



BUILDING A SUSTAINABLE ENERGY WORKFORCE

Bridging the Gap Between Today's
Realities and Tomorrow's Promise

APRIL 2–3, 2012

Francis Tuttle Technology Center
Oklahoma City, Oklahoma



Association for Career and Technical Education
and National Coalition of Certification Centers

HIGHLIGHTS, RECOMMENDATIONS AND ACTION ITEMS

It is no secret that the energy industry is experiencing what some are calling the perfect storm. It is a growing industry that needs employees for new jobs, but is also facing an increasing retirement-ready workforce. Couple that with a lack of workforce training programs, and you understand the pressure the industry is facing.

It is with this situation in mind that the Association for Career and Technical Education and the National Coalition of Certification Centers developed the "Building a Sustainable Energy Workforce" event that was hosted at Francis Tuttle Technology Center, April 2–3, 2012.

The goal of the event was to establish and set in motion a set of key initiatives aimed at helping schools keep pace with the workforce needs of the energy industry. After two days of panel discussions, small group debates, tours and creative thinking, the participants worked together to develop the recommendations and next steps contained in this report.

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BACKGROUND

The focus of this event was on building a sustainable energy workforce. To help frame the discussion, key business leaders shared the current workforce reality and where the workforce needs to be. The gap that exists became the basis for the roundtable discussions that led to the recommendations and action steps.

Leading off the event was Jane Oates, Assistant Secretary, Education and Training Administration, U.S. Department of Labor. Oates stressed that, right now, workforce participation by 18–26 year-olds is the lowest it has ever been, and that is creating part of the strain on business. Oates feels that all federal dollars should lead to an industry-recognized credential. Following Oates’ presentation, several business and state-level representatives shared their vision of the future and what workforce and education will be necessary to ensure stability and sustainability.

Pete Hammett, Director of Talent Development, OGE Energy Corporation, said that the energy industry is facing the perfect storm. “There are three key areas that are creating this scenario,” said Hammett. “First, you have the impact of deregulation that helped to increase competition in the industry. Then you have the customer pressure to maintain low energy costs. On top of those, you have difficulty attracting new workers. When all of these hit at the same time, workforce development becomes a critical issue.”

This reality has caused OGE to develop a human capital management strategy to assess the corporation’s overall need while looking at the current workforce assets. Where this gap resides is where the corporation must develop, acquire or rent expertise. This gap is also where the education community can help OGE remain successful.

Jeff Hume, president and COO of Continental Resources, echoed many of Hammett’s thoughts. “Continental Resources is a growing company and we need people,” he said. In fact, the company recently moved its headquarters from rural Oklahoma into Oklahoma City to have access to a larger pool of professional and technical talent.

Hume said that the company has an increasing need for technical experts who also have the soft skills necessary to interact with local communities. “We also need experienced managers who can mentor our leaders of tomorrow,” he added. The most important need that exists within the current workforce, said

Hume, is for employees who possess the technical knowledge for the job; the academic background in math, finance and economics; and key skills, such as conflict resolution, time management and collaboration.

The same sentiment came from Bob Schmidt and Neil Maldeis from Trane. In looking at their future workforce, they said people need public relation skills, health, safety and environmental knowledge, and a demonstrated ability to effectively communicate.

These comments led directly into the remarks of Omar Jimenez from GE Oil and Gas. Jimenez focused on the critical skill needs in the energy industry today. He said that companies like his need employees that have a different mentality—a way of analyzing issues and working through possible solutions—and this can only occur if employees have a broad-based education within the industry.

“The industry today needs employees with expanded skills sets,” said Jimenez. “We need people who understand both electrical and mechanical engineering, not just one specialty. We need people who are digitally neutral. We need people who can communicate both up and across the company.” Without these well-rounded and prepared employees, companies like GE Oil and Gas could potentially lose opportunities or momentum.

