GREENING COMMUNITY COLLEGES

An Environmental Path to Improving Educational Outcomes

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JOBS FOR THE FUTURE

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www.jff.org/projects/current/workforce/metlife-foundation-community-college-exc/141.

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EXECUTIVE SUMMARY

The emerging and expanding green economy has the potential to create not just jobs, but career opportunities across the United States as green manufacturing, green products, and green services fuel demand for workers at all skill levels. Community colleges are leading the way in defining and addressing these opportunities. They are: developing education and training programs in expanding fields from solar energy to green construction; enhancing existing green-connected programs and creating new training programs for green jobs; and developing educational pathways that lead to the Associate's and Bachelor's degrees that are essential for continued advancement in these emerging careers.

In addition, many community colleges are taking steps to raise environmental awareness within the communities they serve. They are greening their own campuses and working on local environmental remediation. Some colleges are integrating their on-campus sustainability efforts into academic programs so that installing solar cells or creating a composting system for campus waste becomes an instructional tool. Often, they undertake this work through innovative partnerships that bring together environmental groups, local employers, and community-based organizations.

The continuing recession and the prospect of longer-term changes in local economies provide opportunities for all community colleges to demonstrate their value by helping businesses and individuals adjust to challenging economic environments and increase their resilience and chances of prospering. At the same time, community colleges have the power to be agents for change in other spheres within their communities by developing approaches to both new and long-standing problems. These include the need for renewable energy sources and water conservation, as well as unmet social needs, such as environmental remediation to make areas more habitable to residents and more attractive to potential employers.

This brief highlights the approaches of three community colleges to "greening" their operations, curricula, and communities, while simultaneously addressing local and regional employment and environmental needs.

Santa Fe Community College, New Mexico

New Mexico is poised to become a leader among states in renewable energy. For at least a decade, Santa Fe Community College has been at the forefront of efforts to create the highly trained and specialized workforce that would enable New Mexico's green economy to continue expanding. Established in 2008, Santa Fe Community College's Sustainable Technologies Center offers technical training programs in solar energy, water conservation, and green building. Programs of study include solar energy, water conservation, biofuels, green building, and facilities technologies, with all leading to Associate's degrees and industry certifications. In addition, the college's own sustainability initiative aims to analyze its carbon footprint and develop a plan to reduce emissions.

The college is also an active participant in the New Mexico Green Collaborative, which places workforce development at the center of transforming to a new state economy. Created in 2009, this statewide effort brings together individuals, government agencies, and educational institutions to share information and collaborate where possible and appropriate. The director of the Sustainable Technologies Center serves on the collaborative's board.

Central Piedmont Community College, North Carolina

As in New Mexico, there is great potential for statewide impact in North Carolina, home to a number of high-tech and biotech firms. This is evident at North Carolina's Central Piedmont Community College, with six campuses serving the Charlotte area. The college created the state's first sustainability technologies degree, and the program is now available at all 58 community colleges statewide.

The core of Central Piedmont's "greening" is the Center for Sustainability, which has established workforce partnerships with local employers. Through these partnerships, the college designs courses to address specific training needs, positioning students to compete for jobs local employers are eager to fill.

Clover Park Technical College, Washington State

In 2000, the city of Tacoma, Washington, along with Clover Park Technical College and other partners, created the "Brownfields to Green" initiative. Funded by the federal Environmental Protection Agency, the initiative is part of an effort to revitalize the local economy, reduce poverty, and remediate the environmental damage of neighborhood sites where the presence or potential presence of hazardous substances, pollutants, or other contaminants may complicate their expansion, redevelopment, or reuse.

Clover Park Technical College is the initiative's educational and training partner. It was selected for this role as the only vocational college in the state offering an Associate's degree in environmental technology. Graduates of the program work as environmental technicians throughout the region in for-profit, nonprofit, and government organizations.

LESSONS LEARNED

Partnerships are an essential component in the green work of community colleges. Approaches developed by community colleges to address green issues benefit from extensive consultation with local stakeholders on their unique needs and special attributes. The colleges highlighted here have identified the range of local partners to work with in both choosing the appropriate role for the community college as well as developing the specific approach.

