
ANNUAL REPORT

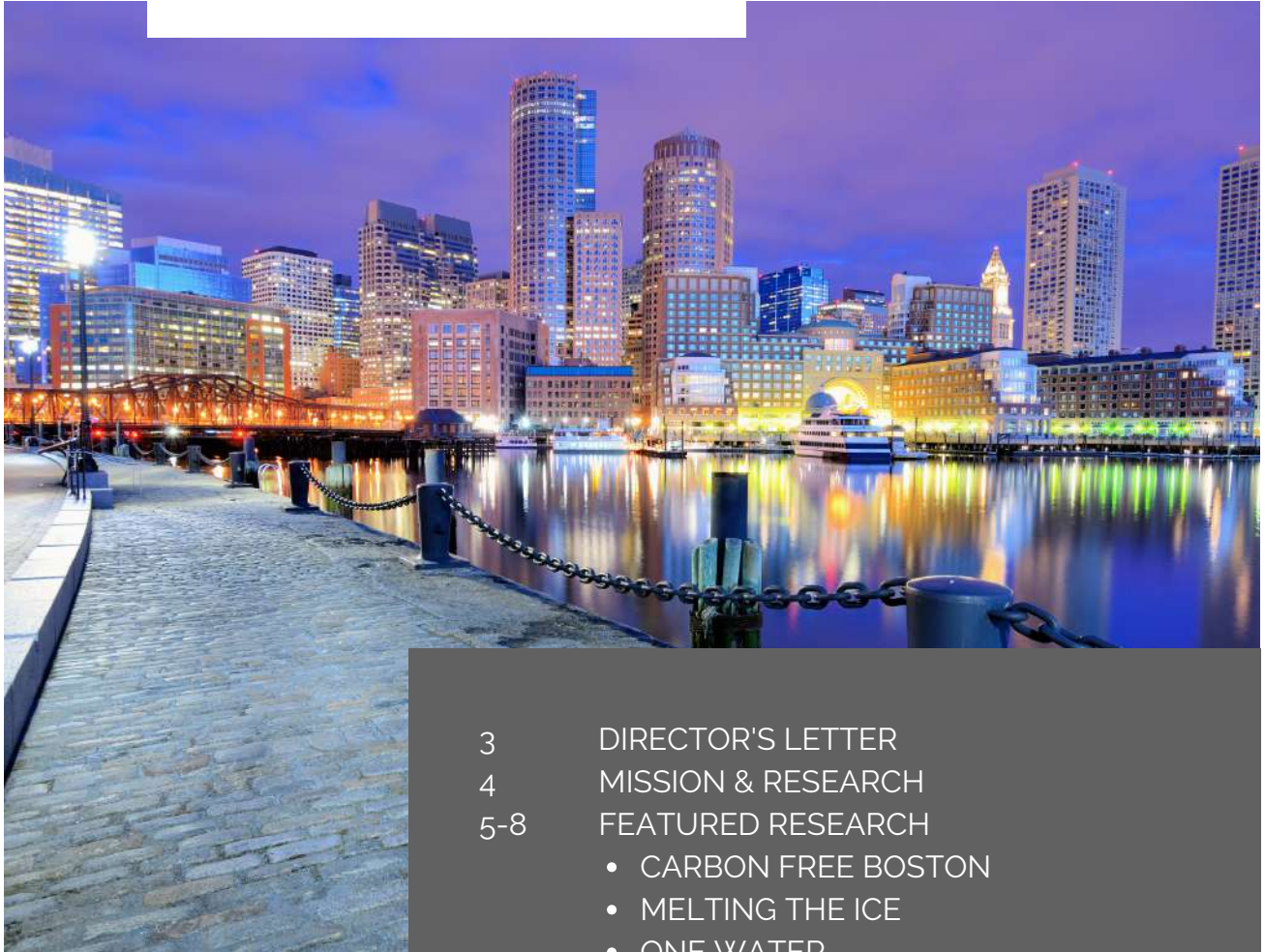
BOSTON UNIVERSITY INSTITUTE FOR SUSTAINABLE ENERGY

2018 | 2019





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a year's overview

DIRECTOR'S LETTER

Dear stakeholders and colleagues:

2018 – 2019 was a year in which the ISE fulfilled ambitious early goals in producing quality research that informs today's challenges and opportunities in sustainable energy.

ISE's "Carbon Free Boston" reports – including one that addressed social equity questions in the process of the city's goal of carbon neutrality in 2050 – were released between January and May. They received considerable praise from audiences within the Boston area and far afield, and the media coverage was plentiful.

