



**DOE/NIBS**

## **BETTER BUILDINGS WORKFORCE GUIDELINES**

- Benjamin Goldstein, EE Workforce Coordinator, US Department of Energy
- Deke Smith, Program Director, Commercial Workforce Credentialing Council, National Institute of Building Sciences

Webinar: November 7<sup>th</sup>, 2013

# Webinar 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

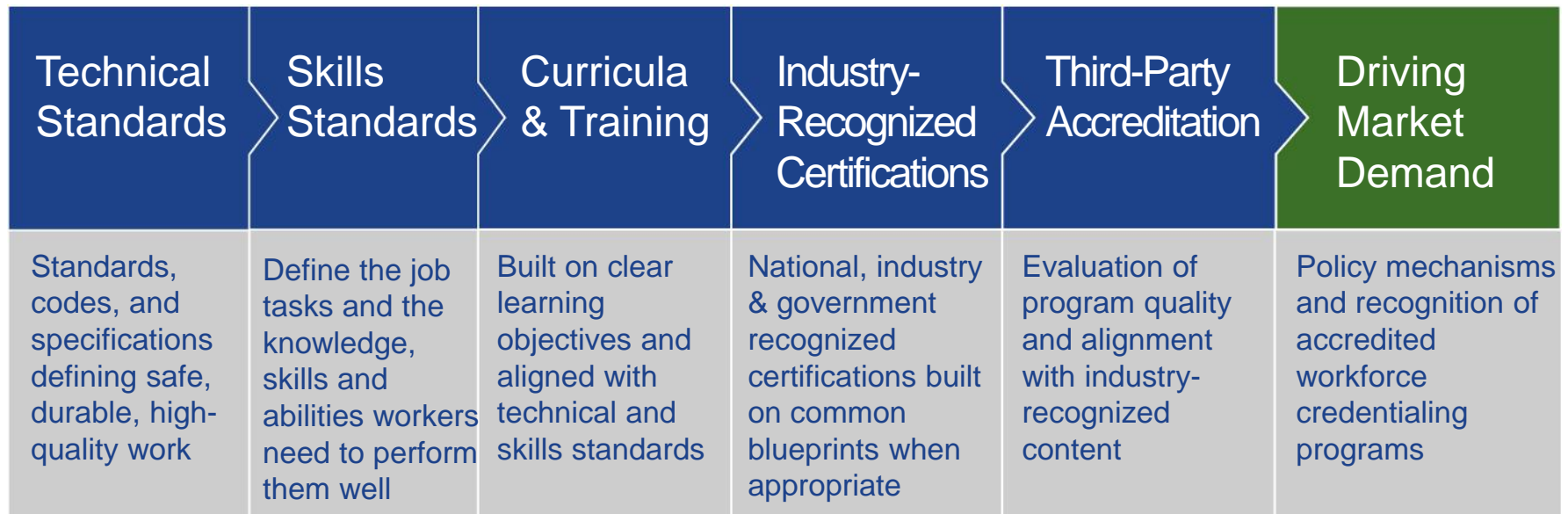
## WHO WILL BENEFIT:

- ***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

# Framework for a Better Buildings Workforce



# Six Barriers

- **Patchwork of Technical Standards, Codes and Work Specifications**
  - Not incorporated into workforce programs
- **Lack of National Skill Standards for Emerging Energy-Related Jobs**
  - Need comprehensive Job Analyses based on clear technical standards
- **Nonaligned Training Content, Platforms, Programs**
  - Training not always based on a Job Analysis; not up to date with technology and best practices
  - Availability, cost, and quality are also concerns
- **No Infrastructure to Support National Credentials**
  - “Diaspora” of certificate and certification programs (some overlapping or duplicative)
- **Minimal Uptake of Accreditation Standards for Training and Certification Programs**
  - Lack of demand because value proposition is not compelling
- **Lack of Recognition of Quality Workforce Credentials**
  - Employers and policymakers have a difficult time identifying quality workers

# 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

# Skills and Credentials = National Priority

## Council on Jobs and Competitiveness Recommendations

- Ensure that training for students and workers meets the skills in demand by the labor market
- Launch private-sector led skills initiatives

