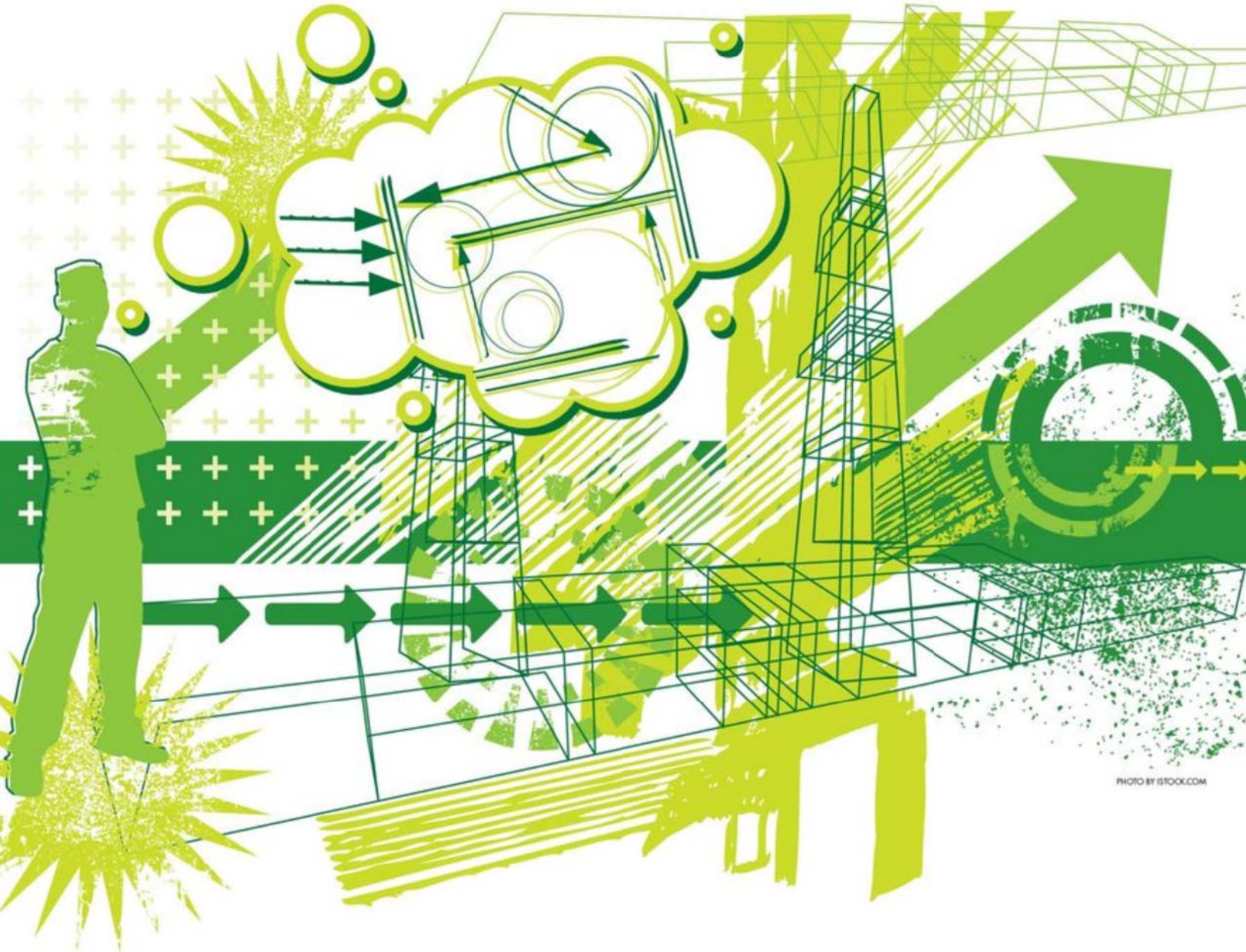
IT ISN'T EASY



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BEING GREEN

OVERCOMING THE CHALLENGES OF BUILDING A GREEN WORKFORCE

BY CHRIS HEMMELMAN

Of the emerging industries most touted as job creating and economy stimulating, green energy is, perhaps, the industry with the loftiest expectations. Consider this: A 2009 study by the Pew Charitable Trusts found that jobs in America's clean energy economy "grew nearly two and a half times faster than overall jobs between 1998 and 2007;"[1] a study by Booz Allen Hamilton found that green building will "support as many as 7.9 million jobs between 2009 and 2013;"[2] and Pike Research projects that revenue from green industries will grow from $5.6 billion in 2009 to $19.9 billion by 2020.[3]

Expectations for growth in the green energy industries are so high that Congress has committed $45 billion of the $787 billion in the American Recovery and Reinvestment Act (ARRA) to investments in green energy industries. Moreover, as green energy jobs are expected to provide millions of "middle-skill" jobs that provide a family-sustaining wage, Congress designated $500 million of the $45 billion to green energy training partnerships designed to build the country's green energy workforce. Within this training initiative, specific emphasis has been placed on training low-income and low-skilled individuals to fill many of these positions.

At the forefront of these training initiatives are the nation's more than 1,200 community and technical colleges. These schools are a vital component to training the green energy workforce because of their accessibility to almost every community, open enrollment policies, low tuition, and wide range of education and training options. However, according to a report by the Workforce Strategy Center (WSC), "amidst all the excitement and funding, even those colleges at the forefront of green energy education have been struggling to build green workforce development programs."[4] The WSC lists three major obstacles facing community and technical colleges seeking to build green energy training programs: 1) the state of the U.S. economy, 2) the emerging nature of the green energy industry and 3) the emphasis on educating low-income and low-skilled individuals.

