



**SMART
ENERGY
DESIGN**
Assistance Center

Smart Energy Design Assistance Center

Newsletter Vol. 4, No. 2, February 2008

www.sedac.org

SEDAC

The Smart Energy Design Assistance Center (SEDAC) provides advice and analyses enabling facilities in the State of Illinois to increase their profitability through the efficient use of energy resources. SEDAC is sponsored by the Illinois Department of Commerce and Economic Opportunity and provides valuable services at no cost to small businesses and public facilities. SEDAC is managed by the University of Illinois at Urbana-Champaign and the 360 Energy Group.

EDUCATION

Online Classes are available through SEDAC and the Office of Continuing Education at UIUC:

The Architecture of Sustainability:

10 modules - individual or packaged.

Module 1: 3 AIA LUs/CEUs-\$75.

Modules 2-10: 1 AIA LU/CEU, \$50.

Package of 10 modules: 12 AIA LUs/CEUs, \$450.

Energy Basics for Small Business.

Module 1: The Language of Energy:

1 AIA LU/CEU, \$25.

Online Registration is continuous at

www.continuinged.uiuc.edu

2008 Environmental Workshops

The Department of Commerce and Economic Opportunity, Small Business Environmental Assistance Program, Illinois EPA, Department of Public Health, Emergency Management Agency, and Department of Natural Resources will be holding eight workshops around the state from January to March to educate the construction industry and other related industries about requirements for asbestos, lead, radon, mold, floodplains, endangered species and safety and health. In addition, participants will learn about recycling options and energy efficient building.

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SEDAC NEWS

ICC Approves Energy Efficiency, Demand Response Plans

*Programs will reduce energy consumption and save money.
Read more or go to www.ileeps.org*

Vestibules - the good, the bad, and the ugly

A vestibule is a building entry area which has two doors; an exterior door between the entry area and the outside, and an interior door between the entry area and the inside of the building. From an energy efficiency standpoint vestibules serve to reduce the flow of air between the inside of the building and the outside. This is accomplished by using a combination of door spacing and automation of the exterior and interior doors to ensure that both doors are usually not open at the same time.



Not a good situation...

Vestibules can contribute to the energy efficiency of just about every building type. In buildings with large occupant traffic, such as retail, convenience stores, and supermarkets, the use of a properly designed and operated vestibule can have a significant beneficial impact on overall energy consumption.

There are several general rules of thumb to apply when using a vestibule:

- As buffers between indoor and outdoor air, vestibules should not be air conditioned. Air conditioning a vestibule can undermine its effectiveness. The air conditioner will have to work overtime to remove the heat and humidity from the vestibule whenever the doors open.
- If heating the vestibule is necessary, heat the vestibule to 55°F instead of 68°F or 72°F. Running a gas line to the vestibule may not be as convenient as using electric wall heaters, but a gas heater will be less expensive to run than an electric heater. Choose a 93% efficient separated-combustion gas unit heater. Make sure the heater is turned off whenever the outside air is greater than or equal to 40°F (typically March to November.)
- It is vital that vestibules are not connected to HVAC systems serving the rest of the building through ductwork, as the ducts bypass the vestibule allowing infiltration of unconditioned air or exfiltration of conditioned air.
- If the vestibule has motion sensors for its automatic doors, make sure that the doors are spaced far enough apart so that both sets of doors are not open at the same time. Also make sure that motion sensors are located far enough away from places where customers may line up or congregate causing doors to open unnecessarily.

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SEDAC NEWS

...more education

Commercial & Residential Contractors, Demolition Contractors, Realtors, Property Managers, Building Maintenance Providers, Architects, Home Inspectors, Local Building & Zoning Officials & Inspectors are urged to attend.

A \$35 nonrefundable fee will be charged to cover meal expenses.

