

2014-2015 Annual Report

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Introduction to the Green EDGE Fund

Mission Statement

The mission of the Oberlin College Green EDGE Fund is twofold:

- 1) Soundly invest in efficiency projects that decrease resource consumption, improve existing infrastructure and have positive economic benefit with clear financial payback to the College and the Fund.
- 2) To finance projects and initiatives that promote environmental sustainability within the Oberlin Community while demonstrating innovation, education, and leadership.

Funding Structure

The Green EDGE Fund is a student board that manages a set of accounts designated for loan and grant allocations. These accounts are financed by Oberlin College and student semesterly Green fees, respectively.

Efficiency Loans are allocated to projects that have clear and calculable financial savings for Oberlin College. This account operates on a revolving loan fund model; all financial savings directly resulting from these projects are paid by the College into the Efficiency Loan Account on an annual basis until 150 percent of the initial investment is repaid so that further loans can be made. Savings may be calculated based on conservative estimates or measurable changes in resource consumption data.

Sustainability Grants are awarded to projects that promote environmental sustainability within the Oberlin Community, and do not have clear and calculable financial savings for Oberlin College. These projects do not necessarily result in direct resource use reductions, but do promote environmental sustainability as defined by the sitting Board.

Green EDGE Fund Members – Fall 2014

Student Board Members:

- Elaine Hinrichs, Class of 2016 -
Alexander Katz, Class of 2016
Hillary Pan, Class of 2018
Yuran Pan, Class of 2015
William Leslie, Class of 2015
Julia Murphy, Class of 2017
Delia Scoville, Class of 2016

Board Advisor:

- Sean Hayes, Adam Joseph Lewis Center Facilities Manager and Community Outreach Coordinator

Administrators:

- Keith Watkins, Director of Facilities Operations
- Ron Watts, Vice President of Finance

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Meeting Dates, Times & Locations for Academic Year 2013-2014

September 9, 2013; ?

September 26, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)

October 3, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
October 10, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
October 17, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
October 31, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
November 7, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
November 14, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
November 21, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
December 5, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
December 12, 2013; 12:30 – 1:30 pm?, AJLC, Room 216 (2nd Floor Conference Room)
December 18, 2013; 12:00 - ?, Cox Administration Building, 2nd Floor Conference Room
February 13, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
February 16, 2014; 6:00 – 7:00 pm, Mudd Library, Room 108A
February 20, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
February 23, 2014; 6:00 – 7:00 pm, Mudd Library, Azariah’s Café
February 27, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
March 2, 2014; 6:00 – 7:00 pm, Mudd Library, Room 108A
March 6, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
March 9, 2014; 6:00 – 7:00 pm, Mudd Library, Room 108B
March 13, 2014; 12:30 – 1:30 pm, Wilder Hall, Room 112
March 16, 2014; 6:00 – 7:00 pm, Mudd Library, Room 108B
March 20, 2014; 12:30 – 1:30 pm, AJLC, 1st Floor Conference Room
April 3, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
April 6, 2014; 6:00 – 7:00 pm, Mudd Library, Main Level Lobby
April 7, 2014; 1:00 – 2:00 pm, Location?
April 8, 2014; 12:30 – 2:30, AJLC, Room 216 (2nd Floor Conference Room)
April 9, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
April 13, 2014; 6:00 – 7:00 pm, Wilder Bowl
April 17, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
April 20, 2014; 6:00 – 7:00 pm, Courtyard of Rice Hall and King Building
April 24, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
April 27, 2014; 6:00 – 7:00 pm, Mudd Library, Main Level Lobby
May 1, 2014; 12:30 – 1:30 pm, Cox Administration Building, 2nd Floor Conference Room
May 4, 2014; 6:00 – 7:00 pm, Wilder Bowl
May 8, 2014; 12:30 – 1:30 pm, AJLC, Room 216 (2nd Floor Conference Room)
May 12, 2014; 12:00 – 1:00 pm, AJLC, Room 216 (2nd Floor Conference Room)

Previous Green EDGE Fund Projects [include where installed, how much cost, important features]

Previous Efficiency Loan Projects

Water-Heater Jackets in Woodland Street Housing: In the fall of 2008, the GEF took on its first project with the installation of insulating water heater jackets in college-owned Woodland Street houses. The cost of purchasing and installing one water heater jacket was between \$30 and \$40. Jackets were installed on more than 20 water heaters, reducing water-heating costs by an estimated 4-9% per year.

Low-flow Showerheads in Dascomb: In 2009, the GEF financed the replacement of thirty 2.35 gallons per minute showerheads with 1.5 gallons per minute showerheads in Dascomb Residence Hall. The project cost \$900 for the purchase and installation of the low-flow showerheads, and has approximate savings of 56,355 gallons of water, 34 CCF of natural gas, and \$866 per year.

Veggie-Oil Tractor Conversion: In the spring of 2009, the GEF provided an efficiency loan to the Grounds Department of Oberlin College to convert one of their Kubota tractors to run on vegetable oil. This project is ideal because it will reduce consumption of a fossil fuel and the college has ready access to large quantities of leftover vegetable grease from the dining halls. The loan of \$2,895.88 covered the initial equipment and labor costs of the conversion by Sam Merrett of Full Circle Fuels, and simple payback was estimated to occur in 1.13 – 2.26 years or sooner depending on fuel prices.

