

ENERGY WORKFORCE **SECTOR STRATEGY**

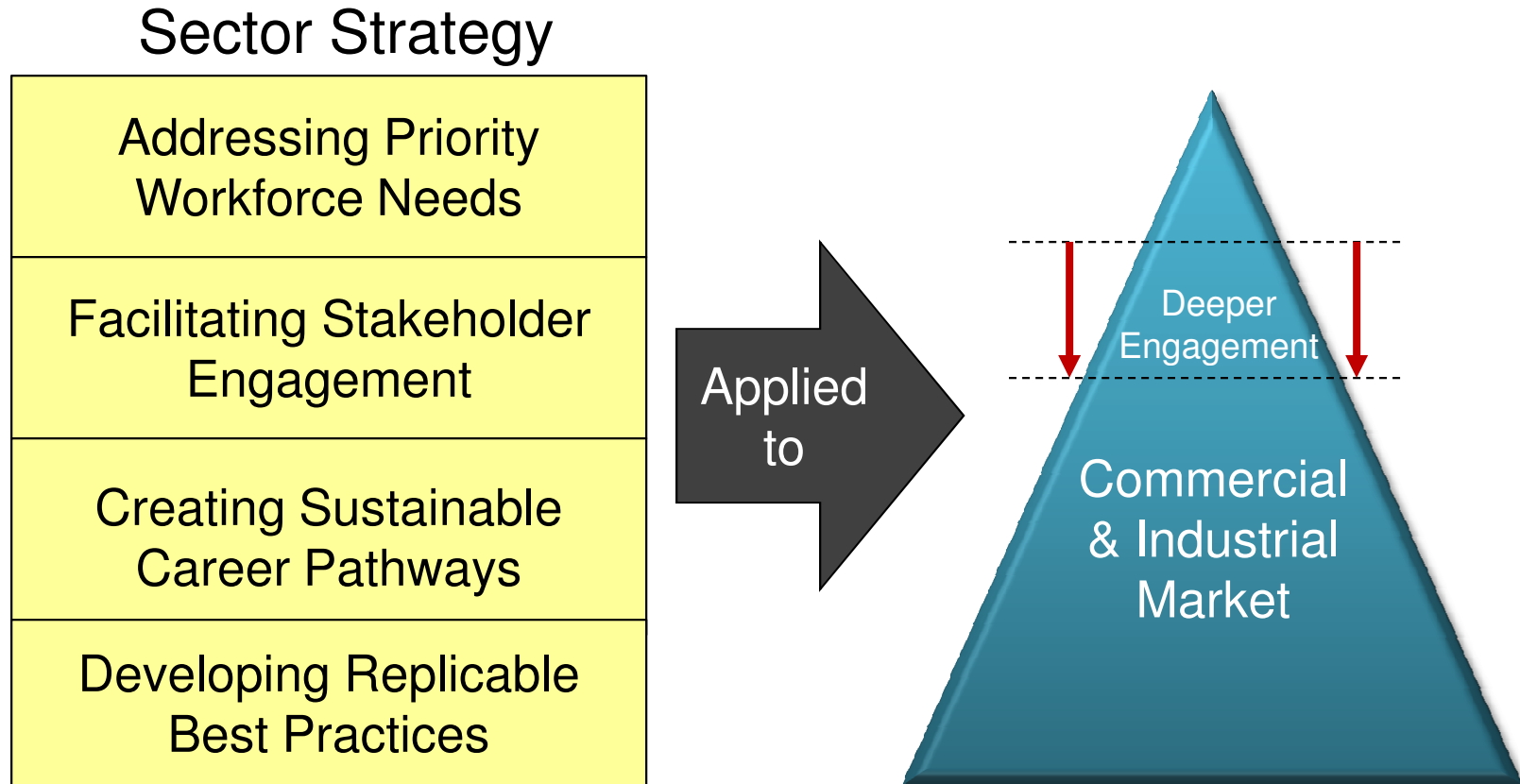


# Steering Committee Meeting

December 7, 2012

# Goal Recap

## *A Platform for Deeper Market Engagement*



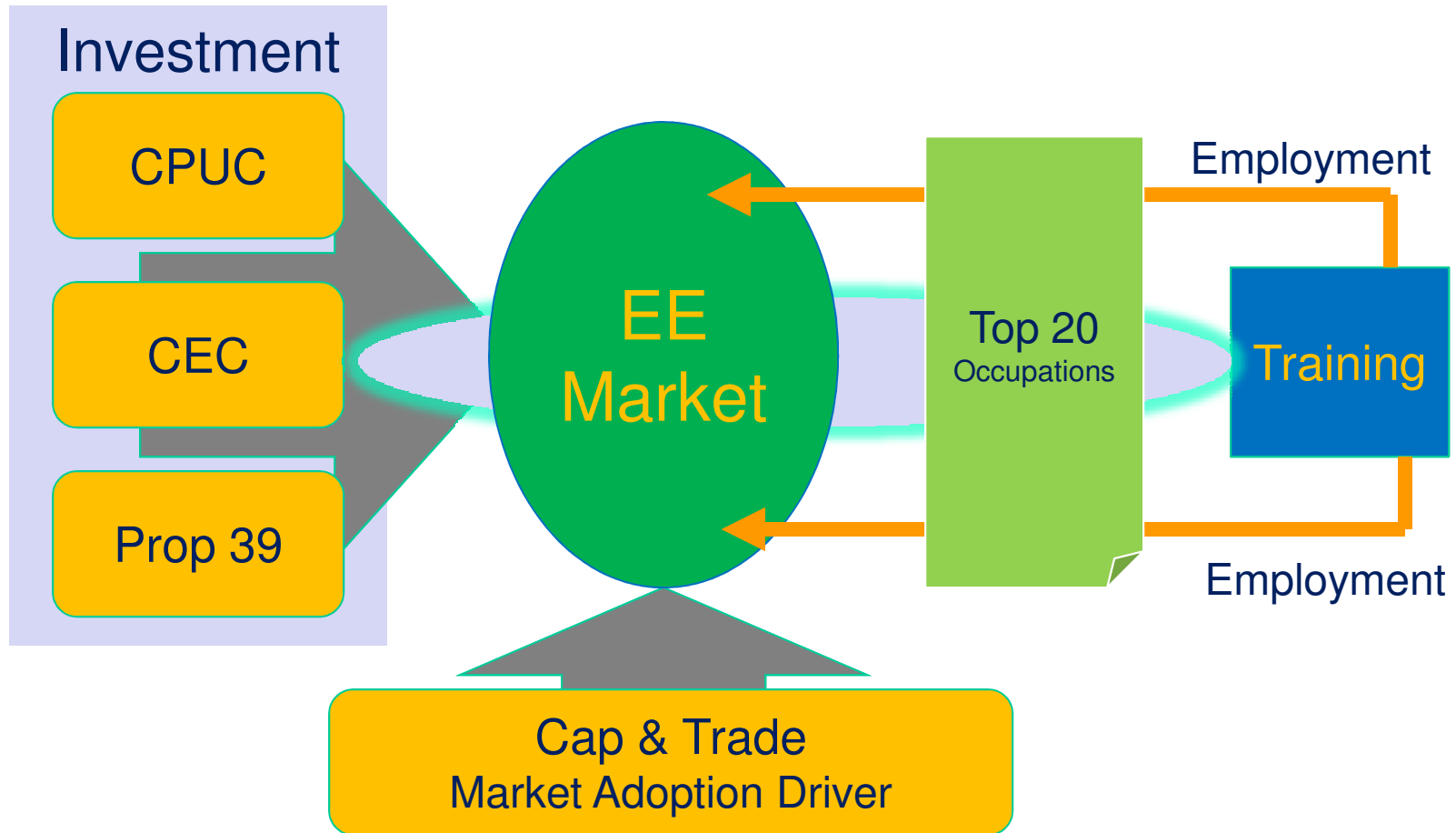
# Agenda

10:00AM	Welcome
10:05AM	2012 Recap
10:15AM	Research Results and Discussion
11:15AM	Break
11:30AM	Direction - 2013 and beyond
12:15PM	2013 meeting cadence and wrap-up

# Proposed Meeting Outcomes

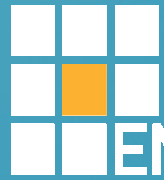
- ❖ Priorities for programs responsive to industry
- ❖ Recommended structure for guiding development
- ❖ Develop approaches to engaging educators

# Investment to Drive Market Adoption



# Goal: Form an Advisory Group

- ❖ Link incentives, training, and employment
- ❖ Address key growth vectors
  - ✓ *Demand creation*
  - ✓ *Capacity*
  - ✓ *Compliance*
- ❖ Leverage PG&E programs funded by CPUC
- ❖ Formulate a preliminary basis for moving ahead

