

Workforce: The Human Supply Chain

James E. Rzepkowski

Director – Workforce Development



United States Energy Association, Washington, DC

November 9, 2010

With appreciation to CEWD and NEI for the following slides



Balancing Supply and Demand

Demand

- How many?
- What jobs?
- Skills ?
- When?



Supply

- Best education pathway?
- Current educational assets?
- How many will complete?
- When?

Workforce Development Drivers



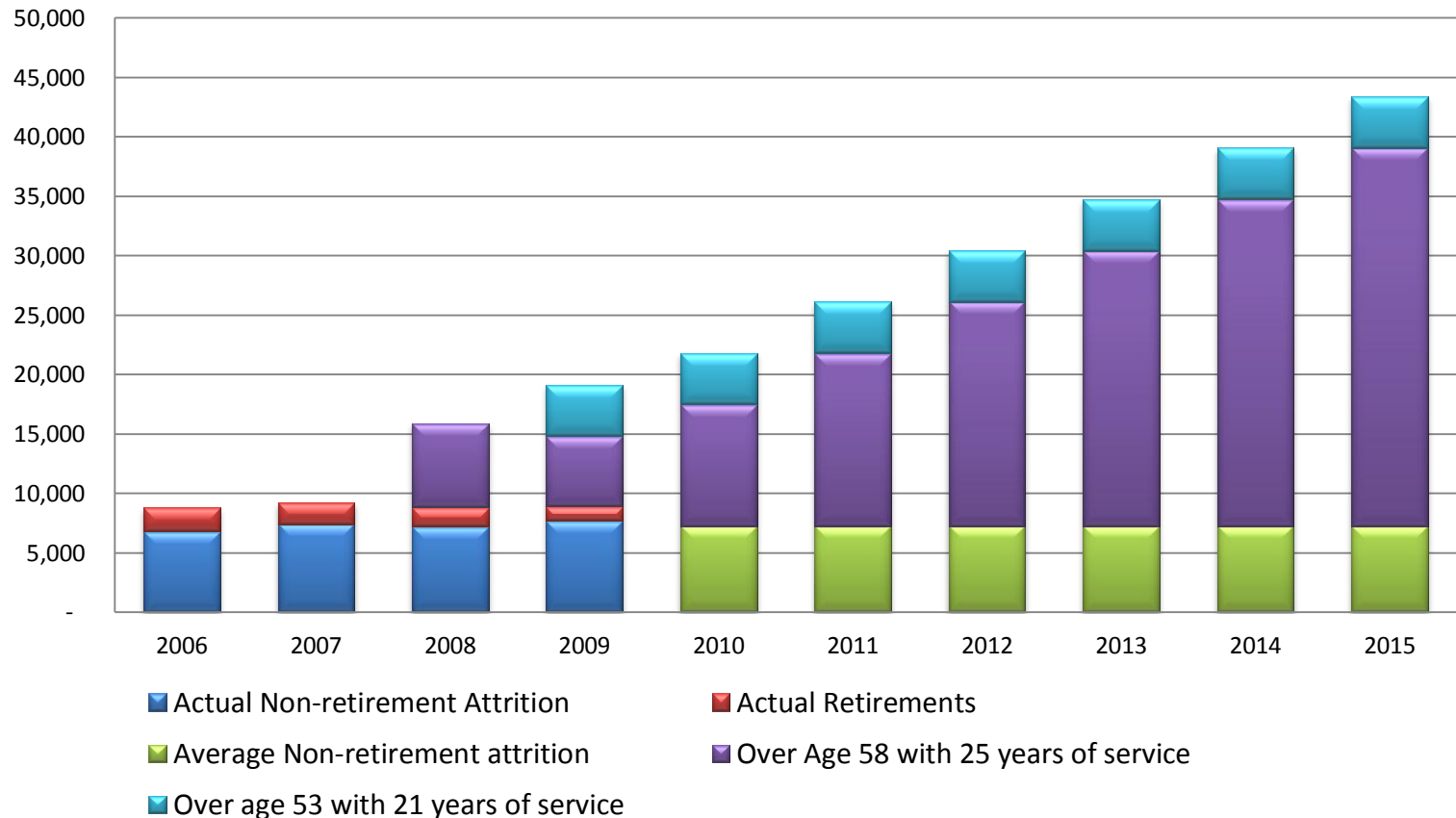
- A need to balance supply and demand for the energy workforce in key job categories
- Skill gaps in potential applicants
- New and emerging technologies that require additional skills