Village Housing and Woodland Street Housing Efficiency Upgrades: The GEF provided an efficiency loan to fund a research project headed by two professors. The research aimed to determine the effectiveness of three different methods of promoting energy efficiency. 31 of Oberlin College's village homes were targeted, with 24 of them receiving one of the three treatments: programmable thermostats, caulking and attic insulation, or financial incentives for reducing energy use. The remaining homes served as controls. Two homes on Woodland Street also received extensive efficiency upgrades from a separate loan under the same research project. For the GEF loan, the total cost of purchasing and labor for the thermostats, insulation and caulking was \$10,200, and the estimated payback time from reduced natural gas use is approximately 8 years.

Hales Gym Lighting Retrofit: In the spring of 2010, the GEF financed a retrofit of the lighting in Hales Gym, which is used heavily by a variety of organizations. The project of replacing inefficient light bulbs with twenty-eight 200W high efficiency CFLs was estimated to cost a total of \$3,000 for equipment and labor. Annually, this project is expected to save 10,000 kWh, approximately \$1,000, and mitigate carbon emissions on the order of 10 metric tons. Simple payback was expected in 3.2 years.

*LED Bulbs for EXIT Signs: In February 2011, the Green EDGE Fund purchased 100 LED kits to install in EXIT signs on campus that use incandescent bulbs.

*Firelands Water Efficiency: In the Spring of 2010, the Green EDGE Fund awarded an efficiency loan to replace inefficient toilets and showerheads, and install faucet aerators in the Firelands apartment complex.

*Veggie Oil Tractor Conversion 2: New Holland: The Green EDGE Fund made an efficiency loan of \$5,250 to convert a second facilities tractor to operate on waste vegetable oil, and a filtration system to purify the waste vegetable oil to fuel-grade SVO for both of the tractors.

*CDS Compost Pulper: In August of 2011, a compost pulper was installed in Stevenson Dining Hall to process post-consumer waste more efficiently. The Green EDGE Fund partially funded this project, partnering with the Senior Class Gift, Bon Appétit, and capital funding to cover the full cost.

*High Efficiency Hand Dryer:

In Spring of 2011, the Green EDGE Fund purchased 6 hand-dryers to be installed in Philips Gymnasium and Mudd Library. This project is expected to reduce Oberlin College waste production by 1,300 tons annually and produce annual net carbon savings of 2.9 metric tons. Hand-dryers save large quantity of paper towel usage and resulting waste. Philips and Mudd are both central high-traffic areas where paper towels are constantly in high demand. This makes them ideal location for this type of project, as savings will accrue especially quickly. Equipment costs totaled \$2,640 and labor costs associated with installation amounted to \$1,800. A \$460 buffer was included for unforeseen costs, bringing the total allocation to \$5,000. Annual return on investment is 31% based on conservative estimates, resulting in a financial payback period of 3.2 years.

*Conversion of Lawn Mower to Run on Veggie Oil: In Spring of 2011, the Green EDGE Fund financed the conversion of an Oberlin College Grounds Department lawn mower to be run on vegetable oil. This project is expected to reduce diesel consumption by approximately 125 gallons annually.

Campus Dining Services use large amounts of vegetable oil to cook food for students, and this waste product provides renewable energy at no additional financial cost. Although vegetable oil burned by the engine still produces carbon dioxide emissions, it eliminates the emission of nitrous oxide associated specifically with the burning of fossil fuels. Most importantly, this project reuses a food waste product that would otherwise be discarded as waste while reducing fossil fuel consumption.

Equipment costs totaled \$800 and labor costs amounted to \$750. A \$200 buffer was included for unforeseen costs, bringing the total allocation to \$1,750. Annual return on investment is estimated at \$500 per year or 29% based on previous rates of diesel fuel consumption by the converted vehicle. At this rate, the project is expected to pay back fully in approximately 3.4 years.

Backhoe Vegetable Oil Conversion: In May of 2012, the GEF approved an efficiency loan of \$3,500 for the parts and labor costs of equipping a Facilities backhoe with a recycled vegetable

oil fuel system. The conversion is projected to save over 2000 gallons of diesel annually, resulting in approximately \$6,400 per year. This particular investment, and the tractor conversions in general, have 100% payback periods of a single year. This project was part of a now larger-scale initiative to convert the Oberlin College Facilities vehicle fleet from diesel to vegetable oil systems.

*Low-Flow Showerheads: In the spring of 2012, The Green EDGE Fund officially approved an efficiency loan for the purchase of low-flow showerheads in East and Barrows residence halls. This loan was for \$2000: \$1000 for the showerheads and \$1000 for to cover the cost of installation. To the knowledge of the Green EDGE Fund, these showerheads have not yet been installed.