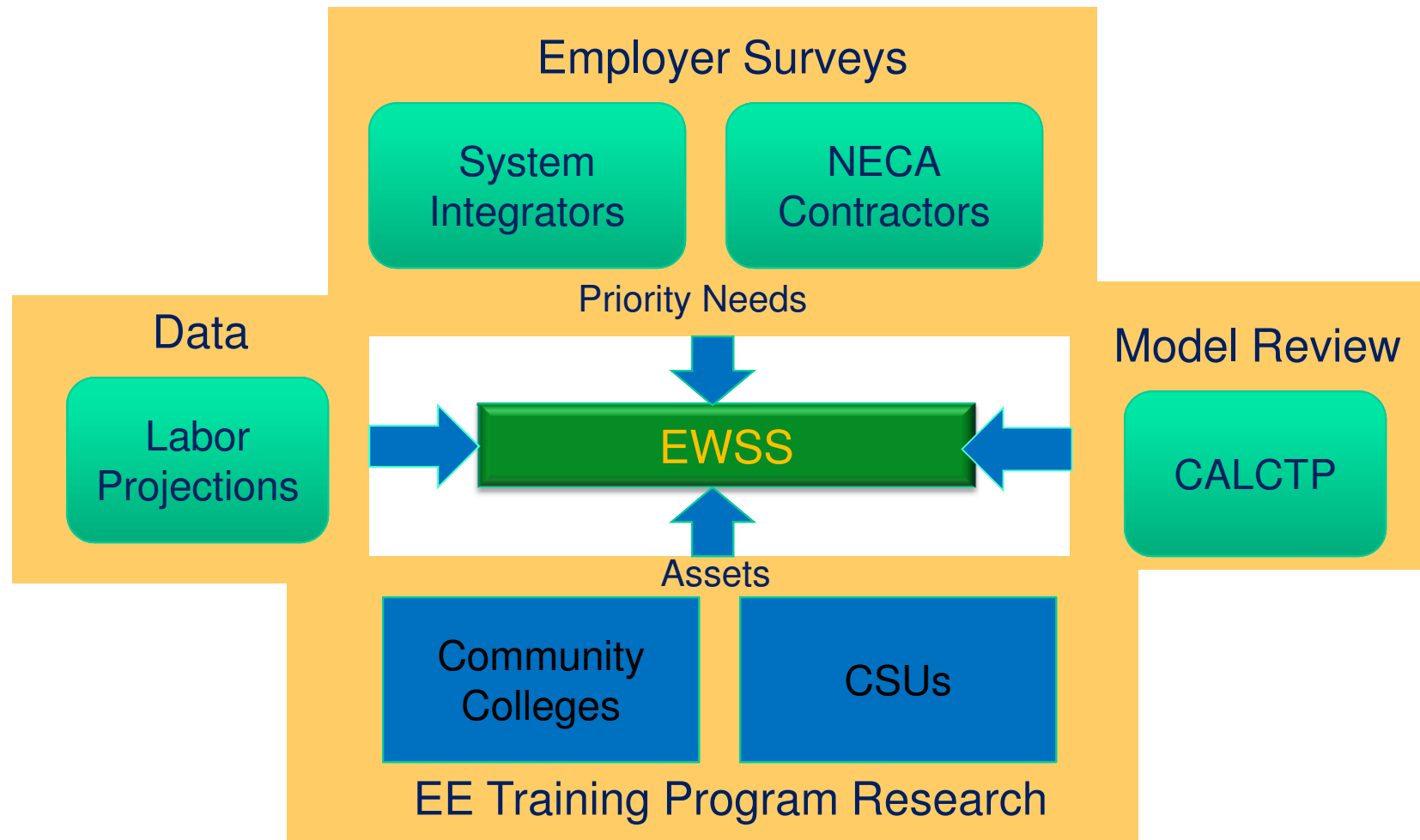


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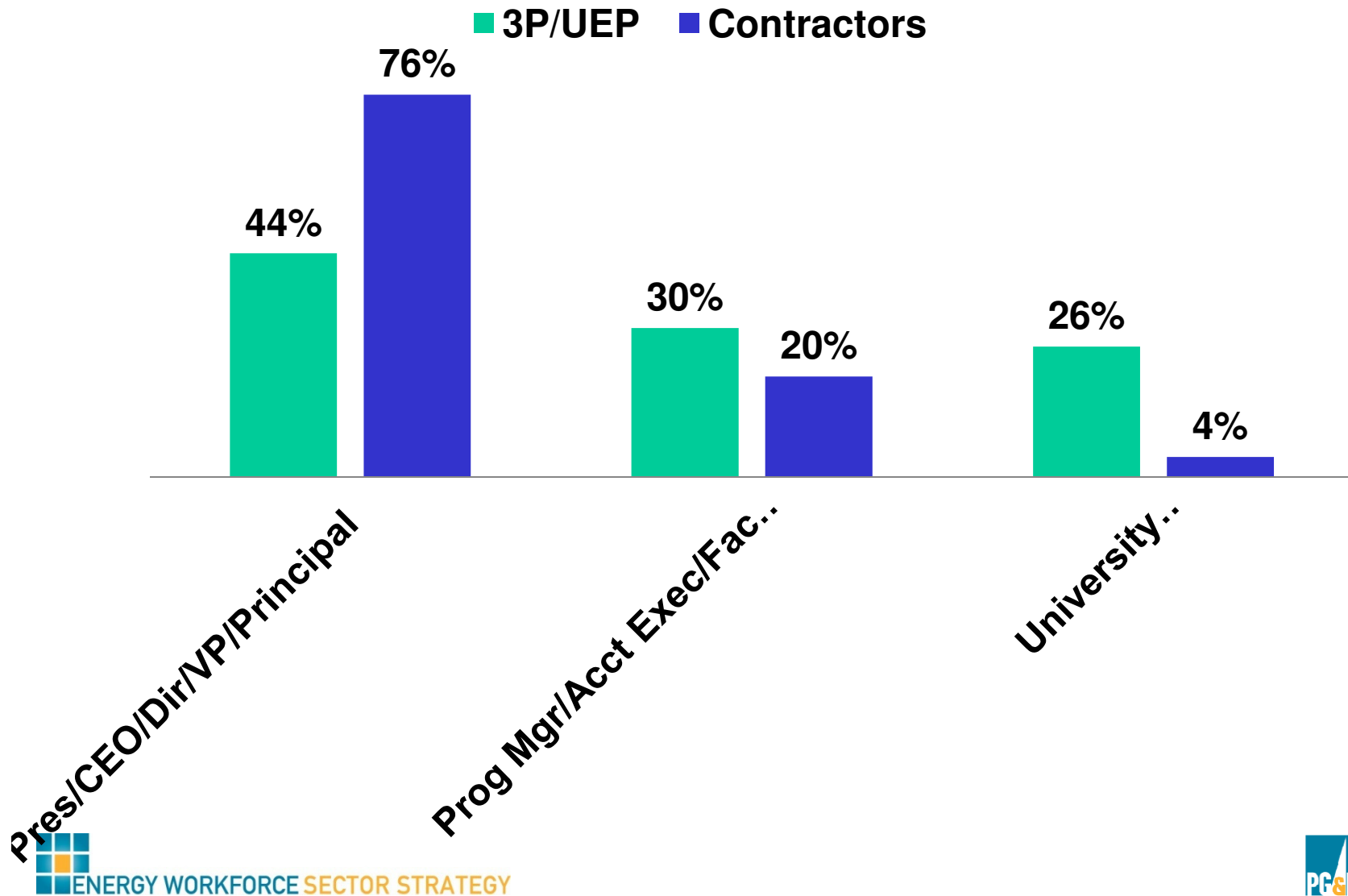
# Research

