



DOE BETTER BUILDINGS WORKFORCE GUIDELINES

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Presentation Outline

- 1) Better Buildings Workforce Guidelines Project Summary
 - ❖ Example of implementation model for Program Element #2
- 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) Questions

Better Buildings Workforce Guidelines Summary

WHAT:

- DOE and NIBS are engaging industry stakeholders to develop voluntary national guidelines to serve as the benchmark for quality 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 Federal Buildings Personnel Training Act)
- Guidelines can be used by existing training providers and certification bodies to upgrade or modify their existing program offerings or to develop new programs

WHY:

- Improve quality and reduce confusion and uncertainty in commercial workforce training and certification programs
- Accelerate energy savings, carbon reductions, and clean energy job creation

Better Buildings Workforce Guidelines Summary

WHO WILL BENEFIT:

- **Employers, building owners, governments, program administrators**—Objective, consistent way to identify qualified workers
- **Workers**—Advanced energy KSAs, greater mobility and clearer career pathways
- **Commercial buildings energy efficiency training and certification programs**—Recognized by DOE and GSA for accredited programs meeting industry guidelines for 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

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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

Proposed Jobs and Workforce Development Program Elements for Carbon Reduction Investments in California

Issue

Many of the jobs created through energy efficiency, clean energy and carbon reduction programs will be in the construction industry. **These programs should meet the highest standard of quality control in order to maximize carbon reduction and the job benefits of the investments.**

Recommendation

Public and ratepayer investments, along with leveraged funds, should explicitly include **standards for participating contractors and minimum training and skill standards for workers.** A clear tie to high-performing state-certified apprenticeship programs will help assure success in attaining desired carbon reduction goals. As appropriate, carbon reduction programs should coordinate with state-certified apprenticeship **to assure specialized skill requirements are met.**

These should be identified by the Labor Agency, Division of Apprenticeship Standards, **with input from the key trade associations who represent contractors eligible for this work as well as representatives from labor unions representing the affected workforce.**

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

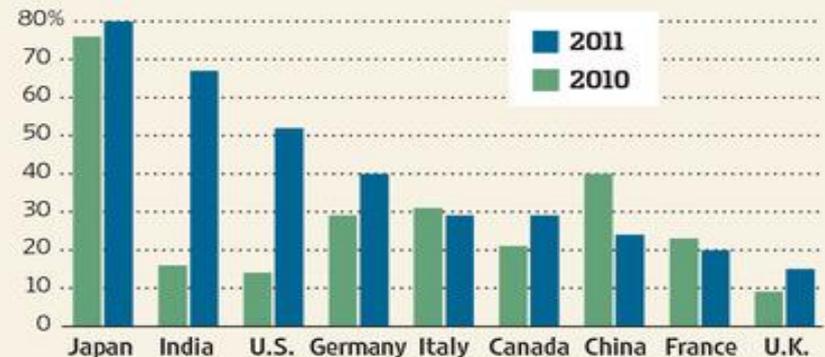
Context: Skills Gap

- 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

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

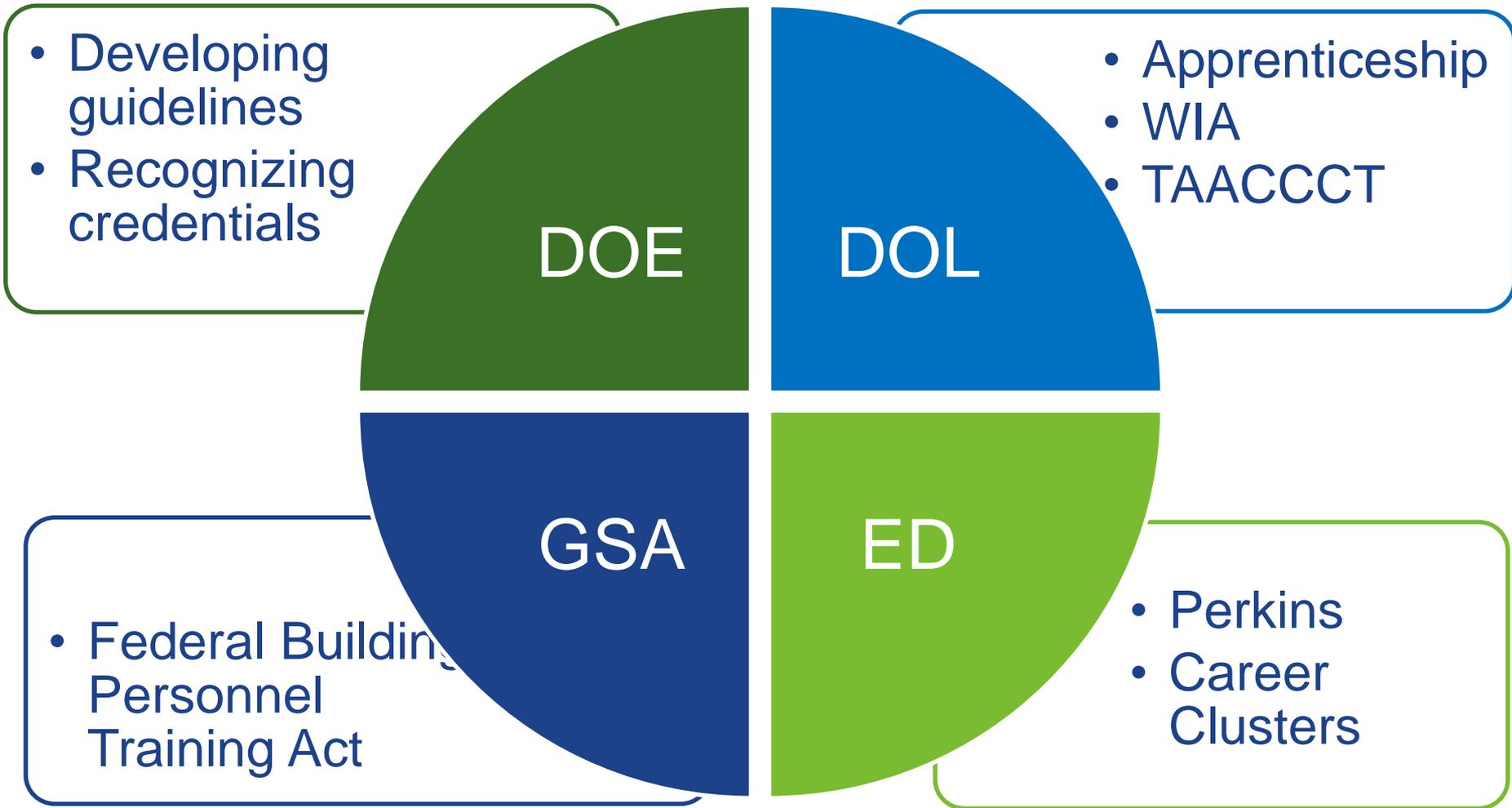
Skills for America's Future (Aspen Institute)