*Convert Facilities Truck 8 to Run Off Veggie Oil: The GEF funded this project in April of 2013. The project directly links to our goal of achieving higher sustainability on campus. The project involves a switch away from fossil fuels to a renewable energy source. The project, being an efficiency loan, will save the school money in the long run and promote sustainability. Background: The clear and calculable payback for this project influenced our decision to fund it. Cost-Benefit Estimation: The conversion to veggie oil is estimated to save the college \$6,400 a year in diesel. The conversion costed \$5,000 which means the payback will be less than one year. The project is largely beneficial in that it saves over 2000 gallons of diesel annually which is beneficial to the environment, and monetarily.

Previous Sustainability Grant Projects

*OCS Garden Expansion: The GEF provided \$15,000 to expand and improve the Oberlin Community Services building's community gardens to increase productivity and accessibility to healthy and fresh produce. The garden is run through volunteer labor, and is always looking for your help!

*The POWER Fund: (2008) The Green EDGE Fund provided a \$5,000 seed grant for POWER to establish their offset program. POWER weatherizes and insulates low-income and inefficient homes in Oberlin as a carbon offset program. The amount provided was equivalent to insulating two homes given the insulation estimates provided by POWER.

*Spin Dryer for SEED House: The Green EDGE Fund provided SEED House with a grant for a spin dryer, to make their laundry system more sustainable and efficient. This model uses less electricity than conventional clothes dryers.

*Compost Tumbler for Union Street: This compost tumbler was installed near Union Street housing during the summer of 2009.

Kahn Hall Composting: In the spring of 2010, the GEF helped finance Oberlin College's first dorm-wide composting system, organized by the Compost Work Group and maintained by

residents of Kahn Hall. A grant of \$1,000 provided compost tumblers, a wheelbarrow, a hose, and scales for measuring the amount of compost generated.

Johnson House Garden: In the spring of 2010, the GEF provided \$6,000 worth of start-up funds for a student-run garden behind a residence hall on campus, providing a unique educational opportunity for Oberlin students. The produce from the garden goes to college dining halls and coops.

*Replacement of CRT Monitors: In December of 2009, the GEF approved a sustainability grant to replace old, inefficient CRT monitors still in use in research laboratories with efficient, ENERGY STAR LCD monitors. The project proposal was developed by Walt Owens of the Oberlin Technology Store, and the project is the GEF's first collaboration with the Technology Store.

*High-Altitude Wind Power: In December 2010, the GEF voted to fund a student research project that sought to determine the feasibility of small-scale high-altitude wind power in Lorain County. The grant provided a generator, a weather balloon, and the materials to build a turbine.

*CDS Balcony Garden: In the spring of 2011, an ENVS 101 group and the CDS Recyclers proposed that garden boxes be placed along the balcony railing of Stevenson Dining Hall.

*West Virginia Fruit Trees: In the spring of 2011, the GEF granted the purchase of 35 fruit trees to be donated and planted in Coal River, West Virginia. The fruit trees will provide local and more sustainable fruit to residents of the community.

OSWAMP Rain Gardens: In the spring of 2011, the GEF allocated \$20,000 for the design and installation of two rain gardens on Oberlin College's campus. The gardens are used as a sustainable means to mitigate rainwater runoff and erosion on campus.

*Replacement of Antiquated Lighting at Oberlin Early Childhood Center: In spring of 2011, the GEF helped finance \$20,000 worth of electricity and lighting retrofits for Oberlin Early Childhood Center (OECC). This project was pursued for public health reasons as much as resource reduction savings. This project, which would have been an efficiency loan if it had occurred on campus, was implemented at the center by a local contractor. Lighting retrofits, while having a timely payback, are often too expensive to implement in the short term despite long-term benefits. OECC had been having issues for many years, spanning from unsafe outlets to high replacement costs for their light bulbs that frequently burnt out. This, in addition to having young children running around with unsafe electrical equipment, was the main cause for project implementation. Human health was improved by making a safer work space out of OECC. Electricity bills went down as well as variable costs such as light bulb replacements.

Johnson House Cold Frame Project: In spring of 2011, the Resource Conservation Team applied for a \$950 grant to fund hand-made cold frames to extend the growing season for their on-campus garden at Johnson House. The materials were purchased locally and built by RCT team

members during a weekend workshop. These cold frames have effectively extended the growing season and increased student participation with gardening.

Johnson House Compost: In the fall of 2011, the GEF approved a sustainability grant to fund the construction of a compost enclosure for the Johnson House Garden for use by student residents. The grant covers \$650 worth of materials and was constructed by an ENVS 101 group in coordination with the Resource Conservation Team and union construction representatives.

Energy Orb Installation: In the fall of 2011, the GEF allocated \$8,000 to fund the total cost of installing 16 new energy orbs in Oberlin College residence halls. These new orbs are an expansion of the Campus Resource Monitoring System and the energy orbs that were installed in six residence halls in 2008. The visual feedback from energy orbs promotes environmental awareness and stewardship and helps residents increase reduction efforts during the annual Dorm Energy Competition of Ecolympics.

Ecolympics Water Bottles: In the spring of 2012, the GEF provided \$815 for the purchasing of 300 reusable water bottles as incentives to reduce electricity and water consumption during the Ecolympics competition. The water bottles promoted the Office of Environmental Sustainability and the GEF, and are expected to help avoid plastic water bottle consumption by the recipients of the prize.

