Compiled by Tim Gibson, JALC Sustainability Coordinator

1. supporting the College in taking a leadership role to increase the environmental literacy of its internal and external constituencies,
2. striving to be a model campus where environmental stewardship is taught and practiced,
3. assisting in the incorporation of "sustainable thinking" in college decision making processes,
4. encouraging environmental responsibility in the construction of new facilities as well as making certain all facets of the college's facilities operate with an environmental conscience, and
5. pledging to accomplish goals set forth in the Illinois Sustainable University Compact.

The committee is chaired by the JALC Sustainability Coordinator and meets a minimum

JALC is one of only four Illinois colleges to participate in this program. B

dashboard from Lucid Design Group provides information on energy use by various equipment in the building. It includes a touchscreen display in the H building atrium. And also shows energy provided by a solar thermal array on the roof of D building.

Figure 4 below is a screenshot from the H building Lucid dashboard depicting energy consumption in the building.

The JALC Sustainability Coordinator helped develop the ICCTEMT Behavior Change for Energy Efficiency "Dashboard" Pilot Program

implementation of smart grid technology and its benefits. More information can be found at: http://www.igencc.org/re_smart_grid.

JALC Sustainability Coordinator, Tim Gibson, has been a member of IGEN's Smart Grid Work Group since its inception and was instrumental in obtaining the grant for the smart grid trainers and funding for the kiosk display and community education events.

Campus Conservation Nationals (CCN) -

The Campus Conservation Nationals (CCN) is the largest energy reduction competition program for colleges and universities in the world. It's jointly organized by the U.S. Green Building Council, National Wildlife Federation, Lucid, and the Alliance to Save Energy. Among the goals of the program are to engage, educate, motivate and empower students, faculty, and staff to conserve energy in campus buildings, to propel campus sustainability initiatives, and to achieve measureable reductions in energy consumption.

While the program was in its fourth year, no Illinois community colleges had ever participated until 2014. Building on the success of the Behavior Change for Energy Efficiency "Dashboard" Pilot Program, IGEN provided funding for nine Illinois colleges, including John A. Logan, to enter the CCN competition in 2014. While entered as a group in the competition, each of the Illinois colleges was really competing against itself to lower energy consumption. During the

JALC was able to secure DCEO funding to purchase and install the first EV charging station on our campus in the fall of 2012, the first charging station on a college campus south of I-70. A second charger was installed in the fall of 2014.

IL Electric Vehicle Tour

The IGEN Electric Vehicle work group held an IL EV Tour in the summer of 2014. This event was developed to highlight the role community colleges play in development of Illinois's EV charging station infrastructure on

heated, and electricity to keep the lights on and buildings cooled. Ameren delivers electricity to the majority of the campus, but the College has the choice of selecting an energy supplier. The challenge any large consumer of energy faces is determining the best procurement options available in order to make intelligent and financially sound choices in a very complex and constantly evolving energy market. With the expectations that energy costs would continue rise, and in an effort to further reduce energy expenses, the College began a review of our energy procurement and management strategies in the summer of 2013.

New Electrical Energy Consultant - When the contracts with our existing electrical energy consultant and supplier expired in September 2013, nationally prominent energy consultant company EnerNOC, and their SupplySMART platform was chosen to provide the College with energy advisory services. EnerNOC's agreement with the College included an analysis of our energy consumption and utility bills, energy education, and assistance with development of an energy strategy for supply procurement.

New Electrical Supply Contract - Among other client services, EnerNOC worked with the College to select an energy supplier and manage the procurement process. Evaluating the risk potential of a floating contract versus a fixed price product, EnerNOC bid our usage to six different energy suppliers and negotiated an electrical supply contract with MidAmerican Energy which was estimated to reduce overall electrical costs by 8% annually over the previous supply contract.