Meet the needs of multiple stakeholders. While environmental sustainability is often positioned as competing with economic development, the colleges have incorporated the needs of workers, employers, and the community into their sustainability strategies.

Incorporate labor market needs into the design of training programs. Before creating programs and undertaking substantial financial commitments, each college worked closely with employers to gather labor market information on available or projected job openings and the minimum skill levels and credentials required for successful employment.

Integrate training for green jobs into career pathways. For workers to have continued opportunities for advancement in the green economy, innovative colleges have made short-term training and certificates part of pathways that include more advanced credentials. They also have developed the types of short-term, entry-level credentials and on-ramp programs that give low-skilled and low-income workers access to the opportunities of the green economy.

Focus on job creation as well as training. The success of green jobs training programs depends on the availability of jobs for those who complete the program. Community colleges have helped in part by collaborating with local and regional bodies to develop programs and promote policies that will attract green industries.

INTRODUCTION

"Each of us has a part to play in a new future that will benefit all of us. As we recover from this recession, the transition to clean energy has the potential to grow our economy and create millions of jobs—but only if we accelerate that transition. Only if we seize the moment. And only if we rally together and act as one nation—workers and entrepreneurs; scientists and citizens; the public and private sectors."

—President Barack Obama, June 15, 2010

The emerging and expanding green economy will create not just jobs, but—if done right—career opportunities across the United States as green manufacturing, green products, and green services fuel demand for workers at all skill levels. Economic necessity, unprecedented federal and private investments, and local, state, and regional economic and workforce development initiatives in "green" industries have created a boon for community colleges and their students. The White House estimates that the American Recovery and Reinvestment Act alone will create millions of green jobs in a weak economy still riddled by recession (*see http://www.whitehouse.gov/issues/energy-and-environment*). In addition to addressing climate change, engaging in environmental remediation, and reflecting place-based approaches to economic revitalization, the nation's emerging green workforce can provide family-sustaining careers.

Community colleges are leaders in defining and addressing these opportunities, developing education and training programs in expanding fields from solar energy to green construction. Often at the forefront of evolving local industries and sectors, community colleges have the flexibility to respond quickly to changing labor market demands by creating curricula and retraining workers for the next new jobs. Closely linked with their communities, these colleges also share the mission and the ability to help improve the local environment and educate the public about the economic importance of clean industries (Feldbaum & States 2009).

Community colleges are enhancing green-connected programs and creating new ones for green jobs. They are also developing educational pathways that lead to the Associate's and Bachelor's degrees that are essential for continued advancement in these emerging careers. Moreover, a number of institutions are taking steps to raise environmental awareness within the communities they serve. Some are greening their own campuses and working on local environmental remediation. Others are integrating their on-campus sustainability efforts into academic programs so that installing solar cells or creating a composting system for campus waste becomes an instructional opportunity. Finally, colleges often undertake this work through innovative partnerships that bring together environmental groups, local employers, and community-based organizations.

This brief highlights the approaches of three community colleges to "greening" their operations, curricula, and communities, while simultaneously addressing local and regional employment and environmental needs:

- In New Mexico, **Santa Fe Community College** has stepped forward to help the state produce the highly trained and specialized workforce it needs to continue growing its green economy.
- In and around Charlotte, North Carolina, **Central Piedmont Community College's Center for Sustainability** designs courses that address specific local training needs and put students in a position to compete for jobs local employers are eager to fill.
- In and around Tacoma, Washington, **Clover Park Technical College** is the educational and training partner in an effort to revitalize the local economy, reduce increasing poverty, and remediate neighborhood sites contaminated with high levels of hazardous substances.

DEFINING TERMS IN A NEW FIELD

What is a "green job"?

The Georgetown University Center on Education and the Workforce defines a green job as "a well-paid, career-track job that contributes directly to preserving or enhancing environmental quality."

The Association for Career and Technical Education divides green jobs into three categories: traditional occupations that take place in a "green" context (such as welding); existing occupations that require additional training, knowledge, and often credentials (e.g., mechanical engineering, architecture); and new occupations with unique skill requirements (e.g., solar panel installation).

