Analysis and Management of Energy and Environmental Policy

John F. Kennedy School of Government
Harvard University

April 24–28, 2017

Conducted by the Harvard Environmental Economics Program
With the support of—and in collaboration with The Enel Foundation
Map of Harvard Kennedy School Campus
Participants should read cases and other materials listed under various sessions below in advance. Readings may be downloaded at the following web page:

http://projects.iq.harvard.edu/enel-workshop/april-2017

**DAY 1: Monday, April 24**

**Orientation Breakfast**
The Charles Hotel
8:00 – 9:00 am

In this essential orientation session, we will welcome participants to Harvard, introduce the workshop faculty and staff, offer an overview of the next five days, and provide an opportunity for brief self-introductions by all workshop participants.

**Sessions 1–2: An Economic Perspective on Energy and the Environment**
9:00 am – 12:30 pm

Robert Stavins
Albert Pratt Professor of Business and Government, Harvard Kennedy School
Director, Harvard Environmental Economics Program
Faculty Lead for the Workshop

These sessions will give participants tools to:

- Think analytically about environmental and energy policy
- Think about benefits and costs of specific policies
- Understand fundamental concepts of benefits: use and non-use value
- Understand concepts of costs; importance of opportunity costs

**Break**
10:30 – 11:00 am

**Lunch**
12:30 – 1:30 pm

**Session 3–4: Energy Economics and Policy**
1:30 – 5:00 pm

Joseph Aldy
Associate Professor of Public Policy, Harvard Kennedy School
Former Special Assistant to the President of the United States for Energy and Environment

**Break**
3:00 – 3:30 pm

All sessions to be held at The Charles Hotel, Cambridge.
DAY 2: Tuesday, April 25

Breakfast
8:00 – 9:00 am

Session 1–2: Energy Systems Transformation
9:00 am – 12:30 pm
  David Victor
  Professor of International Relations and Co-director of the Laboratory on International Law and Regulation, School of Global Policy and Strategy, University of California, San Diego

Readings:

Break
10:30 – 11:00 am

Review and discussion session in groups over lunch
12:30 – 1:30 pm

Session 3–4: Private Risk and Social Welfare in the Electricity Sector
1:30 – 5:00 pm
  Forest Reinhardt
  John D. Black Professor of Business Administration, Harvard Business School

These sessions will utilize a Harvard Business School case study, “Colbún and the Future of Chile’s Power.” In the case, the Chairman of Chilean electricity generator Colbún S.A. confronts questions about the firm’s future mix of power inputs. To make decisions, he needs to understand the expected costs and risks of various generating technologies and his own prospects for influencing the terms of the debate over energy and environment in Chile. See longer abstract here:

[www.hbs.edu/faculty/Pages/item.aspx?num=43430](http://www.hbs.edu/faculty/Pages/item.aspx?num=43430)

Break
3:00 – 3:30 pm
DAY 3: Wednesday, April 26

Breakfast
8:00 – 9:00 am

Session 1–2: Distributed Generation and Energy Efficiency: Opportunities and Challenges
9:00 am – 12:30 pm

Joe Lassiter
Senator John Heinz Professor of Management Practice in Environmental Management, Emeritus
Harvard Business School

Professor Lassiter will present two Harvard Business School cases. The first, “Husk Power,” explores the challenges confronting a new company building rural-electrification systems in India. Read an abstract for “Husk Power” here:

www.hbs.edu/faculty/Pages/item.aspx?num=47654

The second case is “OPOWER: Increasing Energy Efficiency through Normative Influence.” The case profiles an energy-efficiency software company that applies principles of social influence to successfully encourage consumers to reduce their energy usage. It then explores how the company can sustain energy consumers’ attention. Read an abstract for “OPOWER” here:

www.hbs.edu/faculty/Pages/item.aspx?num=39383

Break
10:30 – 11:00 am

Review and discussion session in groups over lunch
12:30 – 1:30 pm

Session 3: Decision Making in the Power Sector
1:30 – 3:00 pm

Henry Lee
Jassim M. Jaidah Family Director of the Environment and Natural Resources Program, Harvard Kennedy School