Efficiency Smart Insight System - The College has installed EnerNOC's innovative "Insight" system which, for the first time, is providing the College with data on campus electrical consumption in real time. Insight energy consumption data acquisition equipment has been placed on both the main campus Ameren electric meter and on the Egyptian Electric Cooperative electric meter serm(tric TJETBT1 0 0 pr)4(o)5(v)-T2.79 6endty tv4(e)3(n)3(dty)-5(tv4(eu)

This 2013 project involved replacing two inefficient and inaccurate pneumatically controlled steam valves in our main boiler room with direct digital control (DDC) valves that re-set to correlate with ambient temperature. These valves control steam for heating of 22 percent of the main campus. It is estimated that this project will result in 20% savings on natural gas used by the steam boilers.

A tune-up was completed on our two large capacity Kewanee steam boilers in 2013. A boiler tune-up reestablishes the air-fuel mixture for the operating range of the boiler and assures safe and efficient operation. The tune-up included cleaning, recalibration of major components, and replacing gaskets to maximize boiler efficiency. Seventy five percent of this project was funded by DCEO incentives. In 2015 deteriorated tubing in both boilers was replaced along with door gaskets and refractory panels to prevent potential leaking and increase efficient boiler operation.

The galvanized cooling tower serving G building was original to the buildings construction and had out-lived its expected service life leading to more repairs and down time. A new 296 ton stainless steel tower was installed in 2013 with high-efficiency fill and fans and more efficient mechanical drive systems to offer maximum cooling with minimum power use.

This 2016 PHS project involved removing eight existing heating and air conditioning units hanging from the gym ceiling which were original to the gym construction and at over 40 years old well beyond their life expectancy. These units were replaced with two new roof top units with conditioned air being delivered to the gym through new inflatable fabric ductwork for more consistent, comfortable and efficient heating and cooling.

Old E Building: A summer 2013 project involved replacing the roof on old "E" building. The existing roof was past its service his3il(i)318.a3u-4(P)85a8ct comp-4(h318.ac)8(t)8(wiurr-3(h)12(e alo)-4(er)14(g)]TJETBT1 0 062 3

B Building: This PHS funded 2015 project replaced the existing ballasted EPDM roof. The insulation level of the new roofing system was dramatically increased for more energy savings.

almost $ 1,800 per year. DCEO engineers confirmed the estimates, and the College received a substantial DCEO rebate to assist with project costs.

Significant improvement were made to the heating and cooling systems in the OFC and H building in this 2013 project. Outdated and inefficient outside air condenser units were replaced with an extension of the H building's chiller loop to OFC. A new air handler having an energy efficient variable frequency drive and low maintenance direct drive fan motors was installed in the OFC. Two new radiant heaters

planting and maintaining wildlife food plots and a native prairie grass meadow
installing and maintaining bat, bird and duck nesting houses across the campus
creating and maintaining walking trails and an outdoor 3-D archery range on campus
planting native flowers and grasses that require less water
composting much of the grass and debris trimmed from trees and bushes
using recycled roof ballast in landscaping projects
watering with rainwater which saves money and is better for plants and grasses

A 2,000 gallon rainwater collection system was installed on the new grounds maintenance building in 2012 and continues to be successfully used in watering flowers and plants.

Tom Hamlin, former JALC

Coordinator of Grounds and Campus Recycling Manager

The Illinois Solid Waste Management Act requires all state-supported institutions of higher learning to develop and submit comprehensive waste reduction plans that meet or exceeds a 40% waste reduction standard. The legislation requires that plans be updated every five (5) years. The College's most current waste reduction plan, available on the JALC website, was submitted by our Director of Buildings and Grounds in March 2015. The next update to the waste reduction plan will be due January 1, 2020.

Among the items collected at the College for recycling are:

metal - from welding, automotive, HVAC classes and campus building and remodeling
fryer grease - c

Colorful recycling containers are placed at various locations across the campus. The first few sets were funded by a grant from IGEN. Later, several campus clubs and organizations funded additional recycling bins. A short video about the importance of recycling was created and plays on campus television monitors on occasion. The College works closely with various other public entities to share information and promote recycling events. Among these are the SIU-C Sustainability Center and Sustainability Council, Williamson and Jackson County recycling committees, Beautify So. IL committee, Sierra Club, and cities of Carbondale and Marion, IL. The College uses eight third party companies to aid in collection, processing and recycling efforts.