Another notable release was the publication of ISE's first book, "Melting the ICE" in June, which examines how different cities across the world are introducing EV infrastructure. These are two of the most notable outputs in a larger set of reports on our four core areas – sustainable cities, utility of the future, new mobility, and sustainable water management – that are establishing ISE's reputation for analysis of current policy and technical issues that are useful to policymakers, business leaders, and other decisionmakers.

Within BU, we maintain close relationships with faculty across the Questrom Business School, the College of Engineering, the College of Arts and Sciences, the College of Communication, and the Frederick S. Pardee School of Global Studies. We support applications for research grants, engage faculty in applications through the ISE and include students on ISE research teams, and provide teaching expertise across a range of courses. We also collaborate closely with entities including sustainability@BU, the URBAN program, the Urban Climate Initiative, the Initiative on Cities, and Innovate@BU.

Reflecting ISE's growth, we have built out the leadership team with the appointment of three new Associate Directors. We look to this team to support broader pursuit of funding opportunities, as well as a deeper connection with faculty and students. We are at a moment when it is time to build on our successes to date with new multi-year projects. A robust pipeline of ideas that are incubating and funding opportunities leads me to be optimistic that the ISE will expand its impact within and far outside BU in the coming year.

In addition to our committed team of researchers at the ISE, we are very fortunate to attract an impressive cadre of Senior Fellows and a distinguished Global Advisory Board. We are deeply grateful to all those who lend their expertise, time, and support to the ISE, and look forward to expanded impact in the year to come.

Sincerely,



Dr. Peter Fox-Penner
Director, Institute for Sustainable Energy

MISSION & RESEARCH →

ACCELERATING OUR ENERGY FUTURE

The **Boston University Institute for Sustainable Energy (ISE)** bridges the gap between academics and practitioners to put sustainable energy research into urgent action. ISE is a university-wide center dedicated to defining real-world strategies for how to accelerate the transition to sustainable, universally accessible global energy systems in advanced and developing countries. This enormous challenge requires new technologies and energy processes, new forms of financing and financial institutions, new policy approaches and forms of public governance, and new companies, industries, and markets. We achieve our mission through interdisciplinary research, policy analysis, and collaborative engagement with external stakeholders at every level, ranging from individual energy companies to cities around the world.

SUSTAINABLE CITIES



ISE is playing a leadership role by providing analytical tools quantifying emissions reduction policy benefits that cities are unable to develop themselves.

- Efficiency, electrification, and a shift to GHG-free fuels and electricity generation will play a key role in reducing emissions.
- Changes must span the building, transportation, power, and waste sectors.

NEW MOBILITY



ISE is working to decarbonize transportation, now the largest source of U.S. greenhouse gas emissions and also a large source of air pollution. The sector is undergoing massive disruption with electrification and autonomy. How transportation develops in emerging nations is also an important topic.

- Carbon-free vehicles are too expensive – need better tech (fuel cells, batteries).
- Congestion is too high – need new approaches to traffic management.
- Fueling infrastructure is difficult to design – too many uncertainties.
- Technical and economic interactions between power, gas, hydrogen.

UTILITY OF THE FUTURE



ISE will show how technology, business models, regulation, and policies interact to change energy and water utilities.

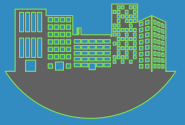
- Many technology challenges to create cheaper clean energy: long-term power storage; fuel cells; more efficient buildings; electric vehicles; organic photovoltaics; hydrogen; and carbon capture, utilization, and storage all must be cheaper.
- Optimization of power grid more difficult by orders of magnitude, involving real-time control, price feedback, and spatial pricing.
- Giant challenges understanding and projecting weather changes, biological, and ecological collapses and threats.

SUSTAINABLE WATER MANAGEMENT



ISE is identifying business, planning, and operations management solutions in the face of supply variability under climate change, demographic changes, and aging water infrastructure.

- Business model – how to move to a service-based model from a commodity-based model?
- Engineering – how to manage capital investment for supply & operations wisely (avoiding stranded assets)?
- Regulation – how to engage with municipalities & customers to manage change effectively?



Carbon Free Boston

Summary Report 2019

“As we enter a new era of our City’s history, we’re planning for storms, climate change, and the environmental threats the next generation will face. I’m grateful for the partnership of the Boston Green Ribbon Commission and the experts at Boston University’s Institute for Sustainable Energy. Their work will help us continue to lead, addressing the challenge of climate change.”

– Mayor Martin Walsh, City of Boston

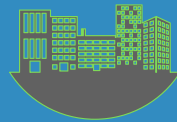
HELPING BOSTON LEAD ON CLIMATE ACTION

The **Carbon Free Boston** reports, research led by ISE in collaboration with the Boston Green Ribbon Commission, extensively use real-world data to bring new knowledge and insights to the City of Boston’s Climate Action Plan update and goal of achieving carbon neutrality by 2050. ISE analysis evaluates strategies across key emissions sectors while providing a deep understanding of related social equity impacts.