Skilled Trades

Retirement and Attrition

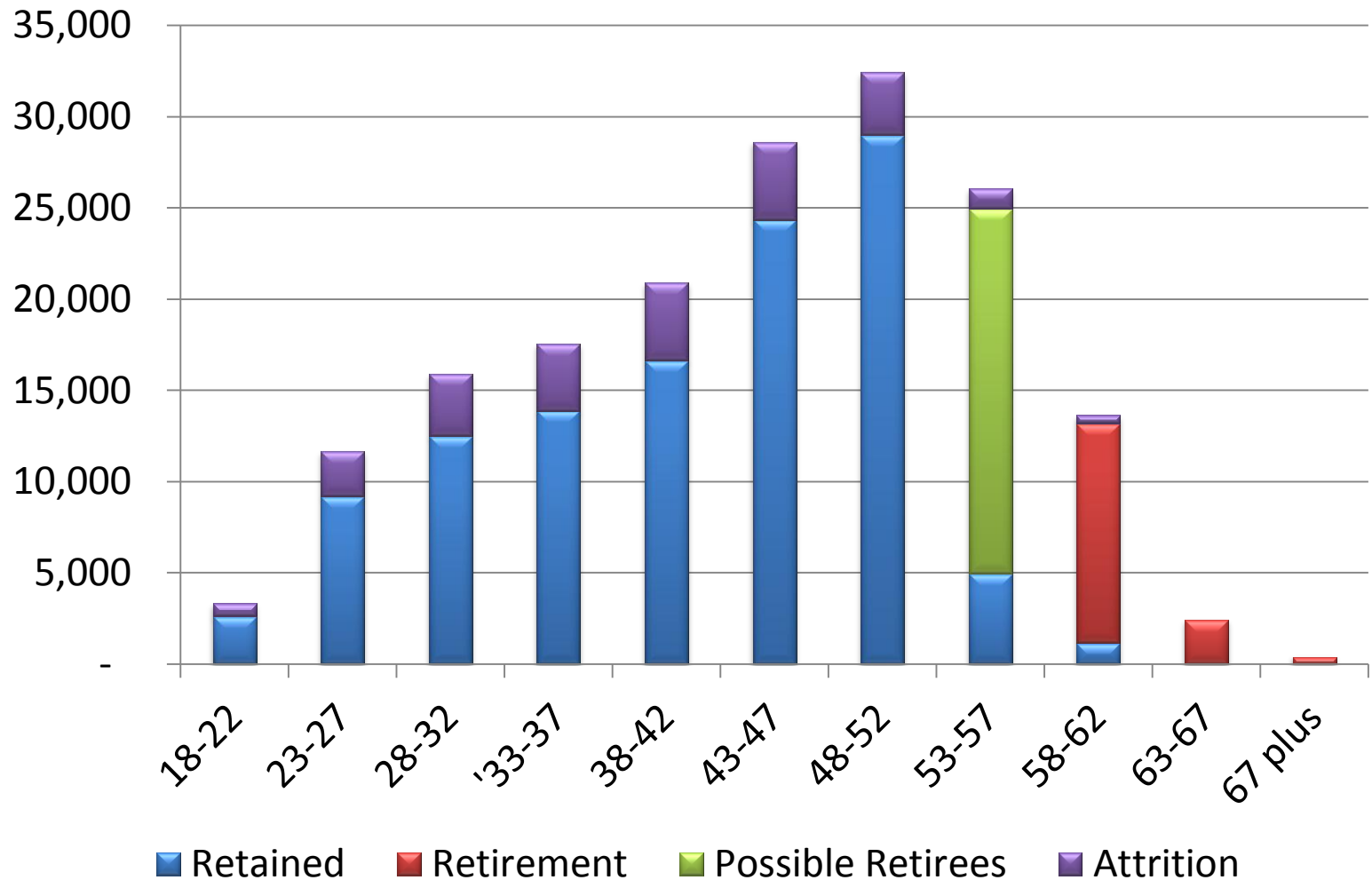
Cumulative Forecast of Potential Retirements



Assumes an even age distribution for retirements over next 5 years

2008 Age and Years of Service

Data reflecting Potential retirements for Skilled Trades



Summary Findings

Estimated Number of Potential Replacements - National

Job Category	2009 Results By 2015	
	Percentage of Potential Attrition & Retirement	Estimated Number of Replacements
Technicians	50.7	27,800
Non-Nuclear Plant Operators	49.2	12,300
Pipefitters / Pipelayers	46.1	8,900
Lineworkers	42.1	30,800
Engineers	51.1	16,400

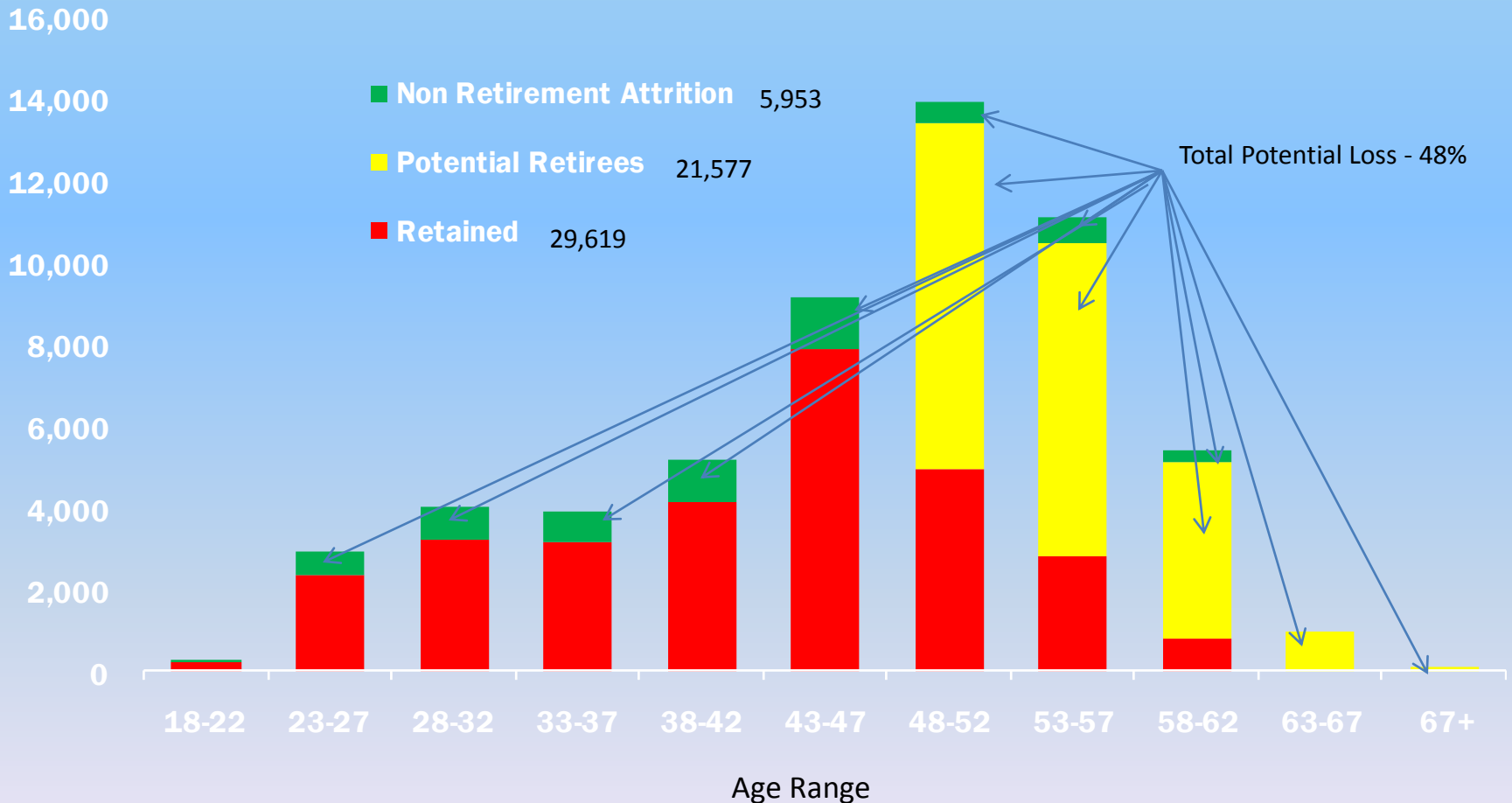
Nuclear Industry Employment Distribution by Age