The College holds periodic electronic waste recycling events on the campus where employees and the public can drop off electronic waste for recycling. State law mandates that e-waste is no longer allowed to be disposed of in landfills. In the past 5 years alone over 21 tons of electronic waste was collected at the College.

The College's Purchasing Policies and Procedures Handbook states that recycled-content products "shall be procured wherever and whenever cost, specifications, standards, and availability are comparable to products without recycled content". In 2016 the College began selling surplus property through an online auction website. The online auction has not only been profitable but enables a lot of our surplus property to be repurposed that otherwise may have ended up in a landfill or recycling center.

Phil Minnis ς former JALC Dean for Workforce Development and Community

Building Science Series HVAC Performance Testing Class
Residential Combustion Safety Testing - for home performance professionals
Building Operator Certification Level 1 – helps advance skills in energy efficient building operations
River Watch training - teaching citizen scientists to monitor stream quality

Seminars offered have included:

Smart Grid and Smart Meter community education seminar series
Go Solar community education events to education the public on solar power

Degree and Certificate Instructional Programs

A presentation on sustainability at JALC was given to area high school technology instructors attending a dual-credit workshop at the College in November 2013. Travel funding has been provided by a grant from IGEN for College faculty and staff to attend summits on smart grid and technology innovation.

Representatives of the College attend a number meetings and events to

The following is a list of several sustainability related projects and programs undertaken on the campus in the past few years in areas such as recycling, energy efficiency and conservation, wildlife enhancement, water conservation.

Installed 10 water bottle refilling stations on campus that to date have resulted in over 250,000 refills.
Installed convenient, colorful recycle bins throughout campus
Installed a rainwater collection system on new grounds maintenance building
Geothermal HVAC system installed in new grounds maintenance building
Installation of pumps to use creek water for lawn irrigation

Intro to Navigating Your Real Time Energy Data

September 5th, 12:00 p.m. CST

OVERVIEW: EnerNOC's energy management portal puts a ton of valuable data at your fingertips. This session will guide you in the basics of the EnerNOC portal so that you can get the most value out of your real-time metering.

Understanding (and Managing) Peak Demand and Reducing Demand Charges

October 3rd 12:00 p.m. CST

OVERVIEW: Depending on how your rate is structured, peak demand charges can represent up to 30% of your utility bill. Learn how actively managing your peak demand can translate into a meaningful savings opportunity for your organization. Here you will learn how to identify your peaks, diagnose the cause, and use tools to prevent setting them in the future.

Optimizing Setbacks to Avoid Energy Waste

Tuesday, October 15th, 12:00 p.m. CST

OVERVIEW: Not sure what your buildings are doing when you're not around? Night, weekend, and holiday setbacks are one of these easiest and most often overlooked energy efficiency measures. Using real-time energy data, we'll show you how to spot wasted energy based on your organization's occupancy schedule.

Smart Start-Up & Coasting Strategies

Wednesday, November 6th, 12:00 p.m. CST

Start up spikes, resulting from turning on multiple pieces of equipment or systems at once, can often result in excessive demand charges. This session will teach you how to identify start-up spikes, make behavioral changes to adjust them, and then coast into the on-peak period. We'll also cover how to translate savings by coasting into shutdown schedules.

