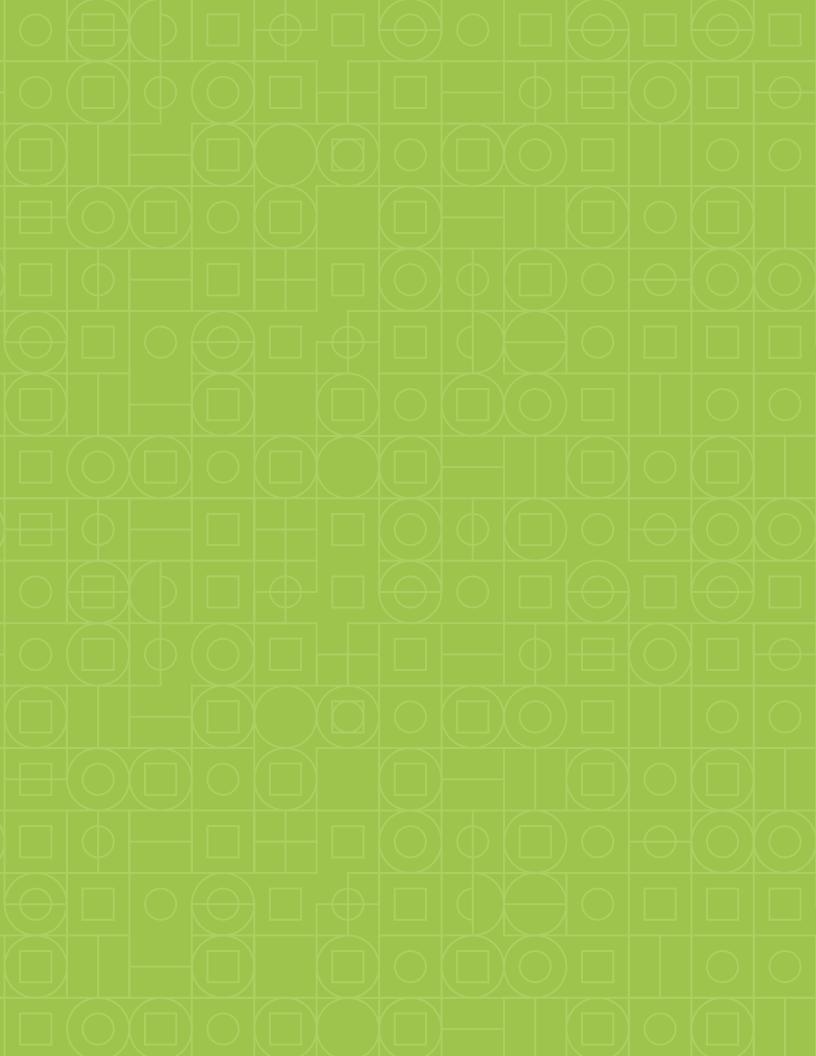
Agribusiness taught by Professor David Bell; Energy taught by Professor Dustin Tingley; an Immersive Field Course on India's Path to Net Zero taught by Professor Vikram Gandhi; and Infrastructure Finance and Construction taught by Professor John Macomber; and **one new** Short Intensive Program (SIP):

Accelerating Climate Solutions taught by Professors Eleanor Laurans, Jim Matheson, and Peter Tufano.



Students enrolled in over 25 environmentally focused and related elective MBA courses

addressing tough tech, energy, entrepreneurship, food and agriculture, sustainable cities, and sustainable investing. A complete list of these 2023 courses appears in the appendix (beginning on page 43).



Business & Environment

Highlights

Objective 1

Engage and promote a faculty community on business and environment topics

Objective 2

Educate students to transform or build organizations to accelerate climate solutions

Objective 3

Disseminate insights from research and foster alumni engagement on critical environmental topics

1

Engage and promote a faculty community on business and environment topics

AREAS OF DEEPENING BUSINESS & CLIMATE CHANGE RESEARCH

Many leaders are increasingly realizing that climate change matters to their business in many business units, sectors, disciplines, and geographies, but do not have the skills to develop strategies and implementation plans to identify and address the range of risks and opportunities that climate poses for their businesses. Faculty research can help leaders understand how to best conceive, implement, and evaluate action plans. Much of the recent business and climate research is centered on the following five topics where actionable insights are needed:



Decarbonization, because without it, we will not avoid the worst consequences of global climate change



Adaptation & Resilience, because even with mitigation, we will have to deal with the implications of our actions to date



Climate Accounting & Finance, because we manage what we measure and because climate solutions will likely need substantial capital funding



Climate Tech & Entrepreneurship, because 35–50% of climate solutions are not yet operationalized



Systems Change to Address Climate Change, because changing institutions and norms are vital to creating the incentives necessary to stimulate business strategies and products/services to mitigate climate impact and facilitate climate adaptation and resilience

NEW BEI FACULTY AFFILIATES

BEI welcomed four new faculty affiliates in 2023.



Juan Alcacer, James J. Hill Professor of Business Administration in the Strategy Unit, whose case on Iberdrola examined the process of major utilities considering new technologies as part of a climate strategy.



Christian Kaps, Assistant Professor of Business Administration in the Technology and Operations Management Unit, whose research focuses on emerging topics in renewable electricity generation and storage.



Dustin Tingley, Professor of Government in Harvard's Government Department, whose research explores international relations, international political economy, climate change, causal inference, data science/machine learning, and digital education. Dustin taught a new course at HBS called Energy.



Philippe van der Beck, Assistant Professor in the Finance Unit, whose research interests are in empirical asset pricing, sustainable finance, and structural estimation.

NEW EXECUTIVE FELLOWS

The Executive Fellows Program seeks to leverage the expertise of outstanding practitioners to enhance teaching and learning at the School. All fellows partner with at least one HBS faculty member to bring their business experience into the community. The fellows contribute to the School by collaborating on curricular and co-curricular activities. In 2023, BEI welcomed three Executive Fellows:



Spencer Glendon, Founder, Probable Futures, is working with Mike Toffel and Peter Tufano on research projects related to visualization, understanding, and use of climate change data.



Reynir Indahl (MBA 1998), Managing Partner, Summa Equity, is working with George Serafeim on projects related to climate and sustainability efforts in private equity.



John Mulliken, Senior Advisor, Boston Consulting Group and Former Chief Technology Officer, Wayfair. Mulliken is collaborating with George Serafeim on the MBA elective curriculum course Risks, Opportunities, and Investments in the Era of Climate Change.

NEW BIGS CLIMATE FELLOWS

The Institute for the Study of Business in Global Society (BiGS) Climate Visiting Fellows are scholarly researchers whose work focuses on global climate change, deepening the School's commitment to accelerating research on climate change mitigation and adaptation. In 2023, six Climate Fellows are in residence to conduct business and climate change research related to issues of business and society:



Omar Asensio, Associate Professor in the School of Public Policy; Director of the Data Science and Policy Lab, Georgia Institute of Technology – Researches using AI to ensure an equitable distribution of EV infrastructure.



Gunther Glenk, Assistant Professor of Business at the University of Mannheim – Researches corporate transitions toward zero net emissions.



Conor Hickey, Research Fellow in Scenarios and Business models for the transition to Net Zero at the University of Oxford's Environmental Change Institute – Research examines the financial and organizational impacts of delayed climate action on corporations.



Andrew Hoffman, Holcim (US) Professor of Sustainable Enterprise at the University of Michigan with joint appointments at the Stephen M. Ross School of Business and the School for Environment & Sustainability – Research explores a systems-level view of climate change.



Jonas Meckling, Associate Professor of Energy and Environmental Policy at the University of California – Researches the political economy of decarbonization.



Robyn Meeks, Assistant Professor at Duke University's Sanford School of Public Policy and a research affiliate of the Abdul Latif Jameel Poverty Action Lab (J-PAL) at MIT – Research explores the study of climate resilience in developing countries.

FACULTY SEMINAR SERIES

An increasing number of faculty are expanding research and teaching efforts to include business and environment topics. In order to illuminate the range of work being done on climate change at HBS, BEI organized a series of research roundtables:

- Secretary Henry (Hank) Paulson, Former U.S. Treasury Secretary "The Role of Private Investment in Addressing Climate Change" (In partnership with BiGS)
- Climate Change Research and Teaching Roundtable
- BEI Faculty Lunch Seminar featuring BiGS Fellows Robyn Meeks and Jonas Meckling

AWARDS



2023 Responsible Business Education Awards

Mike Toffel, Ken Pucker, and Eren Kuzucu were highly commended in the 2023 Responsible Business Education Awards for their case, "Allbirds: Decarbonizing Fashion". The Responsible Business Education Awards acknowledge those institutions, researchers and alumni whose efforts are to helping to recast business.



Silver Winner in the 2023 Anthem Awards - Awareness and Media Categories

The *Climate Rising* podcast, hosted by Mike Toffel and developed by BEI, was a Silver Winner in the 2023 Anthem Awards—Awareness and Media Categories. The Anthem Awards honors the purpose and mission-driven work of people, companies, and organizations worldwide.



2022 HBR Prize finalist

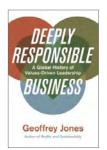
"The Essential Link Between ESG Targets & Financial Performance," by Mark R. Kramer and Marc W. Pfitzer was recognized as a 2022 HBR Prize finalist. The HBR Prize spotlights the most outstanding article published each year in *Harvard Business Review*.



2023 The Case Centre Awards and Competitions

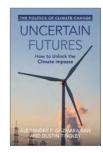
"Global Sourcing at Nike" by Nien-hê Hsieh, Mike Toffel and Olivia Hull won The Case Centre Awards and Competitions 2023 in the "Ethics and Responsibility" category. The Case Centre Awards and Competitions recognize worldwide excellence in case writing and teaching.

BOOKS



Deeply Responsible Business: A Global History of Values-Driven Leadership by Geoffrey Jones (Harvard University Press)

This book examines leaders who put values alongside profits to showcase the challenges and upside of deeply responsible business. For decades, CEOs have been told that their only responsibility is to the bottom line. But consensus is growing that companies—and their leaders—must engage with their social, political, and environmental contexts. Jones profiles exemplary business leaders from around the world who combined profits with social purpose to confront inequality, inner-city blight, and ecological degradation, while navigating restrictive laws and authoritarian regimes.



Uncertain Futures: How to Unlock the Climate Impasse

by Alexander F. Gazmararian and Dustin Tingley (Cambridge University Press)

Uncertain Futures proposes solutions to make more credible promises that build support for the energy transition. It examines the perspectives of workers, communities, and companies, arguing that the climate impasse is best understood by viewing the problem from the ground up.

2

Educate students to transform or build organizations to accelerate climate solutions

MBA REQUIRED CURRICULUM

Environmental opportunities and challenges are embedded in 11 out of 12 Required Curriculum courses, preparing MBAs to make business decisions involving sustainability issues. In 2023, 24 class sessions in the Required Curriculum featured discussions of cases in which environment was a critical consideration, on topics ranging from decarbonization to impact investing.

In Spring 2023, the MBA program added two new Required Curriculum courses, both of which included business-and-environment content. **Social Purpose of the Firm** is a short course designed to explore how, and under what circumstances, business leaders can harness the power of capitalism and markets to make a difference in the world, and included the case "Northvolt: Building Batteries to Fight Climate Change" by George Serafeim, Debora Spar and Julia Comeau. **Data Science for Managers** provides students with the foundations of data science to become effective data-driven managers, and included the case "Arla Foods: Decarbonizing Dairy with Data" by Michael Parzen, Mike Toffel, Amram Migdal and Susan Pinckney.

MBA ELECTIVE COURSES

BEI-affiliated faculty offered the following 14 environmentally focused elective courses and 15 related courses with collective enrollment totaling over 2,000 students:





NEW **Agribusiness**Professor David Bell

Provides a survey of the global food and agribusiness system with an undercurrent of the question of whether the food system is capable of feeding 9 billion people.





Examines the energy transition in a time of surging global energy demand and in the era of climate change.





Entrepreneurial Solutions to the World's Problems

Professor William Sahlman

The basic premise of this course is that entrepreneurs view problems as opportunities, from climate change to pandemics.





Global Climate Change

Professor Gunnar Trumbull

Explores the impact of human-induced climate change on modern society and economy.

The premise of the course is that a changing climate, and the way we respond to it, will ultimately affect and even transform every aspect of modern capitalism.