2009 Survey



Source: 2009 NEI Pipeline Survey Results, Contractors not included

Nuclear Generation 5-Year Attrition



Potential Retirees are defined as employees that will be older than 53 with 25+ years of service, or older than 63 with 20 years of service, or older than 67 within the next five years.

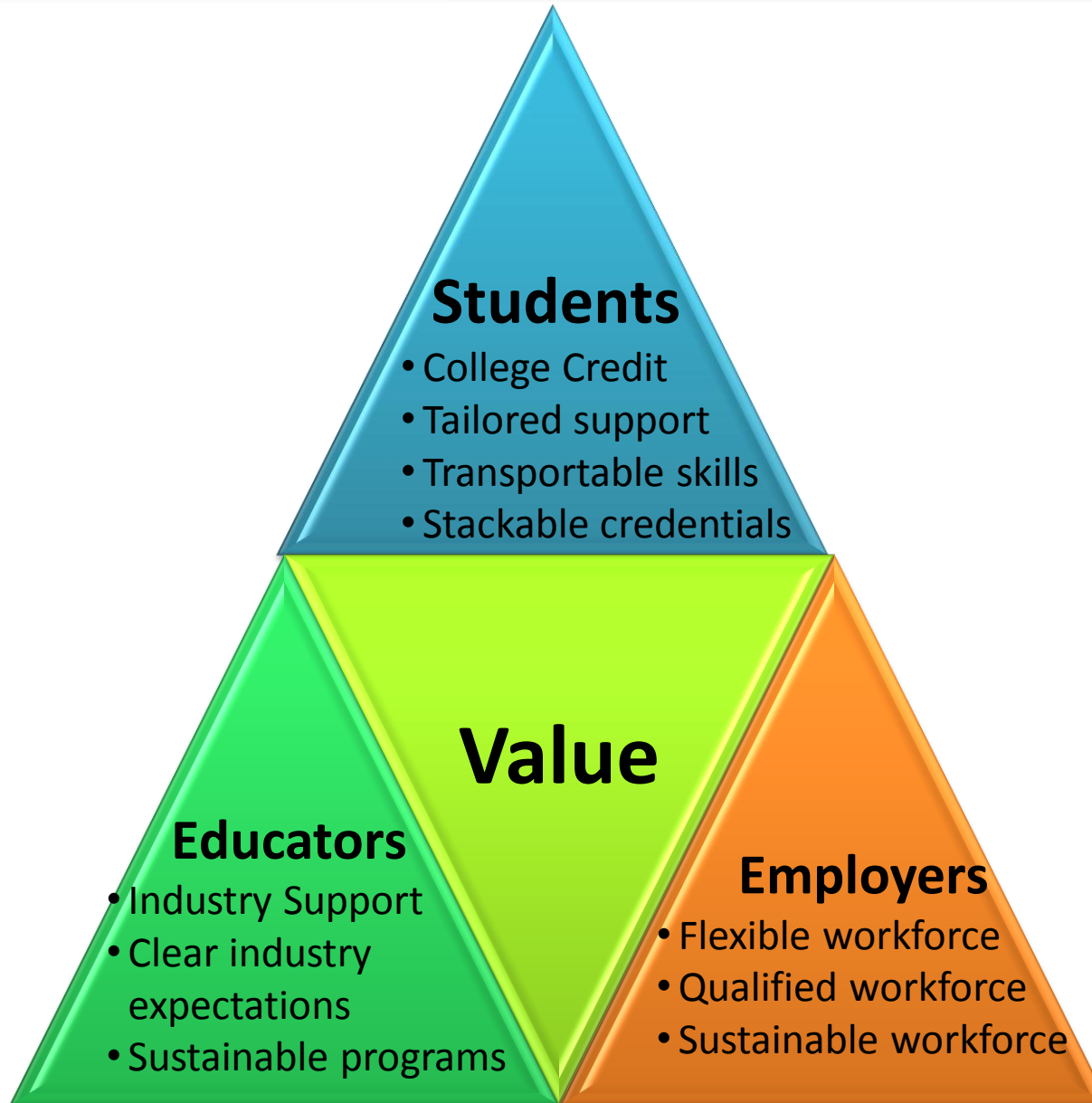
Source: 2009 NEI Pipeline Survey Results

