Better Buildings Webinar Series

We’ll be starting in just a few minutes….

Tell us…

What topics are you interested in for future webinars?

Please send your response to the webinar organizers via the question box.
Back By Popular Demand:
The Best of the 2018 Better Buildings Summit

Sept 18, 2018
3:00-4:00 PM ET
## Today’s Presenters

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richie Stever</td>
<td>University of Maryland Medical Center</td>
</tr>
<tr>
<td>Matthew Pekar</td>
<td>United Technologies Corporation</td>
</tr>
<tr>
<td>Brenna Walraven</td>
<td>Corporate Sustainability Strategies</td>
</tr>
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</table>
Building the Next Generation
Better Buildings Summit
August 23, 2018

Richie Stever, CHFM, LEED AP
Director of Operations and Maintenance
University of Maryland Medical Center

- 2 campuses (1 mile apart)
  - 800 bed flagship teaching hospital
  - 200 bed community teaching hospital
- 3.5 million square feet total
- Mission
  - Deliver superior health care
  - Train the next generation of health professionals
  - Discover ways to improve health outcomes worldwide
## Department of Labor Projections

### Occupations with the most job growth: 2016 and projected 2026

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Total occupations</td>
<td>00-0000</td>
<td>158,063.8</td>
<td>167,592.3</td>
<td>11,518.5</td>
<td>$37,680</td>
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<td>Home health aides</td>
<td>31-1011</td>
<td>911.5</td>
<td>1,342.7</td>
<td>431.2</td>
<td>$23,210</td>
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<td>Personal care aides</td>
<td>39-2021</td>
<td>2,016.1</td>
<td>2,793.8</td>
<td>777.6</td>
<td>$23,100</td>
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<td>Software developers, applications</td>
<td>15-1332</td>
<td>831.3</td>
<td>1,086.6</td>
<td>255.4</td>
<td>$101,780</td>
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<td>Medical assistants</td>
<td>31-9092</td>
<td>654.4</td>
<td>818.4</td>
<td>163.9</td>
<td>$32,480</td>
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<td>Market research analysts and marketing specialists</td>
<td>13-1111</td>
<td>564.4</td>
<td>733.7</td>
<td>169.3</td>
<td>$35,230</td>
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<td>Medical secretaries</td>
<td>43-5013</td>
<td>574.2</td>
<td>703.2</td>
<td>129.0</td>
<td>$34,610</td>
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<td>Financial managers</td>
<td>11-3011</td>
<td>560.4</td>
<td>689.0</td>
<td>108.6</td>
<td>$125,080</td>
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<td>Combined food preparation and serving workers, including fast food</td>
<td>35-3021</td>
<td>3,452.2</td>
<td>4,032.1</td>
<td>579.9</td>
<td>$20,180</td>
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<td>Registered nurses</td>
<td>29-1141</td>
<td>2,955.2</td>
<td>3,393.2</td>
<td>438.1</td>
<td>$37,000</td>
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<td>Management analysts</td>
<td>13-1111</td>
<td>808.4</td>
<td>921.6</td>
<td>113.2</td>
<td>$82,480</td>
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<td>Construction laborers</td>
<td>47-2061</td>
<td>1,216.7</td>
<td>1,387.1</td>
<td>150.4</td>
<td>$34,530</td>
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<td>Licensed practical and licensed vocational nurses</td>
<td>29-2061</td>
<td>724.5</td>
<td>819.6</td>
<td>85.1</td>
<td>$34,030</td>
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<td>Cooks, restaurant</td>
<td>35-2014</td>
<td>1,231.9</td>
<td>1,377.2</td>
<td>145.3</td>
<td>$25,100</td>
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<td>Nursing assistants</td>
<td>31-1014</td>
<td>1,510.3</td>
<td>1,683.7</td>
<td>173.4</td>
<td>$27,520</td>
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<tr>
<td>Landscaping and groundskeeping workers</td>
<td>37-3011</td>
<td>1,179.7</td>
<td>1,331.3</td>
<td>151.6</td>
<td>$27,670</td>
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<td>Accountants and auditors</td>
<td>13-2011</td>
<td>1,397.7</td>
<td>1,537.6</td>
<td>139.9</td>
<td>$65,300</td>
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<td>Janitors and cleaners, except maids and housekeeping cleaners</td>
<td>37-2011</td>
<td>2,384.6</td>
<td>2,621.2</td>
<td>236.6</td>
<td>$24,990</td>
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<td>Teachers and instructors, all other</td>
<td>25-3098</td>
<td>993.9</td>
<td>1,091.8</td>
<td>98.0</td>
<td>$30,310</td>
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<td>Sales representatives, services, all other</td>
<td>41-3098</td>
<td>983.0</td>
<td>1,077.0</td>
<td>84.0</td>
<td>$52,510</td>
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<td>General and operations managers</td>
<td>11-1021</td>
<td>2,263.1</td>
<td>2,458.6</td>
<td>205.5</td>
<td>$100,410</td>
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<td>Receptionists and information clerks</td>
<td>43-6171</td>
<td>1,053.7</td>
<td>1,149.2</td>
<td>95.5</td>
<td>$29,300</td>
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<tr>
<td>Business operations specialists, all other</td>
<td>13-1199</td>
<td>1,023.9</td>
<td>1,114.3</td>
<td>90.4</td>
<td>$70,000</td>
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<td>Teacher assistants</td>
<td>25-9041</td>
<td>1,308.1</td>
<td>1,417.6</td>
<td>109.5</td>
<td>$26,260</td>
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<td>Maintenance and repair workers, general</td>
<td>49-9071</td>
<td>1,432.5</td>
<td>1,545.1</td>
<td>112.6</td>
<td>$37,670</td>
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<tr>
<td>Laborers and freight, stock, and material movers, hand</td>
<td>53-7002</td>
<td>2,828.4</td>
<td>2,828.1</td>
<td>0.3</td>
<td>$22,040</td>
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<tr>
<td>Elementary school teachers, except special education</td>
<td>25-2021</td>
<td>1,410.9</td>
<td>1,514.9</td>
<td>104.1</td>
<td>$30,460</td>
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<tr>
<td>Waiters and waitressess</td>
<td>35-3031</td>
<td>2,805.0</td>
<td>2,873.0</td>
<td>168.0</td>
<td>$20,820</td>
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<tr>
<td>Heavy and tractor-trailer truck drivers</td>
<td>53-3032</td>
<td>1,871.7</td>
<td>1,980.1</td>
<td>108.4</td>
<td>$42,480</td>
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<tr>
<td>Stock clerks and order fillers</td>
<td>43-5041</td>
<td>2,006.8</td>
<td>2,109.6</td>
<td>102.8</td>
<td>$24,470</td>
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<tr>
<td>Customer service representatives</td>
<td>43-4011</td>
<td>2,784.5</td>
<td>2,920.8</td>
<td>136.3</td>
<td>$32,850</td>
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</table>