Denmark and the Netherlands: Decarbonization & Sustainable Production

Professors Willy Shih & Mike Toffel

In this immersive field course, students observe and interact with business leaders engaged in a wide array of decarbonization and sustainable production businesses, from renewable energy production and storage to sustainable agriculture.



NEW

India: Development While Decarbonizing: India's Path to Net Zero

Professor Vikram Gandhi

This immersive field course addresses and unpacks the fundamentals of decarbonization, the science and impact of net zero, and the need and ways to build a sustainable future.





NEW

Infrastructure Finance and Construction

Professor John Macomber

Provides students with the skills and knowledge essential for delivering, operating, and investing in large capital projects ranging from buildings to highways to power plants.





Professor Elizabeth Keenan

Throughout the course students will consider the interaction of purpose-driven marketing efforts and stakeholder behavior and explore what it means to be a corporate citizen.



Reimagining Capitalism: Business & **Big Problems**

Professor Ethan Rouen

Explores the idea that problems such as environmental degradation and accelerating inequality can be effectively addressed by high performing private firms.



Risks, Opportunities, and Investments in the **Era of Climate Change (ROICC)**

Professor George Serafeim

With a focus on the challenges and opportunities posed by climate change, this course prepares students to succeed in a rapidly changing economic landscape and to make a positive impact on the world.



Social Entrepreneurship & Systems Change

Professor Brian Trelstad

Looks at how systems change requires entrepreneurs to think beyond their own organizations to collaborate within their field and to motivate collective action, and to combine direct impact with the indirect effects of changing culture and shaping policy.



Sustainable Cities and Climate Adaptation

Professor John Macomber

This course is about building sustainable and resilient cities, future proofing real estate and infrastructure assets, and examining how people, businesses and investors find opportunities in climate adaptation.











Sustainable Investing

Professors Shawn Cole & Vikram Gandhi

Explores whether investors should incorporate what have traditionally been considered "non-financial" criteria in their decisions: for example, climate risk, environmental sustainability, minority representation on boards, and even the potential to create social good.

Tough Tech Ventures

Professors Joshua Lev Krieger & Jim Matheson

Tough technology has the potential to transform incumbent industries and tackle our most pressing societal issues and this course will dig deeply into these challenges to provide impactful and actionable frameworks to drive impact at scale.



BEI-DRIVEN NEW SHORT INTENSIVE PROGRAM (SIP): ACCELERATING CLIMATE SOLUTIONS

Since 2021, BEI developed and implemented climatefocused SIPs with Faculty Affiliates. The topics ranged from climate finance to adaptation, to entrepreneurship.

In January 2023, 79 students gathered in Aldrich Hall for a four day SIP on "Accelerating Climate Solutions," co-led by Professors Eleanor Laurans, Jim Matheson, and Peter Tufano. This intensive program brought more than 40 experts from industry and academia to discuss the policies, innovations, financing, opportunities, and complexities of climate change business. Sessions on the broader issues of science and policy highlighted the scale and ever-changing policy landscape as students dove into specific solutions with such topics as food and agriculture, carbon capture, finance, the electricity grid, mobility, industrials and materials, and buildings and construction.

Based on the engagement and excitement of this SIP, BEI collaborated with Professors Laurans, Matheson, and Tufano to offer a series events for MBA students in the spring semester, including: Spencer Glendon + Probable Futures Workshop, a Climate Business Planning Workshop, Investing in Climate Ventures: A Conversation with Ann DeWitt from The Engine, Sustainability Careers Small Group Chats with Professors Laurans and Matheson, and a networking happy hour.

INDEPENDENT PROJECTS

Many students extend their learning beyond the classroom through faculty-supervised Independent Projects (IPs). For example, students have advised companies on their sustainability strategies, written business plans for environmental ventures, and co-authored teaching cases with faculty. In 2023, there were over 10 business and environment related IPs, ranging from corporate sustainability to decarbonization to the workforce needs of the green economy.



"My hope is that not just the climate enthusiasts are discussing these issues. If science tells us that the climate transition will affect every fabric of the economy, how do we communicate the urgency and convince the rest of the community? I want to continue to build more dialogues across HBS and the Harvard Kennedy School, as it's interdisciplinary. How can we bring the two schools together to have more opportunities and conversations so that when the people in the classrooms are the climate leaders of the future, they can leverage the broadest network possible?"

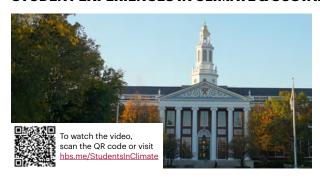
Grace Lam MBA/MPP 2024

PROVIDING STUDENTS WITH A BUSINESS & ENVIRONMENT ROADMAP



In 2023, 45% of incoming RCs indicated an interest in BEI on their application and 54% of all current EC and RC students are interested in business and environment topics. BEI partnered with Admissions to introduce these students to the School's business and environment offerings through Admitted Student Welcome sessions and Industry Spotlight webinars. Upon arrival on campus, BEI welcomed them at the Business & Environment Kickoff, where they met BEI faculty affiliates, leaders of the School's environmental clubs, Student Sustainability Associates, sector leads from the Career & Professional Development department, Sustainability Operations staff, Harvard Innovation Labs (iLab) entrepreneurial leaders, and members of the Salata Institute for Climate and Sustainability.

STUDENT EXPERIENCES IN CLIMATE & SUSTAINABILITY VIDEO



MBA 2023 graduates Karan Khimji, Sommers Kline, Chidalu Onyenso, Laura Romine, Dylan Small, and Angela Noori Son discuss the extracurricular and academic opportunities Harvard Business School provides students during their two years in the MBA Program to learn about climate change and sustainability, including courses, Short Intensive Programs, independent projects, clubs, BEI, and the Student Sustainability Associates program.

CONTINUING CONVERSATIONS



BEI supports the Sustainability Club in hosting "Continuing Conversations" throughout the semester, which are an academic offering developed to fulfill a desire by MBA students to dig deeper into the environmental themes presented in cases taught during the RC year. These faculty-facilitated sessions offer an engaging discussion and opportunity for MBA students to meet likeminded students and connect over cases outside of the classroom. In 2023, there were Continuing Conversations on the cases "Tesla Solar City," "Driving Decarbonization at BMW," and "Harvard University and Urban Mining Industries: Decarbonizing the Supply Chain."



STUDENT CONFERENCE: CLIMATE SYMPOSIUM

The Energy & Environment, Food & Agriculture, and Sustainability Clubs collaborated to host a Climate Symposium on the theme of "Adopting Climate Solutions at Scale," which explored climate solutions and the crucial aspects of capital and policy deployment required to accelerate their implementation on a global scale. Attracting more than 550 participants, the Climate Symposium facilitated conversations and reflections between leaders in the spheres of technology, business, and government with a focus on how to tackle the issues of climate change at speed and scale. BEI is a sponsor of the event and supports the student leaders throughout the planning stages.

Conference Co-Chairs



Audrey Atencio MBA 2024



Dennis Cha MBA 2024



Valeria Tiberi MBA 2024



"We believe that climate solutions are out there, we just need ways to scale them at a faster pace and at a larger scale. We wanted to create a conference that explored the intersection of technology, policy, and capital."

Valeria Tiberi Conference Co-Chair, MBA 2024

RECOGNIZING STUDENT LEADERSHIP

Energy & Environment Club



Co-Presidents Abdullah Al-Shakarchi

Lucienne Oyer

Food & Agriculture Club



Co-Presidents Audrey Atencio



Mollye Santulli

Sustainability Club



Co-Presidents Zhun Che



Pauline Leeuwenburg

Student Sustainability Associates

Seamus Bann Tuneer De Beatriz Delorme

Beatriz Delorme RuiLin Guo Max Israelit

Danielle Mitalipov

Genesia Tang

Carter Umetsu

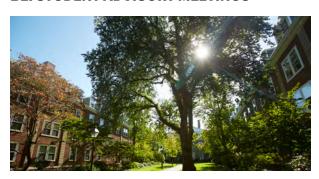
Yiwei Zhi Ken Zeng

BEI COFFEE CHATS



BEI hosted coffee chats for students to meet with the BEI team to discuss the wide range of resources available to current MBA students interested in pursuing academic, extracurricular and career opportunities related to business and environment. Many students took advantage of this opportunity to connect with classmates and our staff, share experiences, and ask questions about academics, faculty research, mentorship, career opportunities, etc.

BEI STUDENT ADVISORY MEETINGS



In 2023, BEI hosted two student advisory meetings to enable the BEI team to gather student input and suggestions about the curriculum, extracurricular activities, and career support, as they relate to business and environment. The BEI team uses feedback from these meetings to develop and improve the School's offerings.

PROMOTING SUSTAINABILITY CAREER OPPORTUNITIES

BEI continues to develop and build on programming that supports students interested in pursuing careers in business and environment related fields. In summer 2023, over 100 MBA students found internships at the intersection of business and the environment. BEI showcased some of these students through the <u>BEI Blog</u>.

Over the summer, BEI and the Social Enterprise Initiative (SEI) hosted a meet-up for students with summer fellowships focused on climate and sustainability. This discussion provided an opportunity for students to meet each other, share ideas, topics, trends, or challenges they wanted to raise for brainstorming.

BEI collaborated with the Career & Professional Development (CPD) office to generate and promote several sustainability career events, including:

- Alumni in Sustainability—Moderated by Professor Mike Toffel, this panel featured alumni
 working in the multi-segment sector to offer perspectives on various MBA roles and paths.
 Students heard their views on opportunities within the space and their advice on navigating
 the job search.
- Careers in Energy & Cleantech—Moderated by Phillip Andrews, CPD's sector lead for energy and cleantech, the panel of recent alumni shared insight from their own career journeys across the energy and cleantech landscape.
- Careers in Sustainability—Moderated by Courtney Fairbrother and Hillary Mann, this panel offered students the opportunity to learn about the range of opportunities and MBA careers within sustainability as well as the resources available at the School. A panel of ECs shared their experiences in the sector-including how they chose an area to focus on and how they approached their search.
- Chief Sustainability Officer Panel—Moderated by Professor Mike Toffel, the panel featured alumni who lead sustainability efforts for organizations in a variety of industries. Students learned what their roles encompass, how sustainability agendas are set, what a typical career path to sustainability-focused leadership positions looks like and advice for how to launch a successful career in the field.

STUDENT-ALUMNI MENTORSHIP



BEI maintains relationships with a number of organizations and alumni who can offer career advice and opportunities to current students. To facilitate connections between these organizations and individuals, the BEI hosts a mentor match program on the platform Chronus. After a successful pilot with BEI in 2022, the Health Care and Social Enterprise Initiatives joined Chronus to continue expanding alumni

connections for students. By the fall of 2023, over 450 mentors and over 270 mentees joined the program, which facilitates relationships between BEI affiliated students pursuing careers that address climate change and other environmental challenges with alumni working in the field.



SUPPORTING CLIMATE ENTREPRENEURSHIP

In partnership with the iLab, BEI offered the opportunity to meet with Climate Experts in a variety of industries.

Entrepreneurial Mentorship

Expert Resources include serial entrepreneurs, venture capitalists, creative directors, lawyers, and more. MBA students were encouraged to schedule 1:1 time with seasoned experts to gain valuable knowledge and support. In 2023, four alumni served as Climate Experts: Alex Bondar (MBA 2014), Jeff Engler (MBA 2012), Michael Mancinelli (MBA 2021), and Erik Snyder (MBA 2009).

Shara Ticku (MBA 2017), co-founder and CEO of c16 Biosciences, continued as an Entrepreneur-in-Residence (EiR). EiRs have founded, sold, or IPO'd successful ventures in diverse industries. In her role as EiR, Shara has advised students who are interested in starting companies or being early-stage joiners of start-ups. She has particularly focused on companies with a climate impact focus.

Harvard Climate Circle

The Harvard Climate Circle is cultivating the next generation of climate entrepreneurs who are actively uncovering new, unexpected ways to take on climate change. Climate Circle participants have access to world-class 1:1 coaching, pro bono legal counsel, warm connections to industry leaders, negotiations advising, and a peer group of ventures that are all working on innovative solutions to tackle climate change. The program is spearheaded by Rebekah Emanual, Director of Social Entrepreneurship at the iLab, BEI, and Harvard Alumni for Climate and the Environment. The 2023 Climate Circle cohorts included 83 applications and 23 were accepted. Climate Circle founders come from all industries and areas of study. They come from retail, mining, teaching, oil and gas, coding, clinical medicine, and the military. They represent countries around the world and about two-thirds of Climate Circle teams are led by women or people of color.