Residential Wonder Washes and Spin Dryers: In the spring of 2012, the GEF approved a sustainability grant of \$975 for the purchasing of 12 Wonder Washes and 2 Spin Dryers for Burton's Sustainability Hall. The project is intended to promote an alternative laundry initiative and provide energy efficient avenues to wash clothes during the annual Ecolympics campaign. Students are encouraged to ask their RA to rent these manual machines for a 3-hour period.

Expansion of Dascomb Reusable Container Program: In the spring of 2012, the GEF allocated a \$7,000 sustainability grant towards the expansion of the Dascomb dining hall reusable container program to all students who eat in CDS. The program directly reduces solid waste by replacing disposable take-out containers with reusable containers. The grant covered the cost of 2,200 containers and carabineers with a \$434 buffer.

Oberlin Beekeeping: In the spring of 2012, the GEF provided start-up funding for a student- and community-run apiary at an off-campus blueberry farm in the city of Oberlin. The sustainability grant of \$1,000 funded the purchasing of bees and beekeeping equipment and the cost of hive maintenance. The apiary preserves traditional practices of beekeeping and provides a unique educational opportunity for Oberlin students and the community. The honey produced is sold to local sources for funding to operate the apiary.

Six Spin Dryers: In the spring of 2012, the GEF purchased six spin dryers for two clusters of residential dorms (ZEBRA and FYRE) as part of a larger washer-dryer sustainability project the GEF funded earlier in the year that proved popular among students. A \$1,500 sustainability grant covered the cost of purchasing the spin dryers, which were available for student use by the fall of 2013.

*Bioregional Dashboard in Prospect Elementary: In spring of 2012, the GEF allocated \$29,000 in the form of a Sustainability Grant to fund the purchase and implementation of a Bioregional Dashboard system at a local school, Prospect Elementary. The system included both Building and Bioregional Dashboard components, the former showing real-time information specific to Prospect's resource consumption, and the latter displaying resource flows throughout the city of Oberlin. The project was an extension of research being conducted on resource consumption feedback strategies and technologies, and was funded in part to support the efforts of the Oberlin Project, an initiative to establish better understanding and social norms around sustainability in our community.

Background premise: This project served as the pilot program for the highly anticipated installation of similar systems in the other three Oberlin public schools. The project aligned well with the GEF's efforts to foster environmental awareness and stewardship, and highlighted the importance of promoting education and learning in environmental issues with a young audience. The Bioregional Dashboard system came out of a research group at Oberlin focused on the effects of feedback and continual communication between systems and users on environmental practice. This research is funded largely by the Great Lakes Protection Fund. Student Senate additionally demonstrated approval of the project.

Cost-benefit estimation: Though there is not a clear and timely payback, this project increases sustainability of natural resources by promoting environmental awareness through social diffusion.

Additional benefits: This project facilitated relationships between several members of both the local community and the college community. The GEF is part of a far larger community of academics, diplomats, students, policymakers, engineers, and more who are working towards the goal of healthier and better environmental practices individually and globally. Projects like these are important highlights of the GEF mission, and really do remind all of us what it is we're working towards.

*OSWAMP Rain Gardens at Prospect Elementary School: In the spring of 2012, the GEF approved a sustainability grant of \$995 for Oberlin Stormwater Management Project (OSWAMP) to install a rain garden at Prospect Elementary. The \$995 covers all the necessary costs for this installation including all necessary materials for the project.

This project created a more sustainable stormwater management system in Oberlin, and promotes sustainability within Oberlin and more specifically at Prospect.

Cost-Benefit Estimation: The project has many benefits beyond promoting sustainability however none of them are easily quantifiable. The OSWAMP Rain Garden reduces the effects of urbanization on streams like Plum Creek by creating a natural filtration system that prevents excessive pollutants from entering Oberlin's ecosystem. Plants such as deep-rooted native plants and grass sedges stop and reduce water flow from drain sewage systems.

POWER Low-Income Home Weatherization: In the spring of 2012, the GEF helped finance weatherization of approximately three inefficient low-income homes in Oberlin after proposal submitted by Providing Oberlin With Efficiency Responsibly (POWER). A sustainability grant of \$10,000 was allocated to POWER that accounts for contractor expenses estimated at \$3,000 per house, with a \$1,000 buffer. This project reduces consumption for heating (primarily natural gases), which will in turn reduce carbon emissions.

Covered Bike Racks: In the spring of 2012, the GEF allocated \$5,000 for the construction and installation of a covered bike rack prototype as designed by Steve Varelmann, College Architect. In the spring of 2013, the GEF allocated \$25,000 for the purchase and installation of 5 additional covered bike racks of a slightly modified design to be placed in high-usage locations. Senior class and alumni gifts to the GEF cover half of the total project costs of \$30,000. This project is part of a comprehensive effort to improve bicycle-related infrastructure on campus and therefore promote the use of bicycle transportation at Oberlin College. As of spring 2014, these covered bike racks have been installed directly south of French House, south of Langston, west of Bibbins Hall, and south of Dascomb.