# EWSS Research Process

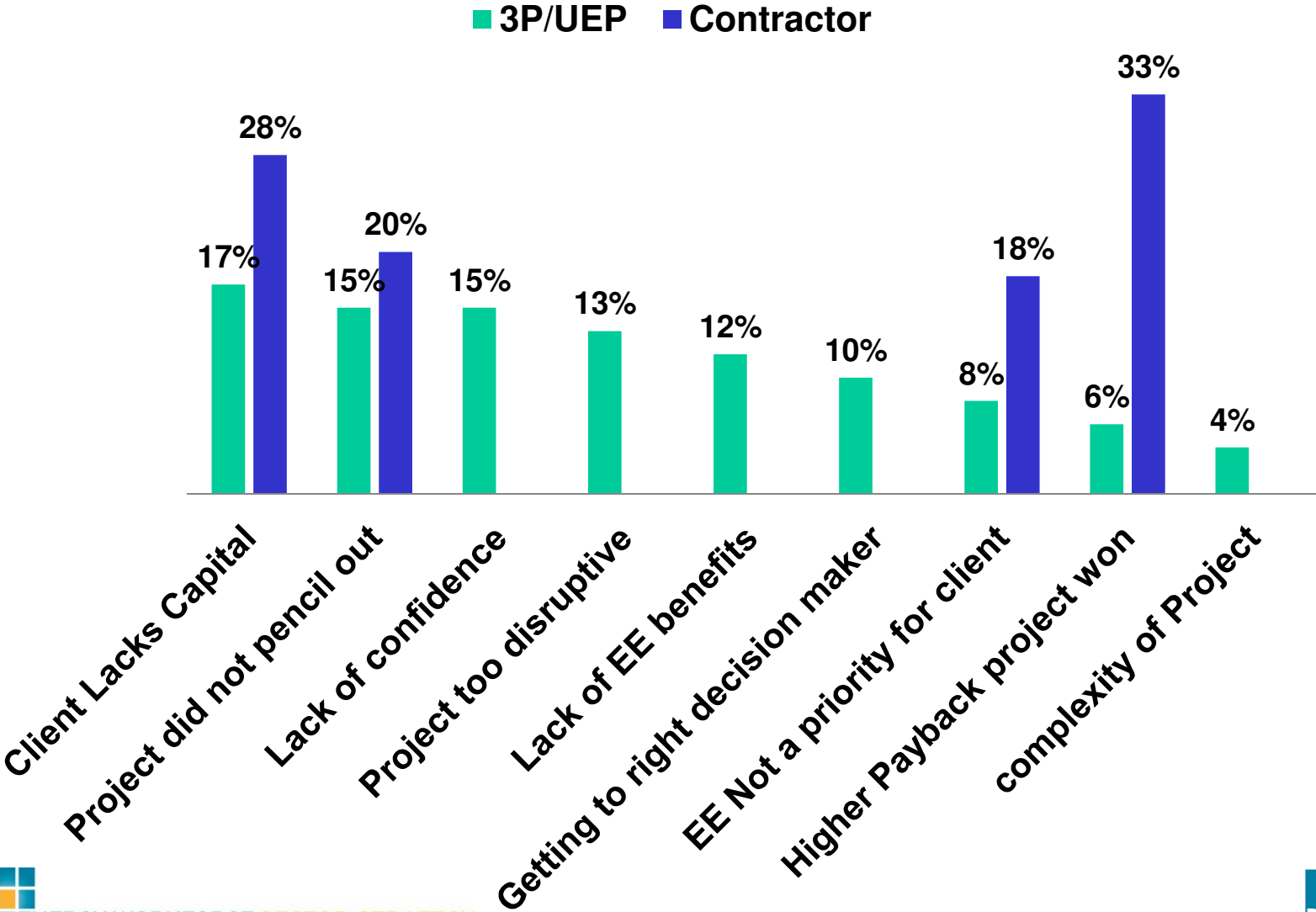




# Job Type Surveyed

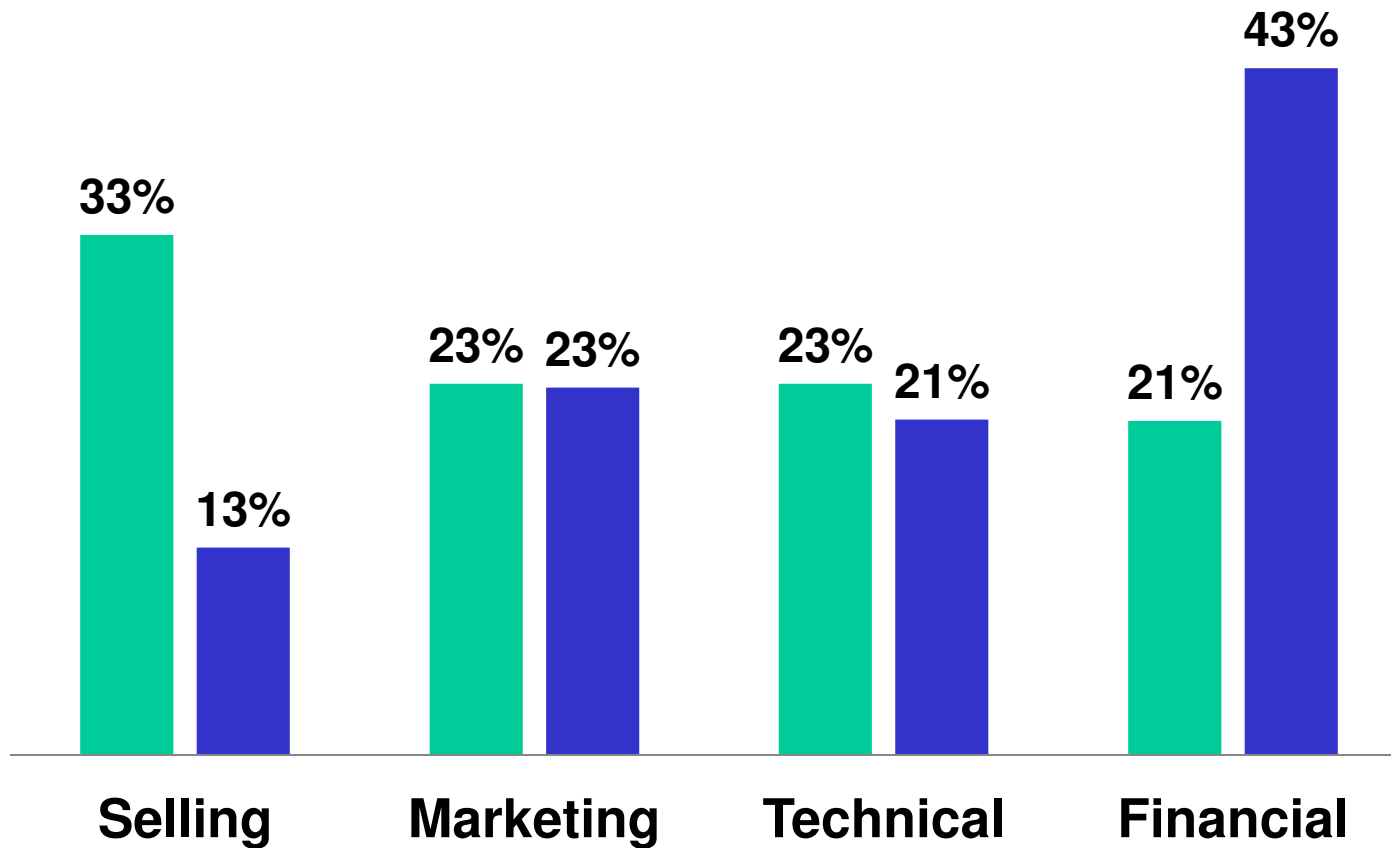


# Obstacles to Energy Efficiency Projects



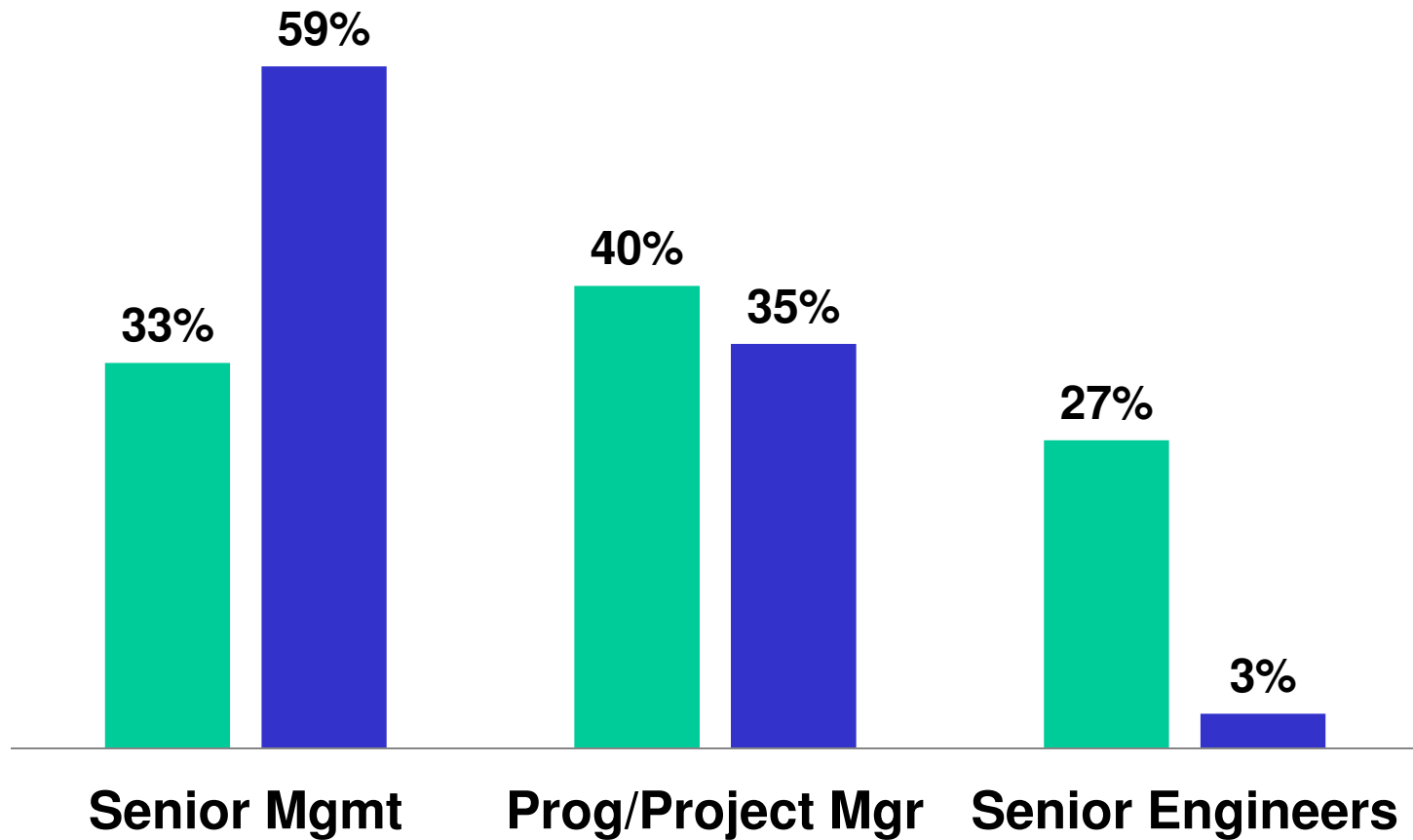
# Training/Skills Desired

■ 3P/UEP ■ Contractor

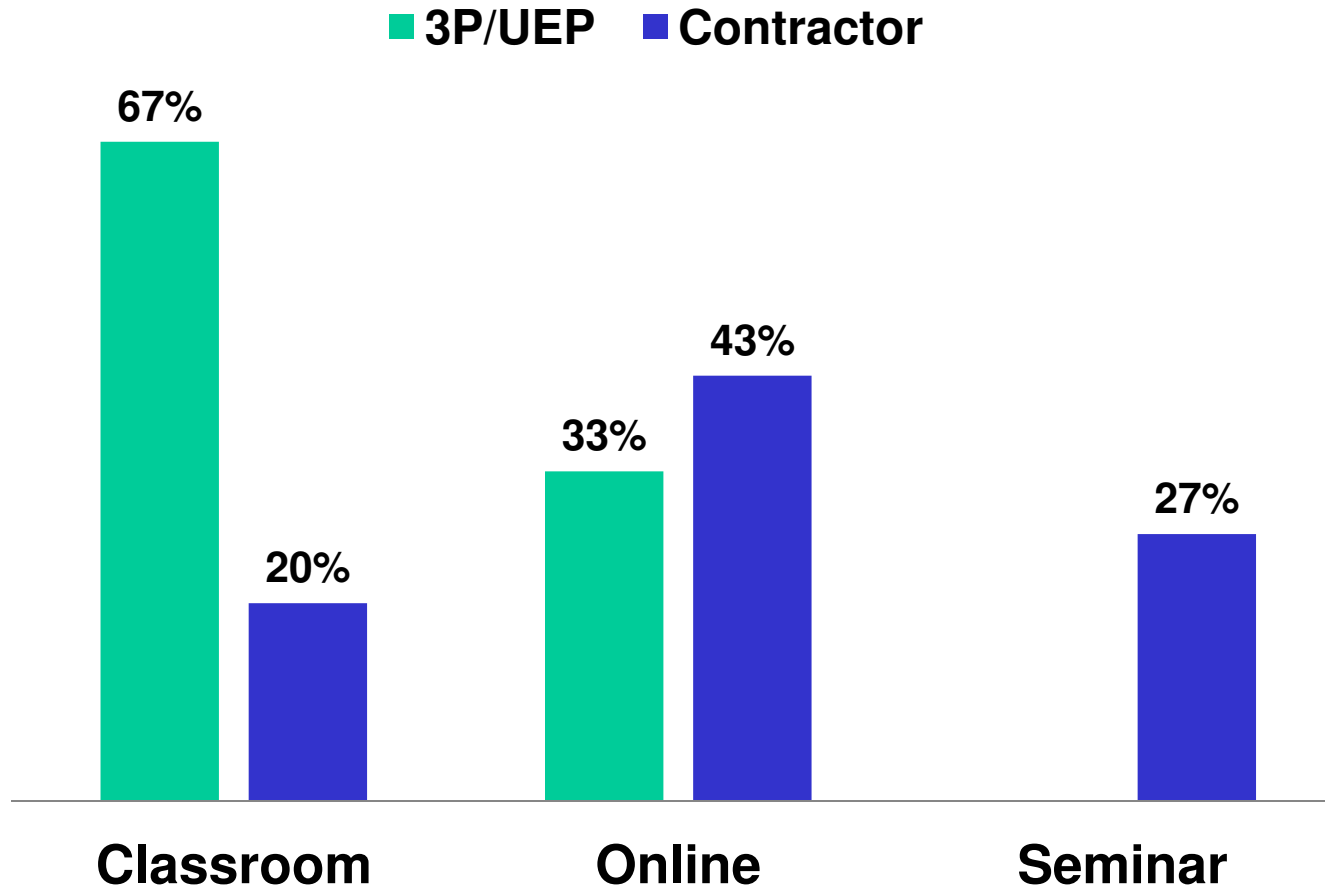


# Participants for Training

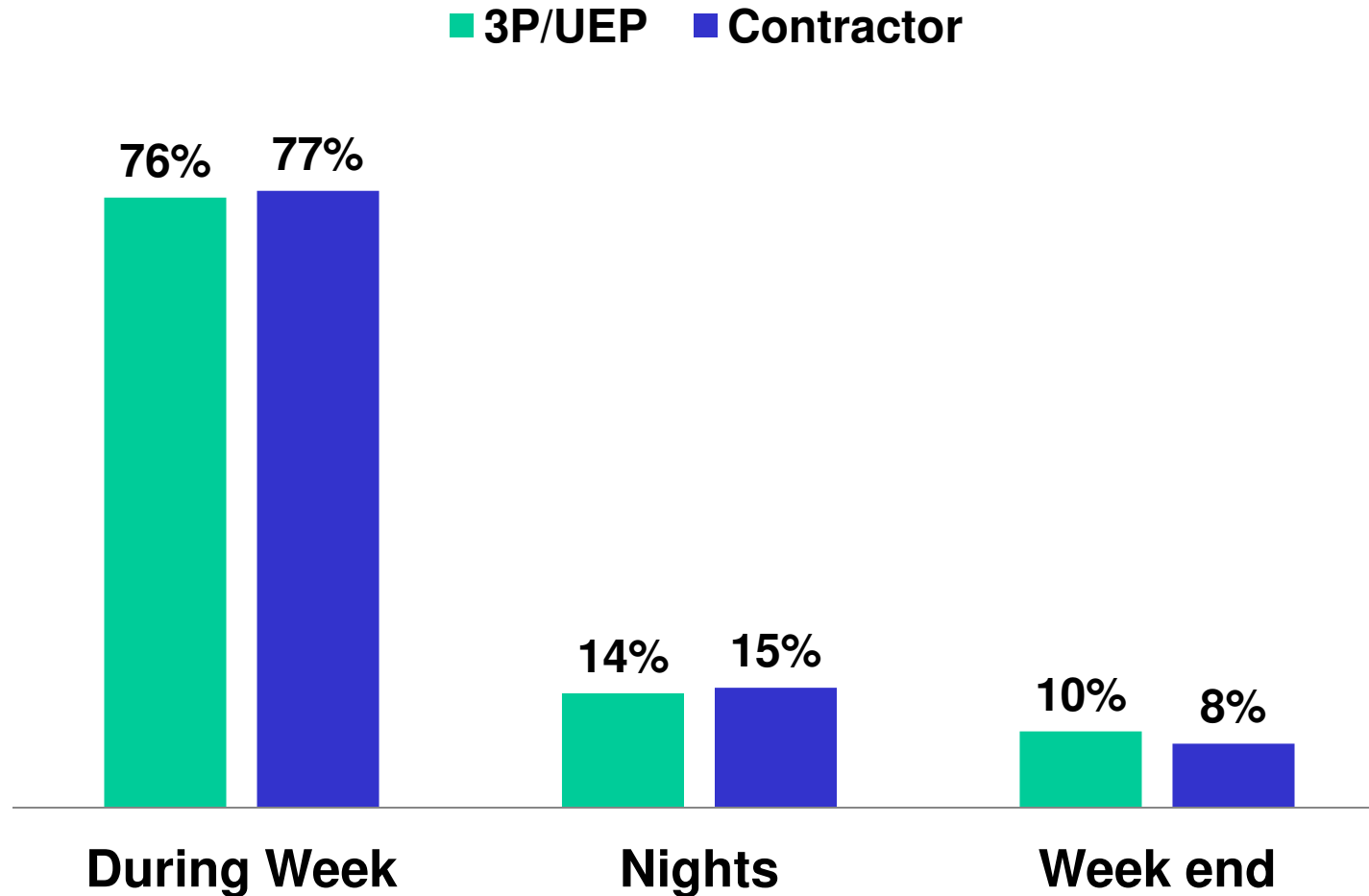
■ 3P/UEP ■ Contractor



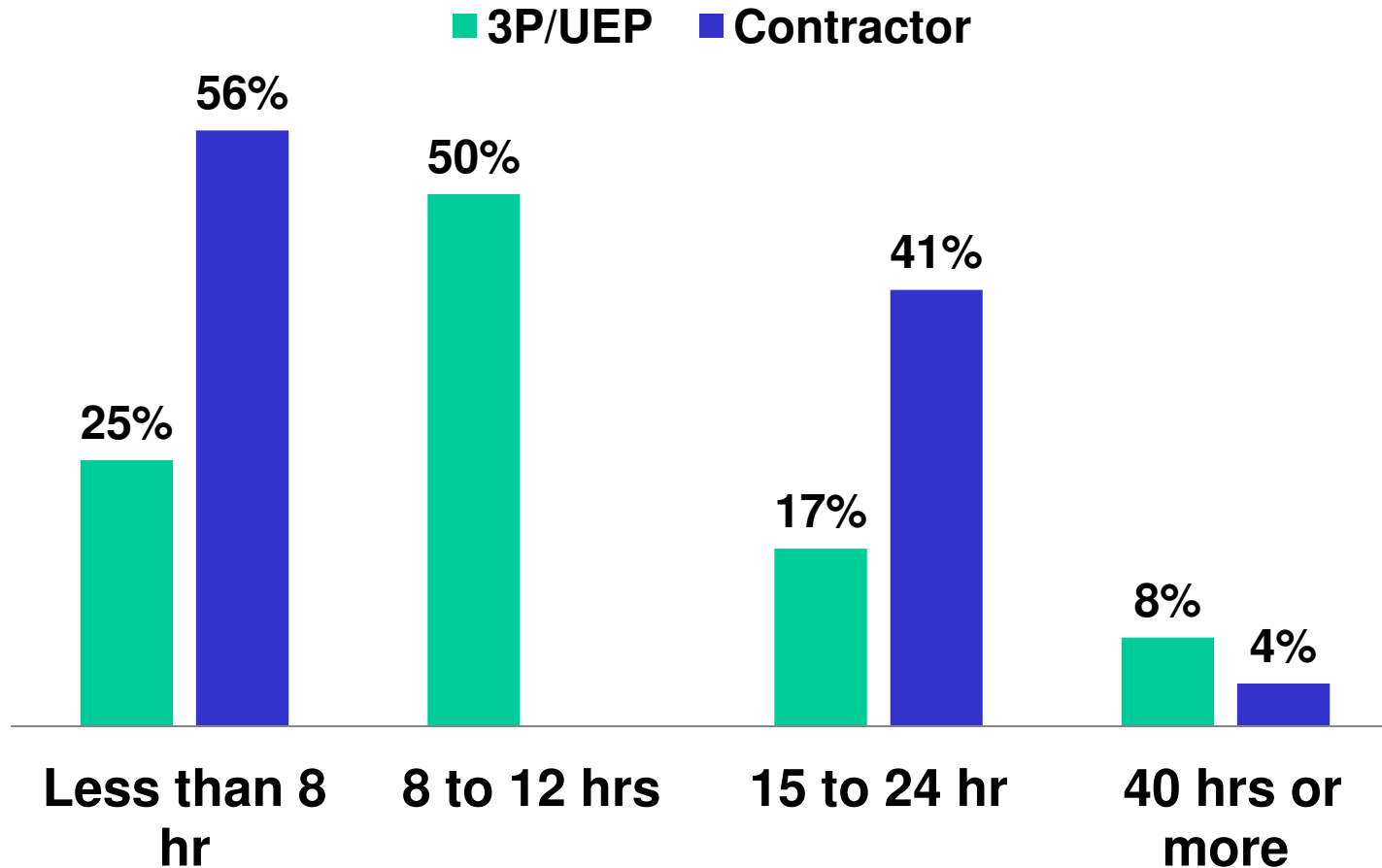
# Training Format



# When Training Desired



# Amount of Training Hours



# Business Development Seminar

## Course Specifications:

- Tailored to EE industry practitioners who interact with C/I/A customers of PG&E
- Provide students with skills and knowledge to more effectively increase customer adoption rates of EE projects
- Training Groups:
  - Senior management with EE firms
  - Program/Project Managers
  - Senior Engineers
  - Field Sales People
  - Account Executives and Vendors