How to Create a Climate Venture Training

In 2023, BEI partnered with the iLab to offer "How to Create a Climate Venture," a training led by Rebekah Emanual for climate entrepreneurs that focuses on five key areas: unpacking climate solutions, coming up with an idea, leveraging tools to test the viability of the idea, and connecting with fellow climate entrepreneurs. Three sessions were offered in 2023, attracting 900 registrants.



NEW VENTURE COMPETITION

The New Venture Competition is an annual competition sponsored by the Rock Center for Entrepreneurship and Social Enterprise Initiative open to all students and alumni who are launching new business and social impact ventures. This year, climate and sustainability were topics covered by 17 entrants.

Most Promising Climate Tech Venture



Rajiv Singhal MBA 2007 Grensol provides renewable

Grensol

energy project evaluation, development, and project financing services.

Two top finalists went to Climate Ventures:



Earthbond Chidalu Onyenso MBA 2023

Earthbond is a platform that

connects urban Nigerians with affordable financing for clean, reliable energy. They leverage group financing and carbon accounting to lower costs and risk in the energy transition of Nigeria's \$14B fuel-based, offgrid generator market.



PolyoseBio Makari Krause MBA 2023

PolyoseBio is working to divert

food waste away from landfills by upcycling it into highvalue sugar polymers using a combination of insects and microbial cell factories.

EXECUTIVE EDUCATION

Integrating of Climate Topics into Comprehensive Leadership Programs

The School is increasingly integrating business and climate topics in the Comprehensive Leadership Programs, which was introduced in the Advanced Management Program this year.

Increased Business and Climate Topics into Custom Programs

HBS is helping a growing number of clients design customized learning experiences that address unique business goals and challenges, including climate and sustainability goals.

Harvard's Advanced Leadership Initiative: Climate Change Deep Dive

The Advanced Leadership Initiative (ALI) is an innovative academic program designed to unleash the potential of experienced leaders to help solve society's most pressing challenges. This year, Professor Mike Toffel developed a two-day Climate Change Deep Dive, in which exec ed participants and faculty from across the University explored the impact of climate change across economics, investment, policy, public health, and adaptation.

Harvard Business School Online: Business & Climate Change Course

In 2023, HBSO announced the launch of a new program, Business and Climate Change. This course will help participants understand the science, economic impact, and policy implications of climate change. Participants will explore how companies in various industries are adapting to and preparing for climate change and learn how to identify and communicate emerging opportunities and risks.

BEI Faculty Chair Mike Toffel took an active role, alongside other faculty, to infuse climate change content across executive education programs.

HARVARD BUSINESS PUBLISHING

Disseminating Business and Environment Cases

In FY 2023, more than 410,000 copies of cases, representing 609 unique cases and supplements, with significant environmental content were sold for use in classrooms around the world with top sales in the United States, Japan, and Mexico. Among these, the three top-selling cases (noted below) address strategic opportunities associated with environmental innovation:

- Unilever's New Global Strategy: Competing through Sustainability by Christopher A. Bartlett
- Patagonia by Forest L. Reinhardt, Ramon Casadesus-Masanell, Hyun Jin Kim
- Sustainability at IKEA Group by V. Kasturi Rangan, Michael W. Toffel, Vincent Dessain, Jerome Lenhardt

Quick Cases

Developed in 2023 by Harvard Business Publishing, Quick Cases are short, real-life business dilemmas that drop students into a decision-making moment. They're versatile, require little preparation time, and encourage lively discussion. For example, "Cementing Sustainability" places students in the role of a sustainability manager tasked with assisting in the reduction of carbon emissions at a fictional cement company, Portland Cement.

Highlights

3

Disseminate insights from research and foster alumni engagement on critical environmental topics

BEI-LED ACCELERATING CLIMATE SOLUTIONS CONFERENCE



On May 10, 2023, faculty, alumni, and other business leaders convened at Harvard Business School for a groundbreaking day of discussion and interaction around what it takes to discover, develop, scale, and achieve meaningful progress on climate solutions. Through expert panels, case discussions, and networking, participants considered the role of the firm, individual business leaders, and HBS,

as well as new business and investment opportunities. The conference, hosted by HBS External Relations in partnership with BEI, was part of Harvard Climate Action Week, and Eleanor Laurans, Jim Matheson, Lynn Schenk, George Serafeim, and Peter Tufano served as conference co-chairs.





The first part of the day explored "Reimagining the Solutions Infrastructure" and included panels on:

- How Climate Is Central to Every Business—This panel underscored that climate is a central business issue that extends across all business disciplines.
- Toward a Decarbonized Future: Who Pays? Who Profits?—This session demonstrated how financiers along the capital stack are examining climate risk, return, and opportunity to seed, pilot, and scale a wide range of impactful projects, companies, and markets.
- Rebuilding Industry and Infrastructure: The Need for a New Climate Workforce—This session examined different approaches, from policy to trade schools to exciting new and incumbent companies putting the workforce at the core of their business models.



Breakout sessions included:

- Deeper Dive: Gaps in the Capital Stack
- Measuring and Reducing Corporate
 Carbon Emissions
- Iberdrola: Leading the Energy Revolution
- Northvolt: Building Batteries to Fight Climate Change
- Leadership and Climate Action in Cities



The theme of the second part of the day focused on "Scaling Accountability and Impact" and the sessions included:

- Driving Climate Performance through Accountability and Governance—This panel explored the different mechanisms and ideas that have emerged on how to drive performance through accountability and governance.
- Competition or Collaboration? Navigating a Path for Successful Climate Alliances—This
 session focused on what climate alliances do, why individual firms/investors would find it
 difficult to act alone, the management and leadership challenges of running an alliance,
 and the uncertain legal status of some of the groups.
- Beyond Business as Usual: Climate Disruptors—This session featured short presentations from disruptors, followed by discussion focused on their examples of rethinking and disrupting business-as-usual to accelerate climate solutions.

Following the conference, BEI developed a <u>climate hub website</u> in partnership with BiGS, which offers comprehensive coverage from the conference, including highlight reels, panel videos, and comprehensive articles that showcase key learnings from the day.

Alumni Reactions

During the conference, alumni attendees were interviewed to understand their takeaways from the conference and what solutions or ideas they were bringing back to their companies.



STUDENTS STRIVE TO SOLVE CLIMATE CHANGE VIDEO



As part of the "Accelerating Climate Solutions" conference, four students discussed their efforts toward addressing climate challenges: Chidalu Onyenso (MBA 2023) discusses EarthBond, a company she founded to link Nigerians with financing for solar solutions; Angela Son (MBA 2023) discusses her focus on what the clean economy transition means for the future of work; Karan Khimji (MBA 2023) talks about the company he co-founded, 44.01, which permanently eliminates CO₂ from the atmosphere; and Dylan Small (MBA 2023) talks about his plans to decarbonize commercial buildings and building materials.

CLIMATE CHANGE ENGAGEMENT LUNCH & LEARN



Over the summer, the BEI team collaborated with HBS Connects to offer a session open to the community that outlined latest updates on climate engagement at HBS, in addition to outcomes and next steps from Harvard Climate Action week and the "Accelerating Climate Solutions" conference.



ALUMNI IN CLIMATE NETWORKING SERIES

In 2023, BEI launched the "Alumni in Climate Networking Series" with the goal of connecting alumni leveraging their careers to address climate change. These networking events offered alumni the opportunity to discuss ideas, trends, opportunities, and challenges at the intersection of business and the environment.

- Boston Over 40 alumni and students came to campus to learn how our students are working to make an impact on climate change.
- Zurich In August, BEI Director Lynn Schenk met with a group of HBS and HKS alumni engaged in climate careers.
- San Francisco BEI collaborated with the Rock Center for Entrepreneurship and the California Research Center to bring together 75 alumni who are working on climate innovation, hosted by Scott Jacobs (MBA 2007) at Generate Capital. This session featured a panel of alumni funding climate companies at various stages of their fundraising journey, moderated by Professor Jim Matheson.
- New York City BEI partnered with Erika Diamond (MBA 2007) to bring together 45 alumni
 on the roof deck of the EnergyHub offices in Brooklyn to network with each other and
 discuss their career goals.

BEI is traveling to cities around the world to meet with and connect our alumni to each other.

ALUMNI EVENTS: MEETAWAY



In November, BEI hosted a series of alumnito-alumni speed networking events to foster connections for alumni working in climaterelated sectors. 140 connections were made across sectors, including carbon removal, adaptation, and water.



REUNIONS

Summer and Fall Reunions featured extensive climate programming, including opportunities to engage with the BEI team and faculty, campus sustainability tours, an open house, faculty presentations, and sessions on climate organized by alumni and faculty:

- "Business in Global Society" by Professor Debora Spar
- "Climate Adaptation: How Investors Think About Resilience" by Professor John Macomber
- "Complicit: How We Enable the Unethical and How to Stop" by Professor Max Bazerman
- "Decarbonizing the Americas" by Professor Tarun Khanna
- "Entrepreneurial Solutions to World Problems" by Professor William Sahlman
- "Five Ways to Make Things Better: Taking Positive Action in a Troubled World" by Professor Rosabeth Kanter
- "Investing Sustainably" by Professor Sara Fleiss
- Class of 1978: Climate Change Pioneers organized by Grace Chao (MBA 1978), featuring Steve Kahn (MBA 1978), Rick Whitaker (MBA 1978), and Mary Jo Veverka (MBA 1978), moderated by Professor Mike Toffel
- Class of 1978: Students by Day-Founders by Night organized by Sharon Patrick (MBA 1978) and moderated by Rebekah Emanuel (MBA 2015), featuring Alex Berkowitz (Harvard Design School), John Maslin (MBA 2024), Viraj Sakind (Harvard Kennedy School), Laxmi Wordham (MBA 2001), and Michael Wu (Harvard College)
- Class of 1983: Taking Action on Climate Change moderated and organized by Raphael Carty (MBA 1983), featuring Jeff Brown (MBA 1983), Heather Evans (MBA 1983), Ruthanne Fuller (MBA 1983), and John Macomber (MBA 1983)
- Alumni Networking for Climate Solutions in Fall 2023
- BEI Open House and Networking Session in Spring 2023

SUSTAINABLE MBA ALUMNI NETWORKING RECEPTION



In collaboration with the Sustainable Business Education Collaborative (SBEC) schools and programs, alumni were invited to the Wells Fargo Event Space in San Francisco for an evening of networking and an opportunity to connect with MBA alumni from other schools leveraging their careers in sustainability and confronting climate change. The event provided an opportunity to meet others interested in sustainability, climate tech, and ESG, and get to know one another through a series of short conversations and speed networking prompts. SBEC includes the following business schools: Cornell, Duke, HBS, MIT, Stanford, UC Berkeley, University of Michigan, and Yale.

CLIMATE & SUSTAINABILITY IMPACT LAB OF THE DIGITAL. DATA. AND DESIGN INSTITUTE AT HARVARD



This lab, co-led by Professors George Serafeim, Mike Toffel, and Peter Tufano, seeks to enhance the School's ability to drive operational and business model sustainability transformations by establishing and sharing an inventory of climate-related datasets, conducting research on decarbonization, and leveraging research to catalyze action. In collaboration with BEI, the D^3 Assembly Series on Climate &

Sustainability showcases conversations with alumni and other leaders taking action in business, climate, and sustainability:

- D^3 Assembly Climate and Sustainability Series: ALI Decarbonization Panel: In this panel
 moderated by Professor Mike Toffel, four alumni shared their efforts on the ground to
 reduce carbon emissions at scale through innovations in business operations, structured
 finance, public-private partnerships, and technological advancement with potential for
 impact across the global economy.
- D^3 Catalyst Event: Prospering Beyond 1.5°C: Tools, Data, and Analytics for Entrepreneurs Driving Climate Adaptation: Through a series of live case discussions, workshop exercises, and interactive class discussions, participants gained a perspective on climate adaptation broadly, including the risks and opportunities in adaptation; explored a range of tools; and developed an understanding of how to use data to drive decision-making.
- D^3 Catalyst Event: The Circular Revolution: This event, moderated by Professor George
 Serafeim, offered interactive sessions where participants learned about the fundamentals of
 circular economy, discovered new products and processes emerging across several industries,
 learned from start-ups providing new solutions, and explored how investors are finding
 opportunities for value creation in the private equity industry through circular economy.