What we know

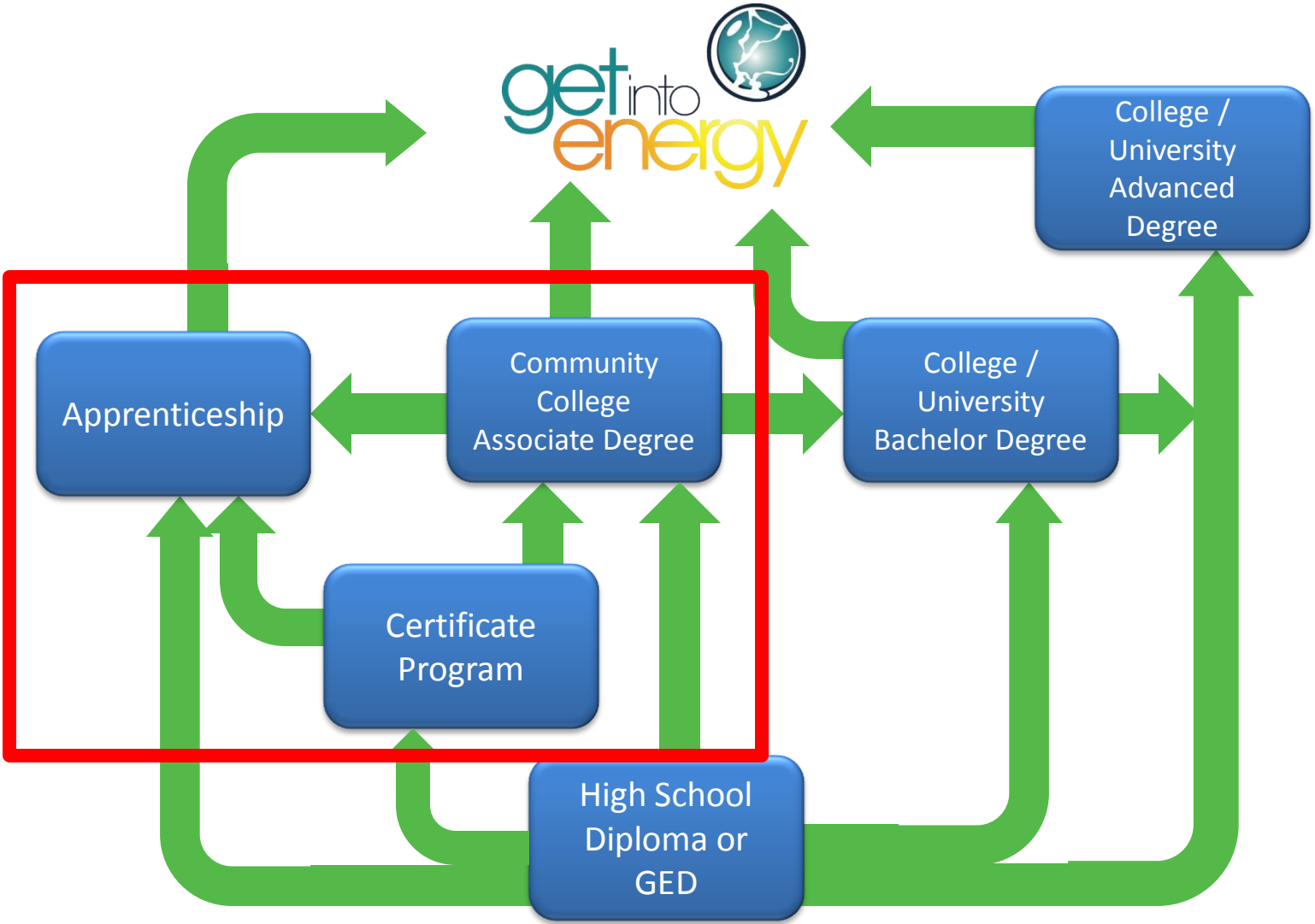
- Industry partnerships and collaboration work
- Targeted career awareness works
- Focusing on supply / demand at state level works
- Curriculum based on competencies works
- Shared curriculum and resources reduce cost
- Workforce development efforts must create value for all three stakeholders