Ben Brenton, chief innovation officer for Snap-on, shared similar thoughts when he talked about “Nextechs.” These are not your traditional automotive technicians, but rather individuals who are interested in developing new skills; they have postsecondary training; and they are excited about the future of automotive technology. “These are the employees that manufacturers and repair shops want and need, and we need to find and develop them for the future of the industry,” said Brenton.

The community college setting is one place where energy industry employees are being trained. But, according to Todd Cohen, the sustainability initiatives manager at the American Association of Community Colleges, there are some additional challenges in the alternative energy field. Those include the confusing and uncoordinated emergence of credentials and the lack of accurate labor market information. These key issues need to be sorted out to help potential employees understand the market and the opportunities that exist.

One state that is addressing these issues is Kansas. Caleb Asher, Deputy Secretary of Workforce Services, Kansas Department of Commerce, shared the role that a state agency can play in closing the gap within a particular industry. In Kansas, the state is investing in training programs focused on the energy industry at community colleges. This is mainly the result of the state focus on the industry and its role in helping to develop the talent necessary to support the industry. In order to be successful, said Asher, programs like this need the collaborative effort of business, education and government.

It was with this insight and background that the business, government and education participants began to discuss how to address these key issues.

SPEAKERS

- **Bryan Albrecht**, President, Gateway Technical College
- **Caleb Asher**, Deputy Secretary of Workforce Services, Kansas Department of Commerce
- **Ben Brenton**, Chief Innovation Officer, Snap-on
- **Todd Cohen**, Sustainability Initiatives Manager, American Association of Community Colleges, SEED Center
- **Dr. Tom Friedemann**, Superintendent and CEO, Francis Tuttle Technology Center
- **Pete Hammett**, Director of Talent Development, OGE Energy Corporation
- **Jeff Hume**, President and COO, Continental Resources
- **Omar Jimenez**, HSR Product Leader, GE Oil & Gas
- **Representative James Lankford**, Oklahoma
- **Neil Maldeis**, Energy Engineering Manager, Trane
- **Jane Oates**, Assistant Secretary, Education and Training Administration, U.S. Department of Labor
- **Bob Schmidt**, Business Development Manager, Trane

RECOMMENDATIONS

Throughout the two-day event, participants discussed what they felt was needed from education and business to ensure the energy industry has and continues to have an educated, prepared, adaptable and competitive workforce.

Quick ramp up—Education and business need to work together to develop and institute new training and workforce preparation programs quickly. In a rapidly growing industry, such as energy, this is critically important. The longer it takes to begin a new program or enhance an existing one, the more workforce stress is placed on the industry.

Inform students—Education and business need to better inform students about the career opportunities available in the energy industry. It was shared from both perspectives that students just don't know what is available. Concepts like job shadowing, internships, mentoring and business open house events could help inform students.

Start earlier—Working with high school and community college students is important to help increase the future workforce. But, for students to truly understand the energy industry and its opportunities, career education needs to start sooner. Programs need to be developed at the elementary and middle school levels to expose students to the industry.

Create a campaign—Education and business need to work together on a multimedia awareness campaign that includes information on where students can receive training. This campaign should include video elements, print materials, a heavy social media aspect and a smartphone application.

Look at new audiences—In addition to the traditional secondary and postsecondary programs, there may be other workforce delivery channels. How can the energy industry work with veterans' groups? Are there community-based non-traditional programs that need workforce partners? These may be good places for the energy industry to develop partnerships.

Create a realistic work environment—Business was especially vocal about this point. Education programs need to simulate a real working environment, not perpetuate an education environment. In the workplace, successful employees need to be able to work on projects, resolve conflicts, collaborate, research and network. Unfortunately, in education, these skills aren't always encouraged.

Focus on teachers and counselors—While students definitely need to know what job opportunities exist, so do teachers and counselors. These individuals help direct students to careers. If they don't know about the energy industry, they won't be making these recommendations. Business needs to develop opportunities to engage and work with the educators. Such concepts as externships and guest speakers could help educators better understand the energy industry, its needs and the opportunities for students.