CLIMATE RISING

In 2023, the Climate Rising podcast released 26 episodes (listed below) that address a wide array of business and climate change themes including artificial intelligence, setting and reaching net zero targets, technology plays in hard-to-abate sectors, and a back-to-school series. In 2023, the podcast attracted over 468,000 downloads, a 257% increase in downloads from 2022. In 2023, the podcast reached its 50th episode milestone, transitioned producers from Kate Robertson Zerrenner to Ali Thorne (MBA 2016) and continued to be hosted by Professor Mike Toffel and audio engineered by Craig McDonald.

Artificial Intelligence

- How BCG Uses AI to Address Climate Change: Hamid Maher and Charlotte Degot,
 Managing Directors and Partners at Boston Consulting Group
- Google's Al Approach to Climate Change: Yossi Matias, Vice President, Engineering &
 Research at Google, and the founding Managing Director of Google Center in Israel
- WeaveGrid's Al Solution for EV-to-Grid Integration: Apoorv Bhargava, CEO and Co-founder of WeaveGrid
- Ideon: Mining the Energy Transition: Gary Agnew, CEO and Co-founder of Ideon
 Technologies Inc. and Kim Lawrence, VP, Talent and Customer Experience
- Climate Adaptation & Supply Chains: Everstream Analytics' Al Solution: Jim Hayden, Chief
 Data Scientist at Everstream Analytics
- How OPower Uses Behavioral Science & AI to Reduce Energy Demand: Paul McDonald,
 Senior Director, Opower Product Strategy & Marketing at Oracle Energy and Water

Net Zero

- Beyond Net Zero: How Seventh Generation Plans to Achieve Real Zero Carbon: Ashley Orgain, Chief Impact Officer at Seventh Generation
- BCG Climate Vision 2050: Sustainability at 36,000 Feet: Boston Consulting Group's Climate Vision 2050 podcast
- How Science Based Climate Targets Work: Alberto Carrillo Pineda, Co-Founder and Chief
 Technical Officer of Science Based Targets Initiative
- Managing Electricity to Meet Net Zero Targets: Melissa Lott, Director of Research and Senior Research Scholar, Center on Global Energy Policy at Columbia University and Michael Webber, Josey Centennial Professor in Energy Resources and Professor of Mechanical Engineering at University of Texas at Austin

- Going Carbon Negative at Microsoft: Lucas Joppa, Chief Sustainability Officer & Senior Managing Director of Haveli Investments
- Helping Consumers Decarbonize their Purchases: Sanchali Pal, Founder and CEO of Commons
- An Investor's Perspective on Corporate Climate Action: Paul Bodnar, Director of Sustainable Finance, Industry, and Diplomacy at Bezos Earth Fund

Back to School

- How Arcos Dorados is Addressing Climate Change in Latin America: Gabriel Serber, Vice
 President of Social Impact and Sustainable Development at Arcos Dorados
- How Boards Can Drive Climate Performance: George Serafeim, Charles M. Williams Professor of Business Administration at Harvard Business School; Carter Roberts, President & CEO of the World Wildlife Fund; Debora Spar, Jaime and Josefina Chua Tiampo Professor of Business Administration at Harvard Business School; Senior Associate Dean for Business and Global Society at Harvard Business School, Board Director, Thermo Fisher Scientific; Bonita Stewart, Board Partner at Gradient Ventures; Lauren Taylor Wolfe, Cofounder & Managing Partner at Impactive Capital
- Three MBA Summer Interns in Business and Climate Change: Nabig Chaudhry, MBA 2024;
 Mitch Hirai, MBA 2024; Kamya Jagadish, MBA/Harvard Kennedy School MPP 2024

Hard-to-Abate

- How Sian Flowers Aims to Create a Low-Carbon Rose (bonus episode featuring Cold Call):
 Professors Willy Shih and Mike Toffel interviewed by Brian Kenny, Chief Marketing and
 Communications Officer
- Einride: Decarbonizing Trucking with EVs, Autonomy, and Digitalization: Linnéa Kornehed
 Falck, Founder, Deputy CEO and Board Member of Einride
- CarbonBuilt: Decarbonizing Concrete Blocks: Rahul Shendure, CEO and Director at CarbonBuilt
- How Green Hydrogen can Decarbonize Hard-to-Abate Sectors: Jacob Susman, CEO and cofounder of Ambient Fuels

Bonus Episodes

- How BMW is Driving Decarbonization (bonus episode featuring Cold Call): Professor Shirley
 Lu interviewed by Brian Kenny, Chief Marketing and Communications Officer
- Accelerating the Energy Transition: The U.S. Inflation Reduction Act (bonus episode featuring Clean Law from Harvard Law School): University of Oregon Professor Greg Dotson interviewed by Harvard Law School Professor Jody Freeman
- Climate Tech Investing in Deep Decarbonization (bonus episode featuring Exponential View): Shayle
 Kann, Partner at Energy Impact Partners, interviewed by Azeem Azhar, host of Exponential View
- Accelerating Climate Solutions for Food & Agriculture (bonus episode from the Accelerating Climate Solutions SIP) – Alex Bondar, Partner at Acre Venture Partners, and Rebekah Moses, Vice President of Iron Ox, interviewed by Professor Eleanor Laurans
- Can We Really Engineer a Climate Fix? (bonus episode featuring SkyDeck): Professor Jim Matheson and MS/MBA student Aaron Sabin interviewed by Dan Morrell, Senior Associate Director and Content Manager
- Sweden's Northvolt Quest to Build the World's Greenest EV Batteries (bonus episode featuring Cold Call): Professor George Serafeim interviewed by Brian Kenny, Chief Marketing and Communications Officer.

BEI BLOG POSTS

The BEI blog highlights how different stakeholders associated with BEI are confronting climate change, including features of faculty, alumni, students, and staff:

Curricular & Extracurricular Opportunities

- "Accelerating Climate Solutions Short Intensive Program 2023" by Shona Simkin
- "ClimateCAP 2023 & ClimateCAP Fellowship" by Grace Lam (MBA/MPP 2024)
- "Harvard Climate Leaders Program" by Jenny Gao (MBA 2024), Henry Tao (MBA 2023) and Daniel Tong (MBA 2023)
- "Independent Project: The Rise of Electric Heat Pumps" by Meghavi Talati (MBA 2023)
- "Taking Learning Beyond the Classroom" by Tyler Bennett (MBA 2024) and Elise Clarkson

Career Advice

- "2023 Summer Internships in Business & Environment" by Elise Clarkson
- "Career Advice: Pursuing a Dual Degree" by Matt Hartsog (MBA/MSES 2023)
- "Career Journey: Karan Khimji, Co-Founder of 44.01" by Karan Khimji (MBA 2023)
- "Climate Stories Episode #14: Bonita Stewart (MBA 1983) A Career Devoted to Creating the Future" by Jacqueline Adams (MBA 1978)
- "Four Remarkable Stories of HBS MBA Students Tackling Climate Change" by Maitane Zarate
- "Sustainability Career Advice from the Career & Professional Development Office" by Hillary Mann

Entrepreneurship & System Change

- "Harvard Climate Entrepreneurs Circle: Taking Climate Solutions from Idea to Action,
 Faster" by Rebekah Emanuel (MBA 2015)
- "Policy Drivers for Environmental Justice: What Businesses Need to Know" by Skylar Bluestein
- "Solving Climate Change Starts with an Idea" by Rebekah Emanuel (MBA 2015)

Event Highlights

- "Alumni in Climate Networking Series: New York City" by Courtney Fairbrother
- "Alumni in Climate Networking Series: San Francisco" by Courtney Fairbrother
- "Alumni in Climate Networking Series: Zurich" by Lynn Schenk
- "Choosing To Be Optimistic about Climate Change" by Jennifer Nash
- "Climate Change Pioneers in the Class of 1978" by Grace Chao (MBA 1978)
- "Climate Week NYC 2023" by Lynn Schenk
- "From the Panelists: Toward a Decarbonized Future: Who Pays? Who Profits?" by Jacqueline Adams (MBA 1978)
- "Innovating, Funding, and Scaling Climate Solutions at Harvard Business School: Day Three of Harvard Climate Action Week" by Shona Simkin
- "Kicking Off Alumni in Climate Networking Series in Boston" by Courtney Fairbrother
- "New Venture Competition 2023: Business and Environment Ventures" by Elise Clarkson
- "The HBS Climate Rising Podcast Reaches 50 (Episodes)" by Kate Robertson Zerrenner



IFC DECARBONIZATION & SUSTAINABLE PRODUCTION 2023 BEI BLOG SERIES

In January 2023, Professors Willy Shih and Mike Toffel led more than 40 MBA second-year students (all MBA 2023) on site visits to witness the energy transition and innovative sustainable production activities throughout Denmark and the Netherlands, in their new Immersive Field Course (IFC). Those students wrote 13 essays posted on the BEI Blog that highlights their reflections:

- "Amager Bakke: A Look into the Future of Waste Incineration" by Szymon Kózka (MBA 2023),
 Kelly LaBuff (MBA 2023), and Dumi Mtambo (MBA 2023)
- "Arla Foods: How Sustainable Can A Dairy Company Be?" by Morgan Brewton-Johnson (MBA 2023), Nina Dewees (MBA 2023), Lisa Qiya Li (MBA 2023), and Adaeze Okoli (MBA 2023)
- "BTG Bioliquids: Creating Fast Pyrolysis Bio-Oil from Biomass Residue Streams" by Angela Son (MBA 2023), Armin Aghaei (MBA 2024), and Daniel Tong (MBA 2023)
- "Circularity in Denmark" by Kushal Dalal (MBA 2023), Kate Jones (MBA 2023), and Riya Chandaria (MBA 2023)
- "Deconstructing LEGO's Decarbonization" by Karthik Sajikumar (MBA 2023), Maiky Iberkleid Szainrok (MBA 2023), and Dylan Small (MBA 2023)
- "Grolsch Brewing Company: Drink Sustainably" by Morgan Brewton-Johnson (MBA 2023),
 Nina Dewees (MBA 2023), Lisa Qiya Li (MBA 2023), and Adaeze Okoli (MBA 2023)
- "Grundfos: Innovation & Inspiration for Sustainable Product Design" by Ben Ibach (MBA 2023), Nikhil Shah (MBA 2023), and Caroline Walton (MBA 2023)
- "HySynergy and Crossbridge Energy" by Bill Leigh (MBA 2023), Odaro Omusi (MBA 2023),
 Lee Scott (MBA 2023), and Shaq Walker (MBA 2023)
- "Koppert Cress: Macro Greenhouses, Microgreens" by Jennifer Godfrey (MBA 2023),
 Rafaella Mazza (MBA 2023), and Katrina Yeh (MBA 2023)
- "Maersk's Journey to Decarbonize Shipping" by Alejandro Molina (MBA 2023), and Sam Deutsch (MBA 2023)
- "Novo Nordisk" by Jeremy Gray (MBA 2023), Anastasiya Siro (MBA 2023), and Iris Yu (MBA 2023)
- "Port Esbjerg: Deploying Offshore Wind" by Ali Edwards (MBA 2023), Imam Akinlade (MBA 2023), and Kanako Hayashi (MBA 2023)
- "Van den Ende Rozen: Greenhouse Rose Production" by Sonal Chaudhry (MBA 2023), Blake
 Li (MBA 2023), and Franco Muzzio (MBA 2023)

NEWS FEATURING BEI & PARTNERSHIPS

News stories featuring BEI and our recent partnerships:

BiGS Climate Fellows

- "Harvard Business School Announces Six 'Business in Global Society' Fellows to Research Climate" HBS Newsroom
- "Harvard Business School's First-Ever Climate Fellows: Research to Range from Data-Driven Approaches for Equitable EV Charging Infrastructure to Airline Decarbonization Strategies" The BiGS Fix
- "New Faculty Profiles: Andrew Hoffman" HBS Newsroom
- "New Faculty Profiles: Christian Kaps" HBS Newsroom
- "New Faculty Profiles: Conor Hickey" HBS Newsroom
- "New Faculty Profiles: Gunther Glenk" HBS Newsroom
- "New Faculty Profiles: Jonas Meckling" HBS Newsroom
- "New Faculty Profiles: Omar Asensio" HBS Newsroom
- "New Faculty Profiles: Philippe van der Beck" HBS Newsroom
- "New Faculty Profiles: Robyn Meeks" HBS Newsroom

Campus

- "Feeling thrifty: How the secondhand market is changing the fashion game" WGBH
- "Inside the Learning: Sustainability On Campus and Beyond" Leadership Insights Blog

Curriculum & Academics

- "Accelerating Climate Solutions" HBS Newsroom
- "BiGS Debuts New Course to Explore the Purpose of the Firm" Know Your HBS
- "Climate change has (finally) arrived at business school" Greenbiz
- "Combining forces to accelerate climate action here, there, now" The Harvard Gazette
- "MBA & Sustainability Spotlight: Harvard Business School" Clear Admit
- "SIPS 2024 Preview: From Climate Change to F1, Winter MBA Electives Offer Experimentation and Focus" HBS Newsroom
- "The Opportunities of Climate Change Innovation" Executive Education Insights
- "The Sixth Year of Short Intensive Programs (SIPS) at HBS" HBS MBA Voices Blog

Events & Recognition

- "22 Best Environmental Podcasts of 2023" Earth.org
- "Harvard Business School Students Put Forth Sustainability Solutions at Annual Climate Symposium" The Harvard Crimson
- "Innovating, Funding, and Scaling Climate Solutions at Harvard Business School: Day Three of Harvard Climate Action Week" HBS Newsroom



CREATING EMERGING MARKETS SUSTAINABILITY SERIES

In 2023, BEI partnered with the Creating Emerging Markets Project, developed by Professors Geoffrey Jones and Tarun Khanna, to broaden the reach of four deep and impactful video interviews with business leaders in emerging markets that addressed climate change and sustainability:

- "Creating Emerging Markets Sustainability Series Closing the 'Intention-Action' Gap" by Maxim Pike Harrell
- "Creating Emerging Markets Sustainability Series Innovations to Address the Global Water Crisis" by Maxim Pike Harrell
- "Creating Emerging Markets Sustainability Series Leapfrogging Traditional Agricultural Development in Africa" by Maxim Pike Harrell
- "Creating Emerging Markets Sustainability Series Opportunities for Green Entrepreneurship in the Face of Policy Inaction" by Maxim Pike Harrell

Alumni Perspectives

ALUMNI STORIES & ALUMNI IN THE NEWS



- "2023 Harvard Business School New Venture Competition: Bringing Out the Best in HBS Students and Alumni, with Ideas and Ventures to Change the World" featuring Rajiv Singhal (MBA 2007), HBS Newsroom
- "3-Minute Briefing: Jeremy Grantham (MBA 1966)" featuring Jeremy Grantham (MBA 1966), HBS Alumni Stories
- "Aaron Sabin (MS/MBA 2023): Engineering a Climate Change Solution by Cutting the Cost of Carbon Capture" featuring Aaron Sabin (MS/MBA 2023), MBA Voices Blog
- "Action Plan: Net Proceeds" featuring Robert Goodwin (GMP 3), HBS Alumni Stories
- "Batteries Included" featuring Steven Henderson (MBA 2016) and John McCown (MBA 1980),
 HBS Alumni Stories
- "Bridging the ESG Data Gap" featuring Megan Murday (MBA 2021) and Rebekah Emanuel (MBA 2015), HBS Alumni Stories
- "Can We Really Engineer a Climate Fix?" featuring Jim Matheson (MBA 2001) and Aaron Sabin (MBA/MS 2023), Skydeck
- "Carbon's Second Act" featuring Todd Brix (MBA 1997) and Jim Matheson (MBA 2001), Skydeck
- "Case Study: Power Nappy" featuring Dawn Dobras (MBA 1995); Amrita Saigal (MBA 2014),
 HBS Alumni Stories
- "Elevator Pitch: Feedback" featuring Laxmi Stebbins Wordham (MBA 2001), HBS Alumni Stories
- "End Game" featuring Charles Conn (MBA 1990), HBS Alumni Stories
- "Engineering a Solution to Climate Change" featuring Aaron Sabin (MS/MBA 2023), Harvard GSAS News
- "Exploring Business Opportunities in Africa; Alumni Grapple with Plastic Waste Problem" featuring HBS Women's Association (HBSWA), Sherri Sklar (MBA 1989) and Robert Goodwin (GMP 3, 2007), HBS Alumni Stories
- "Global Networking Night; Sweden Club Holds Climate Forum" featuring Cynthia Jonströmer (GMP 6, 2009; AMP 195, 2018) and Anders Hedfalk (MBA 2000), HBS Alumni Stories
- "Grand Ambitions in the Great Plains" featuring Meghan Kenny (MBA 2019) and Jonas Lee (MBA 1993), *Skydeck*
- "Harvard Business School Announces New Venture Competition Finalists in Student Business, Social Enterprise, and Alumni Tracks" featuring Makari Krause (MBA 2023), HBS Newsroom
- "HBS Awards 2023 New Venture Competition Winners" featuring Rajiv Singhal (MBA 2007), Clear Admit
- "Helping Consumers Decarbonize Their Purchases" featuring Sanchali Pal (MBA 2018), HBS
 Alumni Stories

- "In My Humble Option: Futures Investor" featuring Ted Roosevelt (MBA 1972), HBS Alumni Stories
- "Real Humans of Deloitte: Ryan Flamerich, HBS MBA '21, Senior Consultant" featuring Ryan Flamerich (MBA 2021), Clear Admit
- "Returning to the Roots" featuring Florent Latour (MBA 1999), HBS Alumni Stories
- "Rounding the Bend" featuring Emily Bolon (MBA 2007); James Reinhart (MBA 2009);
 Christopher Homer (MBA 2009); Maria McClay (MBA 2006), HBS Alumni Stories

ALUMNI APPRECIATION

BEI extends our gratitude to these and all other alumni who shared their valuable perspectives in 2023 at alumni and student conferences and events, the Climate Rising podcast, the BEI Blog, and Alumni Stories.

Accelerating Climate Solutions Conference

Danielle Colson (MBA 2022)

Scott Jacobs (MBA 2007)

Eleanor Laurans (MBA 2006)*

John Macomber (MBA 1983)*

Jim Matheson (MBA 2001)*

George Serafeim (DBA 2010)*

Jayant Sinha (MBA 1992)

Debora Spar (PMD 62, 1991; PhD 1990)*

Bonita Stewart (MBA 1983)

Girish Nadkarni (MBA 1988)

Gunnar Trumbull (PMD 76, 2001)*

Richard Needham (MBA 2002)

Peter Tufano (MBA 1984, PHDBE 1989)*

Accelerating Climate Solutions Short Intensive Program

Zaid Ashai (MBA 2006, MPA 2007)

Sachi Blue-Smith (MBA 2001)

Alex Bondar (MBA 2014)

Anastasia Istratova (MBA 2019)

Scott Jacobs (MBA 2007)

Eleanor Laurans (MBA 2006)*

Ellen Le (MBA 2019)

Alex Radomsky (MBA 2022)

Rahul Shendure (MBA 2001)

Erik Synder (MBA 2009)

Peter Tufano (MBA 1984, PHDBE 1989)*

Frank Yang (MBA 1995)

Frank Yang (MBA 2006)

Alumni Climate Impact Stories

Steven Henderson (MBA 2016)

Jim Matheson (MBA 2001)*

Eric Adamson (MBA 2013) Amanda Li (MBA 2018) Adzmel Adznan (MBA 2017) Ayr Muir (MBA 2004) Shantanu Agarwal (MBA 2010) Megan Murday (MBA 2021) James Reinhart (MBA/MPA 2009) Todd Brix (MBA 1997) David Chan (MBA 2018) Rahul Shendure (MBA 2001) Sandeep Chopra (GMP 2012) Wyatt Smith (MBA 2015) Danielle Colson (MBA 2022) Shara Ticku (MBA 2017) Charley Cummings (MBA 2011) Sarah Wright (MBA 1997) Nisha Desai (MBA 1997) Frank Yang (MBA 2006) Matt Evans (MBA 2007)

Alumni in Climate Networking Series

Adzmel Adznan (MBA 2017) Erika Diamond (MBA 2007) Scott Jacobs (MBA 2007) Raj Kapoor (MBA 1996) Jim Matheson (MBA 2001)* Nam Tran Nguyen (MBA 2003) Monica Varman (MBA 2016)

Alumni Reactions to Accelerating Climate Solutions Conference

David Chan (MBA 2018)
Danielle Colson (MBA 2022)
Uday Khemka (MBA 1995)
Jesse Lou (MBA 2022)
John Macomber (MBA 1983)
Eileen Marks (MBA 1989)

John Macomber (MBA 1983)* Eileen Marks (MBA 1989) Jim Matheson (MBA 2001)* Rick Needham (MBA 2002) Kyung-Ah Park (MBA 1998) George Serafeim (DBA 2010)* Nikita Singhal (MBA 2012) Jayant Sinha (MBA 1992) Erik Snyder (MBA 2009) Alexandra Thorne (MBA 2016) Gunnar Trumbull (PMD 76, 2001)*

Ben Weisman (MBA 2018)

BEI Blog Features

Jacqueline Adams (MBA 1978) Grace Chao (MBA 1978) Rebekah Emanuel (MBA 2015)

Career & Professional Development Panels

Hui Wen Chan (MBA 2010)

Danielle Colson (MBA 2022)

Alsey Davidson (MBA 2022)

Adam Heltzer (MBA 2009)

Ratnika Prasad (MBA 2020)

Andrés Pérez (MBA 2020)

Steve Renter (MBA 2013)

Kate Shattuck (MBA 2006)

Rick Vanzura (MBA 1990)

Maria Woodman (MBA 2018)

Climate Rising

Alex Bondar (MBA 2014) Eleanor Laurans (MBA 2006)* Jim Matheson (MBA 2001)* Sanchali Pal (MBA 2018) Aaron Sabin (MS/MBA 2023)

Debora Spar (PMD 62, 1991; PhD 1990)* Bonita Stewart (MBA 1983) Rahul Shendure (MBA 2001)

George Serafeim (DBA 2010)*

Carter Roberts (MBA 1988)

Climate Symposium: Adopting Climate Solutions at Scale

Molly Breiner (MBA 2010)

Norah Hennings (MBA 2016)

Eleanor Laurans (MBA 2006)*

Jim Matheson (MBA 2001)*

Gunnar Trumbull (PMD 76, 2001)*

Ted Wiley (MBA 2009)

Cold Call Podcast

George Serafeim (DBA 2010)*

Digital, Data, and Design Institute Events

Matthew Arnold (MBA 1988)
Luciano Bueno (OPM 62, 63)
Mitch Goldstein (MBA 1986)
Reynir Indahl (MBA 1998)
Vladimir Jacimovic (MBA 1992)
John Macomber (MBA 1983)*
Kola Masha (MBA 2006)
Maria McClay (MBA 2006)

Aris Papadopoulos (MBA 1985)
Paul G. Parker (MBA 1990)
Lauren Rodriguez (MBA 2016)
George Serafeim (DBA 2010)*
Heather Takle (MBA 2006)
Christian Weeks (MBA 2010)
Shelly Xu (MBA 2021)

Harvard Innovation Labs (iLab) Climate Experts

Alex Bondar (MBA 2014) Jeff Engler (MBA 2012) Michael Mancinelli (MBA 2021) Erik Snyder (MBA 2009)

Rock Center for Entrepreneurship Entrepreneurs-in-Residence

Shara Ticku (MBA 2017)