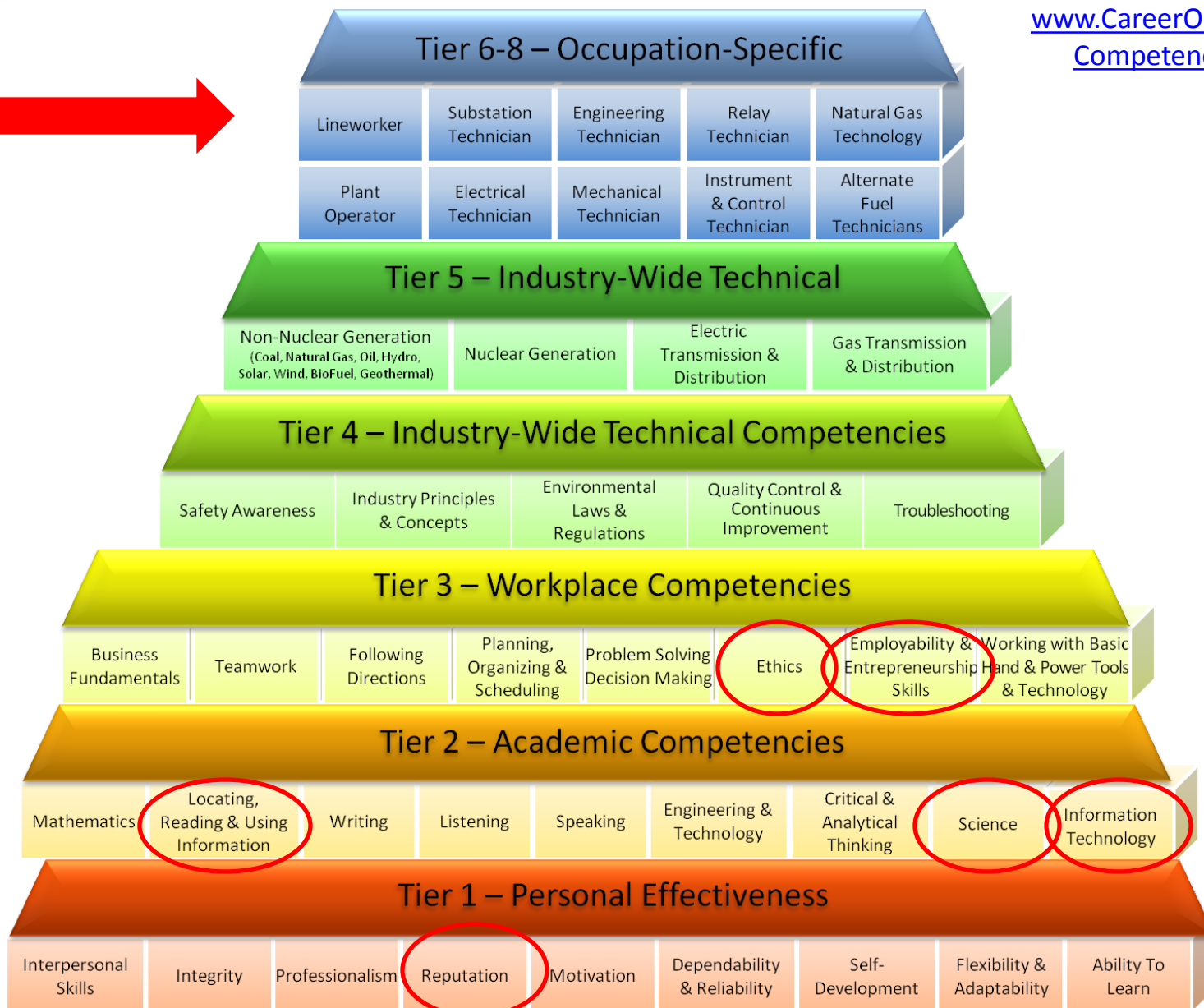


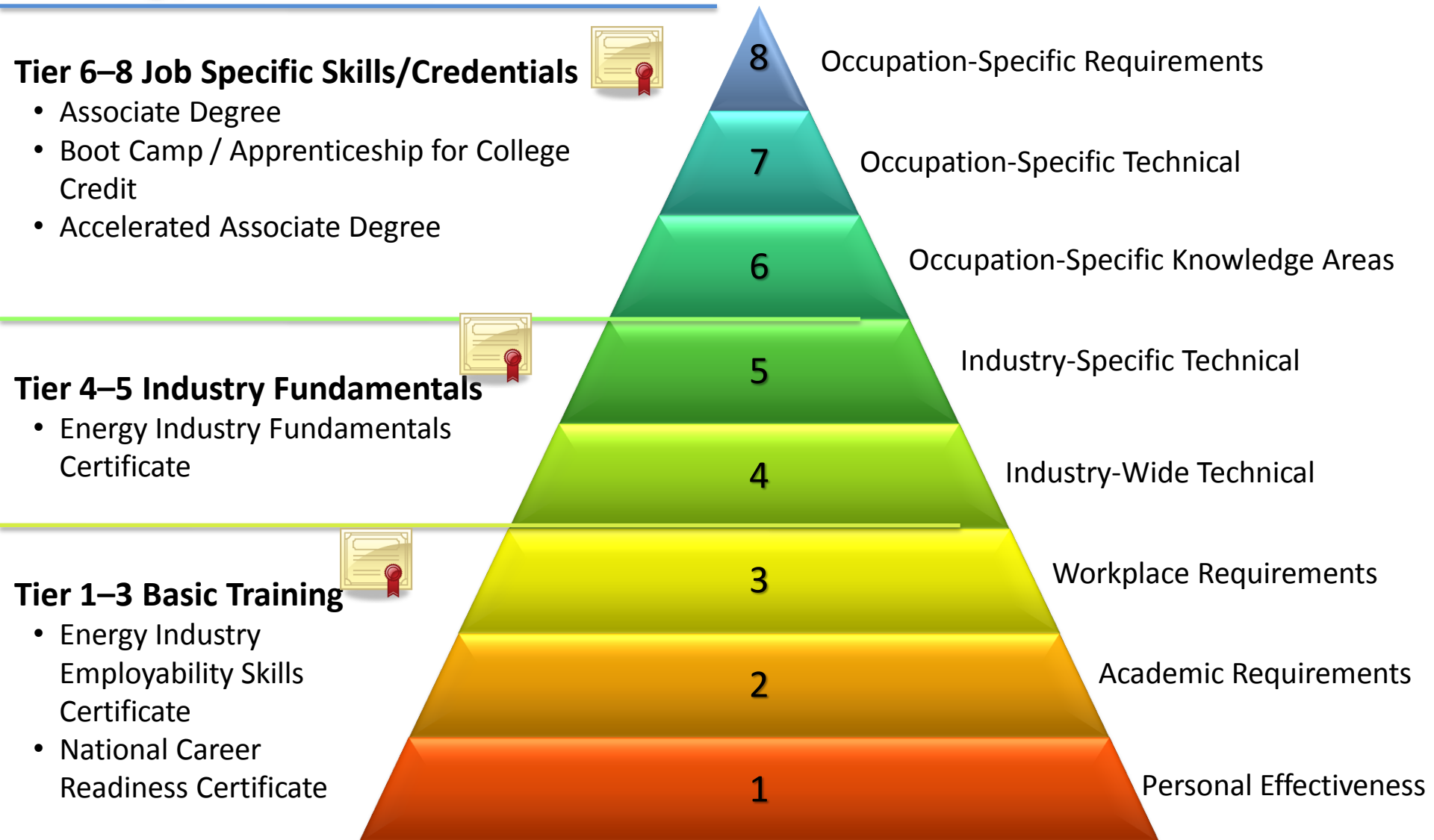
**Building Bridges
to Energy Careers**



Education Pathways