### Footnotes:

(1) Data are from the Occupational Employment Statistics program, U.S. Bureau of Labor Statistics. Wage data cover non-farm wage and salary workers and do not cover the self-employed, owners and partners in unincorporated firms, or household workers.

Labor Force Shares in Next 10 Years

U.S. Labor Force Shares by Age, 1970 to 2014 and Projected 2014 -2024 (percent)

Source: U.S. Bureau of Labor Statistics

More 55+ in labor force than 16-24
UMMC Operations and Maintenance Department

- HVAC Department
  - 8 Technicians
  - 1 Retiring
- Plumbing Department
  - 4 Technicians
  - 1 Retiring
- Electricians
  - 6 Technicians
  - 3 Retiring
- Electronics Department
  - 4 Technicians
  - 2 Retiring

- Mechanics/General
  - 22 Technicians
  - 8 Retiring
- Stationary Engineers
  - 5 Technicians
  - 1 Retiring
- Management/Office
  - 11 People
  - 1 Retiring

Summary:
Total = 60
Retiring = 17
28%
State of the Department

- 28% of the Department nearing Retirement!
  - Average tenure is 24 Years.
  - Results in an unprecedented increase in turnover.
  - Most leaders are departing soon.
  - Loss of institutional knowledge.
  - No succession plan.
  - No formal career ladder.
  - Highly skilled candidates demand high wages.
How do we attract this segment of the workforce?

U.S. Labor Force Shares by Age, 1970 to 2014 and Projected 2014 -2024 (percent)

Source: U.S. Bureau of Labor Statistics
Population Health: Reduce the Unemployment Rate?