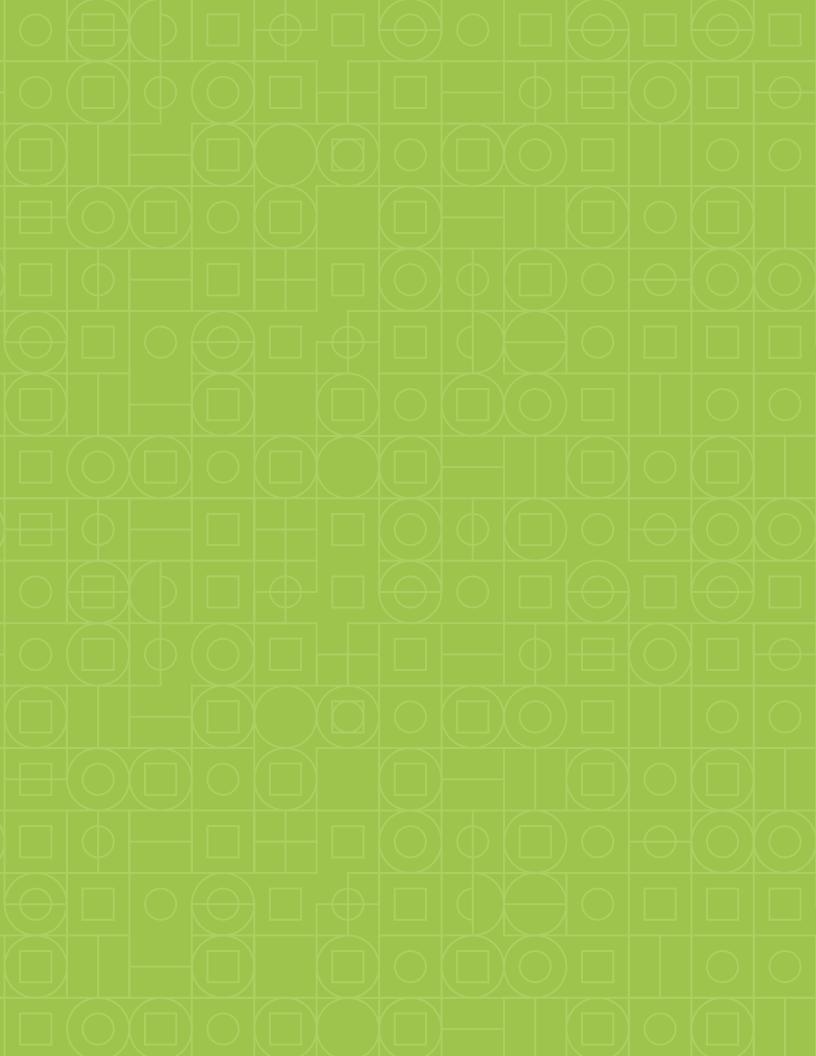
Reunions

Jeff Brown (MBA 1983) Raphael Carty (MBA 1983) Grace Chao (MBA 1978) Rebekah Emanuel (MBA 2015) Heather Evans (MBA 1983) Ruthanne Fuller (MBA 1983) Steve Kahn (MBA 1978) John Macomber (MBA 1983)* John Maslin (MBA 2024) Sharon Patrick (MBA 1978) Mary Jo Veverka (MBA 1978) Rick Whitaker (MBA 1978) Laxmi Wordham (MBA 2001)

Skydeck Podcast

Todd Brix (MBA 1997)
Meghan Kenny (MBA 2019)
Jonas Lee (MBA 1993)
Jim Matheson (MBA 2001)*
Sanchali Pal (MBA 2018)
Aaron Sabin (MS/MBA 2023)

^{*} in their role as faculty





Research & Teaching

Research, teaching & engagement by topic

At HBS, faculty research, teaching, and engagement on business and the environment is broad and deep.

We grouped this body of work into six topical areas:

- Decarbonization & Energy Transition
- Climate Finance & Accounting
- Climate Tech & Entrepreneurship
- Adaptation & Resilience
- Systems Change:
 Governance, Policy, & Regulation
- Sustainability Strategy & Leadership

The School's research, teaching, and engagement about mitigating and adapting to climate change—including how to reduce risks it poses and embrace opportunities it offers for innovation—spans many of these topics.

Decarbonization & Energy Transition

The combustion of fossil fuels to generate energy is one of the largest sources of greenhouse gas emissions. Innovations are needed to generate vast amounts of carbon free electricity and to use electricity much more efficiently. Faculty are working to address the market potential for renewable energy and nuclear energy as well as grid flexibility and improved demand response technologies. Highlights from the year appear below.

Books & Book Chapters

 "Uncertain Futures: How to Unlock the Climate Impasse" by Alexander Gazmararian and Dustin Tingley, Cambridge University Press

Course Materials

- "Agricultural Innovation and Sustainability in the Netherlands" by Willy Shih, Michael Toffel,
 Kelsey Carter, Jennifer Godfrey, Rafaella Mazza and Katrina Yeh (technical note, 624–021)
- "Airbus vs. Boeing (O): Aiming towards Carbon-Free Flying (June 2023)" by Ramon Casadesus-Masanell and Jordan Mitchell (supplement, 724–378)
- "Amager Bakke: Municipal Waste to Energy" by Willy Shih, Michael Toffel and Kelsey Carter (case, 624–040)
- "Apple's iPhone Revolution: Pioneering the Circular Economy" by George Serafeim (case, 123-089; teaching note, 124-026)
- "Arcos Dorados: Decarbonizing McDonald's in Latin America" by George Serafeim, Michael Toffel, Jenyfeer Martinez Buitrago and Mariana Cal (case, 623–017)
- "Arcos Dorados: Decarbonizing McDonald's in Latin America—Alternative Protein Products" by George Serafeim and Michael Toffel (supplement, 624–705)
- "Arcos Dorados: Decarbonizing McDonald's in Latin America—Decarbonization Activities"
 George Serafeim and Michael Toffel (supplement, 624–703)
- "Arcos Dorados: Decarbonizing McDonald's in Latin America—Standard vs Geographically Customized Strategy" by George Serafeim and Michael Toffel (supplement, 624–704)
- "Arcos Dorados: Decarbonizing McDonald's in Latin America—Sustainability-linked Bonds and Executive Compensation" by George Serafeim and Michael Toffel (supplement, 624–706)
- "Arla Foods: Data-Driven Decarbonization (A)" by Michael Parzen, Michael Toffel, Susan Pinckney and Amram Migdal (case, 624-003; supplement, 624-031)
- "Betting on Green Steel" by George Serafeim and Sofoklis Melissovas (case, 123-101)
- "BYD, China, and Global Electric Vehicle Rivalry" by Cynthia Montgomery and Max Hancock (case, 724–358)
- "CMA CGM: Reducing the Carbon Footprint of Container Shipping" by Willy Shih and Emilie Billaud (case, 623-006; supplements, 624-708, 624-710, 624-018; teaching note, 624-019)
- "Driving Decarbonization at BMW—Instructor Spreadsheet Supplement" by Shirley Lu, George Serafeim and Michael Toffel (supplement, 123–712)

- "EnergyNow: Powering a New Market" by Alexander MacKay (teaching note, 723-036)
- "Ferrari: Shifting to Carbon Neutrality" by Raffaella Sadun, Elena Corsi and Leila Doumi (case, 723-446)
- "Gabon Special Economic Zone" by John Macomber and Wale Lawal (case, 224-012)
- "Golden Agri-Resources and the Challenge of Sustainable Palm Oil" by Mattias Fibiger and Adina Wong (case, 723–059)
- "Graphic Packaging: Project Cowboy (A)" by Benjamin Esty and Scott Mayfield (case, 223-009; supplements, 223-068, 223-066, 223-086, 223-709; teaching note, 223-087)
- "Harvard University and Urban Mining Industries: Decarbonizing the Supply Chain" by Shirley Lu and Robert Kaplan (case, 123–076)
- "IFC Intro: Vikram Gandhi" by Vikram Gandhi (video)
- "IFC Intro: Willy Shih & Mike Toffel" by Willy Shih and Michael Toffel (video)
- "JSW Steel: Balancing Growth While Decarbonizing" by Vikram Gandhi and Radhika Kak (case, 824-002)
- "Natural Gas in New England" by Robin Greenwood, Richard Ruback and Gil Highet (case, 223-094)
- "NIO: A Chinese EV Company's Global Strategy" by William Kirby and Noah Truwit (teaching note, 323–125)
- "Northvolt: Building Batteries to Fight Climate Change" by Debora Spar, George Serafeim and Julia Comeau (teaching note, 323–097)
- "OhmConnect: Energizing the Future" by Jeffrey Rayport, Jennifer Fonstad and Nicole Tempest Keller (case, 823–065)
- "Power-to-X" by Willy Shih, Michael Toffel and Kelsey Carter (technical note, 624-038)
- "Project Helios: Harvesting the Sun" by Mark Egan and Scott Mayfield (supplement, 223-714)
- "Recycle & Re-Match: The Future of Soccer Turfs" by George Serafeim, Lena Duchene and Carlota Moniz (case, 124–032)
- "Reimagining Enel: Enabling Sustainable Progress (A)" by Michael Tushman and Kerry Herman (supplements, 423-724, 423-727)
- "ReMo Energy: Sizing Up Investors" by Jeffrey Bussgang and Tom Quinn (case, 824-027)
- "Sian Flowers: Fresher by Sea?" by Willy Shih and Michael Toffel (teaching note, 624-017; supplements, 624-016, 623-713)
- "Tesla's Uncertain Fate as EV Race Accelerates" by David Collis (teaching note, 723-447)
- "T.G.S. Transportation: Battery Electric or Hydrogen?" by Willy Shih (case, 624-032)

Courses

- "Agribusiness" EC course taught by Professor David Bell
- "Energy" EC course taught by Professor Dustin Tingley
- "Decarbonization and Sustainable Production—Netherlands and Denmark" IFC course taught by Professors Willy Shih and Mike Toffel
- "Development While Decarbonizing: India's Path to Net Zero" IFC course taught by Professor Vikram Gandhi

In the News

- "Arla impresses Harvard professor: "Science boiled down to a scorecard" featuring Michael Toffel. Finans
- "A Rose by Any Other Name: Supply Chains and Carbon Emissions in the Flower Industry" featuring Willy Shih and Michael Toffel, Cold Call podcast
- "BMW's Decarbonization Strategy: Sustainable for the Environment and the Bottom Line" featuring Shirley Lu, Cold Call podcast
- "Can Sustainability Drive Innovation at Ferrari?" featuring Raffaella Sadun, Cold Call podcast
- "Clean energy is booming. So why are manufacturers struggling?" featuring Andrew Hoffman,
 ClimateWire
- "Energy agency says global thirst for oil finally may be topping out" featuring of Joseph Lassiter, Harvard Gazette
- "Ford to Build U.S. Battery Plant with Chinese Tech as Political Tensions Rise" featuring Willy Shih, The Washington Post
- "How reshoring American manufacturing will inspire climate tech innovation" featuring Willy Shih, Good Clean Energy podcast
- "Hydrogen Near Tipping Point to Accelerate Decarbonization, HBS Research Shows" featuring Gunther Glenk, The BiGS Fix
- "In Focus: Transportation" featuring Julian De Freitas, Harvard University In Focus
- "Let's not fry the planet, but let's not stoke resentment, either" featuring Dustin Tingley, Harvard Gazette
- "Money talks: Banks can accelerate decarbonization, research shows" featuring Daniel Green,
 The BiGS Fix
- "New nuclear power must pass the 'Chindia test' this energy source should be built like modern aviation or shipping: Joseph B. Lassiter" featuring Joseph B. Lassiter, *The Economic Times*
- "Sweden's Northvolt Electric Battery Maker: A Startup with a Mission" featuring George Serafeim, Cold Call podcast
- "Trash to treasure: How one CEO is disrupting a legacy industry to save the planet" featuring George Serafeim, The BiGS Fix
- "Volvo Cars retools its talent strategy for an EV future" featuring Joe Fuller, Managing the Future of Work podcast
- "Will Global Demand for Oil Peak This Decade?" featuring of Joseph Lassiter and Lauren Cohen, Working Knowledge

Managerial Articles

- "A Game Plan for Funding Carbon Offsets" by Robert Kaplan, Karthik Ramanna, and Marc Roston, Harvard Business Review
- "Circular Products and Business Models: Opportunities for Entrepreneurs, Managers, and Investors" by Shirley Lu and George Serafeim, Digital, Data, and Design Institute at Harvard
- "How AI Will Accelerate the Circular Economy" by Shirley Lu and George Serafeim, Harvard Business Review
- "MP Materials: What A Successful Re-Shoring Strategy Could Look Like" by Willy Shih, Forbes