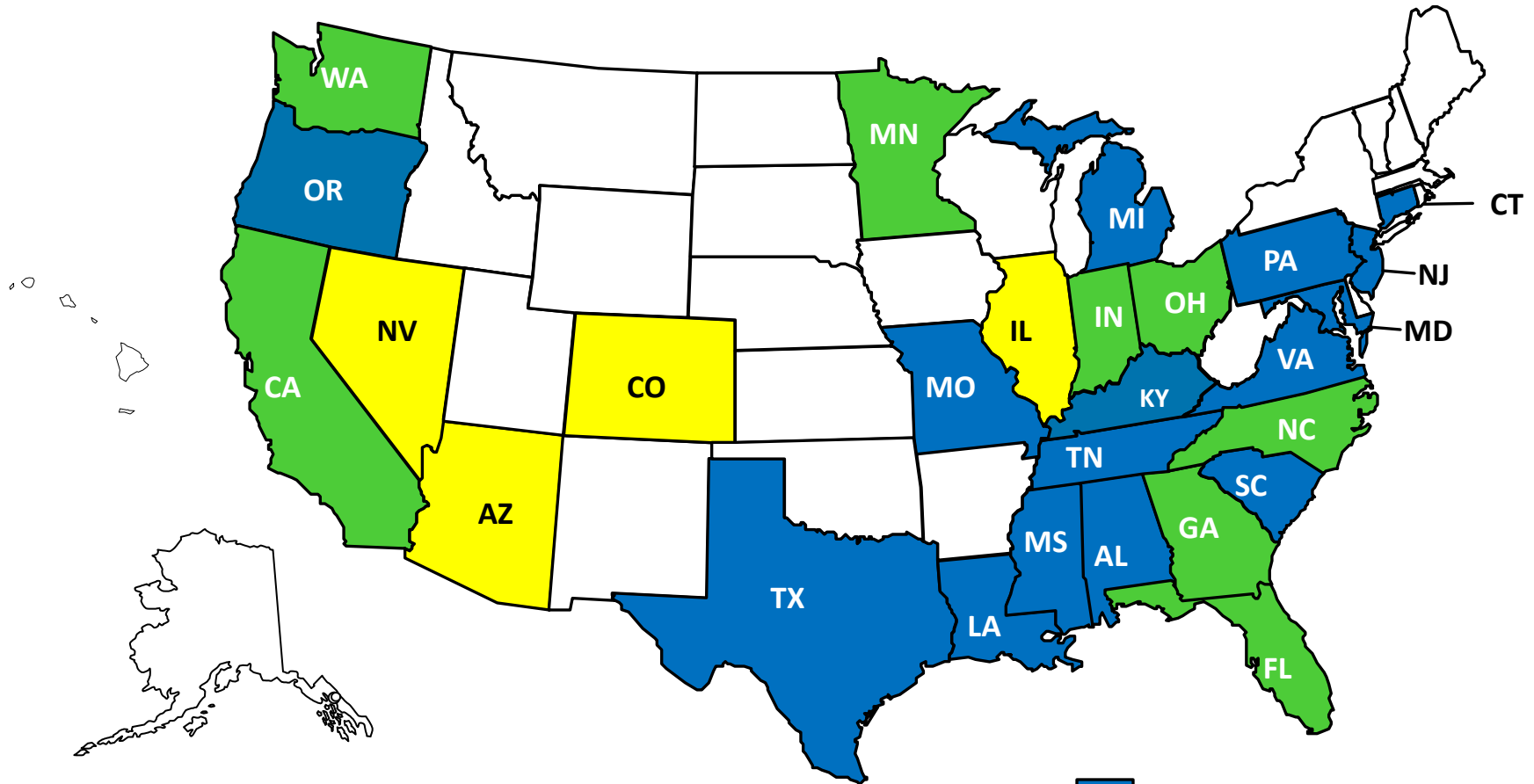








Energy Competency Tier Model for Skilled Technician Positions in Energy Efficiency, Energy Generation and Energy Transmission and Distribution

