

Final Report

Thank you for your commitment to green initiatives at the University of Illinois. One of the final steps in completing the terms of the funding agreement for your project is the submission of a Final Report with key information about your project. You will also need to submit a detailed report of expenses (if you don't list it within this document) as well as supporting photos to showcase your project.

Please be as accurate as possible in describing the project (including possible setbacks or challenges in meeting the initial goals of the project). Not fully meeting your project's goals will not disqualify you from making future funding requests as long as your reports are as complete and accurate as possible. If you have any questions, please contact the Student Sustainability Committee, at <u>sustainability-committee@illinois.edu</u>.

Project Name: Illini Gadget Garage: Education Through Electronic Product Life Extension

Date of Report Submission: 8/24/2017

Project Purpose:

ISTC proposed to launch a center where UI students and staff could bring their personal electronic devices for assistance with assessment and repair. We call this center the Illini Gadget Garage (hereafter referred to as "Gadget Garage" or "Garage"). Using the same "collaborative repair" model employed at the campus bike shop and MakerSpace Urbana (<u>http://makerspaceurbana.org/projects/computer-help-desk/</u>), clients with devices in need of repair/ troubleshooting work together with Gadget Garage staff and volunteers to perform the necessary device assessment and maintenance activities. Depending upon the situation, activities might range from guidance on how to make your computer/device run faster to actual repair and replacement of components.

Desired outcomes for students, staff, and the community include:

1. Hands on experiences for UI students, not only in terms of performing repairs, but also in process documentation and fostering sustainable behavior on a larger scale through the iFixit Technical Writing Project; marketing and business operations; lessons in industrial design for repair and recyclability; and in environmental education and communication.

2. Increased awareness of electronics laws and recycling options.

3. Increased awareness of sustainability issues surrounding electronic products throughout their lifecycles.

4. Decreased misconceptions regarding the disposability of devices and prohibitive complexity of electronics repair and maintenance.

5. Contribution to the overall efforts to make ours a more sustainable campus with a reduced carbon footprint.

Project Summary:

The project has achieved all the desired outcomes stated at the outset (above). Hands-on experiences have been provided for students both as volunteers and as staff members, and UI students have successfully contributed to the iFixit Technical Writing Project through the creation of new repair guides. We've also had students involved in the marketing of the project through social media network development and content generation (see https://twitter.com/IlliniGadget; https://www.facebook.com/IlliniGadgetGarage/; https://www.instagram.com/illinigadgetgarage/; https://www.pinterest.com/illinigadgetgar/; and https://www.youtube.com/channel/UCLMoHQDMt5SLwnGDVZGcMhw). Students have been involved in creating flyers and other promotional material (see https://drive.google.com/file/d/0B2MYVVfo5KygdkRCNTI1a21Nbzg/view and https://drive.google.com/file/d/0B2MYVVfo5KygUUFTVHRpb2NTVFU/view?usp=sharing as examples). Our identifying mark was developed by students in a class taught by Professor William Bullock in fall 2015. As reported previously, we also had a graduate student develop a draft business plan for the project, though project coordinators have decided at least for the near future to focus on funding through donations and fees for off-campus employee engagement pop-ups, rather than through membership fees. See the list of courses associated with the project on the "Our Impact" page of our web site.

We have regularly distributed the Champaign County Electronics Recycling Guide, which lists local businesses that accept electronics for recycling and what items are accepted, both in person to patrons at our physical workshop, pop-ups, and outreach events, and via email. After our recent screening of the documentary, *Death by Design*, Urbana U-Cycle coordinator and IL Product Stewardship Council member Courtney Kwong educated attendees about the current electronics legislation/landfill ban in IL, and discussed proposed legislation (awaiting the governor's signature) which would change our state electronics recycling law from a weightbased system to a convenience model, in which permanent electronics recycling drop-off locations would be established throughout the state, based on population density. We have also helped to market Champaign County electronics collection events throughout the project, and have offered battery recycling at our workshop (both single-use alkaline and rechargeable batteries).