- "Advances in Power-to-Gas Technologies: Cost and Conversion Efficiency" Gunther Glenk,
 Philip Holler and Stefan Reichelstein, Energy & Environmental Science
- "Cost-Efficient Decarbonization of Portland Cement Production" by Gunther Glenk, Anton Kelnhofer, Rebecca Meier and Stefan Reichelstein, HBS Working Paper 24–025
- "Decarbonizing Health Care: Engaging Leaders in Change" by Vivian Lee, Kathy Gerwig, Emily Hough, Kedar Mate, Robert Biggio and Robert Kaplan, NEJM Catalyst Innovations in Care Delivery
- "Impacts of Electricity Quality Improvements: Experimental Evidence on Infrastructure
 Investments" by Robyn Meeks, Arstan Omuraliev, Ruslan Isaev and Zhenxuan Wang, Journal of
 Environmental Economics and Management
- "Quality-Adjusted-Power: How to Decide Where to Site Renewables" by Vishrut Rana,
 Christian Kaps and Serguei Netessine, Working Paper
- "Residential Battery Storage—Reshaping The Way We Do Electricity" by Christian Kaps and Serguei Netessine, Working Paper
- "The Economic and Environmental Effects of Making Electricity Infrastructure Excludable" by Husnain Fateh Ahmad, Ayesha Ali, Robyn Meeks, Zhenxuan Wang and Javed Younas, SSRN Working Paper Series
- "The Health Costs of Dirty Energy: Evidence from the Capacity Market in Colombia" by Achyuta Adhvaryu, Theresa Molina, Anant Nyshadham, Jorge Tamayo and Nicholas Torres, Journal of Development Economics
- "Toward Decision-Useful Carbon Information" by Gunther Glenk, HBS Working Paper 24-026
- "When Should the Off-grid Sun Shine at Night? Optimum Renewable Generation and Energy Storage Investments" by Christian Kaps, Simone Marinesi and Serguei Netessine, Management Science

Climate Finance & Accounting

Many businesses are investing in practices that protect natural systems while delivering business value. But despite widespread interest in sustainable business models, many barriers remain. Faculty are working to understand the conditions under which new tools—such as impact investing and environmental, social, and governance metrics—can lead to change on a wide scale.

Course Materials

- "Accounting Outages at Plug Power? (C)" by Jonas Heese, Joseph Pacelli and James Barnett (case, 124-019; supplement, 124-018)
- "Aviva PLC Examining Net Zero" by Peter Tufano, Brian Trelstad and Matteo Gasparini (case, 324-008)
- "Corporate Climate Targets" by Willy Shih, Michael Toffel and Kelsey Carter (background note, 624-041)
- "EKI Energy Services: One Billion Carbon Credits" by George Serafeim (case, 123-060)
- "Forecasting Climate Risks: Aviva's Climate Calculus" by Mark Egan and Peter Tufano (case, 224-025)
- "Investing in the Climate Transition at Neuberger Berman" by George Serafeim and Benjamin Maletta (case, 123–092)
- "Life Cycle Assessment: An Overview" by Willy Shih, Michael Toffel and Kelsey Carter (background note, 624–052)
- "Organizational Climate Transition Risk Model" by George Serafeim and Benjamin Maletta (supplement, 123–707)
- "Plug Power (A)" by Jonas Heese, Joseph Pacelli and James Barnett (case, 124-009)
- "Prime Coalition: Estimating Climate Impact" by Natalia Rigol, Benjamin Roth, Brian Trelstad and Amram Migdal (case, 824–119)
- "Roche: ESG and Access to Healthcare" by George Serafeim, Susanna Gallani and Benjamin
 Maletta (case, 123-075; supplement, 123-713; teaching note, 124-028)
- Root Capital and the Efficient Impact Frontier Simulation" by Shawn Cole (supplements, 224–710, 224-034)
- "Social Finance: Driving Accountability" by Robin Greenwood, Richard S. Ruback and Robert Ialenti (case, 224–043)
- "Strive Asset Management" by Suraj Srinivasan, Lynn S. Paine and Aldo Sesia (case, 123-088)
- "Sustainability Reporting at Dollar Tree, Inc." by Suraj Srinivasan and Li-Kuan Ni (teaching note, 123-077)
- "The Ford Motor Company Green Bond" by Vikram Gandhi and James Barnett (case, 823-069)
- "Venture Capital at a Crossroads" by Jo Tango and Alys Ferragamo (technical note, 823-122)

Courses

- "Risks, Opportunities, and Investments in the Era of Climate Change" EC course taught by Professor George Serafeim
- "Sustainable Investing" EC course taught by Professors Shawn Cole and Vikram Gandhi

In the News

- "Are Companies Actually Greener-or Are They All Talk?" featuring Ethan Rouen, Working Knowledge
- "As Climate Fears Mount, More Investors Turn to 'ESG' Funds Despite Few Rules" featuring Mark Egan and Malcolm Bake, Working Knowledge
- "BiGS Idea: Accounting for Climate" featuring Robert Kaplan, The BiGS Idea
- "BiGS Idea: Divesting for Climate" featuring Boris Vallee, The BiGS Idea
- "Charting Profitable Horizons through Sustainable Practices At BT500 Wealth Creators Summit" featuring Vikram Gandhi, Business Today TV
- "Conservatives fight back against environmental and socially conscious investments" featuring Rebecca Henderson, PBS News Hour
- "ESG Activists Met the Moment at ExxonMobil, But Did They Succeed?" featuring Shawn Cole,
 Vikram Gandhi, and Mark Kramer, Working Knowledge
- "ESG Investing: Surprising Companies At The Forefront Of Green Innovation" featuring Lauren Cohen, Investor's Business Daily
- "ESG Next: An Interview With George Serafeim, Harvard Business School Professor of Business Administration" featuring George Serafeim, Nation Swell
- "ESG reports, unlike financial statements, are evolving rapidly to reflect a changing world: Ethan C. Rouen" featuring Ethan Rouen, *The Economic Times*
- "ESG was never meant to save the world" featuring George Serafeim, Fix the Future Show
- "If purpose goes hand in hand with profit" featuring George Serafeim, viaSarfatti25
- "Risks, Opportunities, and Investments in the Era of Climate Change" featuring George Serafeim, The Salata Institute for Climate and Sustainability
- "Striking the Balance Between Profits and Purpose" featuring Deborah Winshel, SHRM Executive Network
- "Vikram Gandhi Academic and Investor at Harvard Business School, Asha Ventures, and Growth for Good SPAC" featuring Vikram Gandhi, Climate Finance Podcast
- "What Happens When Banks Ditch Coal: The Impact Is 'More Than Anyone Thought'" featuring Daniel Green and Boris Vallee, Working Knowledge
- "What is ESG and Why Does It Matter?" featuring George Serafeim, Tigerhall

Managerial Articles

- "Accounting for Carbon Offsets" by Robert Kaplan, Karthik Ramanna, and Marc Roston, Harvard Business Review Magazine
- "Getting a Clearer View of Your Company's Carbon Footprint" by Robert Kaplan, Karthik Ramanna, and Stefan Reichelstein, Harvard Business Review
- "If 3 Was 9" by Randolph Cohen, LinkedIn Articles
- "What Every Leader Needs to Know About Carbon Credits" by Varsha Ramesh Walsh and Michael W. Toffel, Harvard Business Review

- "Accounting for Carbon Offsets Establishing the Foundation for Carbon-Trading Markets" by Robert Kaplan, Karthik Ramanna and Marc Roston, HBS Working Paper 23–050
- "Climate Solutions Investments" by Alex Cheema-Fox, George Serafeim and Hui (Stacie)
 Wang, Journal of Portfolio Management
- "ESG: From Process to Product" by George Serafeim, HBS Working Paper 23-069
- "The Evolving Academic Field of Climate Finance" by Matteo Gasparini and Peter Tufano, HBS Working Paper 23-057
- "Update on E-liability Accounting" by Robert Kaplan, Karthik Ramanna and Piyush Jha,
 Accountability in a Sustainable World Quarterly
- "What Do Impact Investors Do Differently" by Shawn Cole, Leslie Jeng, Josh Lerner, Natalia Rigol and Benjamin Roth, HBS Working Paper 24–028

Climate Tech & Entrepreneurship

As a growing field of interest, faculty research, teaching, and engagement at HBS continues to explore exciting and innovative entrepreneurial opportunities to confront climate change. Because many climate solutions are not yet operationalized, faculty are developing research and teaching focused on new ways to finance, manage, and scale potentially game-changing climate solutions.

Course Materials

- "Aleph Farms: A New Culture of Meat" by Elie Ofek (teaching note, 523-086)
- "Diamond Standard" by Lauren Cohen, Zhaoheng Gong and Grace Headinger (case, 224-009)
- "FoodCloud: Tackling Food Insecurity and Climate Change in One Bite" by Brian Trelstad and Emer Moloney (case, 324–031)
- "Infarm: Betting the (Indoor) Farm on Food Security" by Elie Ofek (case, 524-043)
- "KOKO Networks: Bridging Energy Transition and Affordability with Carbon Financing" by George Serafeim, Siko Sikochi and Namrata Arora (case, 124–022)
- "M-KOPA (B): Empowering Lives" by V. Kasturi Rangan, Pippa Tubman Armerding and Wale Lawal (supplement, 523–087)
- "On" by Ramon Casadesus-Masanell, Karolin Frankenberger and Sascha Mader (case, 723-430; supplements, 724-376, 724-856, 724-855; teaching note, 724-375)
- "Rheaply: Circularity For Every Business" by Rembrand Koning and Alicia Dadlani (case, 724-351; supplements 724-354, 724-385)
- "Royal Golden Eagle: Pursuing Cross-border Expansion with Bold Ambition" by Kristin Fabbe,
 Dante Roscini, Adina Wong and Dawn Lau (case, 723–022)
- "Seemore Meats & Veggies" by Lou Shipley, Patricia Favreau and Mel Martin (case, 823-084)
- "Vytal: Packaging-as-a-Service" by George Serafeim, Michael Toffel, Lena Duchene and Daniela Beyersdorfer (case, 124–007)
- "WayCool: Reimagining the Food Supply Chain" by Paul Gompers and Kairavi Dey (case, 224-011)

Courses

- "Tough Tech Ventures" EC course taught by Professors Joshua Lev Krieger and Jim Matheson
- "Entrepreneurial Solutions to the World's Problems" EC course taught by Professor William Sahlman

In the News

- "Can AI and Machine Learning Help Park Rangers Prevent Poaching?" featuring Brian Trelstad, Cold Call
- "Can We Really Engineer a Climate Fix?" featuring Jim Matheson and Michael Toffel, Skydeck
- "Carbon's Second Act" featuring Jim Matheson, Skydeck

Scholarly Research

 "The Crowdless Future? How Generative AI Is Shaping the Future of Human Crowdsourcing" by Léonard Boussioux, Jacqueline Lane, Miaomiao Zhang, Vladimir Jacimovic and Karim Lakhani, HBS Working Paper 24–005

Adaptation & Resilience

The world is currently undergoing the largest wave of urban growth in human history. Cities provide opportunities to innovate to address development needs and to reduce greenhouse gases. Below are examples of faculty work in this critical area.

Course Materials

- "Allianz Türkiye: Adapting to Climate Change" by John Macomber and Fares Khrais (case, 223-074; supplement, 223-076)
- "Allianz Türkiye (C): Managing the 2017 Hail Storm" by John Macomber and Fares Khrais (supplement, 223–084)
- "Bangladesh: Into the Maelstrom" by Reshmaan Hussam, Sophus Reinert and Jaya Wen (teaching note, 723–050)
- "'Care in Every Drop': Ayala Corporation and Manila Water (A)" by Debora Spar, Paul Healy,
 Tricia Peralta and Julia Comeau (case, 324-038; supplement, 324-039)
- "Crow Holdings Development: Mass Timber Construction" by John Macomber, Robert Hernandez and Kyle MertensMeyer (case, 223–058)
- "Harvard Business Case Study: How Miami can become a global climate solutions hub" by Rosabeth Kanter (video)

Courses

- "Infrastructure Finance and Construction" EC course taught by Professor John Macomber
- "Sustainable Cities and Climate Adaptation" EC course taught by Professor John Macomber

In the News

- "How Miami Can Become a Global Climate Solutions Hub" presentation by Rosabeth Kanter
- "The most extreme heat in a generation is roasting workers and experts say companies need to step in and help" featuring Andrew Hoffman, Fortune
- "When future weather outside is frightful hot, that is" featuring John Macomber, Harvard Gazette

Managerial Articles

- "How distorted insurance pricing obscures customers' climate risks" by Ishita Sen, Financial Times

Systems Change: Governance, Policy, & Regulation

Businesses cannot drive societal-level change toward sustainability by working on their own. Industry collectives, public-private partnerships, and government regulatory agencies all play important roles in fostering change. Faculty are working to identify the most effective governance mechanisms, including industry self-regulation, government policy, and hybrid approaches. Examples from the past year are noted below.