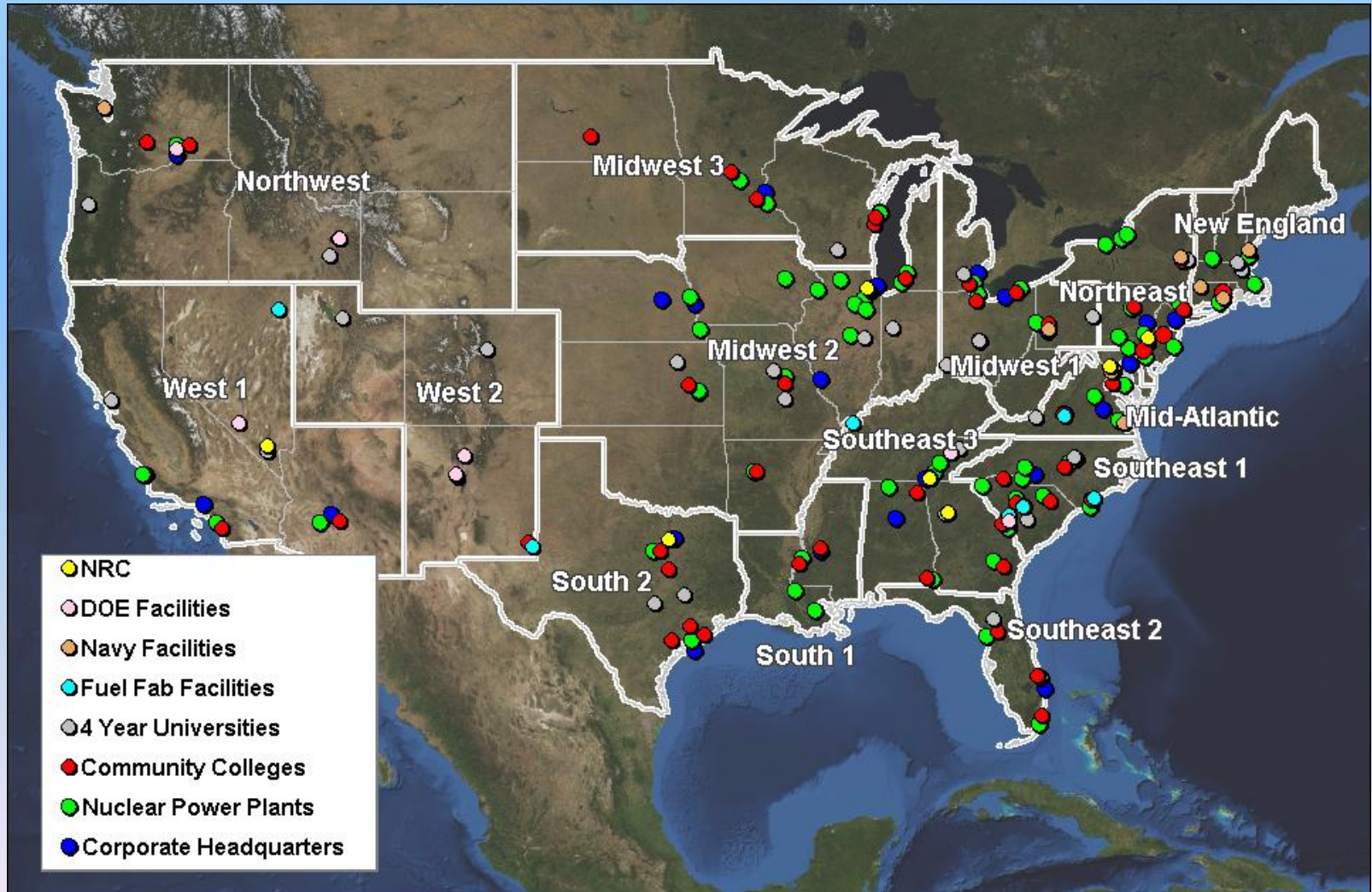
State Energy Workforce Consortiums



 Existing Consortium
GEICP Pilot States

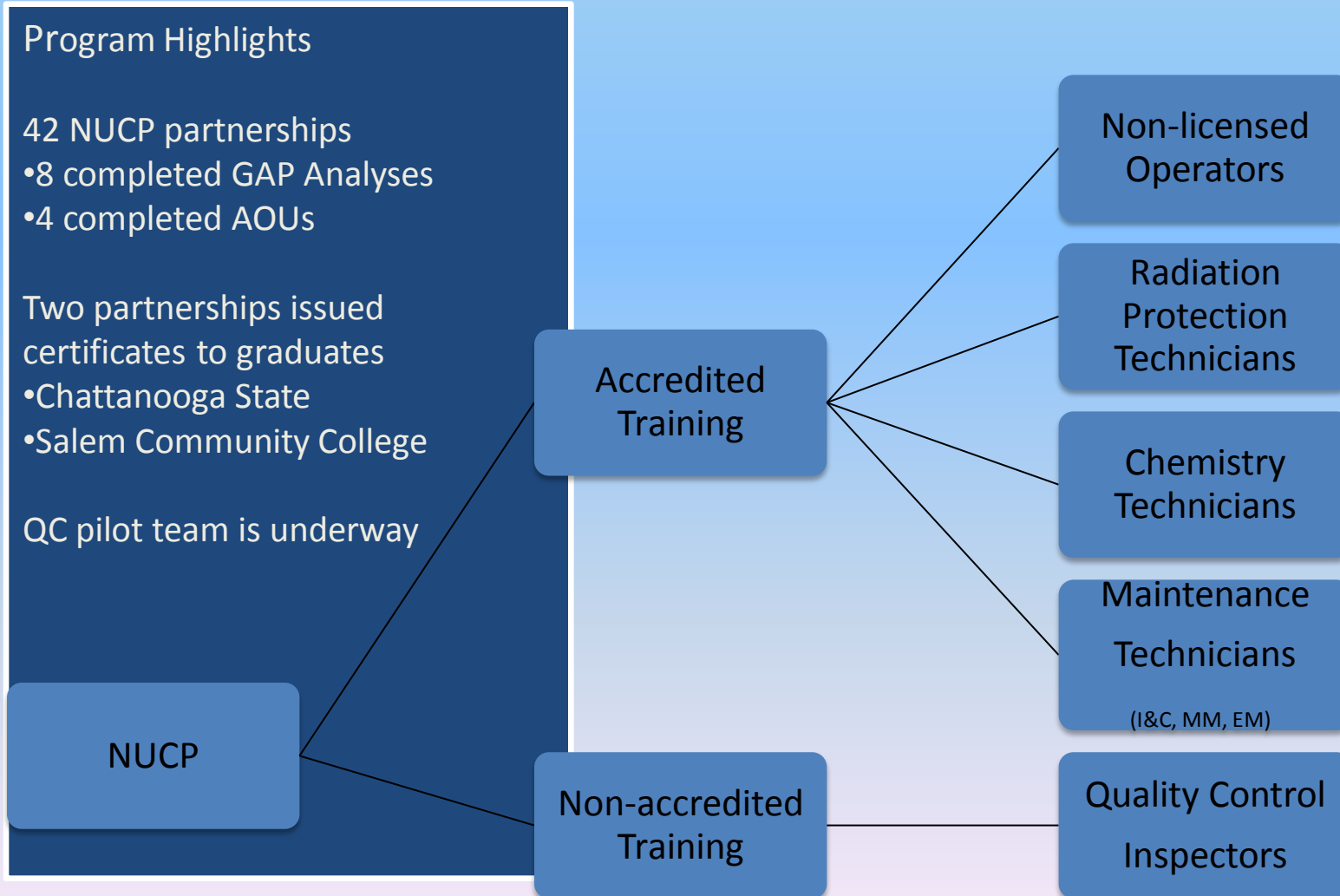
 Existing Consortium
 Planned Consortium

