

RCM NEWSBRIEFS

RCM News for April 2011

A newsletter for Resource Conservation Managers in the Northwest

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Buildings

"Energy Upgrades: Taking a Long View," by Susan Bloom, is a two-part article in the March 2011 issue of *Building Operating Management*.

Part 1 is [Longer-payback Energy Upgrades Maximize Building Efficiency](#). Energy upgrades requiring longer paybacks are less attractive to commercial building owners than they are to government-owned facilities because commercial buildings change hands more frequently. The author urges two approaches for the facilities manager to take, both of which make the longer paybacks more economically attractive. First, drop the commonly used simple payback approach; include savings associated with life-cycle costs, maintenance and operations, rebates, and the like. Second, reshape leases so that they reflect how attractive reduced energy consumption and carbon emissions are to tenants. A sidebar, "Tips for Going Long," is included.

Part 2 is [Reaping the Benefits of Longer-Payback Upgrades](#). Further tips for making energy upgrades more attractive include combining several shorter and longer paybacks in one package and employing energy performance contracting. Two sidebars are included: "CCI Projects," describes four projects funded by the Clinton Climate Initiative (CCI); "The Clinton Climate Initiative and Building Retrofit Program" gives basic information about the history and the work of the CCI BRP as well as contact information.

Data Centers

"[Virtualizing the Campus Data Center](#)," by Linda L. Briggs, appeared in *Campus Technology* on March 3, 2011. Two private universities in Chicago have located virtual servers – where software emulates a server – on physical ones. This practice saves the costs of additional actual servers and the software licenses and server-related hardware that are purchased for each of them as well as the energy the actual servers need for running and cooling. Virtual servers can improve data-center performance as well as save money. While there is more than one way for a data center to engage in virtualization, this article

describes how two private universities in Chicago, have done it and how much money they have saved.

[It may be helpful to read

["Virtualization for Dummies,"](#) an undated, self-described "cheat sheet" on the Dummies.com website, that explains briefly what virtualization is, defines three types of virtualization, and lists the advantages of virtualization; it is based on a book of the same title by Bernard Golden.]

Energy Recovery

"[Energy Recovery System Cuts School's Cooling Costs 70%,"](#) by Jane Alexander, Editor, *Maintenance Technology*, with Jim Connell, Airxchange, Inc., was published in the February 2011 issue of that journal. It describes how a rooftop enthalpy wheel works to reduce the energy needed for air conditioning.

Lighting

"Spotlight on LEDs" was written by Loren Snyder, Contributing Editor, *Building Operating Management*; it was published in the February 2011 issue of that journal. This four-part article can serve as a primer for those beginning to look into LED (light emitting diode) lighting for their facilities:

Part 1 is [LED Performance Improving](#); it discusses the federal testing of LEDs to verify quality and long life and provides a short glossary of lighting terms.

Part 2 is [Where to Use LEDs](#). In real estate it is said that the value of any property depends upon location, location, and location. With LEDs it could be said that the efficacy of the lighting depends upon application, application, and application.

Part 3 is [Factors for LED Retrofit](#); it warns about possible failures when LEDs are inserted into fixtures designed for other types of lighting.

Part 4 is [Specifying LED Systems](#). The connection between lamp performance and drivers and sinks is touched on. Part 4 includes a sidebar, "Potential Energy Savings and ROI."

Motors – HVAC

"[University Improves Sustainability of HVAC Motors,"](#) by staff, is a case study showing the effectiveness of a preventative maintenance program for motors applied on a New England campus of over 300 buildings. A testing program on HVAC motors with variable frequency drive controllers was employed. Problems found and resolved are described in useful detail.

Roofs

"Troublemakers on the Rooftop" was authored by Karen Warseck, Contributing Editor, *Building Operating Management*; it was published in the February 2011 issue of that journal. Poor workmanship, inadequate materials, and thoughtless design are common contributors to failing roofs:

Part 1 is [Roof Problems Often Start at the Seams](#). According to the author, the problems encountered at the seams are, generally, the result of poor workmanship.

Part 2 is [Roof Penetrations Can Be the Weak Link](#). Here, the issue is using the right materials around protruding pipes and other penetrations.

Part 3 is [Protect the Roof from Stress](#). This is a quite interesting discussion of causes and solutions.

Part 4 is [Mind the Metal on the Roof](#). Flashing, counter-flashings, and more contribute to a well-functioning roof or one that is absorbing water at various points.

