The Obama administration has placed a high priority on accelerating the transition to a "clean energy, green economy" in the United States, a priority that makes the vital connections between climate change, economic stimulus, energy security, and job training. The missing link in this interconnected system is the critical role that higher education must play in helping to make the clean energy, green economy a reality.

Transforming the U.S. economic, energy, and environmental systems to move toward a clean energy, green economy will require a level of expertise, innovation, and cooperative effort not seen since the 1940s war effort. Public engagement in this transition is essential: top-down solutions, such as regulating carbon emissions, alone will not suffice. A broad base of literate citizens must help to make this transition happen. Citizens will need to implement changes in business and personal practices, to support and help develop new technology and policy, and to confront the coming social and economic problems and opportunities arising from a changing climate. Architects, engineers, planners, scientists, business managers, financial experts, lawyers, entrepreneurs, political leaders, resource managers, and many others—along with a green manufacturing workforce and environmentally literate consumers—will all be needed to make this transition.

Higher education too has a critical role to play, much as it did during the space race of the 1960s. Colleges and universities can—and must—help students understand the complex connections and interdependencies between the environment, energy sources, and the economy—connections that underpin the concept of a clean energy, green economy. Only then will a broad segment of the population begin to pull in the same direction as those who are leading this transition.

The education required to accomplish this is a new way of thinking and learning about integrated, systemic solutions not just to the economic and environmental challenges but also to the interdependent health, social, and political challenges. Above all, this new way of thinking uses the green economy as the focal point for understanding the deep connections between economies, energy, the environment, and social well-being, often referred to as “sustainability.”

Higher education is beginning to do its part. To date, 650 college and university presidents have signed the American College and University Presidents Climate Commitment (http://www.presidentsclimatecommitment.org/) and are working to develop action plans to make their campuses climate-neutral. Largely as a result of demand from students, the higher education sector is now the largest purchaser of wind energy in the United States, and 500 schools have institution-wide sustainability or environmental committees. In addition, 300 campuses have conducted campus sustainability assessments, and hundreds more are planning to conduct such assessments. Over a dozen major higher education associations, including the American Association of Community Colleges, have made sustainability one of their guiding principles and top priorities.

Yet similar changes to the curriculum are lagging in colleges and universities across the nation. A recent report by the National Wildlife Federation and the Princeton Survey Research Associates International indicates that even though environmentally sustainable operations are now ranked among the highest priorities on campus, students today are no more likely than their predecessors to be environmentally literate when they graduate.1

The U.S. Congress is also beginning to embrace the need for education for a green economy. In the past two years, it passed two bills with important new programs:

- The reauthorized Higher Education Act included a “University Sustainability Program” (USP), a grant program for two- and four-year institutions to establish new or strengthen existing sustainability programs.

In addition, two new programs have been introduced in recent legislation but have yet to become law:

- The Sustainable Energy Training Program for Community Colleges was included in the new energy bill passed in June 2009 by the Senate Energy and Natural Resources Committee. It would authorize $100 million annually for five years for workforce training and education grants from the Department of Energy for community
colleges to fund renewable energy and efficiency, green technology, and sustainable environmental practices.

- The Grants for Renewable Energy Education for the Nation Act introduced in 2009 in the House provides support to develop career and technical education study programs and facilities in the areas of renewable energy.

Unfortunately, although Congress did provide $500 million, as part of the stimulus appropriation, for a program of competitive grants for worker training and placement projects in energy efficiency and renewable energy as described in the Green Jobs Act, the two newly authorized programs noted above (USP and the green building funding program) have yet to be funded.

With the help of the American Association of Community Colleges, the National Wildlife Federation, Earth Day Network, the American College and University Presidents Climate Commitment, and others, a campaign called “1% for Education for A Green Economy” is under way to secure funding for these programs. Coordinated by the Campaign for Environmental Literacy, it supports the efforts of Senator Patty Murray (D-WA) to ensure that at least 1 percent—an estimated $1 billion per year—of the proceeds from the cap-and-trade auction included in the proposed climate change bill will go to education for a green economy. These proceeds would fund the new programs discussed above as well as other new programs for colleges and universities, vocational/technical schools, and K-12 schools to educate students about climate change and the green economy, including bolstering existing career pathways programs to provide more green educational and training opportunities for youth and young adults. This new climate change legislation being developed by Congress offers an unparalleled opportunity to provide government investment for educating a new generation of Americans in strategic green economy–related fields, including engineering, technology, science, mathematics, business, and policy, while also supporting broad public education about a green economy and climate change.

With great challenges come great opportunities, and the great opportunity in this transition is to build a more stable, sustainable, and secure economy. This will mean new jobs—jobs for which colleges and universities are well positioned to prepare workers. As a critical participant in this transition, IT departments can do at least three things:

- Set an example by minimizing the campus IT environmental footprint and moving toward climate-neutral operations (often saving some money in the process)
- Work with colleagues in other departments to help students connect the dots between energy security, environmental health, economic stability, and community well-being by infusing sustainability concepts into the teaching and curricula
- Actively support efforts to pass the new legislation noted above

Each year, higher education sends out into the workforce 3 million graduates armed with the attitudes, skills, and knowledge either to advance a clean energy, green economy or to continue “business as usual.” The impact, good or bad, of each of these 3 million individuals lasts a lifetime. As the old adage goes, we’re either part of the solution or part of the problem.

Notes

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