- 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

DOE Role in EE Workforce Development



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



Common questions everyone is asking...

Municipalities
and States

Utility Programs

Consumers

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

Building
Owners

Federal Building
Personnel
Training Act

- ❖ **No objective criteria to help answer these questions**
- ❖ **We need “guidelines” for high-quality credentials**

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 commercial buildings occupations?



CONFUSION► CONFIDENCE

Recognizing High Quality Products and Services



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

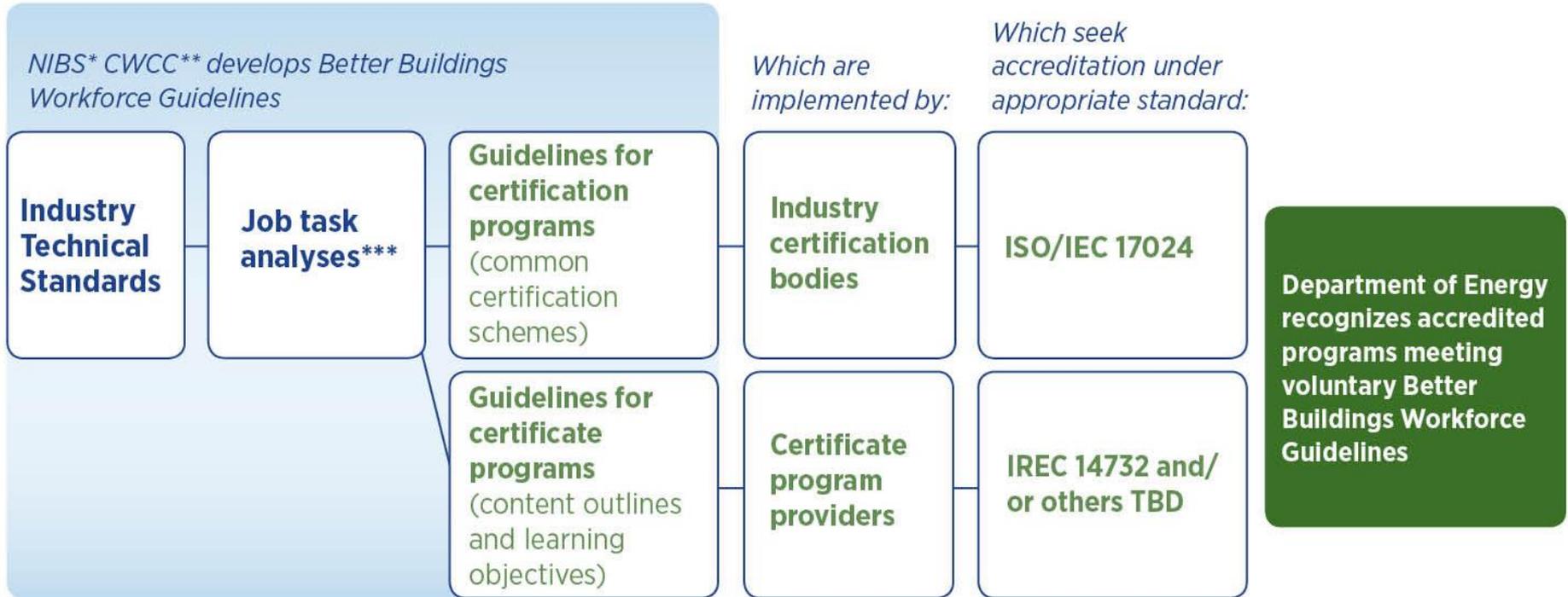
Five Better Buildings Workforce Job Titles

