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. As a vital component of MIT's Climate Action Plan for the Decade (*https://climate.mit.edu/climateaction/fastforward*) and MITEI's research program (*https://energy.mit.edu/research*), MITEI's Future Energy Systems Center (*https://energy.mit.edu/futureenergysystemscenter*) presents opportunities for faculty, students, industry, and government to advance research and development in key technology areas and energy subsector systems for curbing climate change. Through the center, researchers conduct integrated analysis of the energy system, providing insights into the complex multisectoral transformations that will alter the power and transportation systems, industry, and built environment.

Education

MITEI's Education Program (*http://energy.mit.edu/landing-page/education*) offers programs and opportunities that prepare future energy innovators, researchers, and policy makers to confront the urgent global challenges of developing low- and zero-carbon energy solutions to address climate change and expand energy access. We serve undergraduate, graduate, and postdoctoral scholars at MIT and around the world. In the classroom, online, and through hands-on experiences, students develop broad and deep knowledge in diverse areas, hone and practice necessary skills, and network with peers and professionals.

- The Energy Studies Minor (*http://catalog.mit.edu/interdisciplinary/undergraduate-programs/minors/energy-studies*) grounds students in the triple challenge of energy—producing more energy for more people while removing carbon emissions from the energy system. Students gain an integrative understanding of energy and develop the skills required of tomorrow's energy professionals, leaders, and innovators in research, industry, policy, management, and governance.
- 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 members, sustaining members, and philanthropic contributors. These fellowships are in areas related to renewable energy and other low-carbon and energy efficiency research.
- Supporting undergraduates through the MITEI Energy UROP (*https://energy.mit.edu/education/undergraduate/urop*) is an important component of MITEI's commitment to training tomorrow's energy innovators to provide a growing global population with affordable, sustainable energy access and tackle climate change. While MITEI funds UROPs year-round, students funded over the summer participate in ten weeks of programming, where they learn to communicate their research effectively. Instead of writing a report at the end of their experience, MITEI UROPs contribute to climate education goals by translating their research for strategically relevant audiences in an appropriate format.
- 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 topics related to the climate crisis can bring their ideas to MITEI and may receive funding (if available) and some administrative support.
- MITEI's online courses (*https://energy.mit.edu/education/online*) give learners around the world and at MIT access to graduate-level energy content based on residential MIT classes. Courses are free to audit and include: Sustainable Building Design, Energy Economics and Policy, Sustainable Energy, and Transformative Living Labs in Urban Climate Action and Transportation Planning.

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 Energy Storage* (2022), *The Future of Nuclear Energy in a Carbon-Constrained World* (2018), and *The Future of Solar Energy* (2015). 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, and the twice-annual *Energy Futures* (*https://energy.mit.edu/energyfutures*) magazine.