CARBON FREE BOSTON REPORTS

Summary Report | **Social Equity Report** | **Technical Reports**

(Technical Summary, Buildings, Transportation, Waste, Energy, Offsets)



“
The city has a tough task ahead. But by identifying the biggest opportunities, the [Carbon Free Boston] report should help point the city forward.

”
THE BOSTON GLOBE, EDITORIAL
JANUARY 30, 2019

SOCIAL EQUITY REPORT

"Socially vulnerable populations are part of the fabric of every neighborhood. They are exposed to the greatest risks—and have the most to lose—from new action taken to reduce GHG emissions. They also have the most to gain from those actions. Action taken toward carbon neutrality will fundamentally transform the city's buildings, transportation, waste, and energy systems. We believe Boston can use this unique, once in a lifetime opportunity to create a more equitable, inclusive, resilient and prosperous city."

KEY FINDINGS

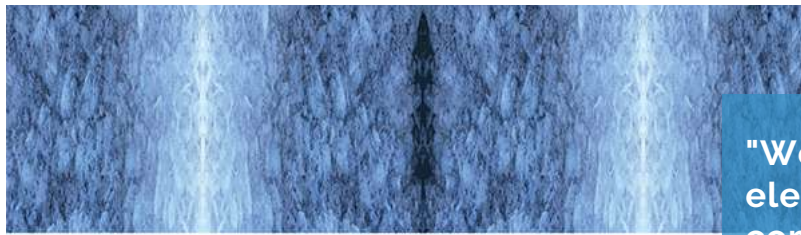
Four mutually reinforcing strategies must be pursued together:

- Reduce demand for energy and maximize energy efficiency
- Electrify as much as possible
- Purchase 100% clean energy
- Improve social outcomes via intentional action

Accolades

**Selected by Arup as one of its
"20 most important projects
over the last 20 years"**

**Featured as one of Greater
Boston's "coolest projects" in
HubWeek's Hub Madness
bracket**



MELTING THE ICE

Lessons from China and the West in the Transition from
the Internal Combustion Engine to Electric Vehicles

The Critical Role of Public Charging Infrastructure

Editors

Peter Fox-Penner, PhD, Z. Justin Ren, PhD, and David O. Jermain



"We all love the concept of electric vehicles, but the complexities of delivering the vision make us wonder if a book on the subject would be a fantasy or science fiction. Happily this book is full of practical detail and real-world experience of pioneering cities that bring the vision to life. It is a gripping read and, like a good novel, is full of great stories and ideas."

– Fiona Woolf, Former
Lord Mayor of the City of
London

FIRST-TIME ANALYTICAL FRAMEWORK GUIDES ELECTRIC VEHICLE INFRASTRUCTURE INVESTMENTS

With cities at the forefront of electric vehicle (EV) adoption worldwide, **Melting the ICE** gives municipal decision-makers a detailed blueprint for EV infrastructure planning. It is clear in looking at why and how cities are driving EV demand that charging infrastructure is one of the most critical challenges for accelerating EV growth and decarbonizing transportation.

MELTING THE ICE

City case studies featuring

Los Angeles, CA | Shanghai and Beijing, China | Oslo, Norway | Brookline, MA



ISE Executive Director
Jacquie Ashmore joined other
leading voices in water at the
Atlantic Water Summit in
New York, one of seven
water-related conference
speaker engagements across
the U.S. in the past year.

SOLIDIFYING ISE LEADERSHIP IN THE ONE WATER MOVEMENT



More sustainable, integrated,
and equitable approaches to
water management



@ISE_BU

Understanding #water demand-
and where the largest demand is
coming from-for
New Braunfels Utilities
is one way we're working with
#Texas water utilities to address
the challenges of increasing urban
populations, supply changes &
aging infrastructure

ISE EVENTS



ISE's "**Utility of the Future**" four-part spring seminar series brought 6 industry experts to campus—including an all-women panel on "**How Robots, Drones, and the Internet of Things Impact the Utility of the Future**" co-hosted with **New England Women in Energy and the Environment (NEWIEE)**—drawing an overall audience of more than 75 attendees.



Co-organized 2-day August 2019 conference **Re-Envisioning Urban Infrastructure to Address Climate Change: A Comprehensive Regional Framework for Sustainability** funded by the **National Science Foundation** with Boston University's Initiative on Cities Urban Climate Initiative.



With the sponsorship of the **Sloan Foundation**, ISE and the Division of Systems Engineering and the Center for Information and Systems Engineering at Boston University are planning a groundbreaking November 2019 research workshop on autonomous and electric vehicles and their impact on the electric utility grid.



