

# 2008 Regional Energy Industry Workforce Summit Proceedings

On June 5<sup>th</sup> and 6<sup>th</sup>, 2008, 3 Rivers Clean Energy and Duquesne University's Center for Competitive Workforce Development, with support from the Claude Worthington Benedum Foundation, hosted a workforce development summit focusing on the energy industry in Southwestern Pennsylvania and West Virginia. One hundred and thirty two (132) participants from industry, education, government, philanthropy, and the nonprofit sector convened to address the industry's workforce challenge.

Background research provided by the Center for Competitive Workforce Development consisted of:

- Demand by industry sub-sector and occupation (Attachment A)
- Inventory of energy-related education and training providers in Southwestern PA and West Virginia (Attachment B)
- Employer survey of demand and obstacles to job fulfillment (Attachment C).

Following presentations and panels of industry representatives, participants worked in small groups to address issues of recruitment, training, and retention. The reports of these working groups, as well as general themes and concluding recommendations are summarized below. It is the nature of public forums to be restricted in their ability to examine in depth any particular topic. It is our hope that this Summation and the appended materials will function as an effective map of the workforce challenges facing the energy industry, and that they will serve to provide practical directions in addressing these challenges.

## General Themes

The energy industry has to recruit and train hundreds of individuals for professional positions and thousands of individuals for technical and skilled positions in West Virginia and Southwestern Pennsylvania.

Professional positions call for long-term efforts to entice a greater share of high school students into science and technology occupations. Changing immigration policies constrain employers' ability to seek candidates outside of the U.S. For technical and skilled personnel, besides the work with young high school students, the challenge lies in training an adult workforce that is smaller (in numbers) than preceding cohorts, less educated, encumbered with multiple barriers (from transportation and child care to drug usage), and consisting largely of non-English speakers.

We need to design and implement a workforce system that is flexible and innovative to address these multiple barriers. This “new” workforce system should:

- Allow for multiple entry and exit points for individuals, and be closely coordinated and aligned with the world of work. Companies and education/training providers must join forces to permit transit back and forth between occupations and training/education, to develop ways of making additional training enticing and convenient, and to promote career mobility.
- Be responsive at all levels to the needs of employers. Despite improvements, Workforce Investment Boards (WIBs) and other institutional mechanisms of the workforce system still fall short in their ability to quickly meet the needs of the private sector.
- Be effectively managed. This is particularly important since the system is and will be, for the foreseeable future, made of many distinct “parts” with overlapping functions. Effectiveness, therefore, depends on business-like, data-driven management. Data are of special concern in this context. For many reasons (such as the lag in availability), there is a broad gap between the information provided by government (such as occupational projections) and the perceptions of industry. This gap must be bridged via new and better methodologies designed to create “just-in-time” information.
- Be driven by industry through partnerships involving labor, management, educational and training providers. No program will succeed without the “buy-in” of all these parties, so that public and private resources can be effectively integrated.
- Look at recruitment, training and retention as inter-related steps of a larger process. Many practices aimed at retaining employees (such as career ladders) are also powerful recruitment tools; access to training is critical for both recruitment and retention; and so on. Good thinking about attracting and keeping employees needs to be “systems thinking”.
- Be based on constantly looking for best practices.

Certain underlying policy issues and how they are resolved will have an enormous impact on the ability of industry – energy included -- to attract, prepare and keep the needed workers. Two major issues are those relating to immigration and to the funding of adult education, which is small as compared with the resources dedicated to youth.

As one Summit participant forcefully observed, none of the stated above is new. We know what to do, and have known for quite a while. The true challenge facing industry and the workforce system as a whole has to do with execution. If this challenge is not met, as this participant noted, we face the prospect of endlessly discussing the same questions for years to come.

## **Recruitment**

Even using conventional methods of projecting occupational needs, one can detect substantial demand for employees at all levels of the energy industry in Southwestern Pennsylvania and West Virginia. There is a scarcity of Engineering talent – Petroleum, Mining, Geological; of Geoscientists and

Geologists. At the technical level, people are needed for positions as Mining Machine Operators, Oil and Gas Roustabouts, Pump Operators, Wellhead Pumpers, Gas Compressor and Gas Pumping Station Operators, Electricians, Electrical Power Line Installers and Repairers, and others. Companies and Unions agree on where there is demand, but emphasize that it is far higher than forecasted by federal and state models. (For details on demand and its relationship to supply see Attachment A)

There are two distinct dimensions of recruitment, one immediate whose goal is to recruit employees to meet current company demand, and one long-term whose goal is to affect the career choices of youth (to increase the percentage of engineers, scientists and technicians in the workforce).

Immediate, short-term recruitment should be based on a system designed to ensure execution. The goal is not only to produce as many leads of prospective employees as possible, but to ensure follow-up so that no one will “fall through the cracks.”