Unemployment rates and earnings by educational attainment, 2017

- **Unemployment rate (%)**
  - Doctoral degree: 1.5
  - Professional degree: 1.5
  - Master’s degree: 2.2
  - Bachelor’s degree: 2.5
  - Associate’s degree: 3.4
  - Some college, no degree: 4.0
  - High school diploma: 4.6
  - Less than a high school diploma: 6.5
  - Total: 3.6%

- **Median usual weekly earnings ($)**
  - Doctoral degree: 1,743
  - Professional degree: 1,836
  - Master’s degree: 1,401
  - Bachelor’s degree: 1,173
  - Associate’s degree: 836
  - Some college, no degree: 774
  - High school diploma: 712
  - Less than a high school diploma: 520
  - All workers: $907

Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.
What should we do?

We should develop an apprentice program!
2 Different Ways

**Building Automation Apprentice**
- **Funding:** Wrote a business case for the new position
- **Job Description:** Brand new with an apprentice addendum
- **Education:** a curriculum that was approved by Maryland DLLR
- **Training:** OJT at UMMC

**HVAC, Plumbing and Electronics Apprentices**
- **Funding:**
  - Split a retired HVAC technician’s wage into 2 apprentices
  - Used a retired Electronic technician’s wage for (1) apprentice (some money left)
- **Job Description:** Modified MultiTrade Job description with an apprentice addendum
- **Education:** Partnered with Association of Builders and Contractors (ABC)
- **Training:** OJT at UMMC
III. **Education and Experience**
1. High School Diploma or equivalent (GED) required.
2. Possess a journeyman’s license in one of the following areas: Electrical, Plumbing, Steamfitter, HVAC or a certification in electronics from an appropriate technical school.
3. Four years of experience in the primary licensed/certified trade. Two years valid technical experience in the secondary area of expertise with the ability to perform quality workmanship in accordance with accepted standards.
4. No experience required if entering Skilled Trades Apprenticeship Program.

IV. **Knowledge, Skills and Abilities**
1. Highly proficient technical skills in operating shop equipment, hand tools and measuring equipment, such as, calipers, micrometers, dial indicators, and voltage testers. Knowledge of pipe fitting, soldering, rigging, drilling, tapping and installation.
2. Effective verbal communication skills are required to work with management and clinical staff and external vendors. Effective writing skills are necessary to write deficiency reports on equipment and maintain required documentation. Ability to read complex technical equipment operation manuals.

“Gives us an apprentice with the right attitude and aptitude and we can teach them the rest!”
Has it been successful?

You be the judge!
Meet the Apprentices.
- **Hire date:** **August 24, 2015**
- **Apprentice Position:** **Building Automation Apprentice**
- **Apprentice Program Sponsor:** **University of Maryland Medical Center**
- **Chris's Story:**
  - Employee of a local fish store (understood basic mechanical systems)
  - Avid video game player (perfect for understanding how one action over here, impacts another item over there)
  - Over the past 2.5 years, Chris has really grown both personally and professionally.
    - He moved out of parent's house, now rents his own apartment in Baltimore City
    - Has excelled in every single class he has taken and has become a real asset as it relates to the programming and maintenance of the building automation system.
    - One thing to note about Chris is while in High School he was barely getting passing grades and throughout this program received all A pluses.
Hire date: **September 12, 2016**

Apprentice Position: **Plumbing Apprentice**

Apprentice Program Sponsor: **Associated Builders and Contractors - Baltimore Metro Chapter**

Darren's Story:
- Was an employee of the Receiving department at UMMC.
- His manager saw his drive & ambition and recommended him for the apprentice program.
- No mechanical experience.
- Over the past 1.5 years, Darren has also grown both personally and professionally.
  - He moved out of his grandmother's house and leased his own apartment.
  - His aunt was so proud of him that she bought him a car.
  - His preceptors (2 master plumbers) have adopted him into their families both inside and outside of work.
  - Darren is learning about the facility, about the profession and about life.
- Hire date: September 12, 2016
- Apprentice Position: HVAC Apprentice
- Apprentice Program Sponsor: Associated Builders and Contractors - Baltimore Metro Chapter
- Josh's Story:
  - Had little bit of HVAC experience
  - Wanted to work in at a large institution.
  - Not enough experience to be hired directly into an HVAC position
  - Gladly accepted admission into the UMMC apprentice program.
  - Learning about the pneumatic control system on campus
  - While the facility is moving towards digital controls, there is still a large portion of the campus that operates on control air.
  - Positioning himself uniquely in the department as he is one of the few that understand both the pneumatic and the digital controls.
- Hire date: **March 26, 2018**
- Apprentice Position: **Electronics Apprentice**
- Apprentice Program Sponsor: **Associated Builders and Contractors - Baltimore Metro Chapter**
- Jordan’s Story:
  - Entered the workforce as a carpenter’s helper when he was 18.
  - Began working at UMMC as a temporary employee through an agency.
  - Converted to a permanent employee in March.
  - Now he is working on the following systems:
    - Pneumatic tube system
    - Fire alarm and suppression systems
    - Synchronized clocks
  - He is more responsible at home:
    - Paying bills on time (has more money)
    - Attending functions on time
    - Purchased a new car.
Total = 65
Retiring = 17
26%
Stationary Engineer Apprentice Collaboration Program