Co-hosted invite-only **3 Revolutions in Transportation workshop** with **UC Davis**, the leading university center in the world on sustainable transportation, drawing 45 attendees.

ISE PRESENTATIONS

Select highlights from ISE speaker and moderator engagements:

| Date | Speaker | Topic | Venue | Type of Presentation |
|------------|---------------------------------|---|---|--|
| 9/12/2018 | Peter Fox-Penner | GEIDCO project | China-U.S. Energy Summit | Public Large Setting |
| 9/28/2018 | Peter Fox-Penner, David Jermain | Eastern Europe Coal Transition | UNECE Sustainable Energy Conference | Public Large Setting, Public Small Setting |
| 10/10/2018 | Cutler Cleveland | Carbon Free Boston | Horizon 18 Clean Economy Summit | Public Large Setting |
| 10/30/2018 | Peter Fox-Penner | Energy Efficiency and Utilities | NAESCO Annual Conference | Public Large Setting |
| 11/29/2018 | Jacquie Ashmore | Water Utilities of the Future | Atlantic Water Conference | Public Large Setting |
| 1/29/2019 | Cutler Cleveland | Carbon Free Boston | Boston Museum of Science | Public Large Setting |
| 2/5/2019 | Peter Fox-Penner | Electric Vehicle Infrastructure | BNEF Future of Mobility Summit | Public Large Setting |
| 2/6/2019 | Peter Fox-Penner | Shifting Utility Paradigm and Valuing Energy Efficiency | NASEO Annual Conference | Public Large Setting |
| 3/7/2019 | Richard Stuebi | Achieving High Renewable Penetration | NECA Annual Renewables Conference | Public Large Setting |
| 3/18/2019 | Richard Stuebi | | Microgrid Innovation Forum | Public Large Setting |
| 3/18/2019 | Peter Fox-Penner | Utility of the Future | Google-X Energy Workshop | Public Small Setting |
| 3/28/2019 | Jennie Hatch | Future of Mobility | NECEC Mobility Summit | Public Large Setting |
| 3/29/2019 | Sarah Finnie Robinson | Implementation and Leading Climate Change | Babson Sustainability Forum | Public Large Setting |
| 3/30/2019 | Richard Stuebi | Grid Decarbonization | Tufts Energy Conference | Public Large Setting |
| 4/1/2019 | Jacquie Ashmore | Water Utility of the Future | AWWA Annual Conference | Public Large Setting |
| 4/4/2019 | Robert Kleinberg | Methane Emissions | MIT Energy Conference | Public Large Setting |
| 4/5/2019 | Peter Fox-Penner | Utility of the Future | MIT Energy Conference | Public Large Setting |
| 4/5/2019 | Jacquie Ashmore | Water Utilities | Texas Water Conference | Public Large Setting |
| 4/10/2019 | Cutler Cleveland | Carbon Free Boston | GRC Higher Education Group | Public Small Setting |
| 4/12/2019 | Robert Kleinberg | Methane Emissions | Duke University Energy Speaker Series | Public Small Setting |
| 4/26/2019 | Michael Walsh | Data-driven Research | Boston Area Research Institute | Academic |
| 5/4/2019 | Jacquie Ashmore | Water Utilities | New England Water Association | Public Large Setting |
| 5/28/2019 | Jennie Hatch | Autonomous Vehicles | Second International Conference on Economic Research in Social Sciences | Academic |
| 6/6/2019 | Jennie Hatch | Economics of AVs | | |
| 6/11/2019 | Peter Fox-Penner | EV Energy Use | General Motors Headquarters | Public Small Setting |

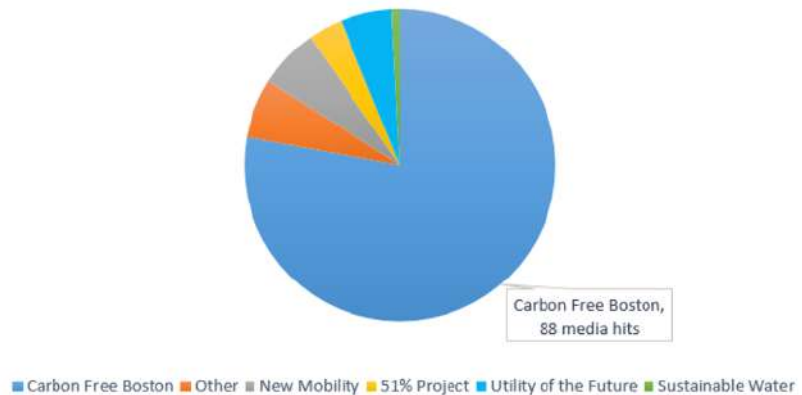
MARKETING & COMMUNICATIONS

Increased visibility for ISE research, events, and news spearheaded by newly created Director of Marketing and Communications position.