# Business Development Seminar

## Course Content:

- Financial:
  - Language of the CFO
  - Which ROI tool and when (LCC, NPV, Simple Payback)
  - How loans and incentives change the equation
- Selling:
  - Identifying the key decision maker and the decision process
  - Consultative selling = Listening skills
  - Proposal development
  - Anticipating and overcoming concerns and objections
  - Identifying non-energy benefits
  - Creating a sense of urgency

# Business Development Seminar

## Course Content Continued:

- Marketing:
  - How to articulate the full value proposition to the customer
- C-Level Skills and Tools Needed:
  - Financial
  - PG&E partnership
  - Rebates and enhancements
- Case Studies:
  - Real-world sales challenges
  - Tailored to the particular cohort

# Longer-Term Employment Outlook

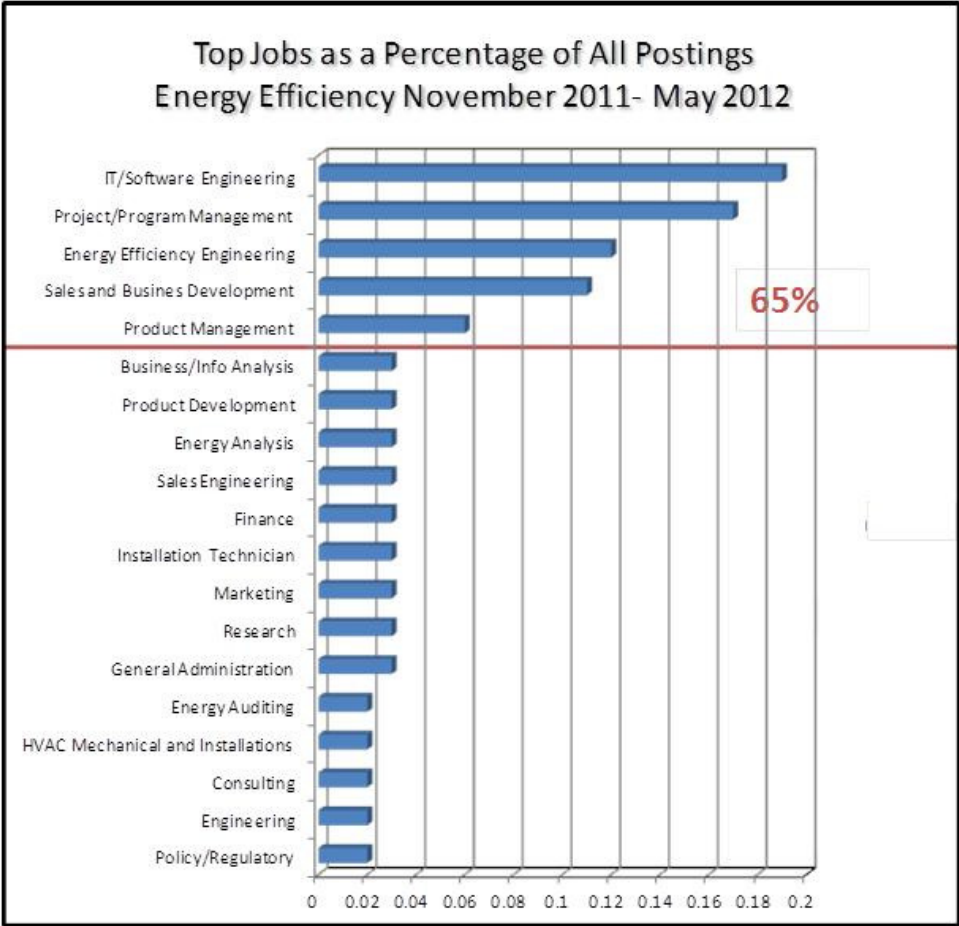
## Annual Job Openings in PG&E Service Area 2012 - 2016

Professional Categories	
Civil Engineers	318
Architects	225
General and Operations Managers	80
Construction Managers	79
Mechanical Engineers	64
Engineers, all other	62
Accountants & Auditors	31
Management Analysts	26
Environmental Engineers	25

CTE Categories	
Electricians	309
Plumbers, Pipefitters, & Steamfitters	179
Carpenters	161
First Line Supervisors	129
Managers, all other	107
Cost Estimators	69
HVAC/R Mechanics & Installers	60
Construction & Building Inspectors	55
Sheet Metal Workers	45

Economic Modeling Specialists Inc., 2012

# Near-Term Needs



SolarTech Workforce Innovation Collaborative

# Survey of Education & Training Programs

## Program Intensity – Top 20 Occupations

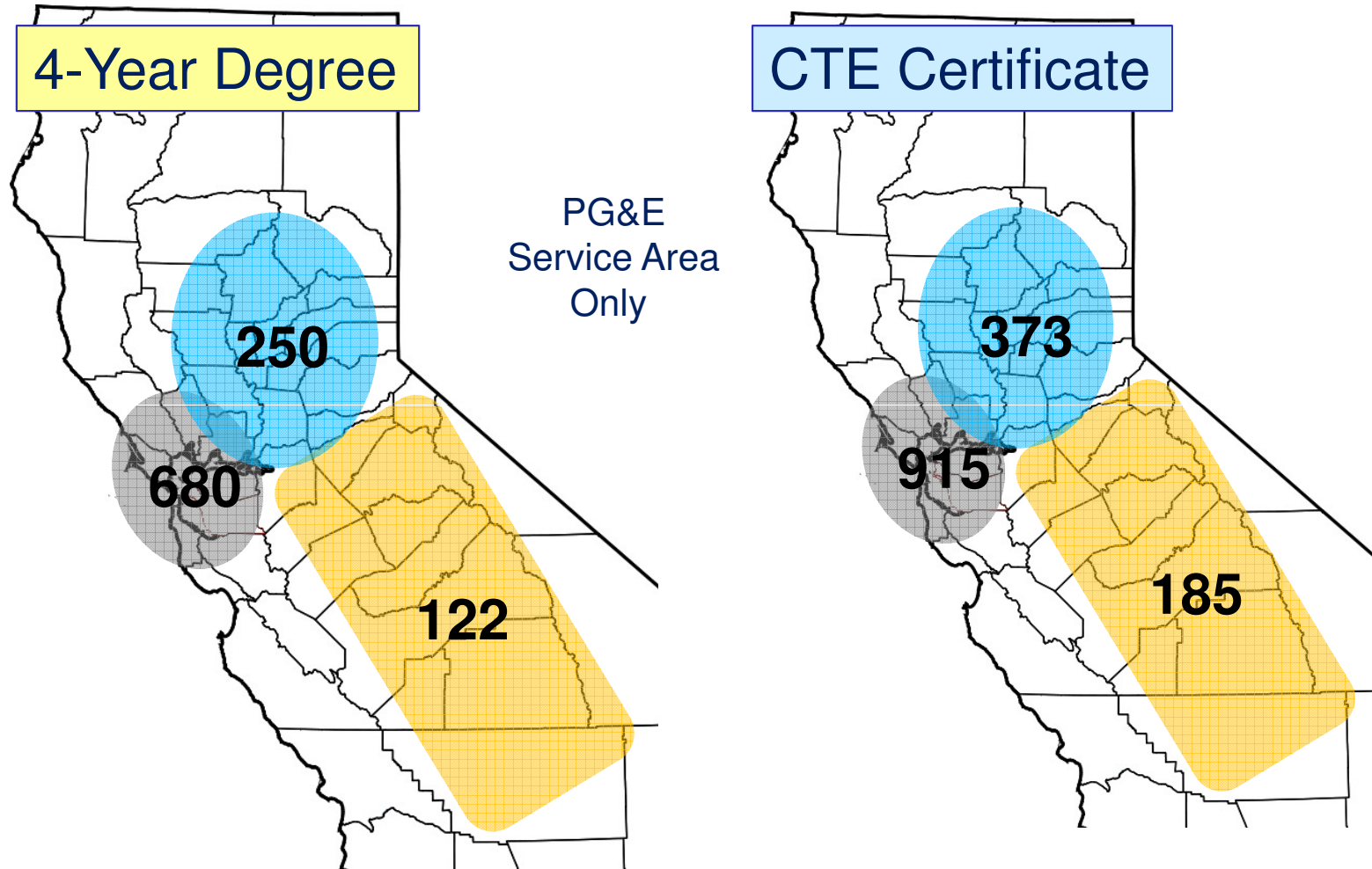
CSUs

Civil Engineering  
General Construction  
Architecture  
Mechanical Engineering  
Electrical/Electronic Engineering  
General Engineering  
Environmental Health Engineering