Don't forget technology—Education and business need to work together to better utilize technology in developing the energy workforce. How can distance education be used to engage a new population? How can an application help students understand the industry better? Can technology be used to offer a virtual mentorship program for students?

Coordinate efforts—Education and business need to work together to help inform legislators of workforce needs and how education is delivering that workforce. Without a coordinated effort, both entities may be advocating differently for the same cause and therefore confusing the message. Also, the presentation of joint solutions by business to legislators would be fresh, powerful and well-received.

Policy implications—One way that education and business can work together is on policy implications. If education is going to successfully meet workforce needs in a timely manner, there may need to be some changes in how we evaluate education effectiveness. Business recommends that the educational focus should be on competencies, not seat hours, and that financial incentives should be for getting students into careers, not just enrolled in postsecondary programs.

Additional certifications—With the plethora of new technologies entering the field, there is a strong need to continually develop new certifications to meet the needs of energy employers. The need for "behavioral skill" training is vital with certifications, such as career-readiness certification and team training (working around pinch points, conflict resolution and communicating up/down/around). Additionally, the need for certifications is high in new/emerging energy areas, such as photovoltaic installers, wind and smart grid.

ACTION ITEMS

The participants of “Building a Sustainable Energy Workforce” understand that the recommendations brought forth will require time, energy, funding and a coordinated effort to be successful. As work begins on those recommendations, several shorter-term action items were discussed that, if implemented immediately, can have a positive impact on the workforce pipeline for the energy industry.

FOR EDUCATORS

Include energy—Invite representatives from local energy companies to participate in appropriate advisory committees. **Talk about the future**—Convene a group of energy company representatives to discuss current and, more importantly, future workforce needs. Start planning now for the workforce needs three to five years down the road.

Actively engage parents—One step in helping students understand the opportunities in the energy industry is to help parents understand them as well. Schools and programs should develop ways to engage parents. Some ideas include inviting them to energy industry events, requiring them to attend career and technical education orientation with their children and sending them job growth and wage information about the energy industry.

Offer or encourage industry training—Are the educators in your energy-related programs up to speed on the industry? If not, they should be encouraged to seek industry certification. Doing so will help them speak accurately about the needs and requirements of the industry.

Work on articulation—One key element in helping students understand the industry is to help them also understand the education needed. Secondary and postsecondary educators should work together to develop articulation and dual-credit opportunities for students related to the energy industry.

FOR ENERGY BUSINESSES

Be a willing partner—If you don’t hear from your local career and technical education program, reach out to them. Let them know you want to partner for student success—and be specific about what you can do.

Offer opportunities—Do you have an internship program or other ways students can get into your business? If not, create one. Can you provide online or in-person mentors? As you develop opportunities for students, don’t forget the teachers and counselors. They need to know about your business and its opportunities, as well. These can be as simple as a seminar or more in-depth, like an externship program.

Develop a workforce need profile—To help the education community understand the type of workforce that is needed, business partners should prepare a need profile that outlines the education, skills, certifications and other requirements needed to work in the energy industry and for the specific company. This will help educators and counselors talk with students about the industry.

Adopt and support certifications—Identify vital skill sets needed for particular jobs and work with NC3 and educators to develop new certifications for these. Once created, adopt and embed these certifications as requirements in job postings.

FOR ACTE AND NC3

Collect and share best practices—Sometimes, the best way to work with schools and programs is to show them how their colleagues are doing it. ACTE and NC3 should collect case studies and examples of how the energy industry and education are working together. These can be shared online and through e-mail communication.

Expand—ACTE and NC3 should provide continued professional development in the energy industry for their members. What in-person or online opportunities can they provide that will address both the recommendations as well as the action items for educators and businesses?

CONCLUSION

Now the hard work and heavy lifting begin. ACTE and NC3 will share this information and the action items with their members and work together to develop and offer professional development opportunities that will ultimately create and sustain a workforce pipeline for the energy industry.



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