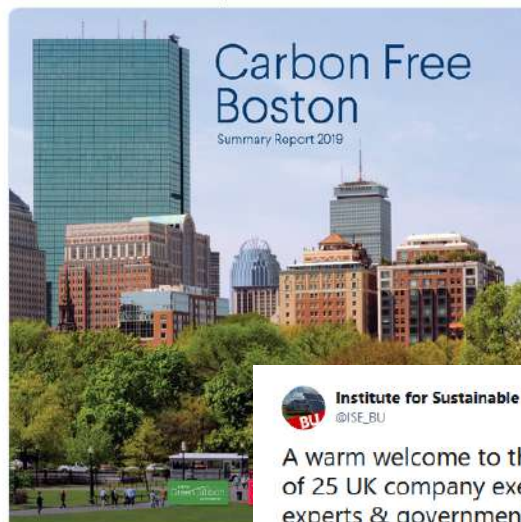
Highlights →

- 13.8% YOY increase in ISE website visitors—including 31.5% increase in new visitors.
- Exceeding email industry benchmark engagement rates.
- Social media YOY increases across the board: 79.5%+ Twitter followers, 254%+ LinkedIn followers, 21%+ Facebook followers.
- Relaunched ISE YouTube channel, adding 7 new videos.
- 113 media hits across ISE's research areas.
- 12 thought leadership blog posts.

Media Coverage



Institute for Sustainable Energy, B...
@ISE_BU
It's a big day for #CarbonFreeBoston research here at ISE – the report is out!



Read Newly Released Carbon Free B
bu.edu

7:48 AM - 29 Jan 2019

16 Retweets 28 Likes

Institute for Sustainable Energy, B...
@ISE_BU
A warm welcome to this fabulous delegation of 25 UK company execs, energy systems experts & government representatives who stopped by today to talk #innovation and #SustainableEnergy at BU and in the UK with @JacquieAshmore. @UKSINet @UKinBoston @InnovateBU @BU_Tweets @harryvx



10:57 AM - 19 Mar 2019

4 Retweets 13 Likes

SCHOLARLY WORK:

PUBLISHED PEER REVIEW PAPERS, MAJOR REPORTS & BOOKS

| Title | Authors | Publication Type |
|--|--|----------------------------|
| SUSTAINABLE CITIES | | |
| *Carbon Free Boston Summary Report (January 2019) | Cutler Cleveland, Peter Fox-Penner, and Michael Walsh leading BU project team. Authors included Questrom School of Business and College of Arts and Sciences faculty members, PhD, and Masters students. | Report |
| *Carbon Free Boston Technical Analysis Reports (May 2019) | Cutler Cleveland, Peter Fox-Penner, and Michael Walsh leading BU project team. Authors included Questrom School of Business and College of Arts and Sciences faculty members, PhD, and Masters students. | Multiple Reports |
| *Carbon Free Boston: Social Equity Report (May 2019) | Cutler Cleveland leading BU project team with external partners. Authors included Questrom School of Business and College of Arts and Sciences faculty members, PhD, and Masters students. | Report |
| Cities and Climate Change: Strategic Options for Philanthropic Support (April 2019) | Jennie Hatch, John Cleveland, Michael Silano and Peter Fox-Penner. Authors included College of Arts and Sciences Masters student working with ISE. | Report |
| NEW MOBILITY | | |
| Long-term U.S. Transportation Electricity Use Considering the Effect of Autonomous-Vehicles: Estimates & Policy Observations (November 2018) | Peter Fox-Penner, Will Gorman, and Jennifer Hatch | Refereed Paper (Accepted) |
| *Melting the ICE (June 2019) | Peter Fox-Penner, Z. Justin Ren, and David Jermain. Published by its editors affiliated with ISE and Questrom School of Business. | Book |
| UTILITY OF THE FUTURE | | |
| Multi-User Microgrids: Obstacles to Development and Recommendations for Advancement (November 2018) | Kira Fabrizio, Richard Stuebi, Josef Benzaoui, and Ryan Smith. Authors included Questrom faculty member. | Report |
| Assessing the Potential for U.S. Utility Green Bonds (April 2019) | Peter Fox-Penner, Jennifer Hatch, and Tan Lam. Authors included Questrom School of Business MBA student working with ISE. | Report |
| Power After Carbon, Harvard University Press (spring 2020) | Peter Fox-Penner | Book |
| Measuring Methane Leakage | Robert Kleinberg | Refereed Paper (Submitted) |
| SUSTAINABLE WATER MANAGEMENT | | |
| One Water Strategies for New Braunfels Utilities (April 2019) | Jacque Ashmore, Josef Benzaoui, and Michael Grinshpun. Authors included a Kilachand Honors College Masters student working with ISE. | Report |