Professor Lee will present a Harvard Kennedy School case, “Buchanan Renewables: Bringing Power to Liberia,” which discusses energy alternatives for developing countries in sub-Saharan Africa. It weighs short-term political and energy goals versus pursuing less expensive options that might not be available for 4–6 years. Read an abstract for “Buchanan renewables” here:

https://case.hks.harvard.edu/buchanan-renewables-bringing-power-to-liberia
Break
3:00 – 3:30 pm

Session 4: Energy Security
3:30 – 5:00 pm
Meghan O’Sullivan
Jeane Kirkpatrick Professor of the Practice of International Affairs and Director of the Geopolitics of Energy Project, Harvard Kennedy School

DAY 4: Thursday, April 27

Breakfast
8:00 – 9:00 am

Session 1–2: Current Issues in Electricity Policy
9:00 am – 12:30 pm
William Hogan
Raymond Plank Professor of Global Energy Policy and Director of the Harvard Electricity Policy Group, Harvard Kennedy School

Break
10:30 – 11:00 am

Lunch
12:30 – 1:30 pm

Session 3–4: Preparation of group presentations
1:30 – 4:00 pm

DAY 5: Friday, April 28

Breakfast
8:00 – 9:00 am

Group Presentations
9:00 – 11:30 am

Closing remarks and box lunches available
11:30 – 11:45 am
Joseph Aldy is an Associate Professor of Public Policy at the Harvard Kennedy School, a Nonresident Fellow at Resources for the Future, and a Faculty Research Fellow at the National Bureau of Economic Research. His research focuses on climate change policy, energy policy, and mortality risk valuation. He also serves as the Faculty Chair of the Kennedy School’s Regulatory Policy Program. In 2009–2010, he served as the Special Assistant to the President for Energy and Environment at the White House. In this position, Aldy was responsible for the energy and environmental policy portfolio at the National Economic Council, for coordinating policy development and evaluation for the Office of Energy and Climate Change, and for international energy and environmental policy in support of the National Security Council. Aldy previously served as a Fellow at Resources for the Future and worked on the staff of the President’s Council of Economic Advisers. He served as the Co-Director of the Harvard Project on Climate Agreements and Co-Director of the International Energy Workshop before joining the Obama Administration. He earned his doctorate in economics from Harvard University, a masters of environmental management degree from the Nicholas School of the Environment, and a bachelors degree from Duke University.

William Hogan is the Raymond Plank Professor of Global Energy Policy. He is Research Director of the Harvard Electricity Policy Group (HEPG), which is exploring the issues involved in the transition to a more competitive electricity market. In addition, he serves as Chair of the Kennedy School Appointments Committee. Previously he has served as Director of Graduate Studies for the Ph.D. Program in Public Policy and the Ph.D. Program in Political Economy and Government at the Kennedy School of Government, Chair of the Public Policy Program, Director of the Repsol YPF-Harvard Kennedy School Fellows Program for energy policy research, a member of the organizing committee for the Repsol YPF-Harvard Energy Policy Seminar, and as Director of the former Energy and Environmental Policy Center.

Professor Hogan has been actively engaged in the design and improvement of competitive electricity markets in many regions of the United States, as well as around the world, from England to Australia. His activities include designing the market structures and market rules by which regional transmission organizations, in various forms, coordinate bid-based markets for energy, ancillary services, and financial transmission rights. This research is also part of the larger activities on the future of energy and energy policy research at Harvard University through the Environment and Natural Resources Policy Program, Harvard Environmental Economics Program, Harvard University Center for the Environment, and the Mossavar-Rahmani Center for Business and Government.

