Development of the Future Energy Workforce

Linking resources, infrastructure, and people

Elizabeth Eide, The National Academies of Sciences, Engineering, and Medicine

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Energy security

- Dependable, sustainable, varied resource base
- Efficient, economical, safe energy infrastructure
- Meets baseload and transportation needs
- Reliable, skilled, adaptable workforce, all levels
Workforce strength

Moderating the swings

Cross-sector collaboration

Emerging Workforce Trends in the U.S. Energy and Mining Industries
A CALL TO ACTION

National Research Council, 2011
Can we change the way we measure it?

- New resources discovered or produced
- Numbers employed per kW (or BTU or barrel or...)
- $$ made (energy industry) or saved (society)
- New technologies/infrastructure deployed
- Stability or growth of the workforce across sectors
Moderating the swings
(employment and education)

The Backdrop (NRC, 2011)

- Baby Boomers = one-third of the working U.S. population
- Retiring Boomers take knowledge, skills, occupational wisdom
- Average 8-10 years for a worker to develop specific expertise
- STEM skills needed for energy jobs—mature and emerging
- Retirements affect private sector, state and federal
Some options (NRC, 2011)

- Apprenticeships, 2-year technical degrees, university-level professional training, community college programs
- Educational programs targeting young students in underrepresented groups
- New recruiting approaches for state and federal agencies
- ‘Competency models’ for training and education
Collaboration

Source: Courtesy of DMSP and NASA