Each time we engage with an individual to troubleshoot or repair a device, opportunities arise to discuss sustainability issues related to the design, manufacture, use or end-of-life management of the device. For example, if a cell phone or tablet is difficult to open for repairs, the conversation can touch upon how the desire for thinner, lighter devices impacts the ability to repair and recycle those devices. Observing a battery which is glued in place or proprietary screw shapes (e.g. pentalobe screws used in Apple products) creates the opportunity to discuss how designers and manufacturers unwittingly and/or purposefully (through planned obsolescence) impact the ability to service devices or reclaim materials from them at their end of life. We have posted information on the impacts of electronics manufacturing, use, and recycling, as well as statistics on battery purchasing, disposal, content, and recycling in our workshop, and take that information along to pop-up repair clinics and outreach events. We've spoken to a variety of audiences at outreach events and most recently, hosted a free screening of the documentary Death by Design at the Champaign Public Library (see the list of outreach events on the <u>Our Impact</u> portion of our web site).

To date, we've helped 109 individuals to troubleshoot and repair devices, and diverted a total of 323.41 lbs. of devices from the waste stream through our efforts. It is often the case that patrons come to the workshop uncertain about their abilities to fix their device. Upon completion of guided "do-it-together" repair, these individuals invariably feel a great sense of accomplishment and are much more confident about the idea of attempting to repair devices in the future. For examples of comments see our "Testimonials" page.

We have only recently calculated the percentage of different types of devices serviced at our workshop, and existing benefits calculators, such as EPA's WARM model and the Electronic Environmental Benefits Calculator do not allow for easy calculation of the greenhouse gas (GHG) emission equivalent offsets created by repairing small amounts of devices across a variety of device categories. We can however, assert that our efforts must be having an impact on the carbon footprint of campus and the broader community. According to the US EPA Greenhouse Gas Reporting Program (GHGRP), 2015 Emissions (MMT CO2e) for "Electrical Equipment Production & Use" was 2.9 and for "Electronics Manufacturing" was 6.3 (see https://www.epa.gov/ghgreporting/ghgrp-reported-data). These figures are for facilities in the US alone. Clearly, any activity meant to keep electronic products in service for as long as possible, and thus theoretically reduce in some small way the demand for new devices, will be beneficial for reducing GHG emissions. By offering battery collection for recycling, information on recycling, an option for people of a variety of technical expertise and socioeconomic levels to repair devices and keep them in service, and engaging people in conversations about sustainable electronics issues, we are surely contributing to the sustainability of campus and the broader community, and adding to the reputation of the UI as an institution that cares about promoting sustainability. At last weekend's Taste of Champaign, all people who visited our booth were very positive about the existence of this project and its value to the community.

Summary of Project Expenditures:

As of 8/23/17, a total of \$94,413.84 of the original \$95,000 in grant money have been spent. Attached separately are a copy of the latest fully reconciled monthly account statement (through the end of July) which shows a balance of \$1,288 and a print-out from a Prairie Research Institute fund query tool for PIs, which shows a balance of \$586.16 as of 8/23. Salaries for hourly employees have been retroactively shifted to come from the Sustainable Electronics Initiative (SEI) Various Donors gift fund from the end of June 2017 forward, and by the end of August, the fully reconciled account should have a balance of zero, with the remaining \$586 going to cover printing of promotional postcards to be used as handouts for various outreach events during the month of August (including the Taste of Champaign, our Death by Design documentary screening, a presentation for the Sustainability Living-Learning Community, Quad Day, and the Urbana Sweetcorn Festival), booth fees for some of these events, and/or other small supplies. Prairie Research Institute accountants will divide charges made in August between the SSC grant fund and the SEI Various Donors Fund (gift fund used to support this project) in order to fully zero out the SSC grant funds of \$95,000.

