DOE/NIBS
BETTER BUILDINGS WORKFORCE GUIDELINES

Deke Smith, Program Director, Commercial Workforce Credentialing Council, National Institute of Building Sciences
Presentation Outline

1) Better Buildings Workforce Guidelines Project Summary
2) Introduction to DOE Better Buildings Workforce Framework
3) Better Buildings Workforce Guidelines Background and Context
4) Project Overview
5) Project Approach and Timeline
6) NIBS Commercial Workforce Credentialing Council
7) Questions
Better Buildings Workforce Guidelines

WHAT:

- DOE and NIBS are engaging industry stakeholders to develop voluntary national guidelines for commercial building workforce training and certification programs.
- Focus on five key energy-related jobs: Building Energy Auditor, Building Commissioning Professional, Building Operations Professional, Energy Manager, and Facilities Manager (focus on Government Facilities and FBPTA).
- Guidelines can be used by existing training and certification organizations to upgrade or modify their existing program offerings or to develop new program offerings.
- Neither DOE or NIBS are developing new training or certification programs through this project—we are engaging industry to develop the guidelines that private market providers will use as the benchmark for quality.

WHY:

- Improve quality and reduce confusion and uncertainty in commercial workforce credentialing programs.
- Accelerate energy savings, carbon reductions, and clean energy job creation.
**Better Buildings Workforce Guidelines**

**WHO WILL BENEFIT:**
- **Employers, building owners, governments, programs**—Objective, consistent way to identify skilled and qualified workers
- **Workers**—Increased skills, greater mobility and clearer professional development pathways
- **Training and certification programs**—Recognized by DOE and GSA for accredited programs meeting industry guidelines for high quality

**HOW:**
- **Collaborative approach** taps strengths of industry and government.
  - **Industry:** Technical expertise (industry SMEs); project management (NIBS)
  - **DOE:** Project coordination; seed funding; national scope
Benefits of a Skilled and Qualified Workforce

Higher-quality work!

- Worker skills current with technology
- Improved building performance
- Decreased building maintenance costs
- Greater energy savings
- Increased customer and occupant satisfaction
- **Greater demand for qualified workers**

- Positive feedback loop
Everyone is asking...

How to differentiate?
Which are the high quality energy-related credentials?

- No objective criteria to help answer these questions
- We need “guidelines” for high-quality credentials
Need a Way to Help the Market Identify High Quality Training and Certification Programs
Which products demonstrate the top energy performance?

Define Performance
Voluntary ENERGY STAR performance specifications, developed with market input

Verify
Products tested by accredited third-party laboratory and reviewed by certification body

Recognize
ENERGY STAR= products benefit from consumer trust in energy performance

CONFUSION → CONFIDENCE
Who are the skilled and qualified workers in advanced energy occupations?

**Define Skills**
Voluntary Better Buildings Workforce Guidelines, defined by industry and government

**Verify**
Third-party accreditation of certification or training programs

**Recognize**
DOE recognition of accredited programs = consumer trust in program quality and workforce performance

**CONFUSION**

**CONFIDENCE**
Recognizing High Quality Products and Services

This approach has worked across the Federal government for products and various “challenges”
# Five Better Buildings Workforce Job Titles

## Project Scope

<table>
<thead>
<tr>
<th>Job Titles</th>
<th>Draft Job Descriptions (will be further revised)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building Energy Auditor</strong></td>
<td>Assesses building systems and site conditions; analyzes and evaluates equipment and energy usage; and recommends strategies to optimize building resource utilization.</td>
</tr>
<tr>
<td><strong>Building Commissioning Professional</strong></td>
<td>Leads, plans, coordinates and manages a commissioning team to implement commissioning processes in new and existing buildings.</td>
</tr>
<tr>
<td><strong>Energy Manager</strong></td>
<td>Manages energy consumption in buildings or across facilities; performs continuous site evaluations and analyses; identifies opportunities to increase building efficiency, promote renewable resources, reduce costs and increase building or facility performance.</td>
</tr>
<tr>
<td><strong>Building Operations Professional</strong></td>
<td>Manages the maintenance and operation of building systems and installed equipment, and performs general building maintenance to optimize performance, maintain the building's operability and ensure the comfort and safety of building occupants.</td>
</tr>
<tr>
<td><strong>Facility Manager (Government and FBPTA focus)</strong></td>
<td>A federal, state, or local government official who manages, monitors and coordinates facility operations and supervises and communicates with staff to ensure efficient, sustainable operations and the satisfaction of the facility occupants.</td>
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</tbody>
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Path to Better Buildings Workforce Guidelines

National Institute of Building Sciences

Serves as secretariat, convener, and facilitator under DOE contract

Commercial Workforce Credentialing Council (CWCC)