What is the green economy?

The green economy includes businesses and industries that, broadly speaking, "involve protecting wildlife or ecosystems, reducing pollution or waste, or reducing energy usage and lowering carbon emissions" (Cleary & Kopicki 2009). Yet the field is both new and growing. Between 1998 and 2007, overall growth in "green jobs" was 9.1 percent, while total job growth was 3.7 percent (Pew Charitable Trusts 2009). The largest green sectors are energy efficiency and renewable energy, but mapping the breadth of the green economy is challenging without a federal standard for what counts as a green job. Moreover, there are both traditional and new occupations operating in a green context.

What are the credentials for work in the green economy?

As the green economy evolves, colleges and organizations representing industries are developing new credentials that employers will recognize. Green For All, an organization that seeks "to build an inclusive green economy strong enough to lift people out of poverty," has identified a variety of approaches to certifying workers in renewable energy and energy efficiency (*see www.greenforall.org*).

The North American Board of Certified Energy Practitioners, the Association of Energy Engineers, and other groups have developed a set of certifications to recognize workers' skills and experience. Some certifications are based primarily on exams, while others have education and experience requirements. However, according to Green For All, industry certifications primarily address occupations for higher-skilled workers and lack entry-level options.

Colleges and higher education systems are also developing skill standards for green jobs. Washington State, through its WIRED grant, collaborated with representatives of labor, industry, and the State Board of Community and Technical Colleges to map skill standards for wind energy technicians. These standards can now be used by two-year and four-year colleges to develop curricula and training sequences.

GREENING CURRICULA AND PROGRAMS: SANTA FE COMMUNITY COLLEGE, SANTA FE, NEW MEXICO

New Mexico is poised to become a leader among states in renewable energy. Between 1998 and 2007, its clean energy jobs increased by 50 percent while total employment only grew by 2 percent. It has also benefited from increased venture capital investments in clean energy. However, the state needs to create the highly trained and specialized workforce that would enable the green economy to continue expanding.

For at least a decade, Santa Fe Community College has stepped forward to provide public education on sustainability, even as a sustainability initiative aims to analyze the college's own carbon footprint and develop a plan to reduce emissions.

In 2008, SFCC hosted "Workforce Training for the Green Economy," a forum attended by over 200 community members and leaders. The event resulted in the creation of a "Sustainability Plan" that included both curricular and institutional elements. On the curricular side, one goal was to have the New Mexico Higher Education Department both accept the green courses developed by the college and ensure that they would be considered statewide as general education courses, which would mean the credits are transferrable across colleges.

On the institutional side, the forum was part of SFCC's effort to help its Sustainable Technologies Center identify and meet the immediate and mid-range workforce training needs of the green business and industry sectors in New Mexico and across the Southwest. Established in 2008, the center offers technical training programs in ssolar energy, water conservation, biofuels, green building, and facilities technologies, with all leading to Associate's degrees and industry certifications. Demand for its programs has exceeded the college's expectations. Unduplicated headcount in the center's related for-credit programs grew from 15 students in fall 2007 to 160 students in fall 2009.

HISTORY OF THE SUSTAINABLE TECHNOLOGIES CENTER

2000 Santa Fe County created the Community College Planning District to build sustainability into all future development in the area surrounding Santa Fe Community College, with an emphasis on respect for the environment, community, connectedness, and economic development to provide jobs close to neighborhoods.

2004 Santa Fe Community College began delivering classes in renewable energy, water conservation, and environmental technologies through the Center for Community Sustainability. The city adopted an economic development plan that included the goal of establishing Santa Fe as a leader in renewable energy.

2005 SFCC, the city of Santa Fe, Santa Fe County, Local Energy, and the Santa Fe Business Incubator formed a partnership to study the feasibility of creating a venue for developing community-based water conservation, renewable energy, and other technologies for community sustainability and to support businesses developing and deploying those technologies with education and workforce training programs.

2006-07 SFCC launched a certificate and AAS degree in environmental technologies. A feasibility study recommended the organized delivery of services to support the creation, development, and growth of businesses and nonprofit organizations, with the primary goal of engendering a viable small-scale industry cluster within a framework of regional cooperation. The result would include education and workforce training, job creation, increased wages, and an expanded tax base for the region.