## Skills for America's Future (Aspen Institute)

- Partnerships between community colleges and businesses to improve the skills, industry-recognized credentials, and employment outcomes of American workers and students

## Blueprint for America Built to Last (and 2012 SOTU)

- Train and place two million Americans in good jobs through partnerships between businesses and community colleges that give workers the skills employers need
- Create good clean energy jobs in the United States



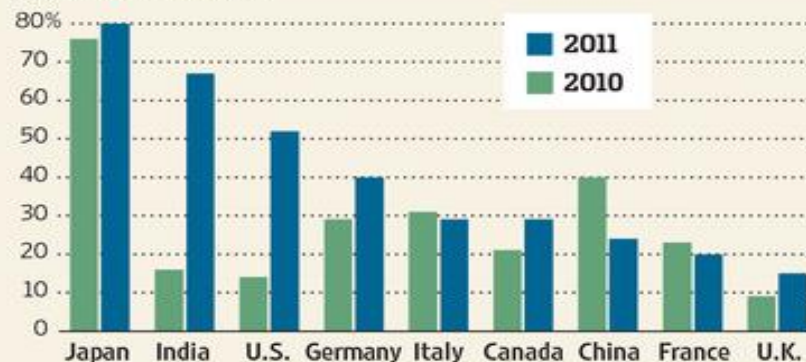
# Context: Skilled Trades and DOE's Role

- US EE & RE Firms: Mismatch of skills of available workers, exacerbated by retirements
- President's Jobs Council: "Lack of alignment between what employers need and what skills are taught and delivered is becoming a critical problem for business and the nation."  
[2011 Year End Report, p. 13]
- U.S. higher education system shifting to more career-technical education

***Energy-related job categories particularly lacking skilled workers***

## Where Jobs Go Wanting

Percentage of employers reporting difficulty filling positions by country, 2010 vs. 2011



