



Meeting the Energy Industry Workforce Needs

Jan Lauer

Southwestern PA Energy Industry Supply Chain Is In Crisis





One-two Punch Of Rapid Job Growth And Aging Workers

- 17.7% of the workers are 55 or older
- Higher rate of job openings resulting from retirements **than any other region in the U.S.** over the next 10 years
- 2nd smallest ratio of people 10-19 years old to people 55-64 years old of **any major region in the country**



Recent Study By Three Rivers WIB Digs Deeper

- “50/50 Problem”
 - 50,000 more older workers and 50,000 fewer younger workers than its average peer region - major pipeline problem
- As a result, the number of jobs held by older workers is trending upward:
 - From 2001 to 2004, the number of jobs held by workers 14-44 fell by about 20,000, while the number of jobs held by workers 45+ increased by 47,000.



Bottom Line

Without Industry Partnership

- Employee poaching
- Wage escalation
- Loss of orders because companies can't deliver
- Business failure

With Industry Partnership

- Ample, trained workforce
- Competitive wages
- Robust pipeline of orders to regional businesses
- Strong, growing companies



The Workforce Needs Of The Energy Industry Are:

- URGENT

- IMPORTANT



The Workforce Needs Of The Energy Industry Are:

- URGENT – the worker shortage is right now and will only get worse
- IMPORTANT – energy is the backbone of economic health and development



Economic Drivers

- Demand growth
- High prices (investor driven, supply driven)
- Supply shortages
- Emissions liability (new technologies and industries)
- Deferred investment/aging infrastructure (deregulation, public sentiment)



Policy Drivers

- Tax credits
- Portfolio standards
- Carbon liability and regulations (global warming)
- New technologies (smart grid, biofuels, etc.)



Workforce Drivers

- Aging skilled workforce
- Lack of education/training opportunities
- Lack of awareness/poor image
- Empty pipeline

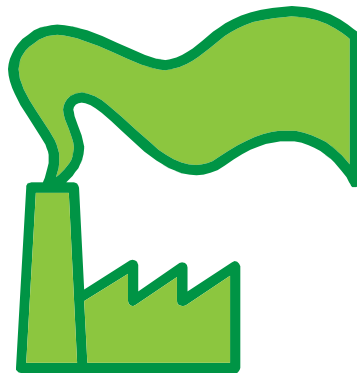


Solution: Grow The “Pie” Instead Of Fighting Over The “Pieces”

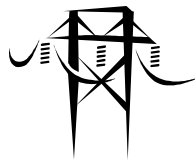
- Build a robust pipeline of trained workers
- Enhance the skills of the existing workforce
- Support the advancement of workers into senior and supervisory positions
- Support retention

➤ **3 Rivers Clean Energy Partnership**

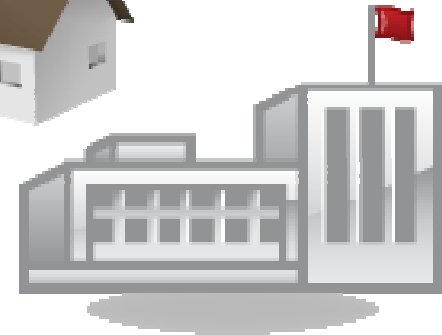
What Is The Energy Industry?