2007 Santa Fe County voters passed a bond for an initial $7.5 million for a Trades and Advanced Technology building at SFCC; a bond for $4.2 million more passed in 2008.

2008 The Sustainable Technologies Center opened. The City of Santa Fe and the Regional Economic Development Initiative (formed by local governments in northern New Mexico) identify renewable energy technologies as the greatest opportunity for high-wage jobs to the region to diversify its economy.

Source: Santa Fe Community College website: http://www.sfcc.edu/sustainable_technologies_center/history

SFCC's solar energy program, in which students learn to design and install thermal systems, has the largest enrollment. With the interdependence of energy and water in this arid region, SFCC also offers a water conservation program that includes water harvesting, water shed management, and water system auditing and evaluation. The U.S. Environmental Protection Agency has recognized the water conservation program and included it in its "Green Jobs Catalog."

The biofuels program focuses on jobs converting organic materials or recycled oils into liquid fuels. The center developed the program with funding from the New Mexico Department of Workforce Solutions, under a grant from the U.S. Department of Labor's Workforce Innovation in Regional Economic Development (WIRED) program. Among the first of its kind, this one-year certificate program has drawn national attention from employers, educational institutions, and the National Algae Association.

Also with WIRED funding, and in partnership with Sante Fe YouthWorks and the Santa Fe Area Homebuilders Association, 12 at-risk young people enrolled in the Green Building program during the summer of 2009. These students earned pay and six college credits at SFCC while building a Habitat for Humanity home. Students who completed the summer program were eligible to receive a scholarship from SFCC to continue their education. Eleven of them took advantage of the offer, with 10 attending SFCC. The twelfth student also accepted the scholarship but subsequently enrolled in a four-year college.

SFCC has infused sustainability ideas into many programs and courses. For example, English 111 Composition and Rhetoric, a gateway course, uses sustainability as the context for reading materials for all sections, and it requires a complementary service-learning project with local environmental and other green-related organizations. In addition, the college instituted a Let's Talk Green lecture series in 2009, as well as a sustainability film and discussion series. Open to the college and to community members, these provide education and promote discussion around green topics.

SFCC is an active participant in the development of the New Mexico Green Collaborative, an organization that places workforce development at the center of transforming to a new state economy. Created in 2009, this statewide effort brings together individuals, government agencies, and educational institutions to share information and collaborate where possible and appropriate. The director of the Sustainable Technologies Center serves on the collaborative's board.

As a result, SFCC, the Regional Development Corporation, and four other New Mexico colleges jointly submitted a successful application for an Energy Training Partnership grant to the U.S. Department of Labor. In February 2010, the New Mexico Department of Workforce Solutions received a three-year, $6 million federal State Energy Sector Partnership grant to support green workforce development and education efforts. This support will enable community colleges and other educational organizations to expand their programming to meet the needs of the green economy, with support for training in solar, wind, biofuels, energy efficiency retrofitting, and green building.[1]

STATEWIDE IMPACT: CENTRAL PIEDMONT COMMUNITY COLLEGE CHARLOTTE, NORTH CAROLINA

As in New Mexico, there is great potential for statewide impact in North Carolina, home to a number of high-tech and biotech firms. For example, through the Code Green Initiative, the North Carolina Community College System—with 58 colleges and more than 800,000 students—will facilitate a statewide summit in 2011 to raise awareness about best practices, benefits, and opportunities associated with creating green career pathways.

This potential is evident at North Carolina's Central Piedmont Community College, with six campuses serving the Charlotte area. CPCC created the state's first sustainability technologies degree, and the program is now available at all 58 community colleges statewide.

The core of CPCC's "greening" efforts is the Center for Sustainability, which has established workforce partnerships with local employers. Through these partnerships, CPCC designs courses to address specific training needs, positioning students to compete for jobs local employers are eager to fill.

CPCC also partners with Habitat for Humanity to give students real-life experience in green construction. They conduct energy audits and retrofit buildings to be more energy efficient. Another partnership with Charlotte's Park and Recreation Department has enabled the college to provide a unique opportunity for welding students: They cleared junk cars and other iron refuse out of nature reserves, then refashioned the waste into artwork on display at the parks.