Sponsors:
Baltimore City Mayor’s Office
Maryland Department of Labor, Licensing and Regulation

Training Partner:
Baltimore City Community College

Participating Employers:
Baltimore City Convention Center
Baltimore City Department of Public Works
Johns Hopkins University
Under Armour
University of Maryland Medical Center
University of Maryland School of Medicine
Veolia North America
Matthew Pekar

United Technologies Corporation
Department of Energy
2018 Better Buildings Webinar
Transition Planning for Energy Managers

Matthew Pekar
UTC
EH&S Senior Manager

This document contains no technical data subject to the EAR or the ITAR
Agenda

1. UTC at a glance
2. Energy manager requirements
   • Basics
   • Intro to UTC
   • On the Job Training
   • Formal Training
   • Partnerships
UNITED TECHNOLOGIES

2017 revenue $60.2B

UTC Aerospace Systems
Industrial & aerospace systems

United Technologies
Climate | Controls | Security

Security & fire protection services

Heating, venting, cooling & refrigeration systems

United Technologies

2020 SUSTAINABILITY GOALS
MOVING THE WORLD FORWARD

No technical data subject to the EAR or the ITAR

Otis
A United Technologies Company

Elevators, escalators, moving walkways, people movers & horizontal transportation systems

Pratt & Whitney
A United Technologies Company

Aircraft engines, gas turbines & space propulsion systems
ENERGY MANAGEMENT

Traditional topics:
Lighting, HVAC, Compressed air, Process energy use, Supply management, Building automation

Advanced topics:
Renewable energy, GHG management and accounting, Distributed generation, Virtual net metering, Real time data management, Energy procurement

Future concepts:
Advanced manufacturing processes, Utility scale energy storage, Robots in manufacturing, Digital factories
ENERGY MANAGEMENT EDUCATION

No technical data subject to the EAR or the ITAR
UNITED TECHNOLOGIES

Career entry

Internships opportunities

EH&S Leadership Program (ELP)

No technical data subject to the EAR or the ITAR
#1 Complete UTC Energy Handbook review
#2 Create a site energy team
#3 Shut-it-off Program
#4 Lighting
#5 Compressed Air
#6 HVAC
#7 Boilers
#8 Building Automation System
#9 Process Energy Management
#10 Motor Management
#11 Utility Review
#12 Fleet Management
# ENERGY AUDITS

**Required every 3-5 years**

10% to 15% of audits conducted by UTC

No technical data subject to the EAR or the ITAR

<table>
<thead>
<tr>
<th>ECM</th>
<th>Project &lt; 2 year payback</th>
<th>Investment</th>
<th>$ Savings</th>
<th>kWh or MMBTU Savings</th>
<th>CO2e Reduction</th>
<th>Payback</th>
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<tr>
<td>1</td>
<td>Shut it off</td>
<td>$5,000</td>
<td>$46,500</td>
<td>858,876</td>
<td>457</td>
<td>Immediate</td>
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<td>2</td>
<td>Shop Lighting</td>
<td>$26,400</td>
<td>$26,000</td>
<td>398,268</td>
<td>276</td>
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<td>3</td>
<td>Office Lighting</td>
<td>$3,000</td>
<td>$6,000</td>
<td>72,150</td>
<td>50</td>
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<td>4</td>
<td>Reliability Lab Lighting</td>
<td>$500</td>
<td>$1,300</td>
<td>25,974</td>
<td>48</td>
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<td>6</td>
<td>Misc. Lighting</td>
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<td>7</td>
<td>Process Cooling Tower VFD</td>
<td>$5,500</td>
<td>$2,685</td>
<td>37,200</td>
<td>26</td>
<td>2.1 yrs</td>
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<td>8</td>
<td>Compressed Air Leaks</td>
<td>$20,000</td>
<td>$66,000</td>
<td>1,050,000</td>
<td>728</td>
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<td>9</td>
<td>Air Dryer operation</td>
<td>$-</td>
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<td>10</td>
<td>Air Compressor maintenance</td>
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<td>$3,000</td>
<td>70,000</td>
<td>49</td>
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<td><strong>Sub-total</strong></td>
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<td><strong>$73,400</strong></td>
<td><strong>$164,805</strong></td>
<td><strong>2,536,261</strong></td>
<td><strong>1,758</strong></td>
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<th>Investment</th>
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<th>kWh or MMBTU Savings</th>
<th>CO2e Reduction</th>
<th>Payback</th>
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<td>11</td>
<td>VFD Air Compressor</td>
<td>$250,000</td>
<td>$40,000</td>
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<td>268</td>
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<td>12</td>
<td>Thermal degreaser energy recovery</td>
<td>$200,000</td>
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<td>104</td>
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<td><strong>Sub-total</strong></td>
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<td><strong>$450,000</strong></td>
<td><strong>$60,000</strong></td>
<td><strong>$510,000</strong></td>
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<th>CO2e Reduction</th>
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<tr>
<td>13</td>
<td>Office HVAC Renovation</td>
<td>TBD</td>
<td>$36,000</td>
<td>505,600</td>
<td>350</td>
<td>TBD</td>
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<td>Main Plant Air Balance</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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<tr>
<td>15</td>
<td>Process cooling water pumps</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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DOE support