*Two or more center/affiliated faculty

THOUGHT LEADERSHIP:

ISE BLOG POSTS

| Title | Authors |
|--|--|
| The Financial Communication Challenges of New Mobility | Henry Kelly, ISE Senior Fellow |
| Climate Communications 101: the Trusted Messenger | Sarah Finnie Robinson, ISE Senior Fellow |
| Electric Industry Transformation: Pathway to the “Grid of Grids” | Richard Stuebi, ISE Senior Fellow |
| The Green New Deal: A Goal, Not a Date | Peter Fox-Penner, ISE Director |
| Elon Musk’s Next Big Headache: Tesla Service | Justin Ren, ISE Affiliated Faculty, and Xin Wang |
| Better Rules for Natural Gas Leak Detection and Repair | Robert Kleinberg, ISE Senior Fellow |
| Reflections from the AtlanticLIVE Water Summit: The Role of Nature, Infrastructure, and Pricing in Water Management | Jacquie Ashmore, ISE Executive Director |
| The Scientific Consensus on Climate Change | Sarah Finnie Robinson, ISE Senior Fellow |
| We Need a Better Understanding of Business Model Innovation and Adaptation for the Utilities of the Future | Guillermo Pereira |
| Do Nudges Crowd Each Other Out? | Robert Metcalfe, ISE Affiliated Faculty |
| Will Autonomous Vehicles be Electric? | Jennie Hatch, ISE Researcher, and John Helveston |
| The 51 Percent: A Climate Communications Project to Accelerate the Transition to a Zero-Carbon Economy | Sarah Finnie Robinson, ISE Senior Fellow |

FACULTY & STUDENT ENGAGEMENT

Engaging Faculty and Catalyzing Research

- Professor Cutler Cleveland (College of Arts and Sciences) is co-principal investigator of the Carbon Free Boston Project.
- Professor Justin Ren (Questrom School of Business) is co-principal investigator of the GEIDCO project that spans questions about electric vehicle infrastructure and the future of transportation in addition to grid modernization opportunities internationally.
- Professor Michael Gevelber (Engineering) was awarded \$918k by the U.S. DOE to develop advanced measurement and modelling standards for compartmentalization in multifamily buildings.
- We assisted Professor Michael Caramanis (Engineering) with two U.S. DOE proposals and one Sloan Foundation grant and collaborate regularly.
- Professor Patrick Kinney (School of Public Health) & Professor Lucy Hutyra (College of Arts and Sciences) are actively collaborating with ISE teams on city-level carbon emissions reductions through the Urban Climate Initiative.
- Professors Nalin Kulatilaka, Nina Mazar, and Caroline Flammer (Questrom School of Business) collaborate with ISE on projects that align with the work of the Susilo Institute and on emerging trends in sustainable finance.
- Participation in BU CONNECT.
- Jacquie Ashmore presented at Professor Gopalan's Materials Day; Peter Fox-Penner joined the dinner.
- Held Sustainable Finance Dinner with four outside green finance experts and three Questrom finance faculty.
- Participated in Susilo Institute annual conference.
- Initiated partnership with BU CMI and Fraunhofer Institute at BU.
- Collaborating with Professor Larry Kotlikoff on intergenerational carbon tax models.
- Connecting Questrom Professor Rob Metcalfe to potential sponsors.
- Connected Professors Metcalfe, Cassandras, and Rysman to Lyft data sources.
- Publicized open house of Professor Jeffries-EL.
- Connected Professor Malay Mazumder to Fraunhofer and helped with ARPA-E project.
- Counseled Professor Gopal on her data startup.
- Referred Professor Gopal to PBS NewsHour.

FACULTY & STUDENT ENGAGEMENT

Contributing to BU's Educational Mission

- Approximately 15 students have worked at ISE since its inception.
- ISE's sustainable innovation fellow (co-funded with Innovate@BU) is working with students.
- Peter Fox-Penner has recruited four adjuncts to teach energy and sustainability courses; we hope to provide many more:
 - Phil Hanser – two Questrom School of Business stat courses
 - David Jermain – two Questrom School of Business sustainability courses
 - Richard Stuebi – Executive Education
 - Olena Pechak – Engineering course
- ISE spurred a directed study course in Questrom School of Business on cookstoves in Haiti.
- Jacquie Ashmore was a client for a Capstone project.
- An ISE senior fellow has provided the project material for two courses in the College of Communication during the spring semester.
- Sponsored and mentored BU Energy Club Conference and Net Impact competition.
- Sponsored student trip to Puerto Rico, enabling students from the BU City and Urban Affairs Program – Public Health School – and the Environment and Energy Program to learn about topics related to housing, social issues, planning, environment, energy, public health, and other topics.
- Sponsored BU Colombian Student Association event focused on sustainable development and energy in Colombia.
- Held Veteran's Energy Seminar to introduce veteran community to BU and ISE.
- Guest lecture in ME 533.
- Professor Justin Ren participated in the Digital Data Blitz.
- Sponsored Michael Grinshpun's Honors Thesis.
- Co-sponsored Innovation Fellow in partnership with Innovate@BU and Greentown Labs.
- Presentation to Innovate@BU by Jennie Hatch.
- For Professor Cortes, funded Columbia Student Association.
- Found several internships for BU students, e.g. Solstice Energy.