Contributing to CPCC's green evolution are campus greening projects, including the development of a certified wildlife habitat on its six campuses. The college is also converting its automotive fleet from diesel to biodiesel, hybrid, or electric. CPCC has also developed the EcoBox, a converted shipping container used to demonstrate various sustainable technologies.

Ernie McLaney, executive director of CPCC's Center for Sustainability, has witnessed how several campus departments have come together on green projects. "Construction is doing green building, automotive is working with the battery systems, and even early childhood is getting our children to understand the importance of getting out into the natural world," says McLaney.[2]

GREENING COMMUNITIES: CLOVER PARK TECHNICAL COLLEGE LAKEWOOD, WASHINGTON

In 2000, the city of Tacoma, Washington, partnered with the Environmental Protection Agency, the Metropolitan Development Council, a local social welfare agency, various employers and unions, and Clover Park Technical College, nearby in Lakewood, to create the "Brownfields to Green" initiative. The initiative is part of an effort to revitalize the local economy, reduce poverty in the county, and remediate the environmental damage of neighborhood sites where the presence or potential presence of hazardous substances, pollutants, or other contaminants may complicate their expansion, redevelopment, or reuse. The initiative involves both the city of Tacoma and Pierce County, which includes Lakewood. Since the initial pilot in 2000, Tacoma received additional Brownfields Job Training grants in 2006, 2008, and 2009. The current grant aims to train 200 participants by 2012, with 75 percent of graduates placed in jobs.

Clover Park Technical College has been the initiative's educational and training partner from the beginning. It was selected for this role because it is the only vocational college in the state that offers an Associate's degree in environmental technology. Begun in 1992, the degree program trains students through a combination of classroom instruction, field experience, and its own living laboratory—a 110-acre wetlands area adjacent to the main college campus. Graduates of the program are employed as environmental technicians throughout the region in for-profit, nonprofit, and government organizations.

The Brownfields program was designed to be a short-term training that prepares students for either well-paid, entry-level employment or further education. Over 11 weeks, the workforce training component of the Brownfields to Green initiative exposes students to a variety of topics necessary to work in green-related jobs: basic math, introduction to environmental chemistry, soils and sampling, asbestos abatement, and federal Occupation Safety and Health Administration requirements. In addition to these "hard" skills, students receive training in "soft" skills, such as team building, interview techniques, networking, leadership, and communication. The curriculum was developed with the hiring criteria of potential employers in mind.

To have the greatest impact on the community, the college recruits students primarily from among the low-income, minorities, women, older adults, and veterans who live in brownfields-affected neighborhoods in Pierce County. The Metropolitan Development Council, another partner in the initiative, reaches out to the community and recruits participants, screens potential participants to ensure that the program will be a good fit for them, and provides support services to those accepted. It also advises those not accepted on other training options. MDC also handles follow-up services to students, contacting them at least once a month after they complete training.

Thirty-five students enroll in each cohort, with about half of them holding their prior jobs (mostly earning minimum wage) over the course of the program. As of May 2010, eight cohorts of students had completed the program. Eighty-three percent of students who began the program have completed it. Of the graduates, 70 percent immediately gained employment, earning about $15 per hour. The local Workforce Investment Board, the Tacoma-Pierce County Employment and Training Consortium, provides graduates with on-the-job training and continuing education. The city of Tacoma's Local Employment and Apprenticeship Training Program assists with job placement. City requirements for contractors to hire at least 15 percent of their workers locally (including registered apprentices) help ensure that jobs are available. The college also organizes "employer roundtables" where students can learn more about local job opportunities and what skills employers are seeking.

Nearly one-quarter of the remaining graduates have chosen to continue their studies, and many continued in the pipeline to a Bachelor's degree program at Evergreen College, a local four-year institution. Thus, the Brownfields to Green initiative is both a steppingstone on the path to a green career and an entrée into further postsecondary education. The college's Environmental Technology program was designed to give students the option of going on to further education; students can earn an Associate of Applied Science Transfer degree, which is a workforce degree with general education requirements included.

