SEDAC

The Smart Energy Design Assistance Center (SEDAC) provides advice and analyses enabling private and public facilities in the State of Illinois to increase their economic viability through the efficient use of energy resources. SEDAC is sponsored by the Illinois Department of Commerce and Economic Opportunity in partnership with ComEd and Ameren Illinois Utilities and provides valuable services at no cost to for-profit businesses and public facilities. SEDAC is managed by the University of Illinois at Urbana-Champaign and supported by the 360 Energy Group.

(Hyperlinks are shown in green)

EDUCATION

Free Workshop
Electric Energy Efficiency in Public Sector Facilities

Thursday, May 13, 2010
Moraine Valley Community College, 9000 W.College Pkway, Palos Hills. Directions.

Workshop is intended for public sector officials in K-12 schools, community colleges, public universities, local, state, and federal government.

Presenters: Don Fournier, Ben Sliwinski, and Kristine Chalifoux from SEDAC, and Andrea Reiff from DCEO.

REGISTRATION at http://go.illinois.edu/sedacworkshops

courtesy: www.greenroofs.org

GREEN ROOFS

SEDAC occasionally fields questions from clients wondering whether a “green roof” would be a viable option for their building. This discussion focuses on vegetated roofs, which may or may not be green in color. For other “non-vegetative” green roof strategies see Roofs that Carry Their Weight: Non-Vegetative Green Roofs, SEDAC presentation by Jean Ascoli, September 30, 2009 in Oak Brook.

The very first question to ask when considering a green roof is: can the roof accommodate additional loads? Due to cost constraints, building structures are usually not designed to exceed code requirements. This means that roof structures are designed to accommodate dead loads (i.e. the loads of the roof assembly), live loads (snow and wind loads), and no more. This is where the services of a structural engineer are invaluable.

There are various types of green roofs, commonly referred to as intensive or extensive roofs. The extensive roof gardens usually include drought tolerant sedum that can be planted in a built-up medium, or in self-contained trays. These typically have low plant diversity, lower maintenance, low weight and cost less than intensive roofs. Fully saturated extensive roofs can vary from 10-50 lbs/sf depending on type and depth of planting medium.

Intensive green roofs can have higher plant diversity, require more maintenance, are heavier in weight and are more expensive than extensive green roofs. The roof and building structure also has to be designed to accommodate these loads. Fully saturated Intensive roofs can weight from about 80 -120 lbs/sf and up.

There are several good reasons for installing a green roof, the following are only a few:

1. Green roofs have been shown to extend the life of roofing membranes by protecting the membrane from UV radiation and reducing the thermal swings that the membrane is subjected to.
2. Green roofs can reduce thermal transfer between the interior and the exterior potentially lowering heating and cooling bills.
3. Green roofs reduce the volume and potentially reduce the environmental pollutants in storm water runoff compared with standard roofing materials.
To participate in the Smart Energy Design Assistance Program, contact us at: (800) 214-7954 or info@SEDAC.org
Smart Energy Design Assistance Center, 1 East St. Mary’s Road, Champaign, IL 61820
www.sedac.org

OTHER TRAINING

ENERGY CENTER OF WISCONSIN
Online course available anytime:
Beyond Code: Designing Energy Efficient Commercial Buildings
by Donald Fournier

CHICAGO CENTER FOR GREEN TECHNOLOGY

USGBC CHICAGO CHAPTER

BUILDING OPERATOR CERTIFICATE
LEVEL 1
Aurora,
March - May 20, 2010:
Register at www.boccentral.org

APPLY FOR SEDAC SERVICES ONLINE

ComEd
ENERGY
EFFICIENCY
EXPO
May 19, 2010
7:30am - 5pm
Details

GREEN ROOFS ...contd.

4. Green roofs can reduce the urban heat island effect
5. Green roofs can reduce carbon dioxide through the process of photosynthesis
6. Green roofs can contribute to LEED points

Cost estimates for intensive green roofs vary from $10-$25/sf, while extensive green roofs cost from $25-40/sf. Additional costs could include engineering fees, permits, the cost of an irrigation system (if required), and long-term maintenance. Although green roofs may cost 50% more than a conventional membrane roof, the longer roof life should make up for the increased cost. Most green roofs are designed to not require irrigation, however irrigation may be required for the first few years for plants to establish themselves.

The energy savings attributable to a green roof depends on many factors. The primary benefit of green roofs is for the reduction of cooling loads. There is anecdotal evidence that it may also slightly reduce heating loads; however, in Illinois and other wet climates, winter heat insulation potential is greatly reduced by the saturated soil medium. Naturally, the green roof will only impact the conditioning needs for the spaces immediately below it.

DCEO had a Green Roofs Program that funded up to $10/SF with certain limits, however currently the application period has closed. The City of Chicago has a green roof program and has over 200 green roofs, two on very prominent buildings: City Hall and the Chicago Cultural Center.

Although green roofs have many benefits, they have long investment payback periods. If your building is in need of a new roof and if budgets are tight, SEDAC recommends increasing roof insulation as much as possible to maximize your return on investment. Increasing roof insulation to well above code minimums will save you heating and cooling costs and not pose any significant structural issues.

Illinois ENERGY STAR® Appliance Rebate Program

Starting Friday, April 16 at 8 a.m. until funds expire.
Illinois participating retailers are providing 15% point-of-purchase rebates (up to $400) on ENERGY STAR qualified:

• clothes washers
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• freezers and
• room air conditioners

MORE ABOUT APPLIANCE REBATES | LIST OF PARTICIPATING RETAILERS | LIST BY CITY
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