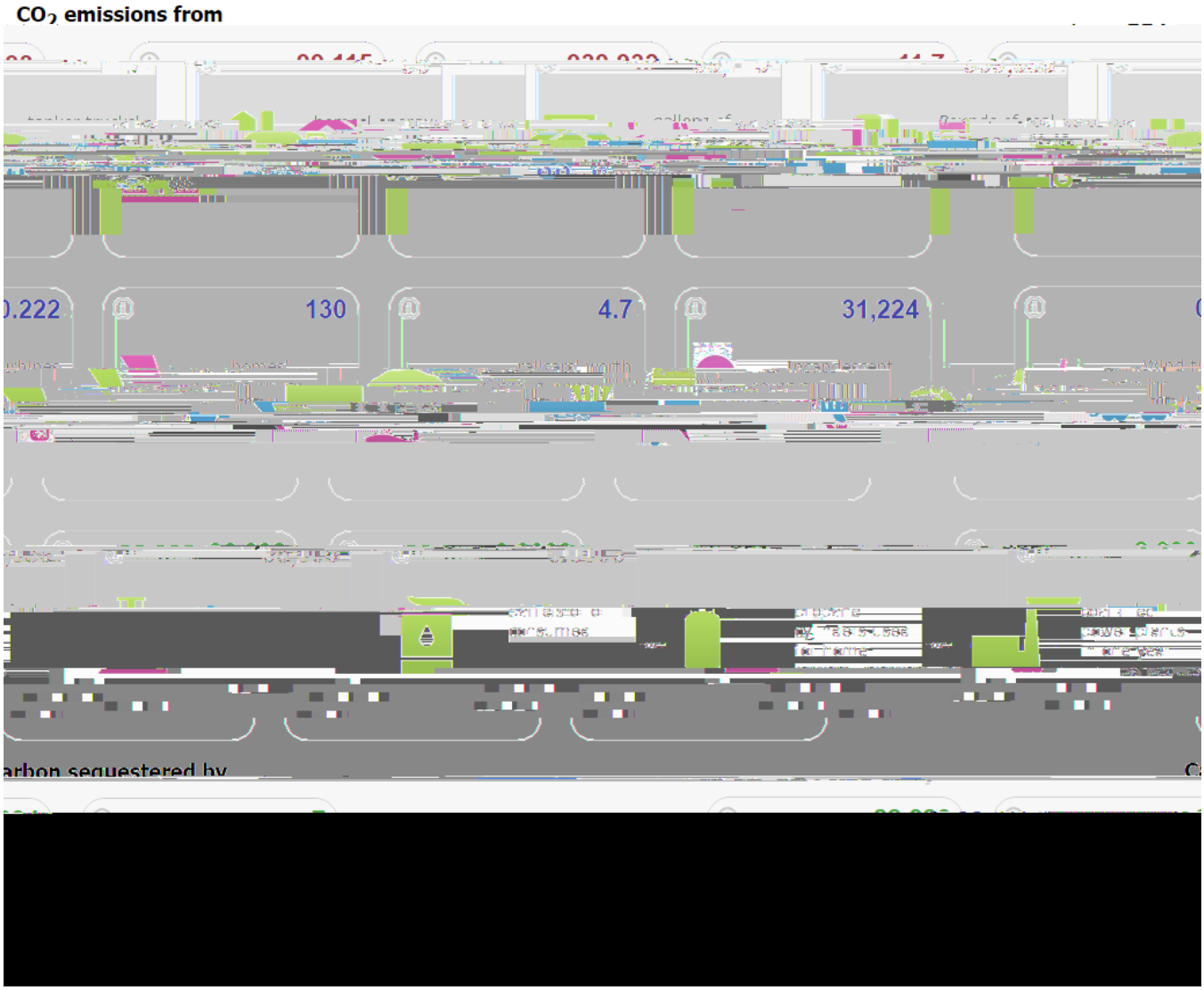
Identifying Your Worst Performing Facilities

Wednesday, November 20th, 12:00 p.m. CST

Have a hunch that one of your buildings is using more energy than the others? Want to see how similar or different buildings compare to one another when it comes to energy intensity? Using the Portfolio View in our portal, this session will help you identify your organization's under- (and over-) achievers.

From the EPA's eGRID emission factors: On average, electricity sources emit 1.222lbs CO2 per kWh (0.0005925 metric tons CO_2 per kWh).

1,253,369 kWh of electrical energy saved annually on the campus since 2008 is equivalent to:



Calculated at: http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results