Dallas, TX: Energy Treasure Hunt “Train the Trainer I” Oct 2016

Collierville, TN: Energy Treasure Hunt “Train the Trainer II” Mar 2017

Riverside, CA: Compressed Air Workshop, April 2017

Springdale, AR: Motor Master Energy Audit, January 2018

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UNIFIED TECHNOLOGIES

On the job training

2017 and 2018 Global In-house “Energy Treasure Hunt” training conducted in the U.S., Canada, France and Mexico

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UNITED TECHNOLOGIES

Certifications

AEE Certified Energy Manager (CEM) In-house training classes in CT and FL

Over 100 CEM’s working in Facilities Departments and as Carrier application engineers

Accreditation & Recognition

U.S. CEM® & CEA® Programs ANSI Accredited and Recognized by DOE

No technical data subject to the EAR or the ITAR
SUCCESSION PLANNING

Skill set

1. Energy interest
2. Willingness to travel
3. Technical background
4. Factory experience
5. Degrees and diplomas
6. Certifications
No technical data subject to the EAR or the ITAR
Investor-Oriented Sustainability Insights
Sustainability & Resiliency
(What we all should be thinking about)
Moody’s Warns Cities to Address Climate Risk or Face Downgrades

Waves break around a destroyed roller coaster

Seaside Heights, New Jersey
Nov. 16, 2012

Photographer: Mario Tama/Getty Image

Properties, investors and markets will be adversely impacted without proper resilience risk management
Market Context for Resiliency

- Sustainability, including Resiliency, is an emerging megatrend
- Why do we know this is true?
  - Global economic growth has intensified competition for natural resources (especially oil), added geopolitical dimension to sustainability and accelerated impacts
  - Externalities such as CO2 emissions & water use are becoming more material
    - meaning investors consider them central to a company’s performance
  - Public concerns about industrial pollution, food safety, natural resource depletion, issues of resiliency are on the rise
  - SEC – ruled climate risk is material to investors
Defining Resiliency & its Growing Importance

- **What is Resiliency?**
  - Preparing for and recovering from climate related weather events

- **Why does Resiliency matter?**
  - Climate change & weather related risks are rising at an increasing rate – sea level rise is increasing at a faster rate
  - Impacts of these risks to people, buildings and the environment are significant & pervasive
  - Costs of US disasters has quadrupled since 1970 - $100B/year
  - This isn’t NIMBY - 1/3 of US counties declared a disaster in 2017

- **Good news?**
  - There are cost effective ways to prepare for and recover from these events
NYC Financial District

photos provided by MSN article
Sea Level Rise - Why is this Important?

