



# Cornell University

Martha E. Pollack  
*President*

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Association for the Advancement of Sustainability in Higher Education  
2401 Walnut Street, Suite 102  
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Re: 2019 Cornell University STARS 2.1 Submission

I am pleased to endorse the AASHE STARS online assessment for Cornell University using version 2.1 reporting platform.

Sustainability is a signature area of excellence at Cornell University. I am proud of the innovation and commitment our faculty, staff, and students displayed in addressing complex sustainability problems through operational improvement and living laboratory collaborations this year. In addition to another year of sustainability progress, we are proud to report an overall reduction in campus carbon of 36%, compared to our 2008 baseline, in pursuit of neutrality by 2035.

Our STARS innovation credits are a testament to our community's innovation and commitment to sustainability solutions that scale beyond our campus. This year we have chosen to highlight solutions that create participatory learning experiences about climate change impacts by engaging with local and global audiences, as well as projects that demonstrate proof of concept for new agricultural energy-systems reclamation.

## **Climate Change Garden**

The Cornell Climate Change Garden is a permanent installation in the Cornell Botanic Gardens that helps demonstrate the impact of climate change on plant growth in vegetables, crops, pollinator species, and natural habitat. This interactive garden was designed by students and installed as part of a living laboratory project. Two side-by-side spaces allow visitors to see climate impacts firsthand. An outdoor component shows plants growing under current climate conditions, with signage to educate visitors on anticipated impacts already being observed in the state. An indoor exhibit includes a high tunnel which is used to demonstrate various environmental condition projections for New York, such as rising temperatures, heat waves, heavy downpours, and droughts.

## **Where Is the Human in Climate Change? Podcast Series**

"Where Is the Human in Climate Change?" is a podcast and essay series focused on the latest thinking from across the disciplines about the relationship between humans and the environment. Written and recorded by Cornell faculty, the series explores a range of topics cultivated by students, faculty, and staff including Human Ecosystem Engineers, Future

Fashion, City Planning, and Planetary Health. The podcast is geared toward a global audience with the goal of exploring complex issues from a humanist perspective. This series launched on Cornell's humanities website, iTunes, and SoundCloud on April 17, 2018, with podcasts released weekly in the spring.

### **"Poop-to-Power" System**

The College of Veterinary Medicine designed and successfully implemented an innovative waste and energy reclamation system on campus which successfully separates cow manure from its sand bedding, significantly reducing waste and adding a new energy capture stream. This "Poop to Power" System results in clean bedding and a liquid waste that can be used for electricity and heat. Sand bedding in manure can be hard to deal with because the sand settles in holding tanks and can be abrasive to pipes. The new system avoids this problem by separating 95% of the sand from the waste and produces clean sand that can be reused for bedding, eliminating the need to import 30 tons of sand weekly. The captured liquid waste is sent to the Ithaca Area Wastewater Treatment Facility, where it is processed by an anaerobic digester to produce methane. The methane is used to turn microturbines to generate electricity and create heat. The heat and electricity are used to power and heat the Wastewater Treatment Facility.

### **Pyrolysis Kiln**

On May 24, 2018, Cornell opened its pyrolysis kiln, the largest of its kind at any U.S. university. Designed and built by Full Circle Biochar, the kiln creates an earth-friendly biochar that boosts soil fertility, enhances water retention in dry soils, and promotes drainage in soil that is too wet. This pyrolysis kiln is unique for an academic institution because of its commercial size, which allows exploration of the economic feasibility of eco-friendly, biomass-based materials on the industrial level. The kiln can transform 100 pounds of biomass waste per hour to make biofuels and biochar. Quoting Johannes Lehmann, professor of soil science, this innovation is important because "it is a compelling alternative to fossil fuels, especially in those global regions that have limited access to transportation fuels and where crop production relies on boosting carbon in soil."

These are the types of projects that speak to the role of higher education in creating a more sustainable economy, society, and planet. Our Ithaca campus submits STARS annually to make our achievements and progress accessible and transparent to campus constituents, our peers, and the world. Thank you for accepting our submission. We look forward to participating in another year of the program.

Sincerely,



Martha E. Pollack