In addition to the benefits for the participants and their communities, employers report positively on the quality of training; some have even offered scholarships to help more students enroll. Also, the program's successes have led other programs at Clover Park Technical College to adapt its model, encouraging the college to become more active in seeking input from employers and the community when designing programs and curricula.[3]

SERVING THE NEIGHBORHOOD:
ALAMO COLLEGES, SAN ANTONIO, TEXAS

San Antonio, Texas, is another example of how multiple partners and stakeholders can come together around the common goal of greening a regional economy. The Mission Verde Center is part of a citywide effort to build its economy around green technologies. The center is part of a comprehensive approach to going green that includes research and development, job creation, and training programs.

The Alamo Colleges in San Antonio is a key partner of the Mission Verde Center. Located at a former middle school, the center offers training, technology demonstrations, and environmental information to residents of the city's economically depressed West Side. The Alamo Colleges collaborated with the local school district, youth centers, Texas A&M Engineering Experiment Station, and two local utility companies to establish the center as a hub for green and community economic development.

With a 60 percent dropout rate and unemployment at 15 percent, San Antonio's West Side is in dire need of economic redevelopment. Through the Alamo Colleges Green Jobs Training Institute, residents have access to training in weatherization, green construction and plumbing, solar power systems, and installation of smart-grid systems that conserve energy.

"There is a perception in the community that the field is too new, too risky in comparison to the familiar health care and construction fields," says Anson Green, director of workforce partnerships at Alamo Colleges. He says people will realize the benefit of specialized job training, especially as they experience how these upgrades improve their lives. The center aims to build awareness and trust in green jobs development, using demonstration events, summer camps for kids, and mobile simulations.

For more information on the Mission Verde Center, see http://www.sanantonio.gov/oep/center.asp

LESSONS LEARNED

Partnerships are an essential component in the green work of community colleges.

Approaches developed by community colleges to address green issues benefit from extensive consultation with local stakeholders on their unique needs and special attributes. These consultations also can result in broad support. The hallmark of the Santa Fe, Central Piedmont, and Clover Park green jobs activities is the development of strong partnerships with and among communities, government, employers, and educational institutions for the purpose of designing training that meets workforce needs for rebuilding the local economy and the local environment. Close collaborations between community colleges and employers create short-term and long-term educational and training initiatives that produce graduates whose skills match local labor market needs. The colleges identified the range of local partners to work with in both choosing the appropriate role for the community college as well as developing the specific approach.

Institutions concerned with helping particular demographic groups train for new careers collaborated with local and regional planning groups to target their efforts on industries that were expanding employment. Many of these students have experienced poverty, homelessness, the criminal justice system, or the military, and may have had little to no previous postsecondary training or education. Given the reality of their life experiences, it has been critical to offer more than the traditional classroom environment. Reducing their many barriers to educational success is crucial. Programs that target these underserved populations cannot succeed without intensive wraparound support and case management services.

Meet the needs of multiple stakeholders.

While environmental sustainability is often positioned as competing with economic development, all the colleges highlighted here incorporated the needs of workers, employers, and their communities into their sustainability strategies. Clover Park's program had a positive impact on families living in contaminated areas, developers seeking to create commercial space in the city, environmental cleanup companies seeking skilled workers, and the participants themselves who sought better jobs. Santa Fe Community College studied how its sustainability goals could be integrated with business development and employer needs. Both colleges assessed the local issue or problem they felt they could address. Both examined the multiple beneficiaries of their approaches and found ways to optimize impact in the short term and the long term.

Incorporate labor market needs into the design of training programs.

While the number of green jobs is increasing, these occupations are still a small fraction of the total workforce. In addition, the types of green jobs available are in flux. According to a report by the Pew Charitable Trust (2009), while the majority of green jobs available in the clean energy economy are in conservation and pollution mitigation (65 percent), the fastest-growing jobs are in environmentally friendly production (up 67 percent from 1998 to 2007). Colleges must have a way of assessing current and potential green job opportunities when developing training programs. Ideally, they should work with employers to make sure that workers are trained with the appropriate skill sets.

