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Community Colleges and the Emerging Green Economy: A Call to Action

To limit the impacts of climate change, the United States set targets in 2021 to reduce greenhouse gas emissions to half of 2005 levels by 2030 and to achieve net-zero emissions no later than 2050. To meet these targets, the federal government has been investing in new energy and transportation infrastructure at a massive scale. These investments, combined with changing industry market conditions and emerging technologies, are predicted to dramatically reshape the workforce. In addition to facilitating the creation of clean energy and related jobs, workers in existing jobs will need to learn new skills and adapt to changing industry practices. In the next ten years, as many as **9 million high-quality jobs** will be created to implement new energy infrastructure and help communities adapt to and mitigate the effects of climate change. Notably, these will include new jobs (e.g., in wind turbine manufacturing) and existing jobs with new skill components (e.g., automotive technician).

What is the role of the nation's community and technical colleges in preparing for this workforce transition? To begin to answer this question, the Community College Research Center (CCRC) hosted **a symposium** on April 6, 2024, that brought together community colleges, workforce development organizations, funders, policymakers, and others to discuss the opportunities and challenges of starting, expanding, and sustaining green workforce programs.¹ Participants shared programs and initiatives already in place at community colleges, discussed funding opportunities, and identified unmet needs and opportunities to strengthen the ways that community colleges are contributing to a sustainable future. In this Call to Action, we share five insights from the symposium with the goal of both supporting work currently underway and galvanizing further efforts in community colleges to prepare workers for the green economy.

¹ Symposium participants included researchers, leaders of 24 community colleges from 19 states, as well as representatives of various foundations, the U.S. Environmental Protection Agency, the Department of Energy, the Department of Education, and 10 national intermediary organizations, including Jobs for the Future and the National Council for Workforce Education. We thank Crimsonbridge Foundation, The Kresge Foundation, and The Heartland Fund for supporting the symposium, and we thank Cameron Sublett and Rachel Rush-Marlowe for helping to plan and lead the symposium activities and for collaborating on this new area of research.

1. Community colleges are uniquely positioned to address challenges posed by climate change and to prepare students for jobs in the green economy.

Community colleges are ideally positioned to prepare students for economic changes resulting from climate change. There are nearly 1,000 community colleges nationwide, and workforce education is integral to their mission. Because of their geographic diversity, community colleges can train workers in developing technologies that address the climate and economic dynamics in their particular regions—e.g., in wind and solar energy, forestry, water management, fire science, grid development, and electric vehicle infrastructure. They offer programs that reflect the needs of local economies and have strong connections to communities and industry employers. Participants at the symposium emphasized that community colleges can facilitate important dialog to navigate political sensitivities related to climate-related economic transitions. One symposium participant explained how their community college has functioned as a trusted institution during a challenging regional transition away from oil and gas production: “As community colleges, we play the role of being the neutral convener. It’s really important to hear from the community about what they are interested in, as well as helping people understand what [green workforce] programs are.” Finally, community colleges serve the largest proportion of low-income students, first-generation-in-college students, and students of color of any higher education sector. Community colleges are therefore key in ensuring the equitable distribution of green economy job skills and opportunities.

2. Green jobs are already here.

Green technologies are evolving quickly, and the skills required to perform traditional jobs are changing because of them. While some new occupations will emerge across industries and regions, symposium participants emphasized that the best opportunities may be in fields where community colleges already have established programs of study: agriculture science, automotive maintenance and repair, construction, electrical engineering, HVAC, manufacturing, natural resource management, among others. One participant noted, “Most of these jobs are going to be done by people who are in occupations that we already know..., but the [skills] they need to have are different. It’s actually [about creating a new] module, not a [new] program.” By adding green modules to existing programs—for example, adding charging station maintenance to electrical programs, new insulation techniques to building trades programs, and heat pump technology to HVAC programs—colleges equip students with a broader, more flexible, and more valuable set of skills.

3. Green jobs appeal to people across the political spectrum.

In our current political environment, climate change can be a polarizing issue. It needn't be. Different messaging may resonate for different student populations; thus, colleges can include both information about the importance of careers that improve local and global climate conditions as well as data on job stability and earning potential. As one participant explained, "When I talk to unions, if they are teaching heat pump technology, they aren't marketing those programs as green jobs." Or as a community college leader put it: "[Some people will say] 'The only green I care about is money.' Don't emphasize 'We're protecting the environment.' Instead, say 'We're working to protect your community and bring good jobs to your community.'" In other places, environmental impact is a selling point. Another college leader described the results of recent market segmentation research which showed that many potential students in their community are concerned about climate change and are seeking purposeful careers. Foregrounding how programs can lead to meaningful jobs that make a difference might be a strategy for some colleges to attract students and boost enrollment overall.

