

Report offers options for achieving carbon neutrality by 2035

October 5 2016, by Blaine Friedlander

Last spring, Provost Michael Kotlikoff called on the Senior Leaders Climate Action Group to explore options for the Ithaca campus to achieve climate neutrality by 2035, including a detailed financial analysis and feasibility study that would allow the university to make decisions based on costs and benefits in the context of its academic mission and role as a global thought leader.

[Today, the group released its report](#), which recommends a variety of measures, including increasing conservation efforts to further reduce campus energy demands, and outlining options to replace natural gas for campus heating with renewable energy sources.

"The university is committed to the goal of achieving [carbon neutrality](#), and I appreciate the work the Senior Leadership Climate Action Group has put into this thoughtful assessment of options," said Provost Michael Kotlikoff. "Meeting our goal by 2035 will require creativity and investment. The report will help inform our decisions in the context of Cornell's need to advance its academic mission – which is to offer an excellent, cost-effective education for our students – while creating knowledge that advances society and serves the citizens of New York state and the world. Working to eliminate our carbon footprint will advance these goals."

Key suggestions from the report include: transition to a low-carbon campus energy supply; pursue energy solutions in partnership with local and regional entities; adopt more rigorous building energy standards and

project approval processes during retrofits, deferred maintenance projects and new construction to create "high-performance buildings" on campus; develop infrastructure to support a campus fleet of clean-fuel vehicles; and evaluate Earth Source Heat and ground source heat pumps as heating solutions.

The College of Engineering is leading research on Earth Source Heat, an enhanced geothermal energy project that, if proven feasible, could not only eliminate nearly 82,000 metric tons of carbon annually, but also create a new energy industry in regions previously not found to be conducive to certain types of geothermal systems.

"Cornell is uniquely positioned to be a leader in sustainable energy because of its seamless connection between expert faculty, students and facilities engineers that can implement what we learn from research," said Lance Collins, the Joseph Silbert Dean of Cornell Engineering and co-chair of the Senior Leaders Climate Action Group. "Our aim is to not only work toward carbon neutrality on campus, but to pioneer new technologies for the rest of the world."

Cornell continues to explore and expand other [renewable energy sources](#) as well, and later this fall, the university will triple its solar capacity when it opens three new solar farms. Other recommendations made in the report include generating all electricity with renewable resources; accelerating the "Think Big, Live Green" campaign and promoting campus engagement programs; and ensuring that all undergraduate students are educated on climate literacy.

Said KyuJung Whang, vice president for infrastructure, properties and planning, and co-chair of the group: "We have made considerable progress in cutting the demand needs for campus, resulting in no increase in energy usage, despite significant growth of the Ithaca campus since 2000. This year alone, our lighting and energy conservation

initiatives have saved energy use equivalent to adding two 2MW solar farms to campus. While I am proud of our conservation accomplishments, now is the time to review innovative supply-side solutions."

The report includes a novel methodology developed by Robert Howarth, the David R. Atkinson Professor of Ecology and Evolutionary Biology, that accounts for the greenhouse gas emissions resulting from methane leakage in natural gas use – a methodology recently adopted by Tompkins County. It also applies emerging carbon valuation practices of a social cost of carbon and the quadruple bottom line, which help quantify the risk and future uncertainties associated with climate change to better inform decision-makers.

Provided by Cornell University

Citation: Report offers options for achieving carbon neutrality by 2035 (2016, October 5)
retrieved 26 April 2024 from <https://phys.org/news/2016-10-options-carbon-neutrality.html>

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