Nominates SMEs and makes recommendations to Board of Direction

Board of Advisors ➔ Board of Direction

New NIBS Council comprised of public- and private-sector stakeholders
Establishes CWCC policies and procedures; decides committee compositions; builds support for guidelines

Subject Matter Expert (SME) Committees
Revise and validate job task analyses; develop certification schemes and certificate program requirements

Building Energy Auditor
Building Commissioning Professional
Energy Manager
Building Operations Professional
Facility Manager (Government and FBPTA focus)

OUTCOMES
Voluntary guidelines for industry-delivered Better Buildings Workforce credentials

- Professional certification schemes
- Certificate program requirements

AND
## Certifications vs. Certificates

<table>
<thead>
<tr>
<th>Certification</th>
<th>Certificate</th>
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<tbody>
<tr>
<td>Results from an assessment process</td>
<td>Results from a training / educational process</td>
</tr>
<tr>
<td>Indicates mastery/competency</td>
<td>Indicates completion of a course(s)</td>
</tr>
<tr>
<td>Standards set through a defensible, formal process</td>
<td>Course content set a variety of ways</td>
</tr>
<tr>
<td>Typically requires some amount of professional experience</td>
<td>For both newcomers and experienced professionals</td>
</tr>
<tr>
<td>Awarded by a third-party, standard-setting organization</td>
<td>Awarded by training and educational programs or institutions</td>
</tr>
<tr>
<td>Has on-going requirements to maintain</td>
<td>Is the end result</td>
</tr>
</tbody>
</table>

*Source: U.S. Office of Personnel Management  August 13, 2008 Memo*
Better Buildings Workforce Guidelines

A Government and Industry Partnership to Advance Commercial Workforce Quality

- **NIBS** CWCC** develops Better Buildings Workforce Guidelines
- **Industry Technical Standards**
- **Job task analyses***
- **Guidelines for certification programs** (common certification schemes)
- **Which are implemented by:**
  - **Certification programs providers**
  - **Industry certification bodies**
  - **ISO/IEC 17024**
  - **IREC 14732 and/or others TBD**

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*National Institute of Building Sciences
**Commercial Workforce Credentialing Council
***Building Energy Auditor; Building Commissioning Professional; Energy Manager; Building Operations Professional; Facility Manager (Government and FBPTA focus)
Examples of Accreditation Requirements

- Requirements for Written Policies and Procedures
- Requirements for Staff/Personnel
- Requirements for Financial Viability
- Requirements for Certificate Program Application
- Requirements for Management Systems
- Facilities
- Job Task Analysis Basis for Curriculum or Syllabus
- Written Examinations
- Non-Written Assessments (Oral, Performance)
- Evaluation of Program Effectiveness
## Path to Better Buildings Workforce Guidelines

**INITIAL JOB TITLES**
- Building Energy Auditor
- Building Commissioning Professional
- Energy Manager
- Building Operations Professional
- Facility Manager

**U.S. Department of Energy**
- Provides vision, funding, and technical support for the Better Buildings Workforce Guidelines project
- Engages Federal agencies and industry stakeholders to participate in the guidelines project
- Enlists the National Institute of Building Sciences (NIBS) to develop the guidelines

**National Institute of Building Sciences**
- NIBS charts the Commercial Workforce Credentialing Council (CWCC)
  - CWCC establishes the scope and composition of five Subject Matter Expert (SME) committees
  - SME committees complete the guidelines for each occupation

**Credentialing Program Providers**
- Develop training/certificate programs or professional certifications based on the guidelines
- Submit programs for third-party accreditation

**Accreditation Bodies**
- Evaluate whether programs meet the guidelines

**Commercial Buildings Professionals**
- Obtain high-quality, nationally-recognized credentials

**Building Owners/Managers**
- Hire skilled and qualified workers

|---------|-----------|----------|----------|------|------|---------|

Recognizes accredited programs that meet the guidelines.
§ 1710.404 Definitions.

Certified energy auditor for commercial and industrial energy efficiency improvements. (i) An individual possessing a current commercial or industrial energy auditor certification from a national, industry recognized organization;

(iv) Beginning in calendar year 2015, an energy auditor certification recognized by the Department of Energy through its Better Buildings Workforce Guidelines project.
Additional Market Pull / Recognition

City Energy Project: Audit and Commissioning Ordinances

Federal Buildings Personnel Training Act

Employers, Building Owners, Certification Programs and more
General Project Timeline

2013
• July/August—Stakeholder outreach
• September—Project announcement and launch
• October/November—NIBS Commercial Workforce Council meetings
• Mid-November—Subject Matter Expert Nominations