He was a member of the faculty of Stanford University where he founded the Energy Modeling Forum (EMF), and is a Past President of the International Association for Energy Economics (IAEE). He received his undergraduate degree from the U.S. Air Force Academy and his Ph.D. from UCLA.
Joe Lassiter is the Senator John Heinz Professor of Management Practice in Environmental Management. Joe teaches Entrepreneurial Finance and Innovation in Business, Energy, and Environment in the Harvard Business School MBA Program as well as courses in its Executive Education Program. He is Faculty Chair of the University-wide Harvard Innovation Lab. His academic and professional work focuses on high-potential ventures and has most recently concentrated on the cleantech and energy sectors.

From 1994 to 1996, Joe was President of Wildfire Communications, a telecommunications software venture backed by Matrix Partners and Greylock Management. From 1977 to 1994, Joe was a Vice President of Teradyne (manufacturer of automatic test equipment) and a member of its Management Committee. Joe joined Teradyne in 1974 as a Product Manager while on sabbatical from MIT.

Joe began his career at MIT’s Department of Ocean Engineering as an Instructor in 1970 and was promoted to Assistant Professor in 1972. He developed and taught a course on marine mineral resource economics. He lectured in hydrodynamics, marine transportation, and computer simulation modeling. In a joint program with Harvard Law School, he lectured on marine legal/ regulatory policy. His research focused on forecasting economic and environmental consequences of offshore oil and gas development. He was appointed to the MIT-led National Academy of Engineering study on the future of engineering education. Joe received his BS, MS, and PhD from MIT and was awarded National Science, Adams, and McDermott Fellowships. He was elected to Sigma Xi.

Henry Lee is the Jassim M. Jaidah Family Director of the Environment and Natural Resources Program within the Belfer Center for Science and International Affairs at Harvard’s John F. Kennedy School of Government, Faculty Co-Chair of the Sustainability Science Program, and a Senior Lecturer in Public Policy. He also serves on the board of the school’s Middle East Initiative. Before joining the School in 1979, Mr. Lee spent nine years in Massachusetts state government as Director of the State’s Energy Office and Special Assistant to the Governor for environmental policy. He has served on numerous state, federal, and private boards, and advisory committees on both energy and environmental issues. Additionally, he has worked with private and public organizations, including the InterAmerican Development Bank, the International Finance Corporation, the State of Sao Paulo, the U.S. Departments of Energy and Interior, the National Research Council, the Intercontinental Energy Corporation, General Electric, the Massachusetts Department of Conservation and Recreation, and the U.S. EPA. His recent research interests focus on energy and transportation, China’s energy policy, and public infrastructure projects in developing countries. Mr. Lee is the author of recent papers on both the U.S. and China, the economic viability of electric vehicles, as well as overseeing or writing case studies on Iceland’s green energy agenda, Liberia’s electricity sector, the privatization of Rio de Janeiro’s airport, climate adaptation in South Florida, and the carbon tax in British Columbia.
Forest Reinhardt is the John D. Black Professor of Business Administration at Harvard Business School. He is co-chair of the School’s Global Energy Seminar, an executive education course for leaders of firms that play important roles in the delivery of energy services. He also teaches in the HBS Agribusiness Seminar.

In the HBS Owner/President Management Program, Reinhardt teaches a course on Global Markets, which helps business leaders understand the economic and political environment in which business is conducted, and the opportunities and risks to which globalization gives rise.

Recently, Reinhardt served as course head for the required MBA course, Strategy, which covers topics in industry analysis, competitive advantage, and corporate strategy. Reinhardt currently serves as the faculty chair of Harvard Business School’s Asia-Pacific Research Center and the chair of the HBS Executive Education Asia-Pacific Region.