United States of America Nuclear Infrastructure



* Data as of May 2010

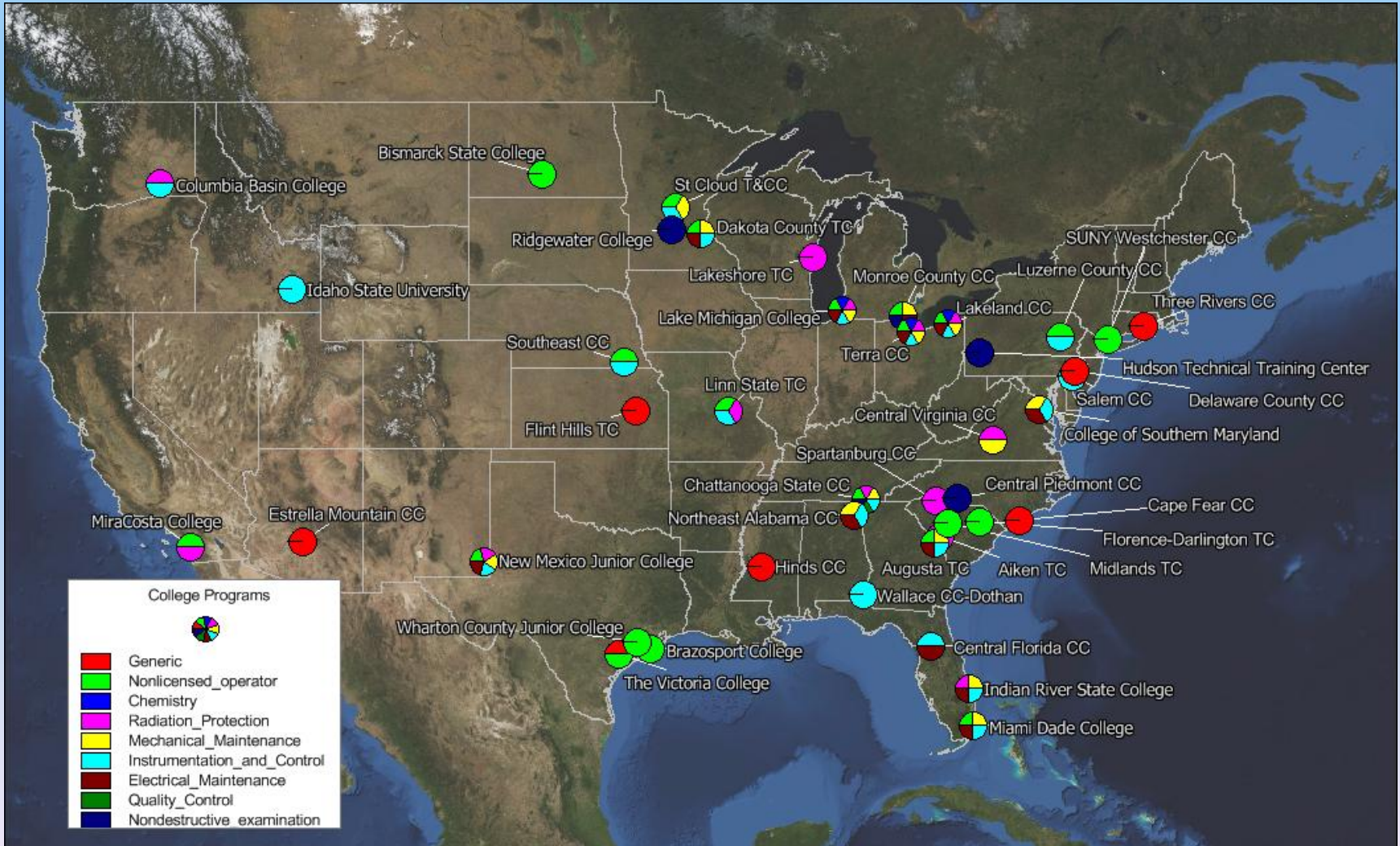
Nuclear Uniform Curriculum Program Map



NUCP Goals

- Develop a robust pipeline of associates degreed graduates to fill technician level positions that will allow
 - Identifying common learning objectives for the entire industry to utilize with education partners
 - Graduates to transfer between utilities
 - Utilities to reduce initial training time
 - Industry confirmation that education programs provide a consistent high level of education
 - Industry to leverage resources by strategically supporting the right number of partnerships teaching the right types of curriculum
 - Graduates are prepared for their future careers in the nuclear power industry

Partnered Nuclear Community College Programs



* Data as of May 2010

NUCP Results

- 2-Year Program Support - \$6.2M
 - \$3M – DOL CBJT Grants
 - \$3M – NRC Trade School, Scholarships & Curriculum Development
 - \$170k – DOE Infrastructure
 - \$70k – NSF ATE Grant
- Tools
 - ACAD 08-006
 - NUCP Toolkit
 - Gap Analysis
- Industry Benefits
 - Non-pilot schools are transitioning faster b/c available tools and access to curriculum from pilot schools
 - NUCP Process can be applied to additional curriculums
- Pilot Programs
 - Reduced initial training time
 - Graduates are more knowledgeable
- Curriculum
 - Graduate knowledge level defined
 - Consistency between programs
 - Leads to an industry recognized certification
- Partnerships
 - The industry does not need any new partnerships, we just need to bolster enrollments and transition generic programs to one of the NUCP disciplines