Course Materials

- "'A Win for the Planet'? The Return of Lula" by Sophus Reinert (supplement, 723-045)
- "Agricultural Revolution without a Land Revolution: the Megafarms of CP Group" by William Kirby and Noah Truwit (teaching note, 323–121)
- "ALDDN: Advancing Local Dairy Development in Nigeria" by Meg Rithmire (teaching note, 723-033)
- "Doing Business in Accra, Ghana" by Hakeem Belo-Osagie, Leonard Schlesinger and Namrata Arora (case, 323–090)
- "Doing Business in Athens, Greece" by Alan MacCormack, Carlota Moniz and Emilie Billaud (case, 323–100)
- "Doing Business in Buenos Aires, Argentina" by Nori Gerardo Lietz, Leonard Schlesinger and Zeke Gillman (case, 323–087)
- "Doing Business in Helsinki, Finland" by Martin Sinozich, Lena Duchene, Tonia Labruyere, and Daniela Beyersdorfer (case, 323–079)
- "Doing Business in Ho Chi Minh City, Vietnam" by Allison Mnookin, Leonard Schlesinger, and Shu Lin (case, 323–093)
- "Doing Business in Istanbul, Turkey" by Prithwiraj Choudhury, Leonard Schlesinger, Namrata Arora and Umut Arslan (case, 323–081)
- "Doing Business in Kigali, Rwanda" by Andy Zelleke, Leonard Schlesinger, Pippa Tubman
 Armerding, and Wale Lawal (case, 323–089)
- "Doing Business in Nairobi, Kenya" by Archie Jones, Leonard Schlesinger, Pippa Tubman Armerding and Kuria Kamau (case, 323–086)
- "Doing Business in New Delhi, India" by Vikram Gandhi and Radhika Kak (case, 323-083)
- "Doing Business in Santiago, Chile" by Willis Emmons, Leonard Schlesinger and Ruth Costas (case, 323–085)
- "Geopolitics of Deep-sea Mining" by Jeremy Friedman and Jillian Noel (case, 724-005)
- "Russia's Invasion of Ukraine in 2022: Consequences for Agriculture" by José Alvarez and Natalie Kindred (case, 423–061)
- "Strategic Innovation at the United Nations: A Network of Ecosystems" by Frank Nagle,
 Elizabeth Altman and Kumba Sennaar (teaching note, 724–363)

Courses

- "Global Climate Change" EC course taught by Professor Gunnar Trumbull
- "Reimagining Capitalism: Business and Big Problems" EC course taught by Professor Ethan Rouen
- "Social Entrepreneurship and Systems Change" EC course taught by Professor Brian Trelstad

In the News

- "Biden's green manufacturing push is bearing fruit" featuring Willy Shih, The Washington Post
- "Collective Action Needed To Reimagine Capitalism, But Indigenous Communities Challenge Sustainability" featuring Rebecca Henderson, Forbes
- "From the US to Tunisia, immigration is a salient issue now with climate change, it will only grow: Marco E. Tabellini" featuring Marco E. Tabellini, The Economic Times
- "Harvard Delegates Reflect on COP28" featuring Peter Tufano, Salata Institute for Climate and Sustainability
- "Private Sector Solutions for Climate Change: A Conversation with Michael Toffel" featuring Michael Toffel, Environmental Insights: Conversations on policy and practice from the Harvard Environmental Economics Program
- "Rising polarisation causes major shifts on US environmental policy between administrations this worries CEOs: Vincent Pons" featuring Vincent Pons, *The Economic Times*
- "What does the year-old IRA mean to business and society? Harvard faculty weigh in" featuring Dustin Tingley, Gunther Glenk, Joseph Aldy, and Jonas Meckling, The BiGS Fix
- "Why Are Energy Prices So High? Some Experts Blame Deregulation." featuring Alexander Mackay, The New York Times

Managerial Articles

- "The New Era of Industrial Policy Is Here" by Willy Shih, Harvard Business Review
- "To Earn Trust, Climate Alliances Need to Improve Transparency" by Peter Tufano, Chris Thomas, Knut Haanaes, Matteo Gasparini, Robert Eyres, and Chris Chapman, Harvard Business Review
- "What Does 'Stakeholder Capitalism' Mean to You?: A Guide to the Four Main Types" by Lynn Paine, Harvard Business Review

- "Cleaning Up the Great Lakes: Housing Market Impacts of Removing Legacy Pollutants" by Alecia Cassidy, Robyn Meeks and Michale Moore, Journal of Public Economics
- "Corporate Leaders Say They Are for Stakeholder Capitalism—But Which Version Exactly?: A
 Critical Look at Four Varieties" by Lynn Paine, HBS Working Paper, 24–008
- "Global Harms, Local Profits: How the Uneven Costs of Natural Disasters Affect Support for Green Political Platforms" by Silvia Pianta and Paula Rettl, HBS Working Paper, 24–023
- "Homeward Bound: How Migrants Seek Out Familiar Climates" by Marguerite Obolensky,
 Marco Tabellini and Charles Taylor, HBS Working Paper, 24–031
- "Second- versus Third-party Audit Quality: Evidence from Global Supply Chain Monitoring" by Maria Ibanez, Ashley Palmarozzo, Jodi Short and Michael Toffel, Working Paper
- "The Buy-In Effect: When Increasing Initial Effort Motivates Behavioral Follow-Through" by Holly Dykstra, Shibeal O'Flaherty and A.V. Whillans, HBS Working Paper, 24–020

Sustainability Strategy & Leadership

Over the past several decades a growing number of firms have incorporated a range of sustainability practices. For some firms, sustainability has been a differentiation strategy, while for others it has become a strategic necessity to ensure survival. Research, teaching, and engagement at HBS has explored the conditions under which sustainability strategy and leadership can lead to superior performance.

Books & Book Chapters

"Deeply Responsible Business: A Global History of Values-Driven Leadership" by Geoffrey Jones,
 Harvard University Press

Course Materials

- "Christiana Figueres and the Collaborative Approach to Negotiating Climate Action" by James Sebenius, Laurence A. Green, Hannah Riley-Bowles, Lara SanPietro and Mina Subramanian (HLS case)
- "Digital Transformation at Tata Steel" by Krishna Palepu, Das Narayandas and Radhika Kak (case, 323–053)
- "Driving Sustainability at AB InBev" by Ethan Rouen and Antonio Manuel Oftelie (case, 124-037)
- "Elon Musk at Tesla" by George Serafeim and Amram Migdal (case, 123-044)
- "Global Sourcing at Nike" by Nien-hê Hsieh and Michael Toffel (supplement, 623-709)
- "Helmy Abouleish: Making a Desert Bloom" by Geoffrey Jones and Maxim Pike Harrell (case, 324–029)
- "LCA Action Planning: Responsibility and Accountability" by Sandra Sucher and Marilyn Morgan Westner (module note, 323–060)
- "Natura: Weathering the Pandemic at Brazil's Cosmetic Giant" by Brian Trelstad, Pedro Levindo and Carla Larangeira (case, 323–065)
- "Patagonia: 'Earth Is Now Our Only Shareholder'" by Brian Trelstad, Nien-hê Hsieh, Michael
 Norris and Susan Pinckney (case, 323-057); teaching note, 324-003)
- "Raya Partners: Profitability and Purpose" by Arthur Segel and Ephraim Mernick (case, 224-014)
- "The Miccosukee Tribe and the Battle to Save the Everglades: A Miami Climate Action Story"
 Rosabeth Kanter and Joyce Kim (supplement 324-002; teaching note, 324-048)
- "The Social Purpose of the Firm" by Debora Spar and Julia Comeau (module note, 323-051)
- "Thomas Buberl: Refounding AXA" by Hubert Joly, Mihir Desai and Amram Migdal (case, 523–059)

Courses

- "Purpose-Driven Marketing" EC course taught by Professor Elizabeth Keenan

In the News

- "8 Trends to Watch in 2023" featuring Rosabeth Kanter, Working Knowledge
- "Benefiting society is a far more enduring business goal than maximizing shareholder value,
 Harvard Business School research shows" featuring Geoffrey Jones, The BiGS Fix
- "Best Buy: Fostering A Future Where Tech Coexists with Humanity & Nature" featuring Hubert Joly, Forbes
- "Can Stanford GSB Stay #1 Without Stepping Up its Climate Game?" (mentions HBS relative strength) featuring George Serafeim, Medium
- "Capitalism faces systemic challenges that require systemic solutions. A Harvard Business School fellow makes the case for rethinking business education and research" featuring Andy Hoffman, *The BiGS Fix*
- "Collaborating for Climate" featuring Peter Tufano, The BiGS Idea
- "Considering Capitalism in a World on Fire" featuring Rebecca Henderson, Harvard Griffin GSAS News
- "Former Unilever CEO Paul Polman on Business as a Force for Social Change" featuring Ranjay Gulati, Deep Purpose
- "Geoffrey Jones, "Deeply Responsible Business A Global History of Values-Driven Leadership" featuring Geoffrey Jones, New Books Network
- "How to Master Change w/ Harvard Business School's Rosabeth Moss Kanter" featuring Rosabeth Kanter, Leading Innovation
- "Keeping the Plan Sustainable" featuring Michael Toffel, The Harvard Gazette
- "Making Global Sustainability Personal at Bühler" featuring Ranjay Gulati, Deep Purpose
- "New MBA Course Asks Students: What's More Important—Purpose or Profits?" featuring Debora Spar, HBS Newsroom
- "Two Centuries of Business Leaders Who Took a Stand on Social Issues" featuring Geoffrey Jones, Working Knowledge

Managerial Articles

- "A Higher Degree of Responsibility" by Geoffrey Jones, Harvard Magazine
- "A Smarter Way to Design Business Strategies to Serve the Poor" by Bhavani Shanker Uppari,
 Ioanna Popescu, Serguei Netessine and Rowan Clarke, INSEAD Knowledge
- "How ENGOs Can Support Corporate Climate Change Efforts" by Michael Toffel, Harvard Business Review
- "Storytelling That Drives Bold Change: How to craft a narrative that matters" by Frances Frei and Anne Morriss, Harvard Business Review
- "The Beauty Industry: Products for a Healthy Glow or a Compact for Harm?" by Geoffrey Jones, Working Knowledge
- "The pursuit of profit with purpose requires patience" by George Serafeim, Financial Times
- "Why management research needs a radical rethink" by Andrew Hoffman, Financial Times

- "Deep Responsibility and Irresponsibility in the Beauty Industry" by Geoffrey Jones,
 Entreprises et histoire
- "Deep Responsibility and Irresponsibility in the Beauty Industry" by Geoffrey Jones, HBS Working Paper 23-058
- "Firm Purpose and Problem Wickedness: A Review of the Academic Literature" by Caroline Adelson, Charlotte Kuller, Cate Tompkins, Ellora Sarkar, Samantha Price and Marco Iansiti, HBS Working Paper 23–063
- "How Wicked Problems Drive Business Performance: A Review of the Academic Literature" by Caroline Adelson, Charlotte Kuller, Cate Tompkins, Ellora Sarkar, Samantha Price and Marco lansiti, HBS Working Paper 23–064
- "Reaching for Rigor and Relevance: Better Marketing Research for a Better World" by Shilpa Madan, Gita Venkataramani Johar, Jonah Berger, Pierre Chandon, Rajesh Chandy, Rebecca Hamilton, Leslie John, Aparna Labroo, Peggy Liu, John Lynch, Nina Mazar, Nicole Mead, Vikas Mittal, Christine Moorman, Michael Norton, John Roberts, Dilip Soman, Madhu Viswanathan and Katherine White, *Marketing Letters*

Faculty Affiliates



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