The Recession

State budget cuts brought on by the economic recession have hurt community and technical colleges' bottom line and, consequently, their ability to develop and increase green energy programs. Furthermore, the recession has also caused green energy companies to significantly cut back on hiring. All of this has resulted in green energy programs "responding to a less certain operating environment than they faced when they started."[5]

The Challenge of an Emerging Industry

Similarly, community and technical colleges' green energy programs face the challenge of meeting demand that is largely projected rather than established. Unlike other training programs that have the benefit of meeting firmly established demand, green energy programs are meeting demand that, at this point, is less market-driven and more reliant upon government incentives and funding and venture capital investments. Such uncertainty makes it difficult to understand

workforce needs. As the WSC points out, "the [green] industry is so new that it's… not yet clear which green technologies (and accompanying jobs) will really take hold and which won't, making demand and employment growth uncertain."[6]

The emerging nature of the green energy industry also makes it difficult to define industry standards and workforce certifications. While national organizations such as the Building Performance Institute (BPI), Leadership in Energy and Environmental Design (LEED) and the North American Board of Certified Energy Providers provide recognized industry certifications, they do not cover all of the emerging industry sectors. As such, many green energy fields are left without standards, and those with standards experience regular change due to the evolving nature of the industry. Consequently, programs must struggle to keep up with the ever-changing industry standards in order to prevent student certifications from being compromised by newer regulations.

Training Challenges

Another challenge facing green energy programs is the logistics of training low-skilled individuals for green energy jobs that are largely higher-skill positions. Most of the jobs projected in the green energy industry require mid- to high-level skills, with low-skilled jobs projected to be quite minimal.[7] As such, most of the training for green energy jobs will be quite difficult for low-skilled individuals; the jump from entry-level green jobs, such as manual labor on a solar installation work site or blowing insulation into an attic, to more highly skilled jobs is significant. For instance, an energy efficiency technician must have strong conceptual and analytical thinking skills and the ability to understand complex energy and air systems, as well as expert knowledge in environmental micro-climates, electricity, regulations and codes.

Strategies in Place

To overcome these challenges, postsecondary institutions across the nation are utilizing a number of effective strategies to educate and train a green energy workforce. While the $500 million for training provided by ARRA will significantly help community and technical colleges' green energy programs, many schools are also benefitting from partnering with organization, such as the Bank of America

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Charitable Foundation and the Charles Stewart Mott Foundation, which are eager to fund green energy training. Currently, these two organizations provide funding to the Greenforce Initiative (see article on page 22), a two-year partnership that will "spur green jobs education, innovation and training at community colleges in the United States."[8]

Many community and technical colleges are also partnering with organizations to assess the labor market for green energy and to focus on local workforce needs. For example, the City College of San Francisco (CCSF) is working closely with area business, unions, the Workforce Investment Board, the mayor's office, and community-based organizations to analyze the Bay Area's green economy. Through CCSF's Center of Excellence, which provides data about high-growth, emerging and critical industry sectors in the state, the college is conducting ongoing labor market analyses and regularly surveys local employers to collect primary data about anticipated employment needs.

Columbia Gorge Community College in Dalles, Oregon, created a committee of college, industry and workforce development partners to determine how best to address workforce needs in the emerging wind energy industry. The college meets twice a year with industry representatives to assess course offerings in light of industry needs. Furthermore, organizations such as The Center for Energy Workforce Development (CEWD) are working to provide quality certifications that will be useful to a rapidly changing industry. CEWD is developing a New Energy Industry Fundamentals Certificate Program, awarded for completion of a course that focuses on understanding various types of energy and their conversion to useable energy. This certification covers a broad base of information and will be applicable to both established and emerging energy industries.

For training, many community and technical colleges are implementing strategies such as prep-academy programs, bridge courses and career pathway programs to effectively fill in the education and resource gaps experienced by many low-skill individuals. For example, Los Angeles Trade-Technical College has several prep-academy programs, which last from one to 12 weeks, designed to address students' foundational skills as well as prepare them for self-sustaining careers or a college degree or certificate. These programs employ a cohort-based community model and provide workplace readiness skills instruction within the context of core academic courses.

Similarly, Skyline College, outside of San Francisco, offers green "bridge" courses in both math and English for those individuals who do not meet the basic entrance requirements. These bridge courses also teach subject areas contextually. For instance, students in the math bridge course will calculate energy savings gained from implementing energy-efficiency strategies by analyzing electric or gas utility bills.

Also, New York City College of Technology is developing a Green Maintenance for Buildings career pathway program to accommodate the basic skill needs of low-income, low-skill individuals. The program offers students career counseling, the development of an academic plan, and contextualized GED and math courses. Students eventually transition to a more rigorous training program in building science and systems, energy efficiency, sustainable practices, and green terminology.

Moving Forward

Though the challenges to developing a green energy workforce are at times significant, community and technical colleges, through both partnerships with other organizations and the implementation of education strategies that assist low-skill individuals, can build a green energy workforce that fulfills the lofty projections and, ultimately, succeeds in helping restore America's economic vitality. T

Endnotes

1 "Initiative Will Put Americans Back to Work in Growing Clean Energy Sector." *Jobs for the Future.* September 2010.
2 www.boozallen.com/news/42747101.
3 www.pikeresearch.com/newsroom/u-s-energy-service-company-market-to-increase-250-by-2020
4 *Building Effective Green Energy Programs in Community Colleges.* Workforce Strategy Center. May 2010.
5 Ibid.
6 Ibid.
7 *Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy.* Center on Wisconsin Strategy. 2008. 2008 Washington State Green Economy Jobs. Washington Employment Security Department. 2008.
8 "Initiative Will Put Americans Back to Work in Growing Clean Energy Sector." *Jobs for the Future.* September 2010.

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