- More important for planning
  - Changing codes
  - Changes in Real Estate Uses
- Can Require Capital Improvements
- Increasing Risks
  - Can Change Flood Zones and Base Flood Elevation (BFE)
  - Negative Effect on Flood Insurance Rates

Source: Miami Herald
Coastal Flood Zones

Wave height ≥ 3 ft  3 ft > Wave height ≥ 1.5 ft  Wave height < 1.5 ft  BFE < 1 ft

BFE including wave effects

100-year stillwater elevation

Normal water level

Shoreline

Beach Face

Improperly elevated (pre-FIRM) building

Properly elevated (post-FIRM) building

Limit of SFHA

Vegetated Region

Cummins | Cederberg Coastal & Marine Engineering shared data
Resilience and Risk Mitigation
Defensive Value Protectors = Decreased Risks

- Regulatory Compliance Risk
- Functional Obsolescence Risk
- Climate Risk: Flood, Wind, Fire, Drought, Storm
  - SEC ruled climate risk is material to investors
- Insurance Premium Risk
- Carbon + Resource Expense Risk
- Reputational Risk
- Resilience Risk: Recovery and Business Interruption Losses
- Down Cycle Valuation Risk
Reduced Risk is Increasingly Priced into Real Estate

- Asset and Property Management Risk
  - Preparing for Weather Events
  - Recovering from Events
- Tenant Risk
  - How prepared are tenants?
  - Business interruption vs. failure
    - Are they properly insured?
- Physical Asset Risk
- Resiliency Risk

Good news is insurance cost reductions offset investment costs
What Can We Do About These Risks?

- **Basic Vulnerability Screening**
  - Initial Portfolio Evaluation – what risks do we have?

- **Future-focused Materiality**
  - Understand what are the biggest risks and materiality of each risk

- **Identify and implement Market Best Practices**
  - Retrofits can often be offset by insurance premium cost reductions

- **Achieve Portfolio and Property Risk Mitigation**
  - Be able to report on program and process
What Can We Do About These Risks?

1. Basic Vulnerability Screening
2. Initial Portfolio Evaluation
3. Future Focused Materiality
4. Market Best Practices
5. Portfolio Risk Mitigation
6. Investment Response – recommendations
   - Task Force on Climate-related Financial Disclosure

Rising Water
How many homes would be under water if the oceans rose 6 feet?¹
Nationally, 19 million homes worth $882 billion

- Avoided property losses
- Avoided business & education interruption
- Ecosystem benefits
- Avoided loss of critical infrastructure
- Revitalized neighborhoods
- Improved public spaces
- Enhanced public safety
- Increased competitiveness for the community
Business Case

- Real Estate Portfolio Winners and Losers
- Sustainability program should include Resiliency
- Reduced risk will increasingly be priced into real estate
  - Resiliency adaptations
  - Sustainability – also means measuring, monitoring and managing
- Save more than you spend
  - financial drivers are real
- Sustainability, to include management of resiliency, is increasingly viewed as a proxy for good management
New Orleans Approach

New Orleans Will...

- Advance Coastal Protection and Restoration
- Invest in comprehensive and innovative urban water management
- Incentivize Property Owners to invest in Risk Reduction
- Create a culture of environmental awareness at every stage of life
- Commit to Mitigating Climate Impacts
Additional Resources

- Discover your future career path with ASHE
Better Buildings Webinar Series

**BACK BY POPULAR DEMAND:**
The Best of the 2018 Better Buildings Summit
Tuesday, September 18, 2018 | 3:00 - 4:00 PM ET

**BRIGHT IDEA:**
Lighting Toolkit for K-12 School Districts
Tuesday, November 6, 2018 | 3:00 - 4:00 PM ET

**BENCHMARKING WATER:**
New Approaches and Opportunities for Buildings
Tuesday, October 16, 2018 | 3:00 - 4:00 PM ET

**BETTER BUILDINGS WORKFORCE DEVELOPMENT & YOU**
Tuesday, January 8, 2019 | 3:00 - 4:00 PM ET

**BETTER BUILDINGS, BETTER BODIES:**
Strategies for Health & Wellness
Tuesday, March 5, 2019 | 3:00 - 4:00 PM ET

**TECHNOLOGY RESEARCH TEAM SHOWCASE**
Tuesday, December 4, 2018 | 3:00 - 4:00 PM ET

**LESSONS FROM THE FIELD:**
Real World Applications That Inform R&D
Tuesday, February 5, 2019 | 3:00 - 4:00 PM ET

**RETHINKING TRADITIONAL FINANCE:**
How Efficiency-as-a-Service Unlocks New Potential for Business
Tuesday, April 2, 2019 | 3:00 - 4:00 PM ET
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NEW APPROACHES AND OPPORTUNITIES FOR BUILDINGS
Tuesday, October 16, 2018 | 3:00 - 4:00 PM ET

REGISTER TODAY

Hear from partners that have enacted innovative water metering strategies and analytical methods that allow them to draw greater insights from their data.
# Additional Questions? Please Contact Us

**betterbuildingswebinars@ee.doe.gov**

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