\$24,310.75 have been spent since the last report filed (at which time \$70,103.90 had been spent). This primarily went toward the salaries for three hourly staff members: Madeleine Hall (who graduated from the iSchool in December 2016 but continued as an hourly employee coordinating day-to-day activities and assisting the PI with volunteer training and supervising student hourlies), Amanda Elzbieciak, a graduate student in the iSchool (who previously served as a volunteer in fall 2016), and Jarrett Zook, a graduate student in Human Resources and Industrial Relations with a background working as a laboratory technician on appliances for Underwriters Labs. We also paid for the ISTC portion of utilities for INHS Storage Building #3 (our physical workshop), for building service workers to clean the space, a variety of consumables (e.g. toner cartridges for our printer, device cleaning supplies, replacement light bulbs for our iFixit repair guide photography set-up, soldering supplies and basic soldering kits to assist with a soldering workshop that will hopefully be scheduled this fall), a variety of tools to assist with repairs (e.g. a hard drive dock to allow us to test whether hard drives themselves are the problem when troubleshooting laptops, laptop screws, a universal bit kit, a magnifying glass on a stand to assist with working with small parts in devices, etc.), and the educational DVD and public performance rights for the documentary *Death by Design*, which we plan to use for outreach both on the UI campus and in the broader community. We received a discount on the film and rights due to PI Joy Scrogum providing a review of the film for the distributor's web site; we have already held one free screening on August 22 at the Champaign Public Library. The screening offered us the opportunity to spread the word about this project to the broader CU community. We had a panel discussion after the film featuring comments and Q&A with project PI and ISTC Sustainability Specialist Joy Scrogum, Professor and Industrial Design Chair William Bullock of the School of Art + Design, and Courtney Kwong, coordinator of Urbana's U-Cycle program. We hope to have a screening on campus during the coming semester to educate students about the environmental and human health impacts of electronics production and recycling. As noted above we have also paid for booth space and printing of some higher quality postcards (beyond the quality we could produce on-demand with our own printer) for a variety of outreach events in August, geared toward spreading the word about the project and garnering more student volunteers for the fall semester.

Progress to Date:

As noted previously, starting with the spring 2017 semester we had three hourly employees. This allowed us to have a total of 20 open hours a week at our workshop in the spring (MWF noon to 4PM, TuTh 10 AM to 2 PM). During the summer (through the end of July) we held two weekly pop-ups at the UGL Media Commons (MW 11:30 AM-2:30 PM), and had open hours from 10 AM to 2 PM on TuTh and noon-4PM on Friday. We also had a presence at the Sustainable Student Farm stand on Thursdays during the months of June and July. A total of 23 off-site (outside of our workshop) pop-up clinics were held during the spring and 30 were held during summer 2017. Most people interacting with us at pop-ups have preliminary discussions

about issues they are facing with devices, or ask questions; people with repair needs tend to schedule times to come into our workshop later to begin or complete repairs. Having more, regular hours, and increased exposure to patrons beyond our workshop really assisted in helping to spread the word about the project.

During the spring we were able to add more content to our web site, <u>http://wp.istc.illinois.edu/ilgadgetgarage</u>, including writing regular blog posts and adding a list of local repair shops and what devices they service (<u>http://wp.istc.illinois.edu/ilgadgetgarage/repair/local-repair-shops/</u>). Note that during continued conversations about the project with UI Risk Management and Legal Counsel during Summer 2017, Risk Management expressed concern about our providing this information on our web site, even though we clearly state that the information is for informational purposes only and does not constitute endorsement; our staff and volunteers are trained to tell patrons that we cannot and will not refer them to specific businesses for further assistance or from which they might buy necessary parts, but we can assist them in research and give tips for how to make their own decisions about where to take their business (e.g. be sure to check online reviews if they are available, be sure to check pricing at multiple places, etc.). Even so, we have been told that the appropriateness of providing this list on our web site will be checked upon; as of 8/23/17 we have not gotten further word on this matter.

During spring 2017 we had volunteers work on repair guides for the iFixit Technical Writing project. See <u>http://wp.istc.illinois.edu/ilgadgetgarage/ifixit-student-guides/</u>. A few volunteers began guides but did not finish them by the end of the semester (or they stopped regularly volunteering). Volunteers worked with staff over the summer to finish the four guides started in the spring, but to date, iFixit has yet to post the completed guides to its site so we may linkt to them. We will follow up with them soon, as we plan to sign up to receive devices again this fall to provide hands-on experiences for some of our volunteers who prefer not to work directly with the public.