Project Scope

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

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)

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

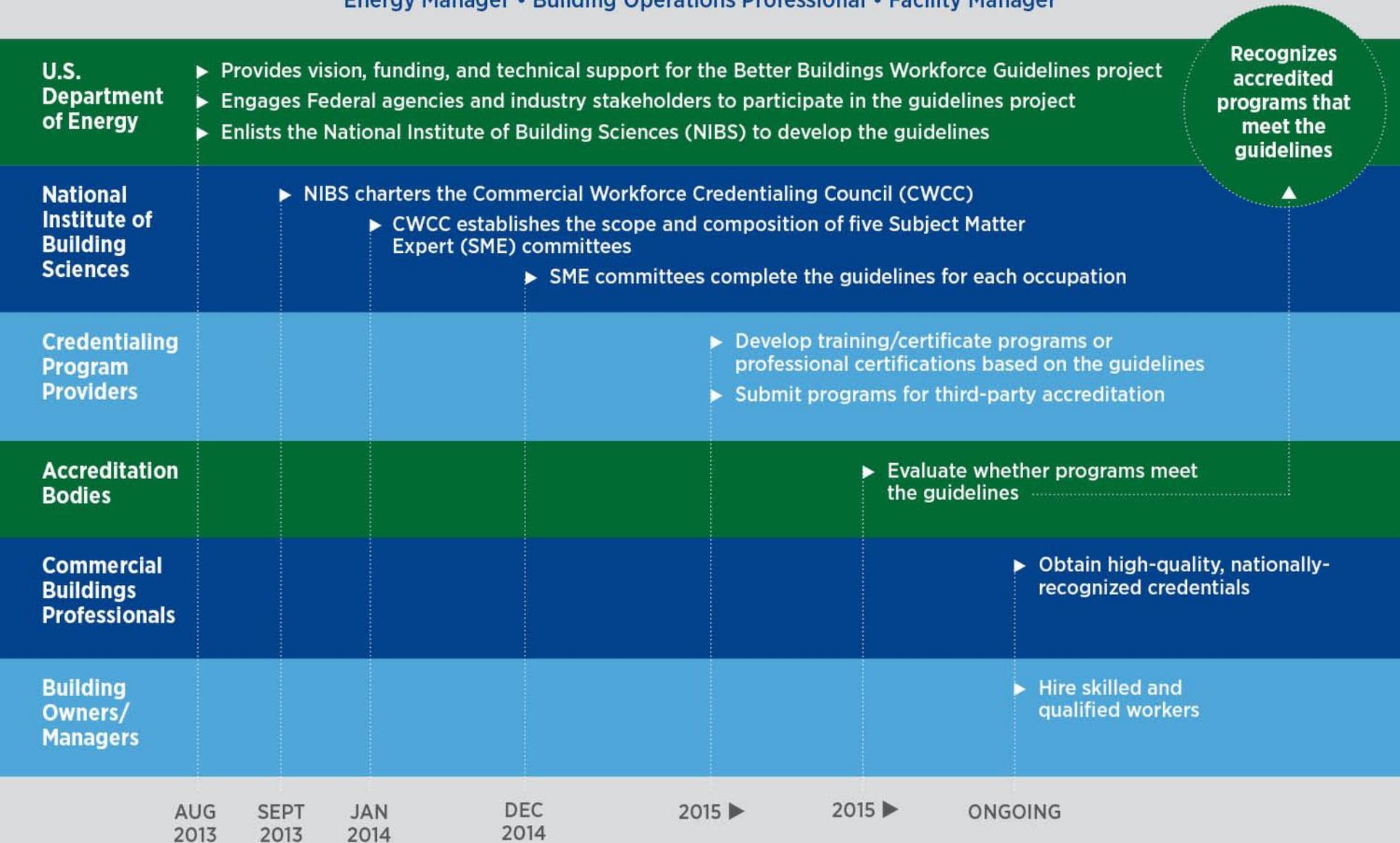
Examples of Accreditation Requirements

- 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
- Administration/
Management
- Content
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- A diagram with two blue curly brackets on the right side of the slide. The top bracket groups the first six bullet points under the label 'Administration/Management'. The bottom bracket groups the last four bullet points under the label '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—Conduct JTA committee meetings
- April/May—JTA revision and validation
- August/September—Convene 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

Questions and Discussion

1. What about other construction trades?
2. What is California's proposed approach for Prop 39 implementation?
3. Can the DOE Workforce Framework be helpful?

