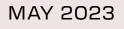
EXECUTIVE SUMMARY



Education and Training:

An Opportunity to Achieve a **Just Transition** to a Low-Carbon, Socially Inclusive Economy

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Executive Summary

As U.S. policymakers and implementers move to close the country's emissions gap, a critical oversight threatens not only to slow the country's clean energy transition but also to hinder the achievement of environmental justice. This oversight is the country's lack of transformative investments in closing education and training gaps, especially at the postsecondary level, including technical and community colleges and universities, and especially among historically marginalized communities across the country.

Without the equitable participation of underserved and disadvantaged populations across the U.S. in green learning opportunities, the country cannot build the diverse green workforce it needs to meet the demands of rapid decarbonization efforts, nor can the country achieve a just transition. If U.S. policymakers do not course-correct through bolder policy, and if postsecondary institutions do not respond to the green learning needs of their communities, long-standing inequities in education and training will continue to put the country at odds with its ambition to transition to a low-carbon economy that leaves no one behind.

The Context

The current U.S. climate policy landscape includes President Joe Biden's executive order on tackling the climate crisis at home and abroad and a tripartite of historic legislation, including the Infrastructure Investment and Jobs Act (IIJA), CHIPS and Science Act, and the Inflation Reduction Act (IRA). Importantly, the President's Justice40 Initiative functions to ensure 40% of the benefits of green investments reach communities that have been historically overburdened by pollution and economic underinvestment. Together with complementary state level efforts, this federal policy landscape is expected to drive inclusive green job growth and the achievement of environmental justice over the next decade and beyond.

Celebration is warranted, especially the momentum generated toward reducing U.S. emissions by 50% by 2030. However, earmarked investments to the education and training needed to translate policy intention to climate action and environmental justice are inadequate and shortsighted, putting the U.S.'s climate goals and its vision for a just transition at risk (Figure A).

In the near term, the lack of investment in education and training not only means decarbonizing sectors will struggle to deploy the green workforce needed by employers, but it also means that efforts to shift the entire economy to become low-carbon and socially inclusive will also be stalled. In the long term, future generations will be hampered in their capacity to address the mounting impacts of climate change while bearing the burden of reducing the emissions they did not cause. And persisting inequities in the education and training system mean historically marginalized communities and disadvantaged populations will continue to face undue hurdles to both participate in and benefit from green transitions. In short, the transition to a low-carbon economy does not promise to be empowering, inclusive, or transformative.

Figure A. Combined Potential Investments Unlocked by IIJA, CHIPS, and IRA Over the Next 5-10 Years, at the time of writing



The Challenge

In 2021, the U.S. green workforce constituted approximately 23.7% of overall U.S. employment. Of this green workforce, 80% are white, 75% are male, and nearly 45% concentrated in 3 sectors (Manufacturing, Construction, and Transportation and Warehousing). With green jobs anticipated to grow significantly over the next decade, our analysis suggests that without transformative investments in education and training, the green workforce of the future will likely be characterized by the same <u>demographics as</u> the green workforce today, leaving the prospects of a socially inclusive, low-carbon economy out of reach.

We have found that a bachelor's degree is key to entering the green economy's most promising jobs in the next decade. This points to an urgent need to close education and training gaps among underrepresented populations, especially at the postsecondary level where historic marginalization and systemic discrimination promises only to perpetuate their continued exclusion from the green economy.

What kinds of policies and investments are needed in the U.S. to course correct toward a more just transition? To answer this, decision-makers and advocates first need to understand what the challenges are to achieve a just transition that currently characterizes the country's education and training scenario. From this baseline, decision-makers and advocates can better identify policy entry points and priority investments that can redirect the country toward a more just transition.

To aid this process, we highlight three challenges—a green jobs gap, green skills gap, and green learning opportunities gap—that our analysis suggests, if left unclosed, are set to define the future of the green economy in an unjust and inequitable way.

First

The green jobs gap is a snapshot of what the current green economy looks like across sectors and across demographics, telling us who holds which green jobs and where the gaps in participation are across different populations.

What we find is that the current green economy is stratified along gender and racial lines, and that these stratifications are further defined by historic inequities in education and training. If participation in the green economy's fastest-growing jobs requires more education, as indicated earlier, then populations underrepresented in postsecondary education are set to experience heightened barriers to economic equality. Green investments that do not address educational inequities will not only reproduce gender and racial gaps in the composition of the future green workforce, perpetuating occupational segregation observed in the non-green economy. But they will also perpetuate gender and racial pay gaps in the future green economy, limiting the transformative potential of green economic transitions.

For example, women, Black or African Americans and Hispanic or Latino populations are, on average, overrepresented in green occupations for which no formal educational credential or a high school diploma or equivalent is needed to enter and for which the median annual wage is below the national median wage. Meanwhile, men, Asian, and white workers are overrepresented in those green occupations requiring a bachelor's degree to enter and for which they receive some of the highest levels of compensation.

Second

The green skills gap is a preliminary sketch of tomorrow's green workforce based on current trends in green skills acquisition—proxied here by degrees conferred in the major fields of study that are associated with the most in-demand green jobs. The green skills gap tells us who is on course to build the skills required for tomorrow's green jobs and who may need extra support to do so.