Solar

"[Going Solar: What Colleges Need to Know](#)," by Daniel Fusch, *Academic Impressions*, appeared in that online publication on March 3, 2011. An interview with a Black & Veatch senior project manager for renewable energy and energy efficiency begins with showing how the cost of solar has dropped over just the past three years so that it is now quite affordable for many campuses. It then provides a good and thoughtful look at how to proceed with planning for a solar installation.

College-level Education Opportunities

As spring is often the time to enroll in fall college courses, here are some Northwest RCM and RCM-related college-level educational opportunities.

Resource Conservation Management Degree Option, Northwest Energy Education Institute (NWEEI) at Lane Community College, Eugene, OR

A two-year Resource Conservation Management option is available as part of the Energy Management Technician Associate of Applied Science degree. **Apply soon**, as these classes are often full by spring. <http://www.nweei.org/rcm.html>

For information on the Energy Management degree, go to <http://www.nweei.org/em.html>.

NWEEI also offers two-year degrees in water conservation and renewable energy, as well as various certification courses.

Edmonds Community College, Edmonds, WA

This energy management program offers a variety of energy management degrees (both two- and four-year) and short-term certificates. For preparation in the fields of RCM, energy auditor, energy project manager, and energy efficiency technician. Building Operations and Maintenance for Energy Efficiency is a new certificate program.

<http://www.edcc.edu/energy/>.

Cascadia Community College, Bothell, WA – Energy Management Specialist Certificate

The Energy Management Specialist Certificate prepares a person for employment in careers such as energy auditor, energy analyst, building technician, resource conservation manager, and system technician.

http://www.cascadia.edu/programs/professional_technical_certificates/energy_management_specialist.aspx

South Seattle Community College, Georgetown Campus – Green & Sustainable Training Programs

Existing Energy Audit Courses and Certification prepares students for national certification programs such as the Building Performance Institute and Energy Star. Other programs include Conservation and Weatherization, Building Sustainability Managers intended for current building managers, and a Pre-Apprenticeship Program to prepare students for energy utility, green building, and electrical green jobs fields.

http://www.southseattle.edu/green/georgetown_campus.html

Upcoming Events & Training Opportunities

Fundamentals of Pumping System Assessments

- May 12, 2011 webinar
- June 29, 2011 webinar
- Aug. 4, 2011 webinar

This awareness webinar gives an overview of the ASME Energy Assessment for Pumping Systems Standard.

Hydraulic Institute

<https://pumpsevents.webex.com/mw0305l/mywebex/default.do?siteurl=pumpsevents>

Sealing Systems Energy Efficiency

- June 7, 2011 webinar

Webinar on how pump sealing systems impact energy efficiency.

Hydraulic Institute

<https://pumpsevents.webex.com/mw0305l/mywebex/default.do?siteurl=pumpsevents>

Energy/Facilities Connections Conference

- May 11-13, 2011 in Leavenworth, WA

Technical and operational education and training events presented by high-end experts, connecting energy and facilities. Valuable to those who work in facilities, energy, construction, custodial, business, safety, regulatory and associated fields.

Plant Operations Support Consortium, WSU Extension Energy Program

<http://www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/Conferences.aspx>

Computer Power Management

- May 17, 2011 webinar

Introduces an innovative software tool that enables you to manage computers and power monitors from a central location.

EnergyStar

<https://energystar.webex.com/mw0306lc/mywebex/default.do?siteurl=energystar>

Energy Management Certification (EMC)

- July 11-22, 2011 in Eugene, OR

This is an advanced certification program that requires the student to implement an energy-saving project and measure the results. This program goes beyond the fundamentals and teaches a broad spectrum of energy management principles and techniques.

Northwest Energy Education Institute

<http://www.nweei.org/emc.html>

Lighting Solutions for IEQ and Energy Performance: 2011 BOC Technical Webinar Series

- New Lighting Technology: A showcase of products and applications
July 21, 2011
- Low Cost/No Cost Lighting Strategies for Cost Savings
Sept 8, 2011

Live instructional webinars. Open to all, BOC graduates receive CEUs.

Building Operator Certification

<http://www.theboc.info/m-live-webinars.html>

Building Operator's Certification – Oregon

• BOC Level I

- Sept 2011 through Mar 2012 in Portland OR

One day a month of training and project work in building systems maintenance.

• BOC Level II

- Oct 2011 through Mar 2012 in Portland OR

One day a month of training and elective coursework in equipment troubleshooting and maintenance.