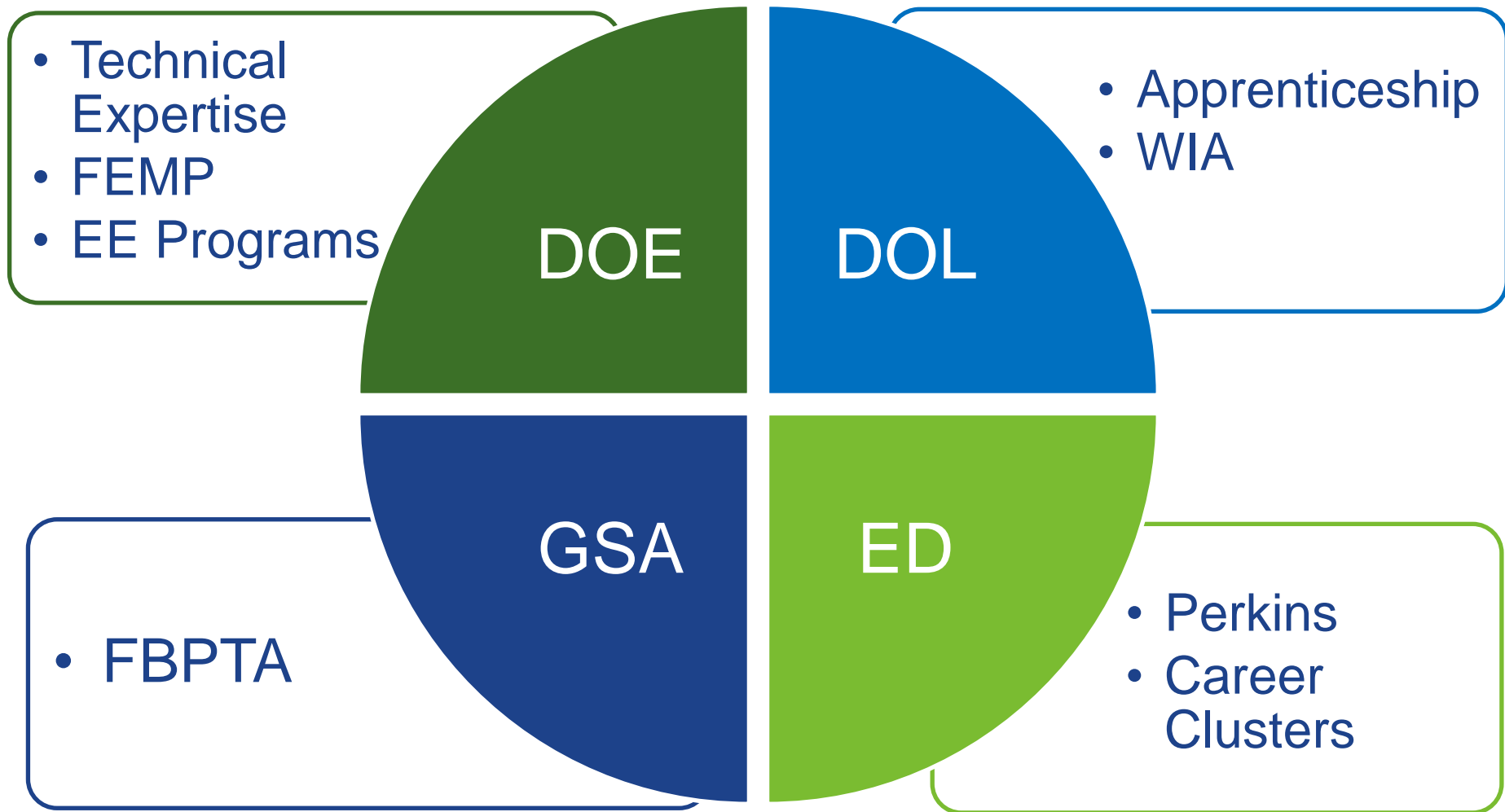
## The Help That's Most Wanted

Hardest jobs for U.S. employers to fill

2011	2006
1 Skilled trades	1 Sales representatives
2 Sales representatives	2 Engineers
3 Engineers	3 Nurses
4 Drivers	4 Technicians
5 Accounting & finance staff	5 Accountants
6 IT staff	6 Administrative assistants /personal assistants
7 Management/executives	7 Drivers
8 Teachers	8 Call-center operators
9 Secretaries/administrative assistants	9 Machinists
10 Machinists/machine operators	10 Management/executives

Source: ManpowerGroup

# DOE Role in EE Workforce Development



# Everyone is asking...

Utility Programs

Municipalities  
and States

Consumers

**Which are the  
“good” or “right”  
energy-related  
credentials?**

Building  
Owners

Federal Building  
Personnel  
Training Act

**No objective criteria to help answer this question  
Answers depend on who you ask...**

# Need a Way to Help the Market Identify High Quality Training and Certification Programs



# ENERGY STAR: From Confusion to Confidence

Which products demonstrate the top energy performance?



CONFUSION .....► CONFIDENCE



# Better Buildings Workforce Guidelines

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



CONFUSION .....► CONFIDENCE

# Recognizing High Quality Products and Services



FUTURE DOE  
WORKFORCE  
RECOGNITION  
(TBD)