MEET THE ISE

LEADERSHIP



Peter Fox-Penner
Director



Jacquie Ashmore
Executive Director



Cutler Cleveland
Associate Director



David Jermain
Associate Director



Emily Ryan
Associate Director

STAFF



Laura Hurley
Marketing & Communications
Director



Ryan Hopping
Senior Administrative
Assistant



Robert Perry
Communications &
Administrative Coordinator

GLOBAL ADVISORY BOARD



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John S. Skrinar
Renewable Fuels
Expert

NON-RESIDENT SENIOR FELLOWS



Sarah Finnie Robinson
Founding Director
The 51 Percent Project



Lawrence Goldenhersh
Founder & CEO
Enviance



Henry Kelly
Energy Technology
Expert



Robert Kleinberg
Principal
Presidio Energy Technology



Brett Perlman
Management Consultant



Dorothy Robyn
Public Policy Expert



Jonathan Schrag
Sustainable Energy Expert



Richard Stuebi
President
Future Energy Advisors



Pauliina Swartz
Principal
Banking on Green LLC



Philip Warburg
Author & Lawyer



AFFILIATED FACULTY

COLLEGE OF ARTS AND SCIENCES

Stan Sclaroff, Dean, College of Arts & Sciences
Pamela Templer, Professor, Biology (Grad)
Sean Elliott, Professor, Chemistry
Malika Jeffries-EL, Associate Professor, Chemistry
Bruce Anderson, Professor, Earth and Environment
*Cutler Cleveland, Professor, Earth & Environment
Sucharita Gopal, Professor, Earth and Environment
Lucy Hutrya, Associate Professor, Earth & Environment
Robert Kaufman, Professor, Earth & Environment
Nathan Phillips, Professor, Earth and Environment
Rick Reibstein, Lecturer, Earth & Environment
*Michael Walsh, Research Assistant Professor, Earth & Environment
Ian Sue Wing, Professor, Earth and Environment
Laurence Kotlikoff, Professor, Economics
Marc Rysman, Professor, Economics

COLLEGE OF ENGINEERING

Ken Lutchen, Dean, College of Engineering
Greg Blonder, Professor of the Practice, College of Engineering
Michael Caramanis, CEESI Co-Director and Professor, College of Engineering
Christos Cassandras, Professor, Electrical Computer Engineering & Systems Engineering
Tom Little, Professor, Electrical and Computer Engineering
Malay Mazumder, Research Professor, Electrical and Computer Engineering
Michael Gavelber, Associate Professor, Mechanical Engineering
Srikanth Gopalan, Associate Professor, Mechanical Engineering
J. Gregory McDaniel, Associate Professor, Mechanical Engineering
Uday Pal, Professor, Mechanical Engineering and Director of Materials Laboratory
Pablo Ruiz, Research Associate Professor, Mechanical Engineering
*Emily Ryan, Assistant Professor, Mechanical Engineering

AFFILIATED FACULTY

QUESTROM SCHOOL OF BUSINESS

Susan Fournier, Dean, Questrom School of Business

Nalin Kulatilaka, Professor, Finance Department

Marshall Van Alstyne, Professor, Chair of Information Systems Department

Robert Metcalfe, Assistant Professor, Markets, Public Policy, & Law

James Rebitzer, Professor, Markets, Public Policy, & Law

Arzum Akkas, Assistant Professor, Operations & Technology Management

J. Rob Dixon, Associate Professor, Operations and Technology Management

Nitin Joglekar, Associate Professor, Operations and Technology Management

Justin Ren, Associate Professor, Operations and Technology Management

Kenneth Pucker, Lecturer, Organizational Behavior

Philip Hanser, Lecturer in the Markets, Public Policy and Law Department

Paul Cosway, Lecturer, Strategy and Innovation

Caroline Flammer, Associate Professor, Strategy and Innovation

Paul McManus, Master Lecturer, Strategy and Innovation

*David Jermain, Adjunct Professor

COLLEGE OF COMMUNICATION

*Sarah Finnie Robinson, Adjunct Clinical Professor

FREDERICK S. PARDEE SCHOOL OF GLOBAL STUDIES

Kevin Gallagher, Professor of Global Development

Irene Monasterolo, Visiting Fellow

Henrik Selin, Director of Curricular Innovation & Initiatives, Associate Professor