Northwest Energy Education Institute

<http://www.nweei.org/boc.html>

Building Operator's Certification – Washington State

• BOC Level I

- October 13, 2011, ending Mar 29, 2012 in Silverdale, WA

One day a month of training and project work in building systems maintenance.

• BOC Level II

- Oct 18, 2011, ending Mar 6, 2012 in Renton, WA

One day a month of training and elective coursework in equipment troubleshooting and maintenance.

<http://www.theboc.info/wa/wa-schedule.html>

AEE (Association of Energy Engineers) Realtime Online Seminars

Live interactive courses you can complete from your computer. Programs are generally two to three hours long, over a period of days. Dates following course names below are start dates. Check the schedule for more great courses.

- Fast Track CEM Preparatory Course for Energy Managers – May 4, 2011
- Quality Lighting for High Performance Buildings – May 12, July 21 and Sept. 28, 2011
- Converting Energy Audits to Business Plans – May 13, Aug 12 and Nov. 18, 2011
- Pitfalls & Profits in Performance Contracting – May 16, 2011
- Energy Auditing Fundamentals – May 18, Aug.15, Sept. 26 and Dec. 12, 2011
- Fast Track CRM Preparatory Course for Carbon & GHG Reduction Managers – May 23, 2011
- Developing a Blueprint for Sustainable Energy Savings – June 1, 2011
- Choosing and Using Lighting Controls – June 2, 2011
- Boiler & Steam System Cost Control – May 23, Aug. 22 and Nov. 29, 2011
- Motors: Operation, Efficiency & Economics – May 23, 2011
- Life Cycle Costing for Energy Professionals – June 22, 2011
- Smart Metering, Load Profiling & Demand Response – June 22, Sept. 14 and Dec. 5, 2011
- Developing an Energy Management Master Plan – July 13, Sept. 7 and Nov. 14, 2011
- Commercial HVAC Fundamentals – July 18, 2011

<http://www.aeepgrams.com/realtime/>

On-Line AEE Self Study Professional Training Courses

Course titles such as “Basics of Energy Management”, “Fundamentals of HVAC Systems” and “Finance & Accounting for Engineers & Technicians” (new) are available in a home-study format.

<http://www.aeecenter.org/training/>

Building Operator Certification (BOC) – Recorded Technical Webinars

Technical webinars that offer practical maintenance solutions for your facility. Includes “Energy Tune-up Opportunities”, “IAQ”, “Lighting Retrofits”, and “Using Data Loggers”. For a list of webinars go to:

<http://www.theboc.info/m-prerecorded-webinars.html>.

BEEP Energy Program

This six-course series offers the information, strategies, technologies, how-to guides, and resources you need to reduce energy and costs...all without leaving your office.

<http://www.boma.org/TrainingAndEducation/BEEP/Pages/curriculum.aspx>

Federal Energy Management Program

Training for Federal agency managers on the latest energy requirements, best practices and technologies.

<http://apps1.eere.energy.gov/femp/training/index.cfm?CFID=1333092&CFTOKEN=cd5d7ac95e1cdc3c-A2C6A3B6-5056-BC19-15DEF0F48CE3756C>

Resources for You

Washington Green Schools provides resources and tools to involve students, teachers, and community members in assessing and taking action to increase resource conservation and waste reduction in schools.

<http://www.wagreenschools.org/1/home.html>

EPA State and Local Climate Energy Program offers many useful resources. They host a webcast series to assist local governments as they explore and plan climate change and clean energy efforts.

<http://www.epa.gov/statelocalclimate/>

<http://www.epa.gov/statelocalclimate/web-podcasts/local-webcasts.html>

Energy Events Calendar

<http://www.energyexperts.org/TrainingEducationandEmployment/EventsCalendar.aspx>

Washington RCM Support

Washington State University Energy Program RCM Support

Check out the "RCMx". We appreciate any feedback on this site and would also appreciate items to add to our resources such as tools, examples of policies, and job descriptions.

<http://www.energy.wsu.edu/PublicFacilitiesSupport/ResourceConservation/RCMx.aspx>

Oregon RCM Support

Oregon Department of Energy RCM Support

<http://oregon.gov/ENERGY/CONS/RCM/rcmhm.shtml>

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Previous issues of RCM News may be viewed at <http://www.energy.wsu.edu/PublicationsandTools.aspx>

(click on Resource Conservation in the right hand column).

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