PI Joy Scrogum has continued to work with Prairie Research Institute accountants, as duties for managing funds have shifted during the past year due to consolidation of various services within the Institute (across the five state scientific surveys, including ISTC). She has also continued consulting with the UI Foundation, UI Risk Management, and UI Legal Counsel on various aspects, current or planned, of the project. It was ultimately determined that rather than establishing a separate self-supporting fund for the project, as previously planned to allow for charging fees for workshops, membership fees, etc, an activity code for an existing service account used by the ISTC technical assistance group (of which PI Joy Scrogum is a member) would be established. This is partially due to an effort within the Prairie Research Institute to minimize the number of different funds active at any given time to make the labor involved in fund management more efficient. Rather than charging fees for membership at different amounts for different audiences (as previously considered, but deemed somewhat confusing) it was decided we would continue to offer regular repair services for free, but begin marketing off-campus pop-up repair clinics as "employee engagement events" for a fee. These would involve revenue generating agreements with minor specific wording changes from the UI

template for such agreements, to be advised by accountants and UI Risk Management. Marketing materials were developed for this service during summer 2017 (see <u>http://wp.istc.illinois.edu/ilgadgetgarage/repair/employee-engagement-events/</u>) and contacts for potential clients both locally in the CU area and throughout the state of IL were compiled. Marketing began in July 2017.

We have pursued individual and corporate sponsors to support the project through fall 2017 and into the future, in addition to the off-campus employee engagement events for a fee. We have received an additional donation of \$1000 from iFixit and \$5000 from HOBI International, Inc., as well as small amounts from individual donors. These funds are deposited into the SEI Various Donors Fund through the UI Foundation; the Illini Gadget Garage project is currently the only project supported by this particular fund. This fund has been used to obtain battery collection receptacles (since UI Facilities & Services no longer covers those costs), and will be used to cover hourly employee salaries and other expenses until we begin bringing in funds for employee engagement events (at which time expenses will be divided between the two funds). We have continued to contact other potential sponsors, and currently have a proposal submitted to Busey Bank for a grant to cover free to the public off-campus pop-up clinics in public spaces throughout the community (e.g. libraries, schools, recreation centers, etc.) during the fall 2017 semester. We should hear whether or not we have received that grant in the near future.

As stated above, we have assisted 109 individuals with troubleshooting and repair and have diverted a total of 323.41 lbs. of devices from the waste stream through our efforts. We have participated in a variety of outreach events during the course of 2017. See the "<u>Our Impact</u>" page of our web site for a complete list of events attended, statistics on waste diverted (including at total of 78 lbs. of batteries as of June 2017), courses associated with the project, and notes on other project activities, such as educational podcasts produced in association with WEFT radio (6 podcasts were produced over the summer of 2017), webinars and workshops (1 webinar was offered in July 2017 with materials archived at

<u>http://wp.istc.illinois.edu/ilgadgetgarage/archived-webinars/</u> and 1 group dismantling workshop was held in August 2017), and collections of special materials to expand recycling opportunities on campus (in addition to batteries we collect CDs and DVDs along with their cases, but are waiting for a larger amount of these items before shipping them). Not all of the podcasts broadcast have yet been added by WEFT to its SoundCloud account (they have had problems with the file limits on their account); Illini Gadget Garage staff have begun creating YouTube clips with the files they recorded for the these podcasts so we can easily add them to our web site if WEFT is unable or does not add the files to their SoundCloud in the near future so we can link to them. We want these educational spots to be archived on our site so they can continue to educate students, staff, and members of the broader community.

In Fall 2017, PI Joy Scrogum will teach a course on reuse as a sustainability strategy for the Osher Lifelong Learning Institute (OLLI) at Illinois. The \$700 stipend received for this will be put toward Illini Gadget Garage efforts, and one week of the course will be devoted to repair-

centered projects such as this one, Repair Cafes, Fixit Clinics, and similar projects nationally and internationally.

Problems/Challenges Encountered

As reported previously, we were delayed in opening our workshop to the public because after entering into an understanding with the IL Natural History Survey to allow ISTC to use the space for the Illini Gadget Garage in exchange for paying half the utilities and paying for necessary repairs, it was determined by campus officials that the space, which had previously served as research groups' lab, was not ADA compliant and would need to renovated in order to be opened to the public. We obtained a second, separate grant of \$10,000 from the SSC to pool with a portion of the space-related funds from this grant and donations (in the SEI Various Donors Fund) to pay for the renovations, which totaled \$37,504.52. Renovations were completed in late summer 2016, and the space was opened officially to the public in fall 2016. Prior to that we could only operate on a limited basis with "test pilots"—people who were not in need of ADA accommodations so that students and project staff could become accustomed to the process of guiding the public through collaborative repair. Until the space was officially opened to the public, we could not widely market the project or its services. We also experienced delays in being able to make minor renovations of the interior to make the space more functional as a repair workshop because the previous tenant continually delayed moving out of the space; the space was not completely cleared of the previous occupant's materials until November 2016. In fall 2016, ISTC coordinated staff and volunteers through cleaning, other interior improvements and laying out the space for working with the public.