Rotary International Club's 75th Anniversary Tree Planting: In the fall of 2012, the GEF officially approved a sustainability grant of \$3,000 for the purchase of 30 trees. These trees were part of a gift that the Rotary International Club was giving the city for their 75th anniversary. The GEF pursued this project because the planting of additional trees on campus will offset carbon, provide an opportunity for students to plant the trees, and is highly visible to students and visitors. This particular project also strengthened ties between the GEF and the City of Oberlin. These trees were planted, with the help of the Bonner Center, in October 2012.

Tree Planting: In the winter of 2013, the GEF officially approved a sustainability grant of \$3,250 for the purchase of 25 Red Oak, 25 Red Maple, 25 Black Gum, and 25 Skyline Locust seedlings. The GEF also approved a \$250 buffer should any unexpected costs occur. These trees were planted in April of 2013 with student involvement. These additional trees on campus will sequester carbon and be highly visible to the student body and visitors.

Bike Repair Stations: In the spring of 2013, the GEF approved a sustainability grant of \$3,500 to the Office of Environmental Sustainability for the implementation of 3 separate bike repair stations on campus. Located in centralized locations on campus, each bike repair station is equipped with a pump as well as tools that are necessary for basic bike maintenance. The project is intended to promote bike use at the college by providing 24 hour access to bike care.

*Ecolympics Prizes for Winning Dorms: In April of 2013, the GEF funded prizes for the winning dorms of the annual Ecolympics campus-wide energy-reduction competition. The winning dorm was given one of four options for their prize: a Wonder Wash and spin-dryer, shower timers, clothes drying racks, or a water refill station. The winning dorm was Fairchild, which chose a water refill station as its prize. This water refill station along with the other potential Ecolympics prizes all provide additional savings for the dorm they are placed in.

Background: Ecolympics promotes sustainability around campus, which is an obvious goal of the EDGE Fund. For this reason contributing to Ecolympics is a worthwhile cause for the EDGE Fund. Furthermore, the prizes provided additional energy savings for the winning dorm.

Cost-Benefit Estimation: The cost of this project was \$3,800 and although this project was not an efficiency loan, there were still energy savings from the project. The prizes had the potential for saving the college over 24,000 gallons of water, 12,000 kWh and 27,000 lbs. of CO₂.

*George Jones Farms Solar Powered Irrigation: In the spring of 2013, the GEF

Summary: George Jones Farms is a local organic farm. The sustainability grant given by the Green EDGE Fund to the project went towards the implementation of a solar irrigation system, a composting yard and a vegetable oil capture and filtration system for a total cost of \$14,500.

Background: George Jones farms supports Lorain county and the surrounding areas by providing organic food as well as education to the local community. The primary focus of the grant was to complete the solar powered irrigation system

Cost-Benefit Estimation: The cost of this project was \$14,500 and resulted in many benefits for the farm. The projects this grant funded implemented renewable energy sources in place of nonrenewable ones.

Oberlin Community Services People's Garden: Back in 2011, the GEF funded the implementation of the OCS People's Garden. In spring of 2013, the GEF allocated a grant of \$2,100 to fund the expansion of this garden along with a weekly garden education workshop for children. The produce from the garden goes directly to the community rather than being sold. This project promotes sustainability and expands food access within the community of Oberlin. This project also strengthens ties between the GEF and OCS, as well as between the college and the community.

*Zion CDC Infrastructural Improvements: In the spring of 2013, the GEF approved a sustainability grant for infrastructural improvements at Zion Community Development Corporation (CDC). More specifically, the grant covered a rainwater collection system as well as for improvements to existing plant beds.

Background: This project was pursued for a few reasons. Primarily, the project contributes to environmental sustainability within the Oberlin community. Furthermore, the project strengthens ties with the college and the greater Oberlin community. Lastly the project is a continuation of a previous investment by the Green EDGE Fund to support the Zion community garden.

Cost-Benefit Estimation: The project had a total cost of \$2,300. Although there is no clear calculable pay-back from the infrastructural improvements to the garden, they will allow for a higher plant yield.

Current Green EDGE Fund Projects: Approved 2013 – 2014

(Projects that have been officially approved by the GEF this academic year and either have been implemented or are in the process of being implemented. Project managers on the GEF serve as the primary contact for duration of project development and implementation.)

Efficiency Loan Projects

Vegetable Oil Tractor Conversion

(Spring 2014)

Goldsmith/Union Apartments Showerhead Retrofits

Summary: In the spring of 2014, the Green EDGE Fund officially approved an efficiency loan of \$1,400 for the purchase and installation of low-flow showerheads in Village Housing apartments located on Union Street and Goldsmith Lane. Shower retrofits are an exceedingly simple and unobtrusive way to reduce water consumption.

Background Premise: Low-flow showerheads are a great way for the college to reduce water consumption and correspondingly save money on utility costs. Although reductions in gas consumption would be difficult to quantify, reduced water usage should additionally reduce demand on natural gas used to heat the water. Installing low flow showerheads results in drastic drops in water consumption, and has an extremely short economic payback period.

Cost-Benefit Analysis: Showerhead retrofits are exemplary efficiency loan projects because of their short payback periods and dramatic effect on resource consumption. Projected savings for this project total 422,400 gallons of water per year with annual monetary savings of approximately \$7,284 per year. These projections are based on very conservative estimates of how many students will be using the showers, how often those students will use them, and how long their showers will be.