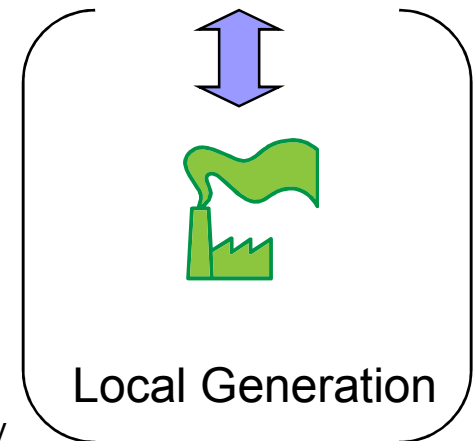
Generation



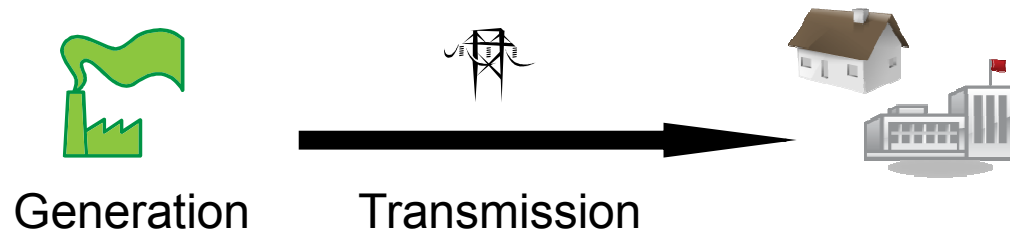
Transmission



End user

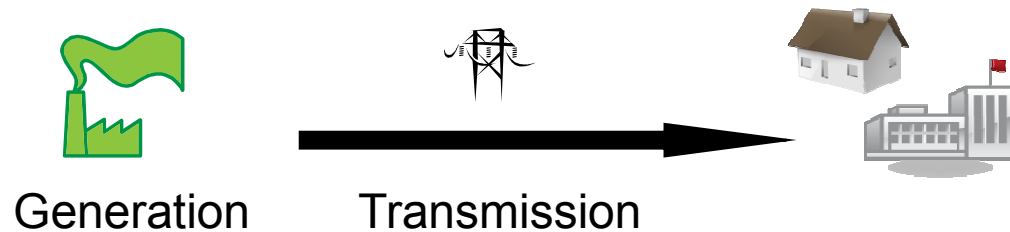


What Are The Supporting Sectors?



Supply Chain •Manufacturing •Construction •Fuels	Generators Solar Panels Wind Turbines Control systems Boilers	Cables Steel Insulators Sensors Transformers	Green building products Meters Power conditioners Transformers Control systems
	Power plant construction Solar, wind, geothermal installation	Site preparation Tower erection	Green building construction
	Coal Oil Gas Biofuels		
Services	Energy and emission credit portfolio mgmt. Nuclear reactor services	Maintenance	Energy efficiency and energy security services

Who Are The Companies?



Generation and T&D	<i>1st Energy Allegheny Energy</i>	<i>Duquesne Light</i>	
Supply Chain	<i>Gamesa Westinghouse Solar Power Industries</i>	<i>American Superconductor PA Transformer</i>	<i>Eaton</i>
•Manufacturing			
•Construction	<i>Michael Baker</i>	<i>Winola Industrial</i>	<i>Home and commercial builders</i>
•Fuels	<i>CONSOL Energy Westinghouse Foundation Coal</i>	<i>Equitable Energy</i>	
Services	<i>Clear Choice Energy</i>	<i>Keystone Insulator Cleaners Inc.</i>	<i>CLT</i>



Our Opportunity Is Now

- We have an unusual opportunity to create jobs during a time of slow job growth across the board.
- We also have the opportunity to create jobs no matter which direction the energy future goes, since we have business opportunities in renewables, nuclear, and coal.
- But we also have the potential to create jobs and not be able to fill them.
- So that means it's in the state's interest to help energy companies succeed. What is needed to do that? Each needs slightly different things, but the one thing they all need is a workforce.



Myrtle Beach: Help Wanted

“We’re now mining more coal than at any other time in history. But our pool of experienced miners is exhausted. Until now, we didn’t need to attract young people because we could replace miners with experienced people who had been laid off. Now, with 3000 to 4000 miners retiring this decade, coal mining will be a steady source of job opportunities for young people.

We’re responding to that anticipated need by ratcheting up our recruitment efforts. It’s a challenge.”