What we find is that the current demographic distribution of green skills will make it difficult to improve the diversity of the green workforce tomorrow. This is especially the case for already gender and racially stereotyped green occupations, like Educational Instruction and Library or Construction and Extraction, whose emerging pool of talent (i.e., those individuals who are completing fields of study and/or training that are relevant and/or required for those green jobs) is largely constituted by individuals from the same gender and racial groups. In other words, because the green skills gap generally reflects the green jobs gap, we cannot expect the green workforce tomorrow to look much different than today-unless transformative action is taken to close the green skills gap.

For example, Hispanic or Latino populations are overrepresented in fields of study needed to enter green Construction and Extraction occupations, where they are already more highly represented in the green workforce. Black or African American populations are overrepresented in fields of study needed for green Office and Administrative Support occupations, where they are already highly represented.

This also has implications for who is likely to benefit from green jobs growth. For instance, women are overrepresented in fields of study associated with green jobs that are not projected to increase in demand any time soon nor expected to receive any targeted federal stimulus in the future. This includes fields of study associated with green Educational Instruction and Library occupations—despite the need for more educators, trainers, and instructors to support the scale of green skill-building required over the next decade.

Notably, for some populations and for some occupations, it may be harder to access green jobs than it is to acquire the green skills needed for those jobs. For instance, women are slightly overrepresented in fields of study associated with high-wage green jobs like Chief Sustainability Officers or Compliance Managers. Yet they are underrepresented in the labor market hosting these jobs. Such observations are a reminder that education and training investments must simultaneously help diversify who is entering and completing fields of study and training required for green jobs and tackle the institutionalized systems of exclusion and discrimination preventing underrepresented populations from transitioning to and thriving in those green jobs.

Third

The green learning opportunities gap reflects the likelihood for the country to course correct, given the country's current education and training landscape. The green learning opportunities gap tells us whether we could close the green skills gap among historically marginalized communities across the country by showing us who has the opportunity to participate in the kinds of education and training needed for green careers. It does this by mapping out the geography of green learning opportunities and their proximity to historically marginalized communities.

Based on our analysis of a pilot Green Learning Opportunities Database in three states (Hawai'i, Illinois, Kentucky), we find that there are deep spatial inequalities in the current education and training landscape. Such patchy geographic distribution of green learning opportunities creates significant obstacles for members of disadvantaged communities to access the skill-building opportunities they would need to benefit from green jobs investments and green economic transitions. Without investments targeted at green learning opportunity "deserts," the country will have a difficult time changing course.

For example, green learning opportunity deserts in southeastern rural Kentucky overlap with Appalachian communities that have experienced not only historic underinvestment but also a toxic legacy by the coal industry that has contributed to the region's heightened exposure to cancer-causing environmental pollutants and environmental hazards like flooding. For states like Hawai'i, green learning opportunity deserts are exacerbated by geographic isolation, both in terms of its outer islands and in relation to the U.S. mainland.

Notably, Chicago, Illinois, like other metropolitan areas in our analysis, appear to be green learning opportunity "oases," outliers in terms of the greater proximity of green learning opportunities to disadvantaged communities in urban settings. Yet, despite the increased proximity, systemic discrimination within postsecondary education as well as the high cost of tuition and transportation can render even the closest green learning opportunity inaccessible for disadvantaged communities.

Without greater attention to closing these three systemic gaps in education and training through more robust and transformative investments, the country's vision of a just transition will be unattainable. The future green economy will be far from inclusive or equitable.

The Opportunity

Postsecondary institutions, including technical and community colleges and universities across the country, have an important role to play in closing education and training gaps among underrepresented populations. To do so, postsecondary institution leaders and education stakeholders must step up their <u>collective leadership</u> in shaping future U.S. climate policy. They can do this in four ways.

 By defining a New Green Learning Agenda for postsecondary institutions: Such a task is trained on three approaches to lifelong green learning that builds a breadth of green skills and is directed toward achieving climate and environmental justice.

- 2. By strengthening and supporting just transition education and training ecosystems: This requires postsecondary institutions to work together in partnership with community-based organizations, nongovernmental organizations, high school career and technical education programs, and industryaligned organizations to fill critical gaps in the provision of quality and diverse green learning opportunities across the country.
- 3. By advocating for and directing financing and resources toward building "human infrastructure" or investments in people: Such investments must be centered on upending systemic discrimination and legacies of exclusion while expanding access among historically marginalized communities to learning opportunities that build a breadth of green skills.
- 4. By filling data gaps for justice-centric data analysis in education and training: Such an effort means empowering decision-makers with data, tools, and analysis disaggregated at multiple levels in order to facilitate the identification of blind spots in the country's education and training landscape

Complementing these policy recommendations, a forthcoming follow-up report explores steps postsecondary institutions can take themselves to help close green learning opportunity gaps.

Conclusion

The U.S. transition to a clean energy economy is an unprecedented opportunity to not only green the economy but also to transform deeper-seated inequities in opportunity and historic legacies of underinvestment. But the composition of the green economy today suggests that without <u>bold, targeted investments</u> in filling critical gaps in education and training, the future green economy will perpetuate the demographic stratifications and socioeconomic inequalities that are all too familiar for historically marginalized populations.

Not directing resources to diverse green learning opportunities across the country puts the U.S.'s goal for a just transition at risk. U.S. policymakers, decision-makers, and advocates must view education and training as a non-negotiable investment in any future U.S. climate policy. To close the emissions gap and to achieve a just transition, the country must close its education and training gaps. And to close its education and training gaps, the country must close its inequality gaps. Postsecondary institutions, especially community colleges in collaboration with community-based organizations, have a critical role to play.