METROPOLITAN COLLEGE

Madhu Dutta-Koehler, Associate Professor of the Professional Practice, City Planning

Stephen Leybourne, Assistant Professor, Administrative Sciences

SCHOOL OF LAW

Michael Baram, Professor of Law, Health Law

Alan Feld, Professor of Law

SCHOOL OF PUBLIC HEALTH

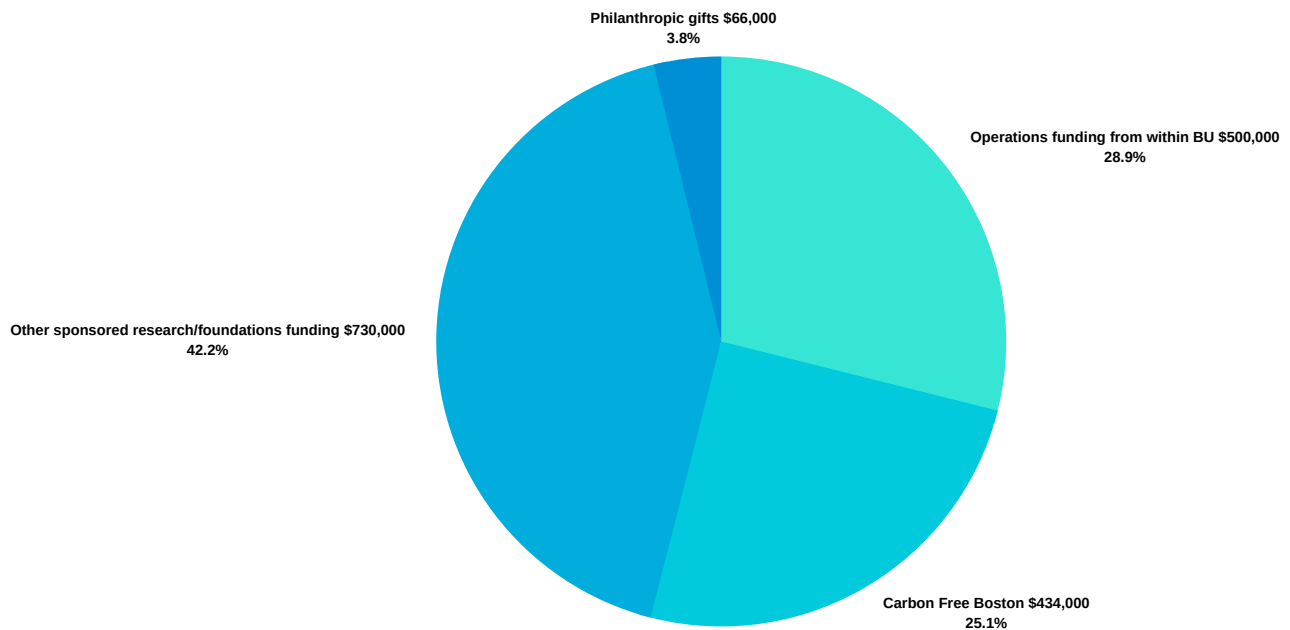
Patrick Kinney, Professor, Environmental Health, Kinney Lab

Jonathan Levy, Professor, Environmental Health

*Core ISE faculty. Core faculty participate in the day-to-day activities of the ISE by being a lead for or a member of a research team on a project for which the funding runs through the ISE. Affiliated faculty engage by participating in ISE research discussions and events throughout the academic year.

ISE FINANCES

Budget Breakdown



Sponsored Research

| Source | Duration | Amount |
|---|---------------------|--------------------|
| Bloomberg Philanthropies | 10/01/17 - 9/30/19 | \$800,000 |
| Hewlett Foundation | 10/01/18 - 10/01/20 | \$200,000 |
| Mitchell Foundation | 2/01/18 - 2/29/20 | \$260,000 |
| Multiple foundation/corporate sponsors (Carbon Free Boston) | 11/01/16 - 4/30/19 | \$1,085,000 |
| TOTAL SPONSORED FUNDING | | \$2,345,000 |

ESTIMATED PIPELINE

\$2,000,000

ISE also has a gift account with a balance of \$66k, which we use for strategic investments in ISE and BU-wide research, education, and outreach.

Website bu.edu/ise

Email iseinfo@bu.edu



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[@InstituteforSustainableEnergy](https://www.facebook.com/InstituteforSustainableEnergy)



[BU Institute for Sustainable Energy](https://www.linkedin.com/company/bu-institute-for-sustainable-energy)



[Institute for Sustainable Energy, BU](https://www.youtube.com/channel/UC...)