- The first step of the system is the creation of an offer that is compelling and attractive to the targeted population. The offer includes all elements that people consider when thinking about a job – wages, benefits, work environment, future with the company, culture and values of the employer, and so on.
- The second step is targeting – the selection of groups whose characteristics (demographic and behavioral) make them more likely to respond to the offer than the general population. Targeting makes recruitment more focused, more cost-effective, and raises the level of response. To choose groups on which to focus one can look at a company’s existing workers, to find out who is attracted to an existing offer.
- The third step is response management -- the set of systematic steps created to answer the question, “what to do once a prospective employee contacts you?” It includes follow-up phone calls, scheduling (of tests and interviews), development of databases recording the status of each applicant, and final disposition of each case (such as letters of acceptance and rejection).
- The fourth step is learning. From the initial contact, information on each applicant for a position is recorded in a database. The latter not only enables follow-up, it also makes possible post-recruitment data analysis with the goal of further understanding who is interested in a company’s job/jobs. This analysis, in turn, should lead to enhanced targeting.

Summit participants offered a variety of valuable suggestions under the steps enumerated above, and added communication as one more item in the list.

- The Offer should involve career pathways, providing prospective employees with a “sense of the future”. It should be specific (people make decisions based on answers to very specific concerns/questions). If the offer is for a training program, there should be the prospect of an immediate position at the end of training (depending on performance), a clear path to a job. Training should be free for the student, or at least include financing mechanisms; companies should consider changing the structure of jobs (making them more flexible, for instance, and/or clearing internal hurdles such as overly cumbersome hiring practices) to enhance their offer; offers should involve remedial training in order to increase the pool of viable candidates; companies should develop brands that would make them recognizable to potential applicants; offers can be region-wide, i.e., designed

to bring new people into an area – they would be developed around broad features such as housing, training opportunities, wages, and so on.

- Communication can/should involve various mechanisms: personal referrals, networking, web-based tools (including web-based social networking), Union channels to their membership, partnering with non-profit organizations, direct response mailing, radio and TV, and others.
- Groups of particular interest for targeting would include those changing careers, those who have not finished college, dislocated workers, veterans, minorities and women, and one’s own workers (internal recruitment). Targeting should pay special attention to local markets, since most skilled workers and technicians live within a certain radius of their local of employment (eight to ten miles is pretty typical in manufacturing in Southwestern Pennsylvania).
- Response management -- Databases of job applicants can be extended to include what the recruitment industry calls the passive job seeker, i.e., a person who is not looking for a position today but who may be tomorrow. Developing databases of (passive) prospects can be a critical way of enhancing a company’s recruitment pool and the quality of one’s applicants.

With regard to long-term recruitment, Summit participants highlighted the importance of awareness and image campaigns developed for the purpose of informing youth and their parents about the energy industry, and changing their perceptions of the jobs and opportunities within the industry.

- Constant, systematic outreach to schools, especially at the secondary level, is critical. One outreach tool was emphasized as successful – the creation of programming that actively involves youth. The example given was Bots IQ, used by manufacturers to engage high school youth. Students work with company engineers and skilled personnel to build robots that battle each other in a public competition. The program has been a success in creating ties between manufacturers and high school students. Participants noted that nothing quite like this exists within the energy field, although there are examples of programming that tries to give youth a sense of what work in the industry is “really” like. Some noted that these programs have no proven record of results – no one knows whether they make it more likely that students will go into science and technology-oriented occupations.
- Several activities were pointed out as useful in promoting awareness and image change, such as “Educator in the Workplace”; job shadowing; bringing students to the workplace; camps that focus on the ties between technical issues and daily life (the example given was a Robert Morris camp in the area of manufacturing); competitions among students around solutions to industry-related problems; and teacher and parent involvement.

In general, participants accentuated the importance of aligning education and training with industry demand, and of solid academic skills and job readiness. On the negative side, it was noted that the system of incentives provided to schools is wrong: they are rewarded for sending kids to college. Counselors are a major part of this – they do not know nor are they interested in learning about industry opportunities that may transition a student away from a traditional four-year college education.

## **Training**

The Summit’s training recommendations centered around two major themes: a) accountability, reflected in the Summit’s call for formal educational and industry certifications; and b) alignment

between industry needs and educational and training programs. The participants' position is clearly to establish a system that imparts to students and trainees the required job attitudes and skills, and to make sure that these skills are measurable by standards acceptable to educators and business. Ultimately, the goal is to ensure that all students and trainees finish secondary schooling with marketable skills. The major thrust of an education pipeline should be to build a system whereby training and education are aligned with industry demand, industry standards, and industry certifications. One obstacle in this regard is the lag in accessing accurate and timely data on job demand, which makes alignment harder to achieve.