Additional Benefits: Most students living in these apartments will interact with these showerheads nearly every day. Signage placed near the showers will serve to remind inhabitants about the importance of taking small steps to reduce resource consumption and promote environmental sustainability through efficiency.

Sustainability Grant Projects

OSCA ECC Purchase of “Shift Change” Film

Summary: In the fall of 2013, OSCA’s Environmental Concerns Committee (ECC) was granted \$165 by the GEF to allow for purchase the documentary Shift Change. The documentary is about worker cooperatives and focuses on Evergreen Cooperatives in Cleveland and Mondragon, Spain. The purchase of the film has helped the ECC form a relationship with Evergreen Cooperatives and educate membership about the nearby worker cooperative.

Background Premise: The Oberlin Student Cooperative Association's membership is roughly a quarter of Oberlin's student population. OSCA's ECC is the arm specifically concerned with environmental issues.

Cost-Benefit Analysis: The only project expense is the cost of the film: \$165.00.

Additional Benefits: The ECC has wanted to share this film in the past but did not have funds to purchase the film. Many students have expressed interest in the documentary and it will help spread ideals aligned with that of the GEF. The film will be viewed for many years.

Lilian Molina Workshop

Summary: In the fall of 2013, the GEF contributed a sustainability grant of \$900 to the honorarium of grassroots organizer Lilian Molina. These funds were combined with funds from Student Finance Committee' ad hoc, student organization Anti-Frack, and the Environmental Studies Department to fully cover all the expenses of bringing Lilian Molina to Oberlin College.

Background Premise: Lilian Molina is a Mestiza Environmental Justice Advocate, youth development expert and community organizer. The workshops she led in Oberlin focused on Environmental Justice, Environmental Racism, Classism and Anti-Oppression. This GEF project funded two four-hour sessions of workshops that aimed to educate and empower the campus' student body.

Cost-Benefit Analysis: Given the current scope of the GEF, the cost of funding this project (\$900) was worth the benefits of promoting sustainable thought on campus and the publicity for the GEF.

CMF/ENVS 101 Map Printing

Summary: In the fall of 2013, the GEF granted \$35.70 for the printing of potential site maps for carbon offset projects. Two students in ENVS 101 proposed creating and hanging the maps around campus to raise awareness of the efforts being taken to achieve carbon neutrality.

Background Premise: Oberlin College has set a goal of carbon neutrality by 2025. Oberlin students created the Carbon Management Fund to address this goal by generating local carbon offsetting projects. Much research is needed to further the potential of carbon offsetting projects, and mapping is a necessary part of this research.

Cost-Benefit Analysis: The total cost of this project is the \$35.70 used for printing the posters. Students will be creating the posters as part of a class project.

Additional Benefits: The posters were created and hung in December 2013 and helped publicize the GEF in addition to promoting interest in carbon neutrality and carbon offsetting.

RCT Trash/Recycling Receptacles

Summary: In the fall of 2013, the EDGE Fund approved the purchase of new waste receptacle stations as part of a pilot study to decrease contamination of recyclables on campus. The proposal was written by Bridget Flynn in the Office of Environmental Sustainability (OES) and the Resource Conservation Team (RCT), a student group on campus dedicated to reducing resource consumption at Oberlin College. The proposal was for 25 waste receptacles to be put

in Fairchild Dormitory, the Science Center, and Philips Gym with the intent of further expansion if it proved to be an effective means of educating and clearing confusion regarding waste on campus.

Background Premise: Education of what is and isn't recyclable on campus has proved to be a difficult problem to tackle considering the high turnover of students. The goal is to provide clear and consistent signage to waste collection on campus in hopes of reducing contamination of recyclables across campus. OES and the RCT have led multiple campaigns in an attempt to clear up recycling confusion on campus, and this is an ongoing effort to educate in hopes of changing campus culture regarding waste. The receptacles will have two receptacles, "landfill" and "recycling", with the ability to expand if the city of Oberlin adds organic waste to their collection system in the future.

Cost-Benefit Analysis: The cost of purchasing and installing the 25 waste receptacles was \$36,000.

Additional Benefits: The waste receptacles will replace the traditional 2-bin system found throughout campus. Not only will this provide for more consistent receptacles across campus, but it will also be more aesthetically pleasing because the bins themselves are housed in a cabinet.

"From Coal to Carbon Neutrality" Workshop Raffle Prizes

Summary: In the fall of 2013, the GEF supplied a number of prizes that promote sustainability for the "From Coal to Carbon Neutrality" workshop event. The prizes included 1 bike, 20 bike lights and 30 water bottles and funded by a grant of \$975 from the GEF.

Background Premise: In November 2013, the Office of Environmental Sustainability (OES) in conjunction with the Committee on Environmental Sustainability hosted an event named "From Coal to Carbon Neutrality". This event was an interactive college-community workshop focusing on how we can mobilize to achieve carbon neutrality. The event included a series of small-group workshops with the intent of having college students, faculty, staff, and administrators come together to discuss carbon neutrality and what it takes to get there. The event was formed with collaboration of and contribution from a wide-range of student groups.