4. Green jobs have the potential to advance racial and economic equity.

We are witnessing a **historic moment of federal investment** in infrastructure to facilitate the transition to a green economy. In contrast to past workforce transitions, much of this money is earmarked for worker training with an emphasis on job quality and the inclusion of historically disenfranchised communities and those who have been most adversely affected by climate change. Yet symposium participants noted that many emerging workforce opportunities will be in trades, technical fields, and STEM—areas where women and students of color are historically underrepresented. One state representative cautioned: "We have to think about complete pathways [to high-wage jobs] very strategically for frontline communities and make sure that we are not replicating racial inequity by undertraining [students from selected groups]." Part of the solution may be to proactively market high-opportunity training programs to underrepresented groups through advertising (including public service announcements) and in college orientation sessions. Once students have selected a program of study, they could be assigned to an advisor who is knowledgeable about the field and who stays abreast of students' progress—and who intervenes when personal or academic problems arise. All students should have opportunities for active and experiential learning that enables them to build their skills and make connections with faculty and students who share their interests and with potential employers. High-quality pedagogy is particularly important for supporting the success of historically underserved students, so colleges may need to invest in faculty professional development to support culturally responsive and inclusive teaching practices.

5. This is an optimal time for colleges to invest in green workforce training programs.

Symposium participants from federal agencies and intermediaries emphasized that there are abundant funding opportunities for community colleges to establish or expand green jobs training programs. In some cases, federal funding flows through state and local workforce agencies or through employers, so participants recommended that community colleges actively seek partners such as workforce boards, universities, utilities, or municipal agencies to tap all available resources. Collaborations with such entities will expand the funding opportunities available to community colleges and may help distribute the administrative burden associated with pursuing grant funding. Participants also noted that many states are receiving considerable funding related to clean energy and infrastructure upgrades and advised community colleges to connect with state offices proactively to identify workforce development needs. Finally, several college leaders noted the importance of mobilizing quickly when unexpected opportunities present themselves. Colleges can prepare by spotlighting and succinctly describing green jobs training programs on their websites, documenting the number and characteristics of students that they currently serve and have the potential to serve, and reaching out to local employers who may offer internships or other training opportunities to students and hire their graduates.

Call to Action

The need for adaptation, mitigation, and resilience in the face of unprecedented climate events is urgent. Community colleges are trusted local institutions that can help their regions embrace emerging economic opportunities that help to sustain their communities and the environment. The involvement of community colleges in the transition to a green economy has the potential to create a more effective and equitable **student- and trainee-focused approach** to workforce development, where the needs of communities and workers drive the economic transition. Federal, state, and municipal governments and industries are moving quickly to reshape energy and transportation infrastructure, and community colleges are ideal partners for these efforts. The time to act is now!

CCRC is initiating a new strand of research to document the important role that community and technical colleges are playing in addressing climate change and participating in the green economy transition. Through this work, we will highlight innovative programs and identify barriers and facilitators to scaling up green workforce development efforts at community colleges. If your college is engaged in green workforce development and has a story to tell, please contact us at: *Maggie P. Fay, CCRC Senior Research Associate*, Fay@tc.edu.

Resources

Below are some funding opportunities and information resources to help community colleges develop or expand training for green jobs.

Aspen Institute | [Higher Ed Climate Task Force](#)

The Aspen Institute launched this task force to identify how colleges can leverage their strengths as educators, researchers, community partners, and conveners to take action on climate change.

National Science Foundation (NSF) | [Advanced Technological Education \(ATE\)](#)

The ATE program supports the education of technicians in high-technology fields. NSF provides a myriad of opportunities to get involved in ATE, such as mentoring programs, guidance for proposal development, and a community college president network.

Department of Energy | [Workforce Training Recognition](#)

DOE recognizes training programs and credentials that align with clean energy transition goals. Recognized programs have greater visibility with state energy offices that are implementing federally funded workforce training and rebate programs.

Department of Energy | [DOE STEM](#)

DOE STEM is a collaborative effort across the agency to share, improve, and increase accessibility to DOE resources for the training, education, and engagement of STEM students, educators, professionals, and skilled workers.

Department of Labor | [Strengthening Community Colleges Training Grants](#)

Focusing on sector-based career pathways, this grant program aims to build community colleges' capacity to meet the skill development needs of employers and equitably support students in obtaining good jobs.

Education Development Center | [Preparing for a Green + Blue Workforce](#)

Following a convening in February 2024, the Education Development Center released a set of resources including strategies to ensure young people can thrive in a green economy and an overview of relevant legislation.

National Council for Workforce Education (NCWE) | [Recruitment, Support, & Curriculum Modules](#)

NCWE leads the National Green Jobs Advisory Council, which, among other activities, develops materials to build a skilled and inclusive green infrastructure workforce.

National Renewable Energy Laboratory (NREL) | [University Partnerships Program](#)

NREL partners with universities, community colleges, and research institutions to facilitate knowledge-sharing, joint appointments, proposal development, and student engagement aimed at a clean energy future.