Also as reported previously, members of our original project team experienced job and life changes which necessitated ISTC generally and PI Joy Scrogum specifically to take more of a central role in coordination and administration of the project. While ISTC was always the main grantee and served in a coordinating role, William Bullock of the School of Art + Design and Martin Wolske were more heavily involved in the project initially. However, since the project's beginning, Professor Bullock once again was made Chair of Industrial Design, and Dr. Wolske was made interim director of the Center for Digital Inclusion. These changes meant both men had additional duties within their own departments and less time to devote to developing the Illini Gadget Garage project. Additionally, Dr. Wolske experienced severe physical injuries as the result of bicycle accident in October 2016. He has happily made a very successful recovery, exceeding the expectations of doctors, but these health concerns meant that he was virtually uninvolved in the project through much of 2017. He recently began to occasionally join team meetings as his schedule permits; though he is back to work and teaching, he is understandably working through a backlog in activities within the iSchool, and will not likely be heavily involved in the project in the near future. Because PI Joy Scrogum is involved in multiple other projects as part of ISTC's technical assistance team, it has been challenging to launch this project with limited staff time devoted to it. The hourly staff members (all of which are employees of ISTC and supervised by Scrogum) are essential to keeping the project afloat through their attendance to day-to-day operations. Unless adequate funds are brought in during the fall 2017 semester through donations and/or off-campus pop-ups for a fee, it is possible that supervisors at ISTC will require Scrogum to work on increasing numbers of other revenue generating

agreements and thus have to suspend or cease this project until and unless additional funding is obtained.

As alluded to above, there have been numerous UI offices and entities consulted about various aspects of this project. Concern has been raised by UI Risk Management not only that we may be construed as endorsing certain local repair businesses, but also that we may be seen as being in competition with them, despite the fact that we clearly offer a very different service we don't allow people to drop items off for repair and then pick them up later. Our patrons must participate in the repair of their own devices—thus, our service is more educational in nature. Virtually everyone who hears of project (including some repair professionals we've interacted with) see our services as being distinct from repair businesses. Risk Management and Legal Counsel are consulting on these issues; definite verdicts or direct instructions on how to mitigate any such risks have yet to be received as of August 2017. We have also been told that the waiver we are currently using with patrons, which we submitted for review to Risk Management and Legal Counsel many months ago, needs to be revised to include some specific verbiage; we have not yet received revised versions with the proscribed language. We've been advised that volunteers (student or otherwise) must fill out certain forms which will be required of all volunteers at the University; however, these forms have not yet been finalized and released for use. We've also been advised that we must have future corporate sponsors sign an agreement to make it clear that we have their permission to display their logos on our web site as sponsors, but again, the relevant forms have not been finalized or made available to the campus community for use. We are met with continued concerns over our operations but few suggestions for how to reduce the concerns, and frankly not much evidence that the concerns are completely warranted.

As procedures within the Prairie Research Institute have changed and staff duties have shifted, PI Joy Scrogum has met repeatedly with new staff being brought into fund management to explain the project and address their questions and concerns. This means that staff time has been used to essentially cover the same ground repeatedly as different people with no project background are brought up to speed during the time that they have helped with the project. Thankfully, the transitions within the Institute are settling down and we will likely have one fund manager for the foreseeable future.

Another minor challenge has been that we requested a Skype phone account months ago, and in fact, have a Skype handset in the workshop. However, we've been told by IT staff that we 1) need an @illinois.edu email account, for which we waited an inordinate amount of time and 2) that the account was somehow set up incorrectly by the administrative staff (not project staff) that created it, and the errors need to be worked out. We have asked about this repeatedly, and every time we do, we're told that it will be checked into or followed up on; it unfortunately does not seem to be something we can, or are allowed to handle ourselves. In the meantime we do not have a phone number for the workshop; people can contact us via email or Facebook message, but many people have inquired about a phone number. It is hard to say how/if this continued difficulty is affecting our ability to interact with potential clients.