Community  
Colleges

Electricians  
General Construction  
Architecture  
Carpentry  
Energy/ HVAC Technology

# Annual Distribution of Job Openings Projected for 2012 - 2016



# CSU Programs

## Highest Relevance to Energy Efficiency

### Cal State Chico

- Civil Engineering
- Electrical & Electronic Engineering
- Mechanical Engineering
- General Construction

### San Francisco State

- Civil Engineering
- Mechanical Engineering
- Electrical & Electronic Engineering

### CSU East Bay

- General Engineering
- General Construction

### San Jose State

- Civil Engineering
- Electrical & Electronic Engineering
- General Engineering
- Mechanical Engineering

### Sacramento State

- Mechanical Engineering
- Civil Engineering
- Electrical & Electronic Engineering
- General Construction

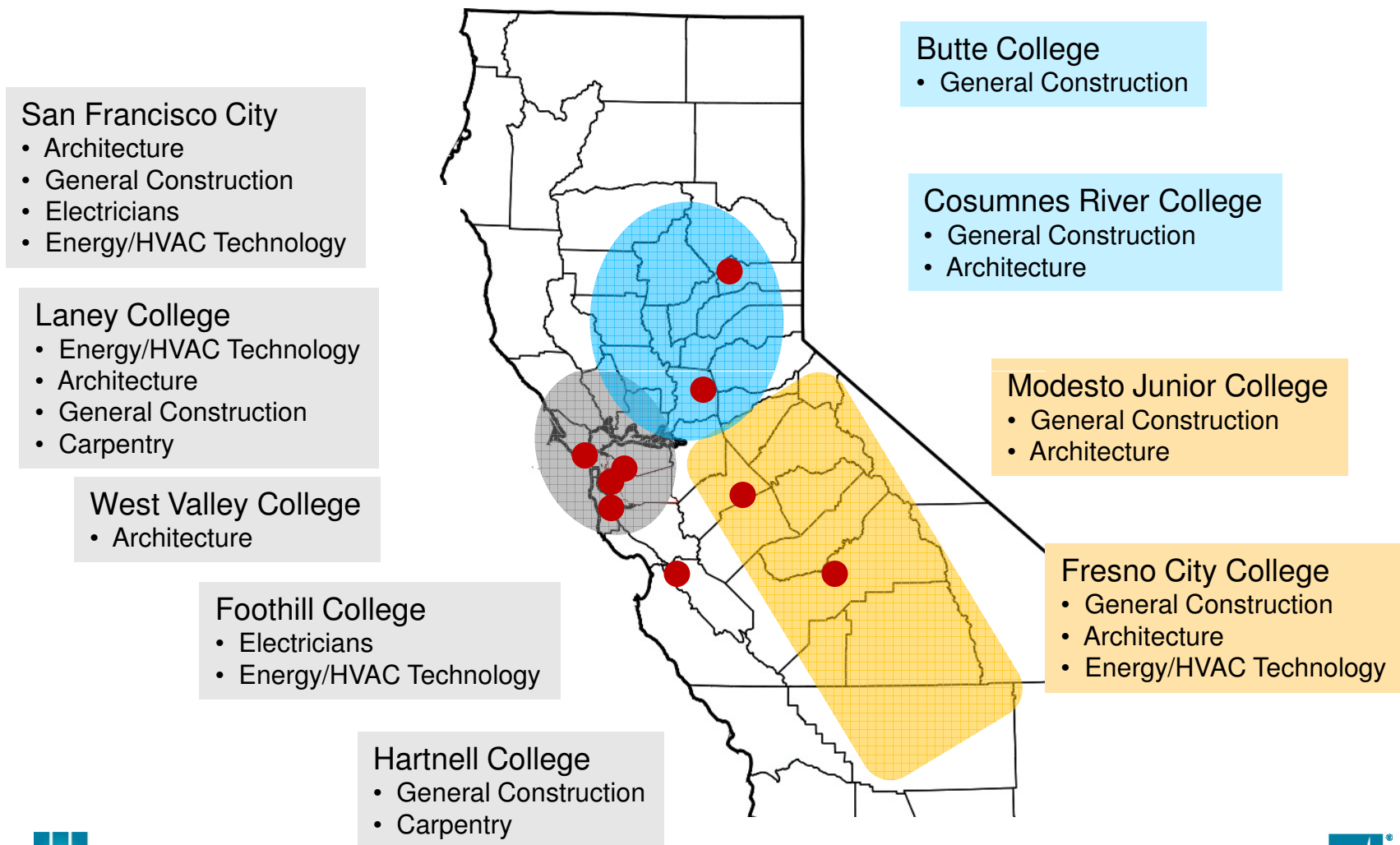
### Fresno State

- Electrical & Electronic Engineering
- Mechanical Engineering
- Civil Engineering
- General Construction

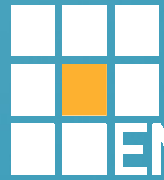
### Cal Poly San Luis Obispo

- Architecture
- Mechanical Engineering
- Civil Engineering
- Environmental Health Engineering
- Electrical & Electronic Engineering
- General Engineering
- General Construction

# Community College Programs Highest Relevance to Energy Efficiency







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# Direction 2013 & Beyond

# Demand Creation Gaps

Area of Need	Skills Gaps
Marketing Training	Target Audience: Senior Energy Professionals
	<i>KSAs: analytics, segmentation, messaging tailored by segment</i>
Sales Training	Target Audience: Senior Energy Professionals
	<i>KSAs: C-Level/ Facilities Manager relationship skills, consultative selling</i>
	Target Audience: Incumbent energy efficiency professionals seeking senior positions
	<i>KSAs: consultative selling coupled with core financial and technical elements</i>
Marketing & Sales Education	Target Audience: Students in community college and university programs
	<i>KSAs: perspectives in energy efficiency financial and technical elements</i>

# Capacity Gaps

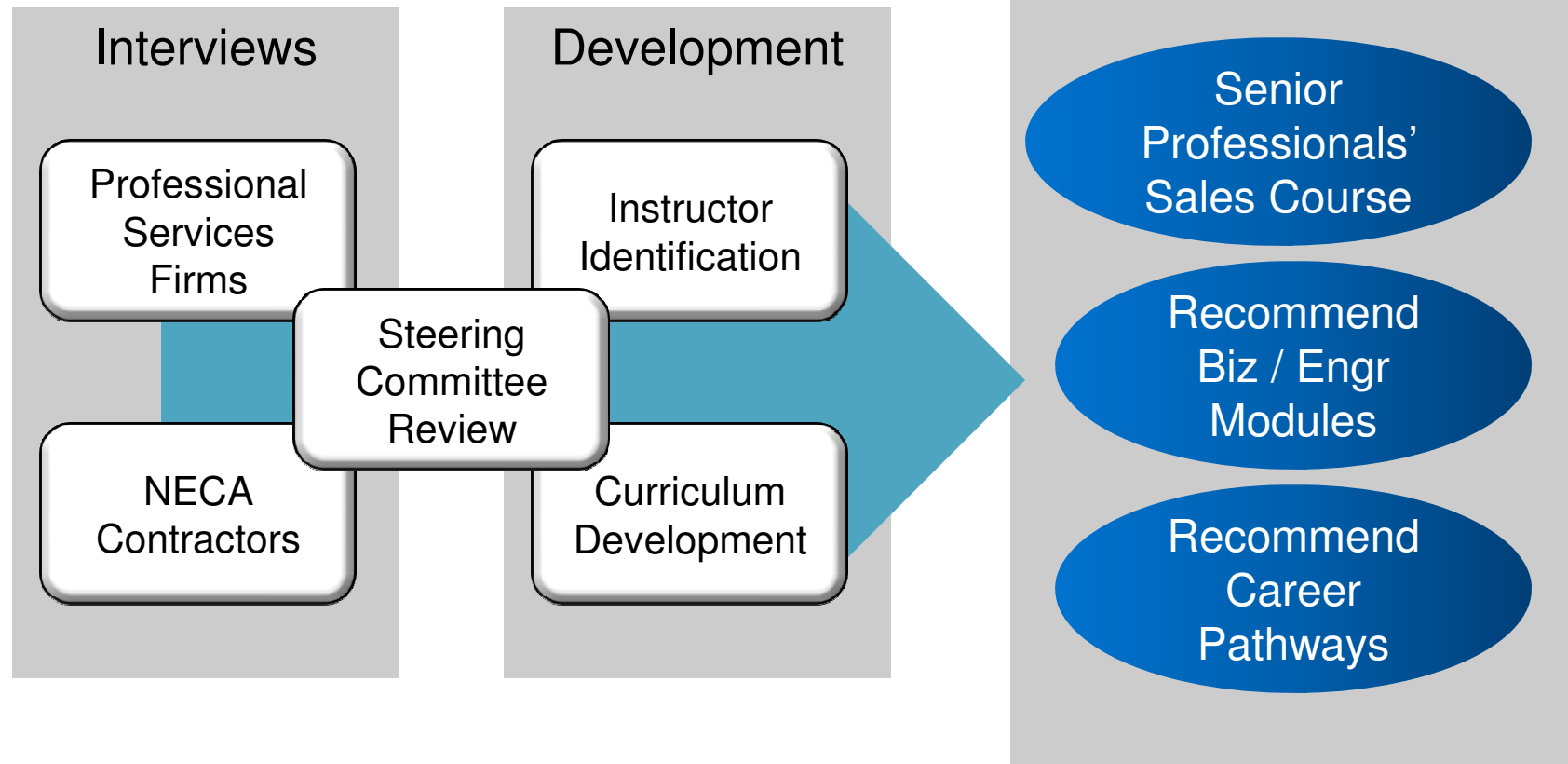
Areas of Need	Capacity Gaps
Engineers	<p><u>Target Audience:</u> <i>Incumbent engineers with up-skilling needs, dislocated and career-changing engineers</i></p> <p><i>KSAs: energy efficiency technology, systems, and economics</i></p>
Energy Auditors	<p><u>Target Audience:</u> Dislocated technical workers and career changers</p> <p><i>KSAs: technologies, systems, codes, and standards</i></p>
Skilled Technical Workers	<p><u>Target Audience:</u> Dislocated technical workers and career changers, <i>Students in Career Technical Education or JATC programs</i></p> <p><i>KSAs: Specific skilled trades categories</i></p>
ICT Skills for Technical Workers	<p><u>Target Audience:</u> TBD</p> <p><i>KSAs: Integration of ICT into traditional electrical, electronic, and mechanical skill sets</i></p>