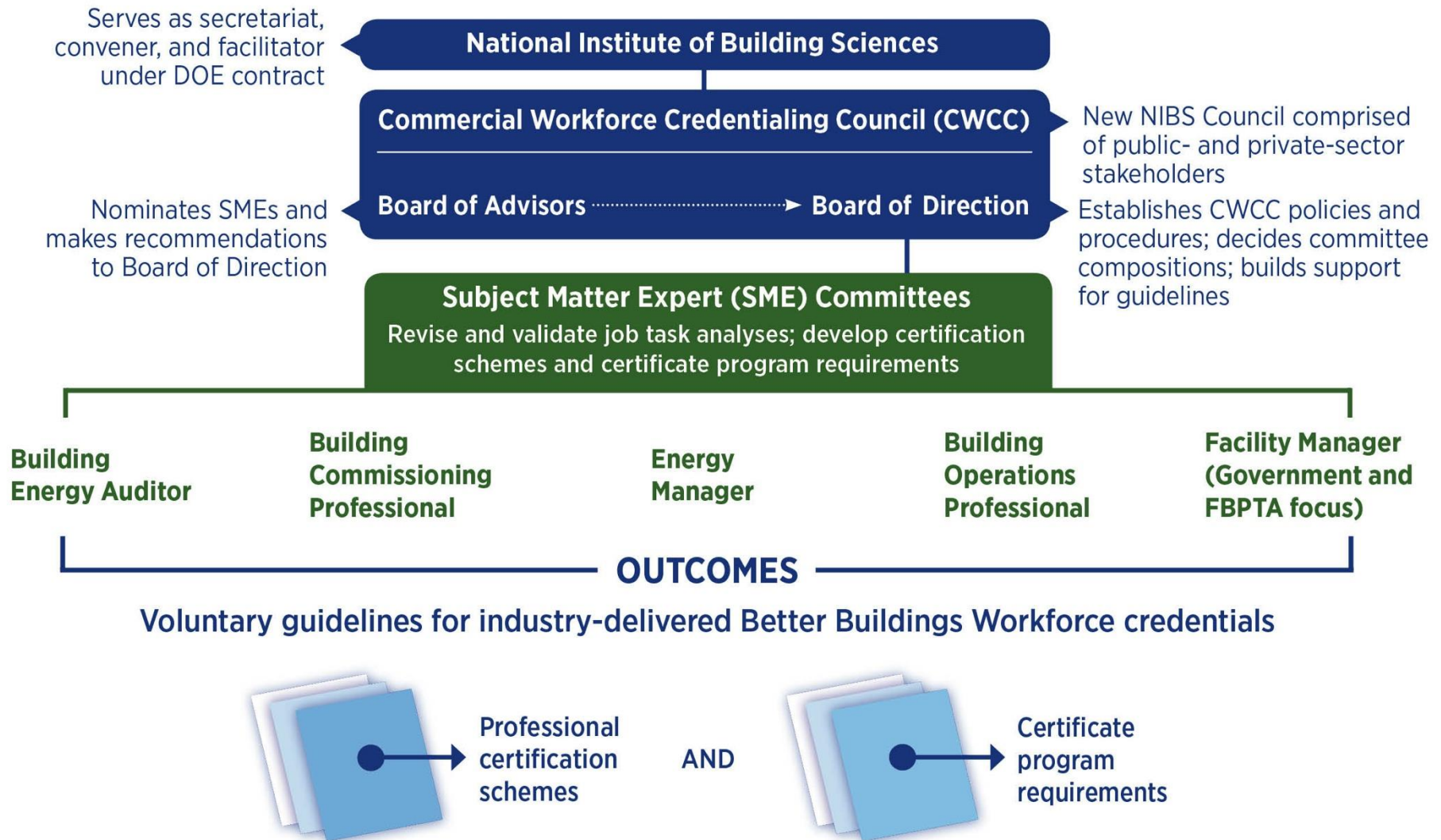
*This approach has worked across the Federal government  
for products and various “challenges”*

# Five Better Buildings Workforce Job Titles

Project Scope	
Job Titles	Draft Job Descriptions (will be further revised)
<b>Building Energy Auditor</b>	Assesses building systems and site conditions; analyzes and evaluates equipment and energy usage; and recommends strategies to optimize building resource utilization.
<b>Building Commissioning Professional</b>	Leads, plans, coordinates and manages a commissioning team to implement commissioning processes in new and existing buildings.
<b>Energy Manager</b>	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.
<b>Building Operations Professional</b>	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.
<b>Facility Manager (Government and FBPTA focus)</b>	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.