Workshops will be held from 8:30 AM - 4:30PM in the following cities on the dates below:

- February 20, 2008 Joliet
- February 26, 2008 Moline
- February 27, 2008 East Peoria
- March 4, 2008 Downers Grove
- March 5, 2008 Arlington Heights

Registration and location details may be found at www.ienconnect.com/enviro. If you have questions or would like to register for one of the workshops, please contact the Illinois Small Business Environmental Assistance Helpline at 800.252.3998, or send an e-mail to dceo.sbeap@illinois.gov
Register online

OTHER EDUCATION

ENERGY CENTER OF WISCONSIN
Commercial Solar Thermal Design and Installation Training

Register at <http://www.ecw.org/solar>

Choose from these dates & locations
February 13, 2008 – Racine, WI
February 28, 2008 – Waukesha, WI

USDOE Energy Efficiency and Renewable Energy Industrial Training Workshop
Advanced Management of Compressed Air Systems
February 27-28, 2008 –
ComEd Conference Center, Oak Brook

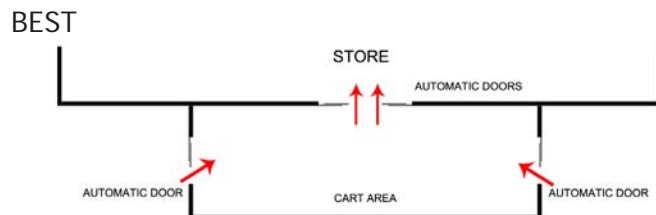
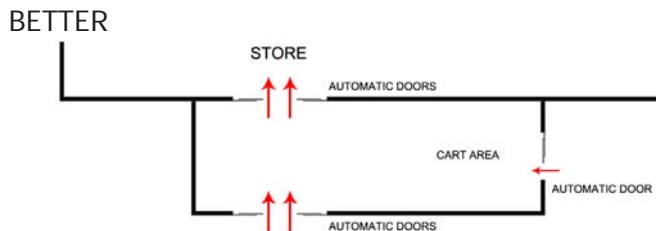
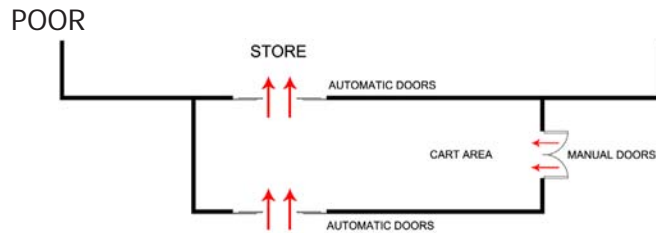
THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007

A summary of the recently signed legislation can be found at US Senate Committee on **Energy and Natural Resources** site.

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- Vestibules are often effective at preventing gusts of wind from blowing air into or sucking air out of buildings. This effectiveness is sometimes undermined by other doors to the outside—emergency exits or loading bay doors—being propped or left open for longer than necessary. Employee training programs can reduce the chance of this happening.
- Vestibules are especially important for supermarkets and other buildings with refrigeration systems. They can reduce the amount of humidity coming into the building, preventing possible condensation or frost on refrigerated display cases, in walk-in freezers, or even on uninsulated cold water pipes.

Particularly in supermarkets, one problem SEDAC has seen in the field is that vestibules and shopping cart storage are co-located and interact significantly. In some supermarket vestibule designs the cart entry door is not automated. This means that it can inadvertently or intentionally be left open. For example, the cart return person may open the door in the winter when they go out to the parking lot to retrieve carts. The door stays open the entire time the carts are retrieved, placing unnecessary load on the vestibule heater and eventually the entire store. Sometimes carts are left stacked out the door forcing the door to stay open. Even more frequently, we have found these types of doors left open for long periods of time during the summer, again for the convenience of cart retrieval. We have included sketches of what we consider good and poor vestibule design below. The key difference is that all doors of the vestibule should be the automated type, whether for cart return or customer entry.



To participate in the *SB\$E* program, please contact us at: (800) 214-7954 or info@SEDAC.org
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