Participants proposed a sequence of activities designed to promote agreement of industry needs with the skills provided by training and education:

- In-school career awareness programs should be created or expanded, particularly for energy-related occupations that may be unfamiliar to students.
- High School curricula and occupational certifications should be in line with post-secondary certificates/degrees, especially those provided by community colleges, and both should be in line with industry certifications. Ultimately, this should lead to an 11<sup>th</sup>-to-14<sup>th</sup> grade continuum of career education.
- If absent, formal industry certifications should be created.
- Industry should be engaged in the development of curriculum and required skills sets for specific career education programs.

Participants recommended a sequence of career awareness and career preparation activities beginning in middle school and continuing through post-secondary education:

- Middle school--Career awareness programs emphasizing the variety of energy-related jobs available, and the high school courses required for specific tracks.
- High School – increased emphasis on math and science in academic high schools; revised secondary-level vocational offering that reflect high demand, high wage energy jobs; increased use of internships at energy companies.
- Private training providers – short-term training opportunities that can place adults into immediate jobs and post-secondary certificate and degree programs.
- GED providers--increased efforts to transition GED completers to post-secondary training.
- Union apprenticeships –partnerships with community colleges to provide certificates and degrees during apprenticeship and employment.
- Community colleges—increased articulation agreements with secondary vocational schools in areas that carry industry certifications; development of more majors that address energy job shortages.
- Four-year colleges – increased enrollment in science and engineering degrees.
- Continuing education—ongoing education and training offered by community and four-year colleges at times and locations that are convenient to working adults.

Within this “education ladder” the participants emphasized the need for flexible, “just-in-time” training that can respond to immediate employer demand, while providing opportunities for workers to move in and out of the educational system as they advance in their careers. A related policy component is the need for increased financial aid for adult part-time students, including not just tuition but related expenses such as childcare and transportation.

Although with some dissent, this working group also endorsed the need for a high school exit exam. Too many students are receiving high school diplomas without the basic competencies for entry level employment in the energy industry, or without adequate preparation for post-secondary education in the absence of remediation. In a recent sampling of 200 adults recruited by the Greene County Career Links for Consol Energy, all had high school degrees, 40 had associates degrees and 9 had bachelors degrees. When tested for grade level reading and math, 78 tested below the 9th grade in reading and 108 tested below the 9th grade in math. A high school exit assessment would validate high school competency for graduates –the basic qualifier for any energy-related occupation.

## **Retention**

There were also major themes cutting across the recommendations on retention. These themes were: a) an orientation toward workers, i.e., businesses are beginning to see workers as customers whose needs and demands must be met; b) as part of this emerging orientation, the creation by the company of a sense of future in the form of career paths; c) the importance of retention for the maintenance within the organization of critical knowledge and skills. People discussed the possibility of formalizing a system of knowledge and skills transfer that can be managed according to business principles.

Specific suggestions under these three topics included:

- Older employees should be used as mentors to promote transfer of knowledge.
- Companies should undertake efforts to identify the sets of skills that need to be passed from older to younger workers.
- Companies should partner with workers in planning for the latter’s advancement; employees need to participate actively in their own development.
- For those who do not want to advance, the “right” place in the organizational structure must be found.
- Firms need to communicate opportunities for growth to their employees.
- Internal marketing of existing opportunities and career paths is an important factor in increasing retention.
- Jobs should be structured in a flexible way, and even to be changed as feasible (over time) to accommodate workers’ needs.
- Career coaching and formal programs of worker development improve retention.

- Companies should continuously seek to identify the needs of their employees and strive to meet them, ranging from child care and transportation to housing and flexible hours.
- Supervisors and how they relate to workers are crucial to retention, and so is a company's top leadership.

## **Conclusion**

Some brief concluding observations are worth making. First, the situation of the energy industry is not unique. On the contrary, similar needs are expressed by practically every other industry nationwide. The universality of the competition for talent at all levels accentuates the importance of performing at a high level in all stages of workforce acquisition and management, from recruitment to retention.

Second, there are no “magic bullets” that will address in a simple and effective manner the many challenges facing the industry. Many best practices function effectively in one environment only to fail in another. What we can identify with certainty are principles and processes that all good systems of talent management should follow – they should collect and be driven by good information (data); they should develop powerful offers and accurate targeting; they should have systems to manage response; they should align the needs of industry with educational and training practices; they should establish accountability and measures for the performance of schools and training institutions; they should have systems to transfer knowledge and skills within organizations; they should be oriented toward workers as customers, and so on.

How organizations apply these general principles is up to them – there is much room for creativity in the related fields of recruitment, training/education and retention. Constant communication among experts and practitioners is the best way to ensure the flow of new ideas and organizational excellence. It is in this spirit that we invite you to give us feedback on these Proceedings of the Energy Summit, and we encourage you to review the attachments, from which much of the background data was drawn for the recommendations noted above. Comments are welcome at <http://3riverscleanenergy.com/>