

Agenda

Presented by Dana J. Indermuhle, PE

How Energy Efficient is your Building?

Performing an energy audit

- Lighting
- HVAC
- Water

Measuring and monitoring

- Energy usage
- Metering
- Listening
- Applicable energy codes and predicting payback

Analyzing Historical Data

Understanding utility bills

Electric

Gas

Water

Putting It All Together and Reporting

Spreadsheet tools

Database tools

Mapping and graphical representations

Energy conservation measures (ECM) reporting

Analyzing Existing Equipment for Possible Upgrades and Analyzing Constantly Changing Energy-Efficient Equipment

HVAC

Lighting

Solar

Controllers (building automation systems)

Making a Final Selection and Predicting Return on Investment (ROI)

Tabulating results

Reporting to others and project approval

Project Implementation

Design bid build

Construction management

Monitoring results

**Commercial Building Energy Renovations and Their Paybacks:
How to Implement an Energy Improvement Project**
Toledo, OH - Tuesday, April 17, 2018

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Halfmoon Education Inc.
PO Box 278
Altoona, WI 54720-0278



Learning Objectives

You'll be able to:

Measure and monitor energy usage in existing buildings.

Review applicable energy conservation codes and predict payback on energy conservation investments.

Use spreadsheet and database tools to analyze energy usage and quantify savings.

Evaluate existing HVAC, lighting and control systems for possible upgrades.

Estimate return on investment and monitor actual results.



Commercial Building Energy Renovations and Their Paybacks: How to Implement an Energy Improvement Project

Toledo, OH - Tuesday, April 17, 2018



Determine the energy efficiency of your building

Learn how to perform an energy audit

Explore applicable energy codes

Examine historical data

Identify existing equipment for upgrades

Discuss return on investment and monitor actual energy conservation results

Continuing Education Credits

Professional Engineers

6.5 CPD Hours/PDHs

Architects

6.5 HSW Continuing Ed. Hours

6.5 AIA HSW Learning Units

Construction Contractors

Non-Credit Continuing Ed.



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Faculty

Dana J. Indermuhle *Principal and Lead Electrical Engineer at Swiss Valley Associates, Inc.*

Mr. Indermuhle, PE, has been active in building design for 16 years. He is principal and lead electrical engineer at Swiss Valley Associates, Inc. (SVA), a full-service mechanical, electrical and plumbing design firm in southeastern Ohio. SVA has completed energy projects for both new and existing buildings. Projects have ranged in scope from small restaurants and churches to city-wide energy audits. SVA is a leader in the design and implementation of variable refrigerant flow technology and in high-efficiency lighting. Clients report significant savings as a result of SVA's advanced energy management programs. Mr. Indermuhle loves to teach and listen. This interactive seminar is guaranteed to be inspiring and informative for those in the design engineering and facility maintenance fields. Attendees will enjoy an up-to-date presentation regarding the current status of wind and solar energy systems and advances in lighting efficiency in the United States.

Seminar Information

**Radisson Hotel at The University
Toledo Medical Center**
3100 Glendale Avenue
Toledo, OH 43614
(419) 381-6800

Tuition

\$279 for individual registration
\$259 for three or more registrations.

Each registration includes a complimentary continental breakfast and printed seminar manual.

Receive a reduced tuition rate of \$101 by registering to be our on-site coordinator for the day. For availability and job description, please visit www.halfmoonseminars.org.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the CD/manual package. You may also send another person to take your place.

Continuing Education Credit Information

This live lecture presentation is open to the public and offers 6.5 CPD hours/PDHs to professional engineers and 6.5 HSW continuing education hours to architects in all states, except Florida architects. Educators and courses are not subject to preapproval in Ohio.

This seminar is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

HalfMoon Education is deemed an approved continuing education sponsor for New York architects. HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota.

This seminar offers a non-credit continuing education opportunity to contractors. It has not been approved by any state contractor licensing entity for mandatory continuing education credit.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Additional Learning

Webinar Series

National Electrical Code: A Solar Photovoltaic System Perspective

- **National Electrical Code for Building Professionals, Part I**

Wed., Feb. 21, 2018, 11:00 AM - 2:15 PM CST

- **National Electrical Code for Building Professionals, Part II**

Thurs., Feb. 22, 2018, 11:00 AM - 2:15 PM CST

Erosion and Sediment Control

- **Erosion and Sediment Overview**

Thurs., Feb. 22, 2018, 11:00 AM - 12:00 PM CST

- **Stormwater Permit Requirements and Procedures**

Thurs., Feb. 22, 2018, 12:30 - 2:00 PM CST

- **Stream Stabilization Measures**

Fri., Feb. 23, 2018, 11:00 AM - 12:00 PM CST

- **Best Management Practices and Maintenance**

Fri., Feb. 23, 2018, 12:30 - 2:30 PM CST

Solar Photovoltaic Project Design and Development

- **Solar Photovoltaic Project Design and Development, Part I**

Wed., Mar. 7, 2018, 11:00 AM - 2:15 PM CST

- **Solar Photovoltaic Project Design and Development, Part II**

Thurs., Mar. 8, 2018, 11:00 AM - 2:15 PM CST

Deep Excavations

- **Introduction to Deep Excavations**

Thurs., Mar. 15, 2018, 11:00 AM - 1:00 PM CDT

- **Soil Mechanics, Cantilever Walls and Anchored Sheet Pile Walls**

Thurs., Mar. 15, 2018, 1:30 - 3:00 PM CDT

- **Braced Excavation Design**

Fri., Mar. 16, 2018, 11:00 AM - 12:30 PM CDT

- **ASD and LRFD Design**

Fri., Mar. 16, 2018, 1:00 - 2:30 PM CDT

For more information visit:
www.halfmoonseminars.org/webinars/

Can't Attend? Order the CD/Manual Package:

A full recording of this seminar is available for \$289, which includes shipping and handling. This learning method does not qualify for the continuing education credit for Ohio architects or engineers. Please allow five weeks from the seminar date for delivery.

Registration

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How to Register	Registrant Information
Online: www.halfmoonseminars.org	Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip _____ Occupation: _____ Email: _____ Phone: _____
Phone: 715-835-5900	Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____
Fax: 715-835-6066	
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	
Complete the entire form. Attach duplicates if necessary.	Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.

()  I need special accommodations. Please contact me.

Tuition

() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

() **I am not attending.** Please send me the CD manual package for **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

Checks: Make payable to HalfMoon Education Inc.

Credit Card: *Mastercard, Visa, American Express, or Discover*

Credit Card Number: _____

Expiration Date: _____ CVV2 Code: _____

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