

SUSTAINABLE ENERGY (GRADUATE MINOR FIELD)

Graduate School

Program Website (<https://www.engineering.cornell.edu/aep/energy-systems/>)

Program Description

Meeting the energy needs of the present and future global population is a grand challenge for the 21st century. This will hasten an improvement in lifestyles of those from developing nations and should be achieved without further impairment of the natural environment and climate. Providing affordable, clean energy that is both secure and sustainable is the goal. Achievement of this goal requires the participation, ingenuity, and hard work of people from a great range of specialized activities working collaboratively. Accordingly, this minor is intended to integrate scientific and engineering principles that focus on the creation, analysis, and improvement of energy technologies, with knowledge of environmental systems potentially impacted by energy production, and with an understanding of human systems that are intertwined with energy-related decisions. An outcome of the minor should be an understanding of the ways in which those themes interact as a system, all of whose parts need to be understood and successfully integrated in order to progress toward meeting the world's energy needs.

Graduate Minor Requirements

- Students must be enrolled for an MS or PhD degree. Students enrolled in professional Masters are not, at this time, eligible to participate in the minor.
- At least one faculty member representing the minor field of Sustainable Energy is required to be a formal member of the student's Special (Thesis) Committee.
- Students enrolled in the minor will have to demonstrate, to the satisfaction of the faculty member representing the minor field of Sustainable Energy, that they have an adequate understanding of the area pertaining to Sustainable Energy. For students in a PhD program, this will be demonstrated as part of their Admission to Candidacy examination, typically in the form of an oral examination. For MS students, this mastery will be demonstrated by completion of coursework (see item four). The representative of the minor field in Sustainable Energy may also test the student's knowledge at the final thesis defense examination.

Required Coursework

All students enrolled in the minor are required to take a minimum of nine credit hours in three or more energy-related courses or modules (at least nine credit hours), as specified on the Graduate School's website. These three (or more) courses must be taken from lists of approved courses in three topical areas:

1. At least one foundational core course in Sustainable Energy Systems.
2. At least three credits of courses or modules related to Energy Sources and Technologies for a Transition to Sustainability.
3. At least three credits of courses or modules related to environmental, policy, economic, and business consequences.

Faculty

Lynden A Archer (<http://www.cheme.cornell.edu/faculty-directory/lynden-archer>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Louis A Derry (<http://www.engineering.cornell.edu/people/louis-a-derry/>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

H. Oliver Gao (<http://www.engineering.cornell.edu/faculty-directory/h-oliver-gao>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Emmanuel P Giannelis (<http://www.mse.cornell.edu/faculty-directory/emmanuel-p-giannelis>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

David A Hammer (<http://www.engineering.cornell.edu/people/david-a-hammer/>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Tobias Hanrath (<http://www.cheme.cornell.edu/faculty-directory/tobias-hanrath>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Donald L Koch (<http://www.cheme.cornell.edu/faculty-directory/donald-l-koch>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Christopher Kemper Ober (<http://www.mse.cornell.edu/faculty-directory/christopher-k-ober>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Richard D. Robinson (<http://www.engineering.cornell.edu/faculty-directory/richard-douglas-robinson>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Abraham Duncan Stroock (<http://www.cheme.cornell.edu/faculty-directory/abraham-d-stroock>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Jefferson W. Tester (<http://www.cheme.cornell.edu/faculty-directory/jefferson-w-tester>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Ulrich Bernd Wiesner (<http://www.engineering.cornell.edu/faculty-directory/uli-b-wiesner>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy

Ke Max Zhang (<http://www.atkinson.cornell.edu/about/people/fellows/view.php?NetID=kz33>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Sustainable Energy*: sustainable energy