Cost-Benefit Analysis: The cost of this project was simply for the purchase of \$975 worth of sustainability-related raffle prizes. By providing \$975 worth of funding for the purchase of a bike, bike lights and water bottles, the GEF promoted engagement in sustainable behavior and increased awareness of the GEF and the OES within the Oberlin community.

PowerShift Conference

In the fall of 2013,

CMF Tree Planting Purchases

(Fall 2013)

CMF Tree Planting Labor Costs

(Fall 2013)

Ecolympics Prizes

Summary: In the spring of 2014, the Green EDGE Fund awarded a sustainability grant to the Oberlin Environmental Sustainability Office to purchase three water refill stations as prizes for the winning dorms of the annual Ecolympics campus-wide competition. These refill stations serve as infrastructural improvements to these ResEd facilities.

Background Premise: Ecolympics is an annual competition, part of Campus Conservation Nationals, which promotes sustainable behavior through resource reduction competitions and educational events on campus and beyond. During this three-week event, dorms compete to lower their electricity and water use, and top reducing dorms are awarded prizes. These prizes are designed to incentivize participation in campus-wide sustainability practices. Ecolympics typically saves over 24,000 gallons of water, 12,000 kW hours, and 27,000 lbs. of carbon dioxide overall. This year, the three dorms who reduced their water and electricity usage the most were awarded with three new water refill stations to be installed in the dorms (one per dorm).

Cost-Benefit Analysis: The risk for these installations is relatively low since these refill stations have been installed as Ecolympics prizes previously (and funded by the GEF, to boot!). The stations are much more aesthetically pleasing than traditional water fountains, and also display the number of plastic water bottles presumably saved because of the stations. They are fixtures currently being installed around campus, but not ubiquitously throughout dorms. The installation of these stations both encourages sustainability practices locally where they're placed, but indicate a larger movement on the College's part to encourage similar behavior and infrastructure.

Additional Benefits: Funding this project supports the continuation of Ecolympics as an event on campus that should continue, and should also expand (as it has in the local public schools). It strengthens the relationship between different environmental groups and offices on campus, and is a great project that exemplifies the concepts and principles the GEF works to espouse, promote, and practice.

CBSM Research

Summary: In the spring of 2014, the GEF approved a proposal by Cindy Frantz of the Oberlin Psychology Dept. and Bridget Flynn of the Office of Environmental Sustainability to conduct a Community Based Social Marketing pilot study to determine students' responses to different types of power strips, shower timers, as well as conduct a survey on local transportation.

Background Premise: Oberlin's commitment to environmental sustainability requires that students get involved in energy reducing behaviors. This pilot study will help flesh out consumerism and how it relates to green technologies. Understanding why students choose particular devices over others can provide key insights into helping reduce resource consumption on campus.

Cost-Benefit Analysis: This project

Additional Benefits: The ability to better understand the psychology behind consumer culture related to products that help reduce resources is key to promoting a sustainable culture on campus. This research, although a pilot study, helps pave the way for integrating energy reduction and participation by larger groups on campus.

Dionysus Disco Glassware

Summary: In the spring of 2014, the GEF financed Student Union Board to the purchase of plasticware for serving beer and other beverages at the Dionysus Disco. Replacing the original disposable plastic cups, the 'Sco could use reusable plastic cups to reduce the large amount of waste it currently produces. The cups will be washed in the DeCafé Hobart dishwasher in morning hours.

Background Premise: For several years, the Student Union Board has discussed the possibility of using reusable cups for serving beer and other beverages at the Dionysus Disco in the basement of the Student Union. The 'Sco currently uses disposable plastic cups to serve drinks, which generates a large amount of plastic landfill waste. The 'Sco will rely on the cooperation of the staff of the Dionysus Disco, as well as some employees of the CDS establishment in Wilder. Various representative of CDS and the Student Union have worked out an arrangement, in which a CDS employee supervises a member of the 'Sco staff as they wash the dishes in the DeCafé dishwasher.

Cost-Benefit Analysis: The GEF allocated a _____ sustainability grant to this project for the reusable plasticware purchase, the use of which reduces the generation a large amount of disposable plastic landfill waste.

Oberlin Food Rescue Bike Trailer

(Spring 2014) Noel and Yuran (and Paul?) served as project managers for this proposal.

OFM Food Stamp (SNAP) Incentivization Pilot Program

Summary: In the spring of 2014, the Green EDGE Fund officially approved a sustainability grant of \$1,300 to create a SNAP-incentivization pilot program for the Oberlin Farmers' Market (OFM) over the summer of 2014. The grant will allow for the purchase of \$1,300 worth of additional standardized Electronic Benefit Transfer (EBT) tokens from the USDA. The program will distribute one dollar in tokens for every dollar a SNAP client spends at the market, providing a 100% increase in purchasing power and an incentive to shop at the OFM.