Each of the programs described in this brief has enhanced the skills of local workers and raised the employment opportunities, earnings, and career prospects of residents. However, before creating programs and undertaking substantial financial commitments, each college worked diligently with employers to gather labor market information on available or projected job openings and the minimum skill levels and credentials required for successful employment. The Brownfields Job Training Program uses the hiring criteria of developers and environmental remediation companies as a basis for developing its training curricula. The employability of Clover Park's graduates is not in doubt; many are earning much higher wages than before—and have further opportunities to advance in careers—even without earning an Associate's or a Bachelor's degree.

Integrate training for green jobs into career pathways.

For workers to have continued opportunities for advancement in the green economy, short-term training and certificates must be part of a pathway that includes more advanced credentials. It is also essential to develop the types of short-term, entry-level credentials and on-ramp programs to give low-skilled and low-income workers access to the opportunities of the green economy. Clover Park Community College requires trainees to test at the tenth-grade level or higher in math, but MDC staff can refer those testing lower to skill-building programs so that they can reapply. MDC also provides wraparound support services to help potential trainees overcome other barriers to entering the intensive program. Central Piedmont Community College created North Carolina's first sustainability technologies degree.

Focus on job creation as well as training.

The success of any green jobs training program depends on the availability of jobs for those who complete the program. Increasing the availability of green jobs means increasing demand for green products and services. Santa Fe and other community colleges do this in part by upgrading their own facilities to be more sustainable. On a larger scale, cities and states can incentivize investment in sustainable technologies through tax breaks and loans to businesses and individuals. Cities and states can make investments in energy infrastructure, and can set standards for new construction. Cities and community colleges can also work together to attract green industries to their communities. San Antonio is investing in research and development with the goal of growing new businesses in the green sector. Part of the city's sustainability plan includes venture capital funds for green technology.

State policymakers can also promote growing the green economy as a major state priority. For example, the Washington State legislature recently passed the Evergreen Jobs Act, which sets a goal of creating 15,000 new green economy jobs by 2020. Illinois is promoting green jobs by setting annual targets for solar power use and removing barriers to solar power developers.

CONCLUSION

Many current and future green jobs are "middle-skill" jobs that require more than a high school diploma but less than a Bachelor's degree. This means that community colleges are well equipped to educate diverse populations and provide opportunities to participate in the emerging green economy. Forward-thinking institutions are moving ahead, educating men and women who can fill today's jobs and be prepared to succeed in the green careers of the future. The community colleges highlighted here are leaders, and their successes provide models of the range of possibilities for others to develop programs and approaches to address their own local problems and issues. These range from long-term economic development, to local environmental issues, to unemployment concerns resulting from a nationwide recession or local business closings.

The continuing recession and the prospect of longer-term changes in local economies provide opportunities for all community colleges to demonstrate their value by helping businesses and individuals adjust to challenging economic environments and increase their resilience and chances of prospering. Community colleges also have the power to be agents for change in other spheres within their communities by developing approaches to both new and longstanding problems. These include the need for renewable energy sources and water conservation as well as unmet social needs, such as environmental remediation to make areas more habitable for residents and more attractive to potential employers.

ENDNOTES

[1] Santa Fe Community College was a nominee for the 2010 MetLife Community College Excellence Award. This profile was based on documentation from the MetLife Foundation Community College Excellence Award competition. For more information on the Santa Fe Community College Sustainable Technologies Center, see: http://www.sfcc.edu/sustainable_technologies_center/classes.

[2] This profile is based on interviews and research conducted by Jobs for the Future for The Greenforce Initiative, a partnership of JFF and the National Wildlife Federation. It is adapted from "Green Jobs Training Prepares Students for Career Success, by Kevin Coyle and Maria Flynn, appearing in the October 2010 issue of *Community College Journal*.

[3] Clover Park Technical College received a 2010 MetLife Foundation Community College Excellence Award recognizing its Service to Community through the "Brownfields to Green" initiative. For more information on environmental sciences and technology programs at Clover Park Technical College, see: http://www.cptc.edu/index.php/programs/degrees_certificates/environmental_sciences_technology.

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