# Path to Better Buildings Workforce Guidelines



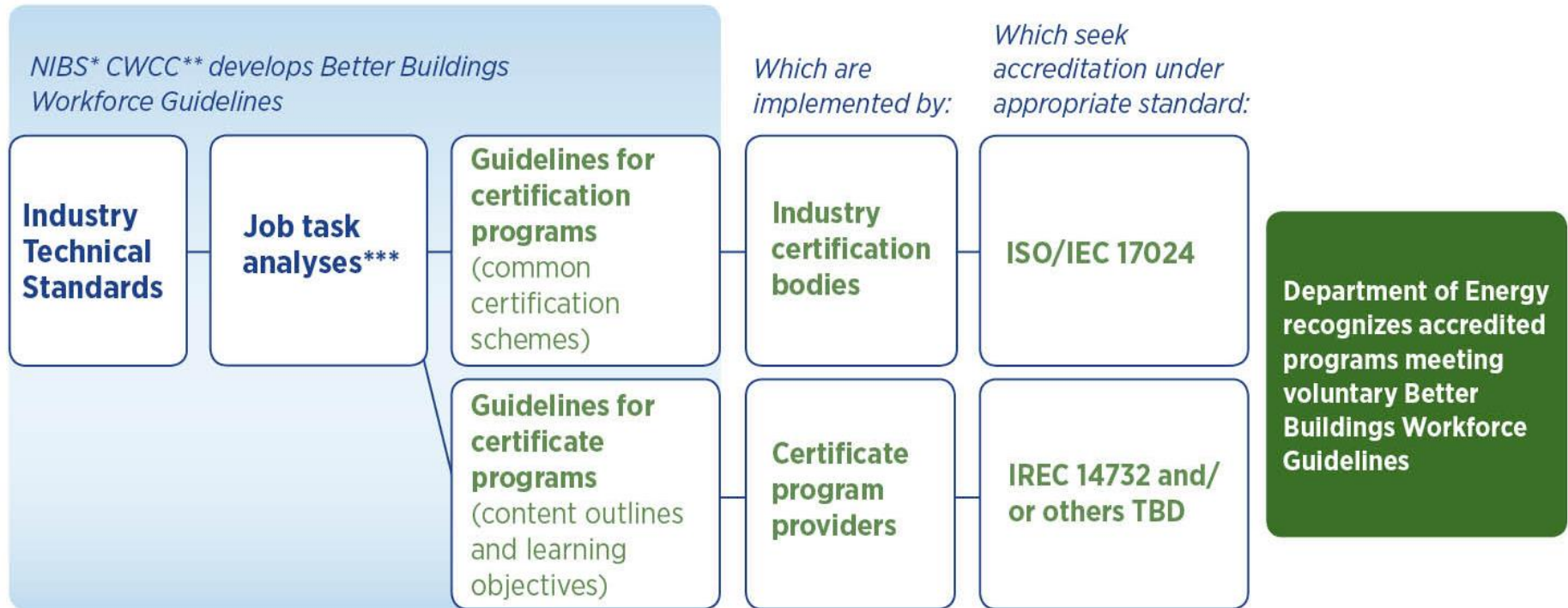
# Certifications vs. Certificates

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

*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



\*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

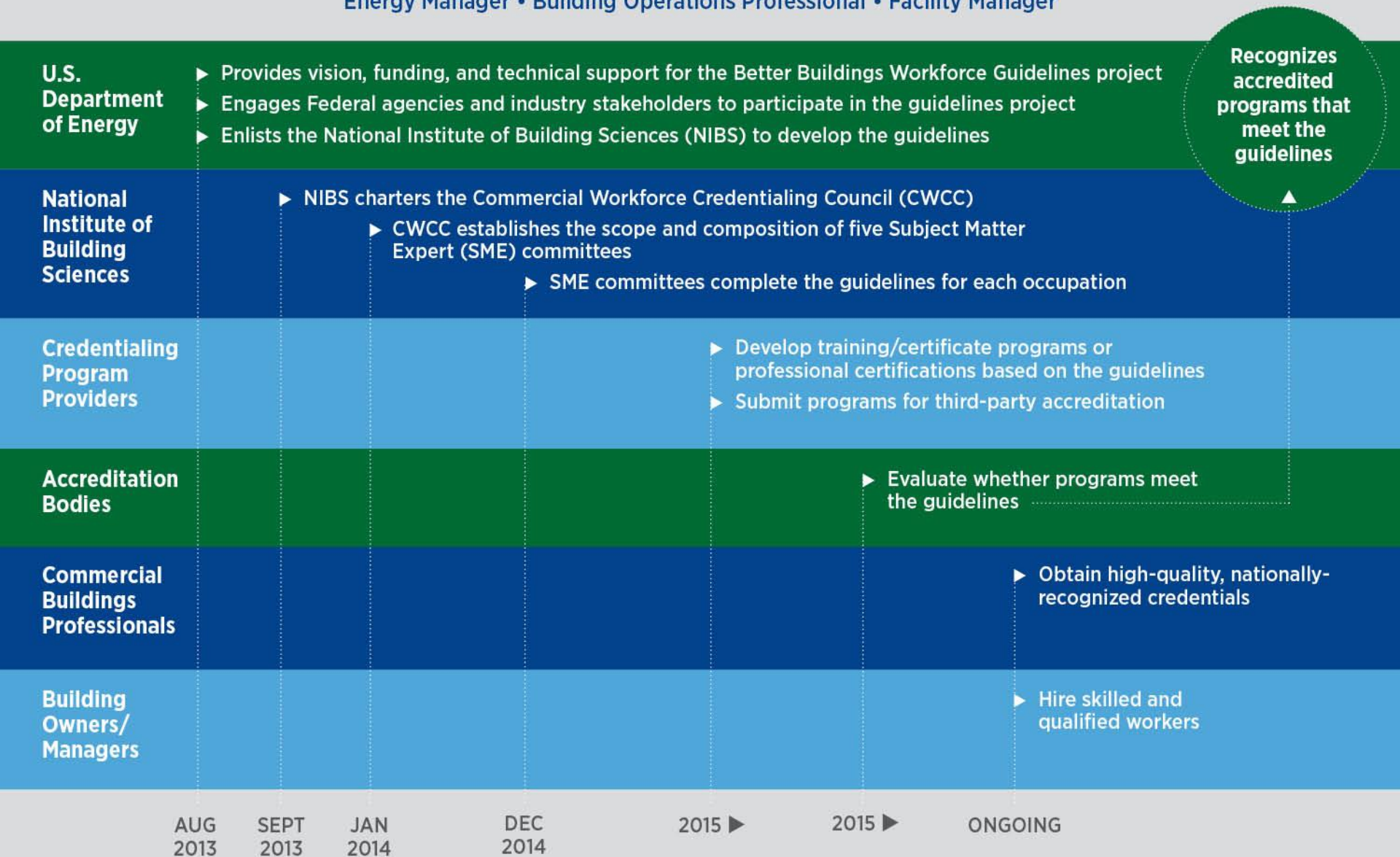
- Requirements for Written Policies and Procedures
  - Requirements for Staff/Personnel
  - Requirements for Financial Viability
  - Requirements for Certificate Program Application
  - Requirements for Management Systems
  - Facilities
- Administration/  
Management
- Job Task Analysis Basis for Curriculum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



# Path to Better Buildings Workforce Guidelines

## INITIAL JOB TITLES

Building Energy Auditor • Building Commissioning Professional  
Energy Manager • Building Operations Professional • Facility Manager



# 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
- July—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**





**WWW.NIBS.ORG**





## 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

# Path to Better Buildings Workforce Guidelines



Voluntary guidelines for industry-delivered Better Buildings Workforce credentials





## 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 Energy Management Institute / Testing, Adjusting and Balancing Bureau** - Jim Page
- **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



## Charter – Initially Approved of by NIBS BOD

- Article I – Establishment
- Article II – Membership
- Article III - Conduct Of Council Business
- Article IV - Board Of Direction
- Article V - Officers
- Article VI - Nominations Committee
- Article VII - Board Of Advisors
- Article VIII - Council Committees
- Article IX - Scheme Committees
- Article X - Financial Affairs
- Article XI - Antitrust Compliance
- Article XII - Staff And Technical Consultants
- Article XIII - Amendments



## 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](mailto: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](http://www.nibs.org)



## QUESTIONS?

### Contact Information

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- <http://www.nibs.org/cwcc>