Reinhardt is interested in the relationships between market and nonmarket strategy, the relations between government regulation and corporate strategy, the behavior of private and public organizations that manage natural resources, and the economics of externalities and public goods. He is the author of Down to Earth: Applying Business Principles to Environmental Management, published by Harvard Business School Press. Like that book, many of his articles and papers analyze problems of environmental and natural resource management. He has written numerous classroom cases on these and related topics, used at Harvard and many other schools in MBA curricula and in executive programs.

Reinhardt received his Ph.D. in Business Economics from Harvard University in 1990. He also holds an MBA from Harvard Business School.

Meghan O’Sullivan is the Jeane Kirkpatrick Professor of the Practice of International Affairs and Director of the Geopolitics of Energy Project at Harvard University’s Kennedy School of Government. She is working on a book about the foreign policy implications of the new energy abundance, which will be published by Simon & Schuster in 2017. In 2013, she served as the vice chair of the All Party Talks in Northern Ireland, which sought to resolve on-going obstacles to peace. Between 2004 and 2007, she was special assistant to President George W. Bush and Deputy National Security Advisor for Iraq and Afghanistan during the last two years of her tenure. There, she helped run the 2006 strategic policy review on Iraq which led to the “surge” strategy. She spent two years in Iraq from 2003-2008. Dr. O’Sullivan is an adjunct senior fellow at the Council of Foreign Relations, an occasional columnist for Bloomberg View, and an advisor to the Hess Corporation. She is a trustee of both the German Marshall Fund and the Friends of Inter Mediate, a UK-based non-profit focused on the most complex and dangerous world conflicts. She is on the Executive Committee of The Trilateral Commission, a member of the board of The Mission Continues, a non-profit organization to help veterans, and a member of the International Advisory Group for the British law firm, Linklaters. She is also a member of the Aspen Strategy Group and on the advisory committee for the Women’s Initiative at the George W. Bush Institute. She has been awarded the Defense Department’s highest honor for civilians and, three times, the State Department’s Superior Honor Award. She has a B.A. from Georgetown University and a masters and doctorate from Oxford University.
Robert Stavins is the Albert Pratt Professor of Business and Government, John F. Kennedy School of Government, Harvard University, Director of the Harvard Environmental Economics Program, Director of Graduate Studies for the Doctoral Program in Public Policy and the Doctoral Program in Political Economy and Government, Co-Chair of the Harvard Business School-Kennedy School Joint Degree Programs, and Director of the Harvard Project on Climate Agreements. He is a University Fellow of Resources for the Future, a Research Associate of the National Bureau of Economic Research, Co-Editor of the Review of Environmental Economics and Policy, Editor of the Journal of Wine Economics, an elected Fellow of the Association of Environmental and Resource Economics, and a member of the editorial boards of several journals. He was formerly the Chairman of the Environmental Economics Advisory Committee of the U.S. Environmental Protection Agency’s Science Advisory Board, and a member of the Board of Directors of Resources for the Future. He was a Lead Author of the Second and Third Assessment Reports of the Intergovernmental Panel on Climate Change, and is currently a Coordinating Lead Author of the Fifth Assessment Report. Professor Stavins’ research has examined diverse areas of environmental economics and policy, and his work has appeared in a hundred articles in academic journals and popular periodicals, and several books. He holds a B.A. in philosophy from Northwestern University, an M.S. in agricultural economics from Cornell, and a Ph.D. in economics from Harvard.

David Victor is an internationally recognized leader in research on energy and climate change policy, as well as energy markets. His research focuses on regulated industries and how regulation affects the operation of major energy markets. He has a dual understanding of the science behind climate change and how international and domestic public policy work. Victor authored “Global Warming Gridlock,” which explains why the world hasn’t made much diplomatic progress on the problem of climate change, while also exploring new strategies that would be more effective. Victor is a leading contributor to the Intergovernmental Panel on Climate Change (IPCC), a United Nations-sanctioned international body with 195 country members. As a community volunteer, he also serves as Chairman of the Community Engagement Panel that was established as part of the decommissioning of the San Onofre Nuclear Generating Station.