Student Involvement and Outreach to Date:

As noted above, students have been involved as volunteers and hourly staff, as well as students in associated classes and as patrons who need assistance with repairing their devices or recycling special materials such as batteries. See "<u>Our Impact</u>" for a summary of student involvement, including a list of outreach events. Students have been involved in creating repair guides for the <u>iFixit Technical Writing project</u>. They have worked on social media for the project and developed marketing materials; in addition to the marketing pieces noted above, see also the infographic at <u>http://wp.istc.illinois.edu/ilgadgetgarage/recycle/</u> and the videos describing the project at <u>https://youtu.be/T5Z2Q_HRH5I</u> and <u>https://youtu.be/f7GIYYZMr7c</u> as additional examples of student work.

We sought to educate students (and other community members) about recycling options through direct interactions and through our social media and web site (see http://wp.istc.illinois.edu/ilgadgetgarage/recycle/). Beyond general education about the landfill ban and recycling options, we also created a <u>"move out" poster</u> at the request of UI Housing for posting in residence halls during move out at the end of the spring 2017 semester.

Marketing and Promotion Efforts to Date:

In addition to the outreach activities noted above and on the "Our Impact" page of our web site, we have also promoted pop-ups and our services in general on various digital signage in buildings all around campus. Locations which accepted our inquiries about posting information included: the College of ACES, Animal Sciences Laboratory, Coble Hall, College of Law, Coordinated Science Laboratory, Digital Computer Lab West, Foellinger Auditorium, Industrial and Enterprise Systems Engineering, Medical Sciences Building, Micro + Nanotechnology Laboratory, Newmark Computer Engineering Laboratory, Physical Plant Service Building, Turner Hall, Vet Med Basic Sciences Building, and the Veterinary Teaching Hospital. Emails and form submissions have been sent to various other locations/departments with digital signage (based on the list on the Office of Public Engagement web site), but we have not received responses from those locations.

See also the "<u>Media Coverage</u>" page of our web site, which frankly needs to be updated. We regularly promote our resources and events on the project's web site/blog, its Facebook page, and Twitter, as well as on the blogs and social media accounts of the Sustainable Electronics Initiative (SEI) and the Illinois Sustainable Technology Center (ISTC), as well as the personal social networks of project staff. The Prairie Research Institute frequently shares our social media posts on its social media networks, increasing our reach.

Illini Gadget Garage followers/subscribers by social media network:

- Twitter: 82
- Facebook: 233
- Instagram: 19
- Pinterest: 1
- YouTube: 1

SEI has 361 followers on Twitter; 169 likes on Facebook. ISTC has 472 followers on Twitter; 416 likes on Facebook. PI Joy Scrogum has 641 followers on Twitter; 192 friends on Facebook +15 followers, as an example of the reach of project team personal pages. The Prairie Research Institute has 701 followers on Twitter and 765 likes on Facebook.

Recently, the Institute has moved to a centralized WebTools calendar for all the scientific surveys to share on their individual web sites. PI Joy Scrogum has been given access to add events to that calendar so Illini Gadget Garage events can be efficiently added. This calendar feeds into general campus-wide calendars featured on the main University of Illinois web page. For example, the recent Death by Design screening was posted to this collective calendar, and it was observed on the main campus calendar of events. See

http://illinois.edu/calendar/month/2195?skinId=23411 for this collective calendar in the month of August. PI Joy Scrogum has also started posting events on NextDoor, a private social network that allows you to share information with people in your neighborhood and surrounding neighborhood. 152 people are part of her Sesquicentennial Neighborhood online community and there are "2,333 neighbors in 25 nearby neighborhoods" which may see information posted.

We also have posted volunteer opportunity flyers and other marketing materials in a variety of buildings with public bulletin board throughout campus and in the community (e.g. the IDEA Store has allowed us to post flyers) over the course of the project. We also know that we benefit greatly from word-of-mouth from our patrons who may tell their friends and colleagues about us.

Additional Comments:

We are grateful to the SSC for the seed funding to launch this project which has been so well received by the campus and broader community. Photos to help highlight the project can be found on our <u>Facebook page</u>, our <u>Instagram</u>, and on the student service learning project site at <u>http://kenshinrogie.wixsite.com/gadgetgarageproject</u>.

In addition to the above fields, please provide a detailed accounting of how the funding was spent as well as pictures of the final project in an email to <u>sustainability-</u> <u>committee@illinois.edu</u>. Thank you again for your commitment to sustainability.