Mit energy initiative

The MIT Energy Initiative (MITEI) (http://energy.mit.edu) is MIT’s hub for energy research, education, and outreach. Founded in 2006, MITEI helps develop technologies and solutions to decarbonize the energy sector—with goals of efficiently and affordably meeting global energy needs while minimizing environmental impacts and mitigating climate change. Within MIT, MITEI fosters a sense of community among those interested in energy—including providing hands-on learning and funding opportunities, supporting student-led energy groups, hosting events with thought leaders across the energy spectrum, and providing students interested in studying energy-related activities with a place to gather, form teams, and discuss projects with the Undergraduate Energy Commons in Building 10.

Research

MITEI pairs world-class research teams from across the Institute with its industry and government members to respond to specific energy challenges. MITEI’s own research and analysis team (http://energy.mit.edu/research) draws on a wealth of experience in analysis of energy systems and technologies, as well as technoeconomic analysis expertise, to advance research in a wide range of areas. Through MITEI’s Low-Carbon Energy Centers (http://energy.mit.edu/icec), companies and government entities help advance MIT student and faculty research in key technology areas and energy systems for addressing climate change, from solar energy to electric power systems, energy storage, and mobility, to name a few. The centers are a key element of MIT’s Plan for Action on Climate Change (http://climateaction.mit.edu).

Education

MITEI’s Education Program (http://energy.mit.edu/landing-page/education) develops cross-disciplinary learning opportunities for undergraduate and graduate students, supporting them through a variety of programs—inside and outside the classroom, at MIT and online:

- The popular Institute-wide undergraduate Minor in Energy Studies (http://catalog.mit.edu/interdisciplinary/undergraduate-programs/minors/energy-studies) complements the deep expertise obtained in a student’s major by adding energy-specific science and social science, technology, and economics dimensions to cope with the climate crisis and other environmental and socioeconomic challenges. Students who complete the minor are well positioned to become change agents in industry, development agencies, and academia, and as entrepreneurs.
- MITEI Energy Fellowships (http://energy.mit.edu/education/fellows) support graduate students and postdocs in many of the sponsored research projects funded by MITEI’s founding and sustaining members and by philanthropic contributors. These fellowships are in areas related to renewable energy and other low-carbon and energy efficiency research.
- MITEI Undergraduate Research Opportunities Program (UROP) (http://energy.mit.edu/urop) funding and support provide undergrads with the opportunity to contribute to research and analysis related to the future of energy systems. This is also a chance to apply and augment the learning content in the student’s major and minor. Students who do their research over the summer present their work to the MITEI community at the Annual Research Conference or through other exciting avenues.
- An online database with information on energy subjects in departments across all five schools is updated multiple times per year.
- Student groups focusing on energy and related environmental topics can bring their ideas to MITEI and may receive funding (if available) and some administrative support.
- MITx (https://www.edx.org/school/mitx) and OpenCourseWare (https://ocw.mit.edu/courses/energy-courses) give learners inside and outside MIT the opportunity to access MIT-level energy-related course content online.

Outreach

MITEI provides in-depth, high-quality analysis about current energy topics (https://energy.mit.edu/studies-reports) for policymakers, industry leaders, and the public. The most recent reports in MITEI’s series on energy technologies and sources are The Future of Nuclear Energy in a Carbon-Constrained World (2018) and The Future of Solar Energy (2015); The Future of Energy Storage is currently underway. The two reports to date in MITEI’s series on energy-related systems and sectors are Insights into Future Mobility (2019) and Utility of the Future (2016).

MITEI fosters dialogue within the research community at MIT and beyond, and with industry, NGOs, and government. In addition to informing public policy, MITEI provides the MIT community and the public with context on current energy issues through in-person and virtual events on timely energy topics (https://energy.mit.edu/events)—with speakers from within MIT as well as outside experts. MITEI also facilitates opportunities for MIT faculty, staff, and students to participate in external events.

MITEI’s communications team highlights the work of the MIT energy community through media articles and across digital and print platforms—including a weekly newsletter (https://energy.mit.edu/subscribe), social media channels, podcast (https://energy.mit.edu/podcast), and the twice-annual Energy Futures (https://energy.mit.edu/energyfutures) magazine.