# Compliance Gaps

Area of Need	Compliance Gap
Optimizing Energy Efficiency and Return on Investment	<p><u>Target Audience:</u> TBD</p> <p><i>KSAs: Compliance skills and best practices across the spectrum of commercial/industrial energy efficiency</i></p>

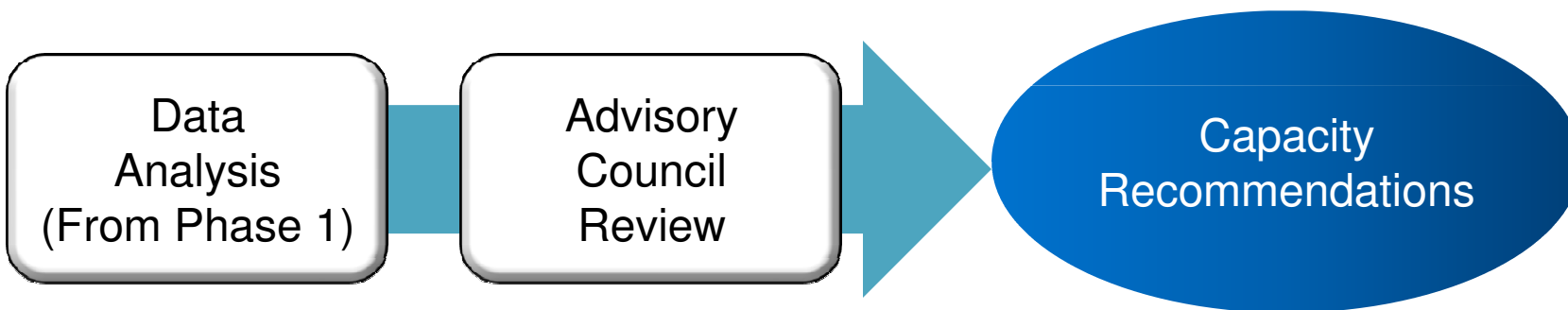
# Deliverables

## Demand Creation



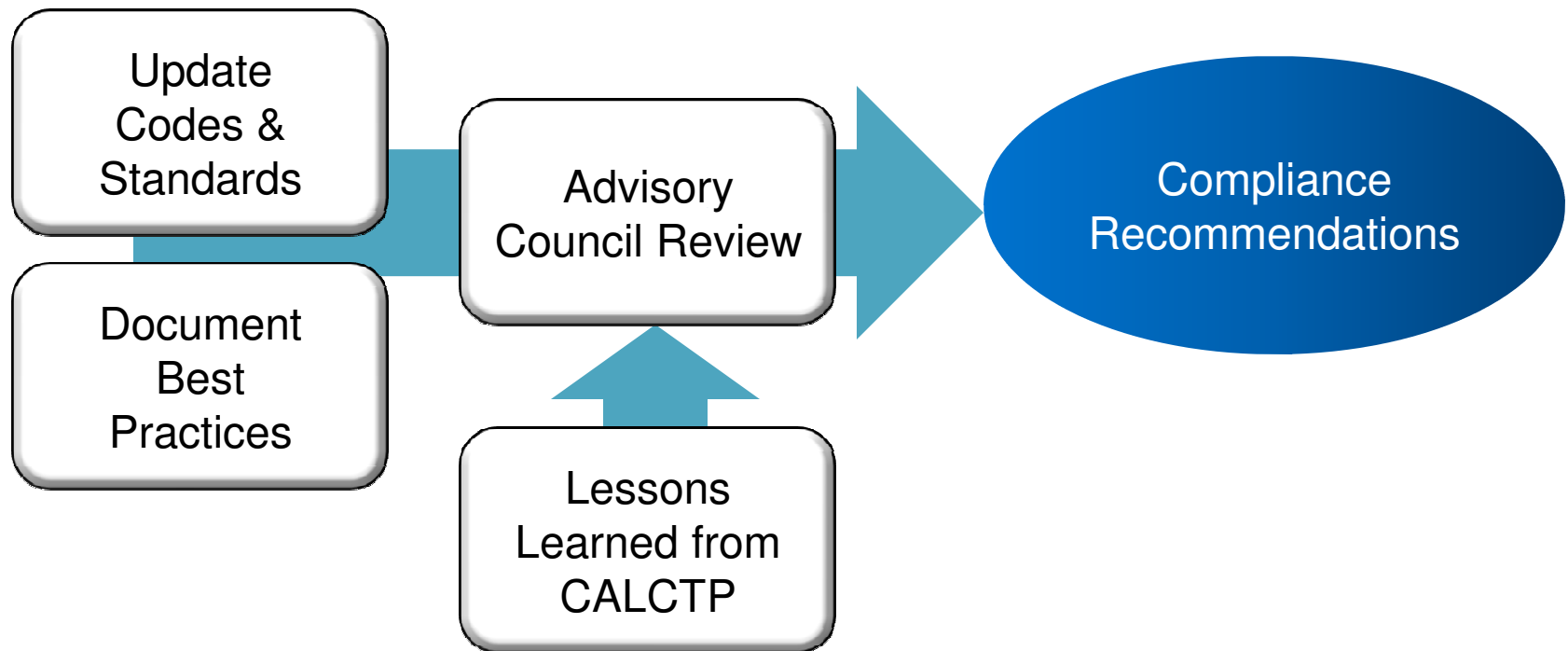
# Deliverables

## Capacity

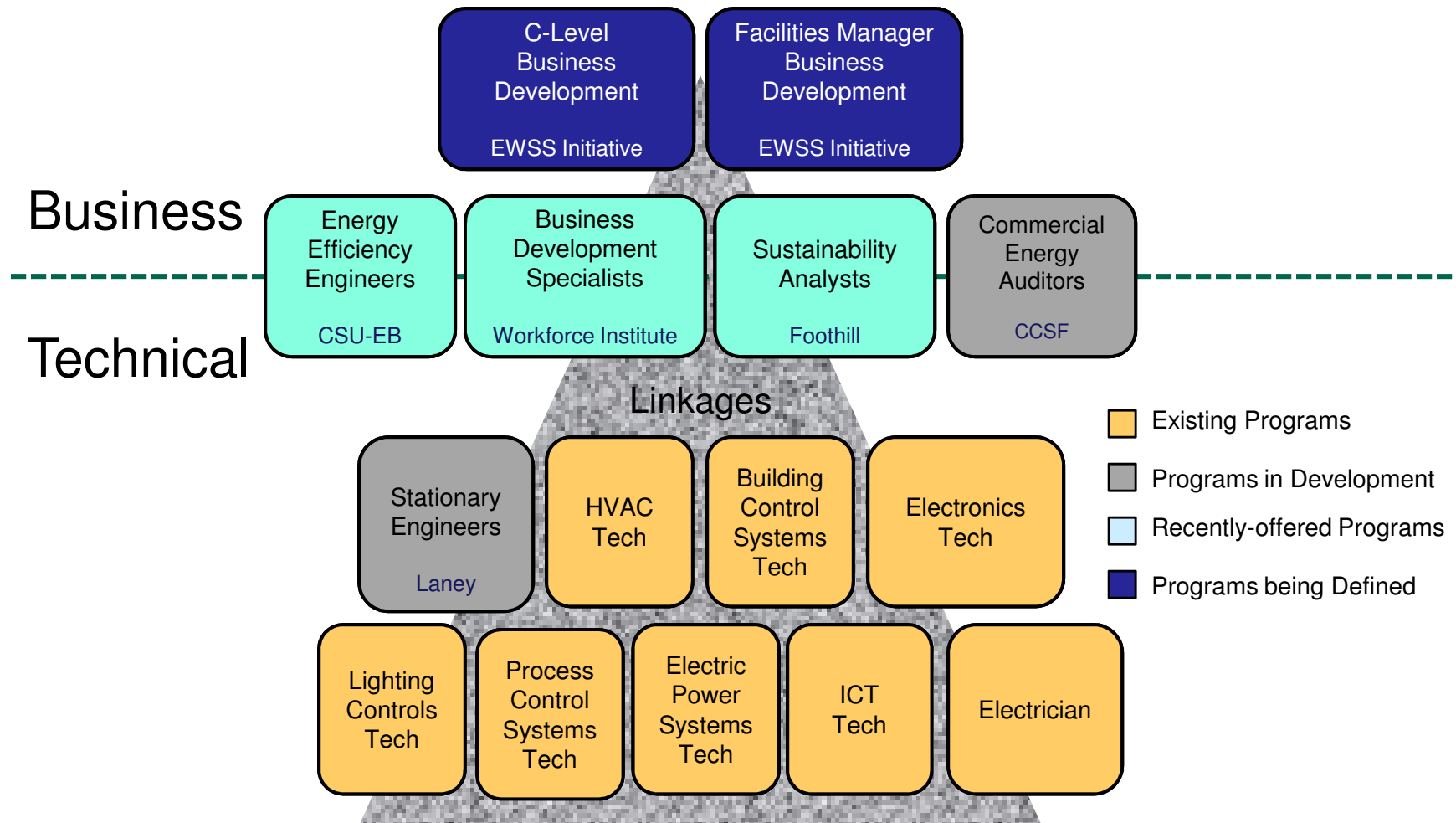


# Deliverables

## Compliance

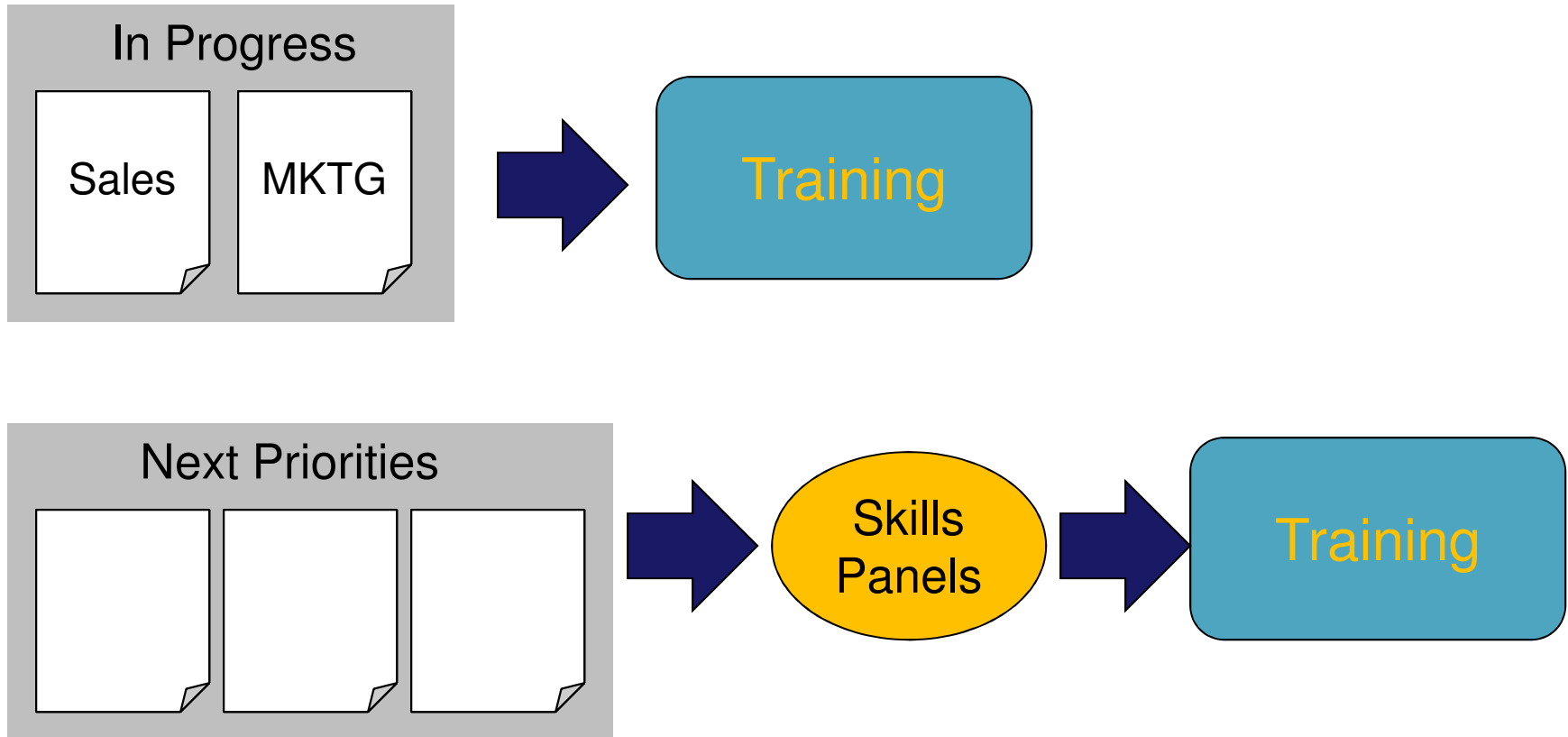


# Energy Efficiency Training Portfolio



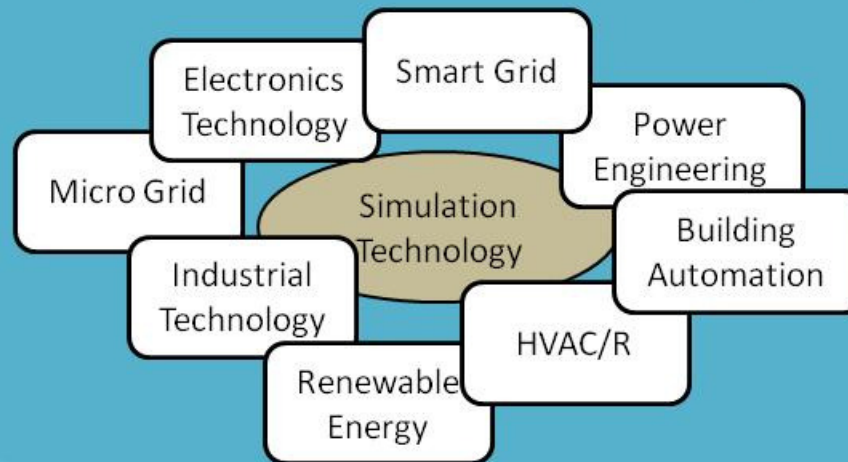


