Energy Industry in Context

U.S. electrical power industry is experiencing some of the most significant long-term changes in its history!
Energy Industry in Context

• 1990-2006: >25% employment, 200,000 EEs
  – Improved production,
  – Operating efficiencies,
  – Consolidation

• Reductions also in education and training

• Employment continues to remain stable today

• BUT demand for energy and consumption increases
Energy Industry in Context

• While the physical infrastructure degrading...
• Electrical system becoming more sophisticated
• Growing political pressure to expand and integrate clean renewable energy, and energy efficiencies =
  – Reduce environmental pollution
  – Improve energy security
  – Spur economic development and job creation
Energy Industry in Context

Utilities and governments investing in new research and technology upgrades to:

- Support a “smarter” electrical grid
- Increase use of renewable generation sources
- Boost consumer education
- Expand incentive programs to spur greater efficiencies through consumer engagement
Workforce Ready?
Snapshot of Trends, Challenges:  
2013: 16 ERs, 9000 EEs, 5 NW States

- Retirements – 1,522 craft/prof EEs next 5 yrs, 17% current workforce across 9 occupations

- 60% utility workers 45 yrs.+

- Future labor pool smaller; many unprepared

- Shortage of qualified applicants, esp. power engineers, power system operators, electricians

- Competition for qualified applicants intense
Snapshot of Trends, Challenges:

2013: 16 ERs, 9000 EEs, 5 NW States

• Students view energy field as “green” with opportunities to work on:
  – Renewable energy and efficiency projects that are sustainable and environmentally responsible

• Building the K-12 Pipeline with relationships:
  – Activities at all levels to generate interest
  – Stress importance of STEM education
  – Best practices evolving
Snapshot of Trends, Challenges:
Sector Strategies

- PNCECE: sector strategy in WIRED and DOE Smart Grid Workforce Development grants

- Statistical evidence that sector strategies:
  - Address current and emerging skill gaps
  - Engage directly with industry across boundaries
  - Better align state programs & resources serving employers and workers
Workforce Challenges of Electric Power Employers in the Pacific Northwest

State Sector Strategies Coming of Age: Implications for State Workforce Policymakers,
By: The National Governors Association, Corporation for a Skilled Workforce, & National Skills Coalition