Background Premise: The city of Oberlin is home to many low-income neighborhoods and struggles with issues of food access. The Oberlin Farmers' Market has potential to increase access to fresh and local food among low-income community members. Although the OFM currently accepts SNAP and is already equipped with an EBT processing machine, EBT transactions on average comprise insignificant percentages of total weekly market purchases. Low EBT presence in farmers' markets is common across the United States, but recently implemented summertime SNAP incentivization programs in some cities have been remarkably

successful in increasing the representation of SNAP clients among market consumers. The OFM will implement a similar incentivization pilot program this summer with the purpose of encouraging maximum participation by SNAP clients and limiting stigmatization. Last year, OFM consumers spent approximately \$1,300 total in EBT. Therefore the OFM requested funding for an additional \$1,300 in tokens to provide a 100% increase in purchasing power for all EBT holders, for transactions all summer of 2014. Prior to and during implementation, the incentivization program will be promoted with coordinated community outreach efforts. Oberlin market managers will carefully track weekly EBT purchases during the trial period then conduct a data analysis of the results after the program is finished.

Cost-Benefit Analysis: The only cost of funding this pilot program is that of purchasing \$1,300 worth of additional standardized EBT tokens for the Oberlin Farmers' Market. At the end of the summer, any excess tokens will be stored for future years or future pilot programs, or exchanged for cash to return to the GEF. The GEF pursued this project because it will expand access to local, high-quality food to low-income households in the community. The OFM is an important community asset that has potential to become a significant source of fresh produce distribution to Oberlin residents. This project will increase investment in the local food system and promote the OFM.

Additional Benefits: The investment in this community-based project by the GEF has the potential to strengthen bonds between the Oberlin community and the College.

Hybrid Refuse and Recycling Collection Vehicles for Oberlin Public Works Department

Summary: In the spring of 2014, the Green EDGE Fund officially approved a sustainability grant of \$30,000 to support the City of Oberlin's investment in hybrid technology for their new refuse and recycling collection vehicles. Three vehicles needed to be purchased, but it remained unclear whether the City of Oberlin would approve an additional \$100,000 for each of the three vehicles to equip them with hybrid hydraulic drive systems. In order to support and incentivize this investment, the Green EDGE Fund approved a \$10,000 award for each vehicle purchased with the hybrid technology. Evan Tincknell served as project manager for this proposal. Oberlin City Council has since approved the purchase of all three vehicles with hybrid hydraulic drive systems.

Background Premise: Early in 2014, the City of Oberlin Public Works Department's entire fleet of refuse and recycling collection vehicles was destroyed in a fire at the storage facility. In the immediate aftermath, the City was forced to rent replacement vehicles at exorbitant prices. Two replacement vehicles were purchased in April of 2014, and three additional vehicles awaited approval from City Council in May of 2014. It remained unclear whether investment in the hybrid hydraulic drive systems would be supported. The Public Works Department was in the process of applying for additional grant funding, and claimed that any financial support would help sway City Council's decision to fund the remaining expenses.

Cost-Benefit Analysis: The hybrid technology nearly doubles the fuel economy for each vehicle on which it is installed, resulting in 45% improved fuel efficiency. Although this funding is being made to support efficiency technology with clear calculable payback, it is not an efficiency loan. While the improved fuel economy will reduce fuel consumption by 2,200 gallons/year and corresponding CO2 emissions by 230 MT/year, the investment is not expected to reach 100% financial payback. The Green EDGE Fund supports the implementation of technology that promotes efficiency and sustainability regardless of financial payback, and has offered this grant to show support for the City of Oberlin and efforts to reduce its carbon footprint.

Natural Meadowing

(Spring 2014) Paul Paschke served as project manager for this proposal.

Leadership & Sustainability Summer Camp

(Spring 2014) Noel Myers served as project manager for this proposal.

Pending Projects 2013 – 2014

Kahn Solar PV (ongoing project)

In spring of 2013, the GEF began the process of facilitating the installation of solar photovoltaic panels on the roof of Oberlin's new Sustainability-themed first-year residence hall. A request for proposals (RFP) was written and circulated among local contractors and solar companies. Bids were received for the installation of a 10kW array, and the Green EDGE Fund worked throughout the summer of 2013 collecting necessary information from Oberlin College administrators and the bidding parties in order to select the most feasible and cost-effective option. By the end of fall semester (2013), a Letter of Intent (LOI) was submitted to BoldAlternatives--the company selected for the installation. BoldAlternatives provides a financing option that reduces our financial investment to a minimum by allowing a third party investor to benefit from state and federal solar incentives. Facilities Construction & Planning took the reigns for the final stages of the project in order to facilitate development of necessary documentation and legal agreements. A 10kW solar PV array is expected to be installed on the roof of Kahn Hall during the summer of 2014.

Deeter served as project manager during the spring of 2013, then Evan took over the project in the fall of 2013 since Deeter graduated in 2013. Evan and Julia served as project managers follow up on this project during spring of 2014.

RCT Greenhouse

GEF Solar Information Kiosk – wanted it to be outside but required weatherization = expensive

Kahn Solar Thermal

Tennis Ball Re-pressurizer

Other Green EDGE Fund Activities

Structural Improvements – organization of the fund and agendas, designated positions

Efficiency Loan Payback Calculations

Establishment of the Carbon Management Fund

In the Fall 2013 semester, a student referendum

New Logo

During the Spring 2014 semester, the Green EDGE Fund

Public Outreach

During the Spring 2014 semester, website revisions, additions,

New Member Recruitment

Revision to the Charter Document

Appendixes

New Charter Document

New GEF RFPs in progress

Kahn Solar PV documentation