# Engagement with Educators?

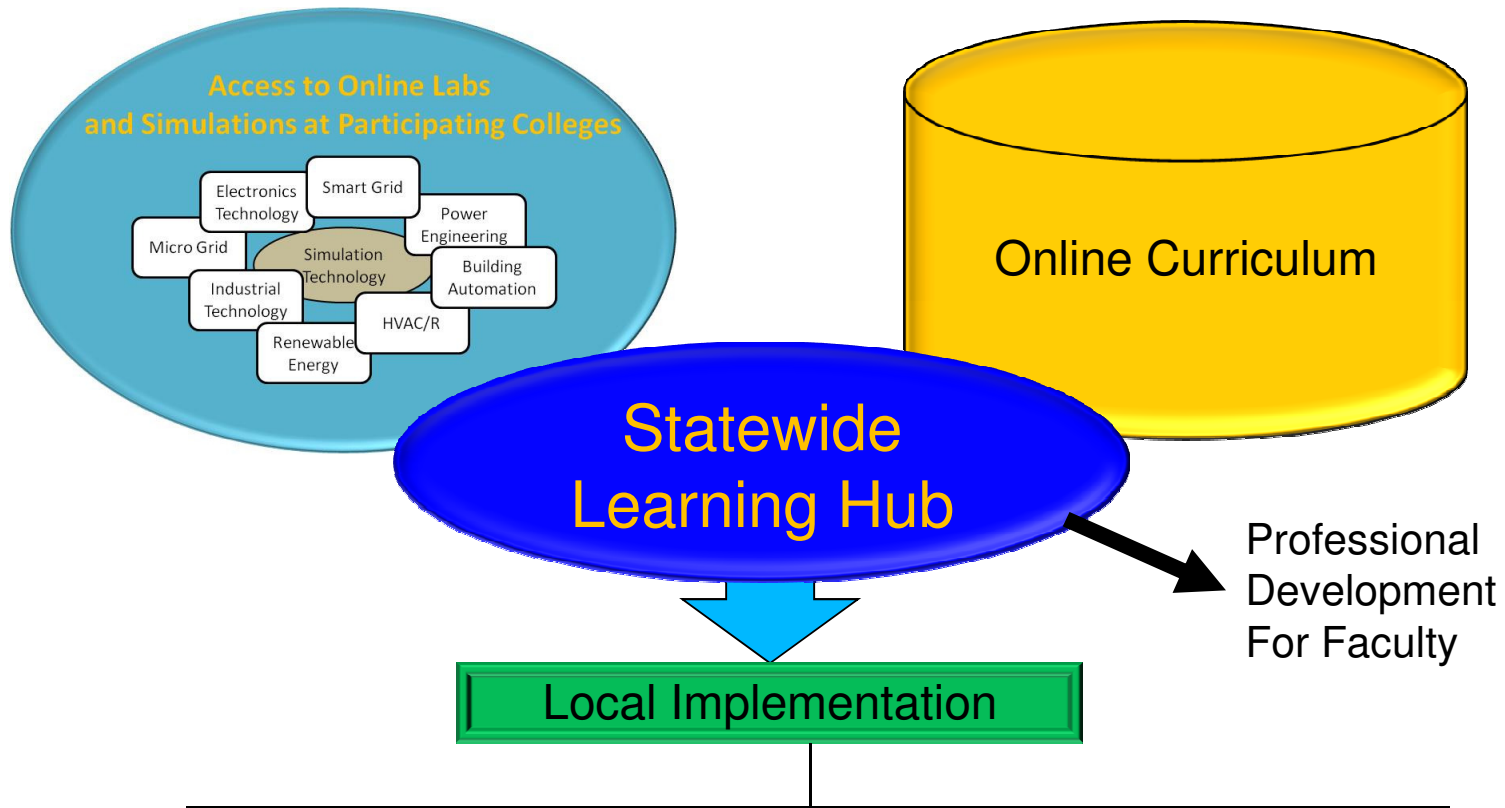


# Potential Investment in the Future

## Access to Online Labs and Simulations at Participating Colleges



# Potential Investment in the Future



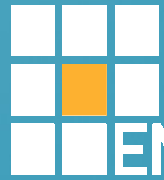
Individualized Learning

Classroom Supplement

Project-based Learning

On-Site Facilities Experience

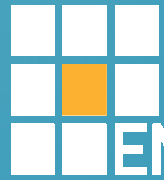
Internships



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## Discussion



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# Thank You