2014
• January/February/March—NREL conducts JTA committee meetings
• June—NREL completes JTA revision and validation
• September—NIBS convenes SMEs to develop certification schemes and certificate program requirements based on NREL JTAs
• December—Final draft of Better Buildings Workforce Guidelines available to certification bodies and certificate programs

2015 – 2016
• Accreditation
• Implementation and deployment
Council Overview

Deke Smith
Program Director
Institute Councils & Committees

• Advanced Materials Council
• Building Enclosure Council - National
• Building Enclosure Technology & Environment Council
• Building Seismic Safety Council
• buildingSMART alliance™
• Commercial Workforce Credentialing Council
• Consultative Council
• Coordinating Council
• Council on Finance, Insurance and Real Estate
• Facility Maintenance & Operations Committee
• High Performance Building Council
• Multihazard Mitigation Council
• National Council of Governments on Building Codes and Standards
• National Mechanical Insulation Committee
• Sustainable Buildings Industry Council
Council - CWCC – Organizational Relationships

**Industry Advocacy & Outreach**
- Consultative Council
- Council on Finance, Insurance and Real Estate (CFIRE)
- National Council of Governments on Building Codes and Standards (NCGBCS)

**Facility Performance & Sustainability**
- Building Enclosure Technology and Environment Council (BETEC)
- High Performance Building Council (HPBC)
- National Mechanical Insulation Committee
- Commercial Workforce Credentialing Council

**Security & Disaster Preparedness**
- Building Seismic Safety Council (BSSC)
- Multihazard Mitigation Council (MMC)
- Multihazard Risk Assessment/HAZUS

**Information Resources & Technology**
- Whole Building Design Guide
- National Clearinghouse for Educational Facilities
- National CAD Standard
- National BIM Standard-U.S.
- buildingSMART alliance
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National Institute of Building Sciences

Commercial Workforce Credentialing Council (CWCC)

Board of Advisors → Board of Direction

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Voluntary guidelines for industry-delivered Better Buildings Workforce credentials

Energy Auditor
Commissioning Professional
Building/Stationary Engineer
Energy Manager
Facility Manager (FBPTA)

OUTCOMES

Professional certification schemes AND Certificate program requirements
Board of Direction

- Frank DiGiovanni - U.S. Department of Defense
- Jonathan Flaherty - Tishman Speyer
- Brian Gilligan - U.S. General Services Administration
- Don Gilligan - National Association of Energy Service Companies (NAESCO)
- Benjamin Goldstein – U.S. Department of Energy
- Laurie Kerr - Natural Resources Defense Council
- Jerry Kettler - Facility Performance Associates
- John Lee - New York City Mayors Office
- Kim Lenihan - New York State Energy Research and Development Authority
- Doug Lewin - The South-Central Partnership for Energy Efficiency as a Resource
- Sukanya Paciorek - Vornado Realty Trust
- Irvin Poke - Bureau of Construction Codes, State of Michigan
- David Riley - Energy Efficient Buildings Hub
- Paul Rode - Related Companies
- Carolyn Sarno - Northeast Energy Efficiency Partnerships
Board of Advisors

- AABC Commissioning Group (ACG) - Ray Bert
- American Institute of Architects - Drake Wauters
- ASHRAE - Matt Nelson
- Association of Energy Engineers - Bill Kent
- ASTM - Christopher Surak
- BOMI International - Jeff Horn
- Building Commissioning Association - Liz Fischer
- Building Services 32BJ Training Fund - James Barry
- City University of New York - Michael Bobker
- International Code Council – Dave Walls
- International Facility Management Association - Tony Keane
- International Union of Operating Engineers - Russel Duke
- Lane Community College - Roger Ebbage
- Laney College - Peter Crabtree
- National Environmental Balancing Bureau - Tom Meyer
- National Insulation Association - Michele Jones
- New Jersey Institute of Technology - Center for Building Knowledge - Energy Commissioning Agents/Auditors - Deane Evans
- Northwest Energy Efficiency Council - Olga Gazman
- PECI - Eliot Crowe
- Southface – Brandon Jones
Invitation to Join the CWCC

• The National Institute of Building Sciences invites industry stakeholders, including building owners, industry trade associations, credentialing bodies, energy efficiency advocates, utility program administrators, labor unions, the real estate community and state, local and federal officials, to join the CWCC.

• If you're already a member of the Institute, you may join the CWCC by emailing us at nibs@nibs.org with "Join CWCC" in the subject line.

• Non-members may join the Institute and the Council using the discount code "CWCCJ13" for a free one-year membership. Sign up now to become a CWCC member. Go to www.nibs.org
QUESTIONS?

Contact Information

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- buildings.energy.gov/workforce
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- http://www.nibs.org/cwcc