-Tom Hoffman, VP, CONSOL



Mining Industry Headed Toward Crisis Due To Lack Of Workers

- 80,000 coal miners across the US
- 80% in the eastern US
- 40% of eastern miners are in Pennsylvania and West Virginia (about 26,000)

The National Mining Association estimates that the U.S. will need 50,000 new coal miners to meet increasing demand and to replace retirees.

National Mining Association 2005



DOE Sounds The Alarm For Lineworkers

A 2005 U.S. Dept. of Energy report says that:

- **Over the next decade there will be a 10,000 lineworker shortage (current workforce is 58,000) – nearly 20%!**
- **“...which could limit the nation’s ability to maintain and/or increase the electricity supply, potentially impacting the economic and national security of the United States.”**



Oil And Gas Industry Facing Worker Shortages

According to the Interstate Oil and Gas Compact Commission:

- The average age of employees working for major operators and service companies is in the range of 46 to 49 years old.
- With the average retirement age for the industry being 55 years, the industry faces a crisis **in the next 7 to 10 years as more than half of the employee base leaves the work force.**



Wind Industry Anticipates Huge Job Creation

Bill Swisher, Executive Director of the American Wind Energy Association says:

- The wind energy industry currently employs about 45,000 people in the United States and had \$9 billion worth of investment last year (2007), a 45% increase from 2006.
- Given that growth, we're already seeing constraints in terms of workers.
- **By 2030, nearly a half-million new jobs could be created in the wind industry - in manufacturing, construction, and operation.**



SWPA Nuclear Supply Chain Has An Immediate Crisis

Nuclear Energy Institute says:

- A worker shortage could be one of the biggest roadblocks for a nuclear energy revival in the U.S.
- Nearly 30 percent of the people who currently work in the industry will be eligible to retire in five years. Many of the experts in plant construction have already retired.
- Another 13 percent could leave their jobs through attrition.
- **Westinghouse alone needs another 3000 workers over the next three years.**

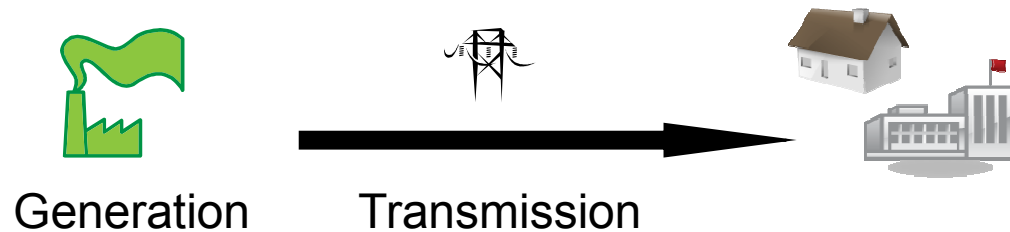


Solar Industry Growth Needs Workers To Support It

Rhone Resch, President of the Solar Energy Industries Association says:

- Last year 314 megawatts of new solar capacity was installed in the U.S. - enough to power about 80,000 homes.
- The market was worth just about \$200 million five years ago. Last year, it topped \$2 billion, **up by a factor of ten.**

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The IPs Have It Covered

	Generation	Transmission	End User
Generation and T&D	Keystone Development Partnership		
Supply Chain	3RCEP- nuclear		
	Central PA - renewables		
	South Central - renewables		
•Construction	SMART		SMART
•Fuels	North Central – Oil and Gas	Keystone Development Partnership	
	Mining		
Services	3RCEP- nuclear		Green Building Ops.
			SMART



The Numbers Tell The Story

- Employers participating: **266**
- Employees Trained: **507**

- Total investment: **\$1,166,240**
- Total match: **\$855,302**



Industry Partnerships Can Accomplish More Together

- Plan around common vision
- Change perceptions/image
- Compile accurate industry-wide statistics
- Improve training practices
- Advocate jointly to achieve policy objectives



Defining Success

- “Boatload of qualified workers”
- Increased employment
- People moving into region/state to work
- Career ladders/pipeline in place
- New businesses established

“More employees translating into economic development opportunities translating into a thriving energy industry”



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