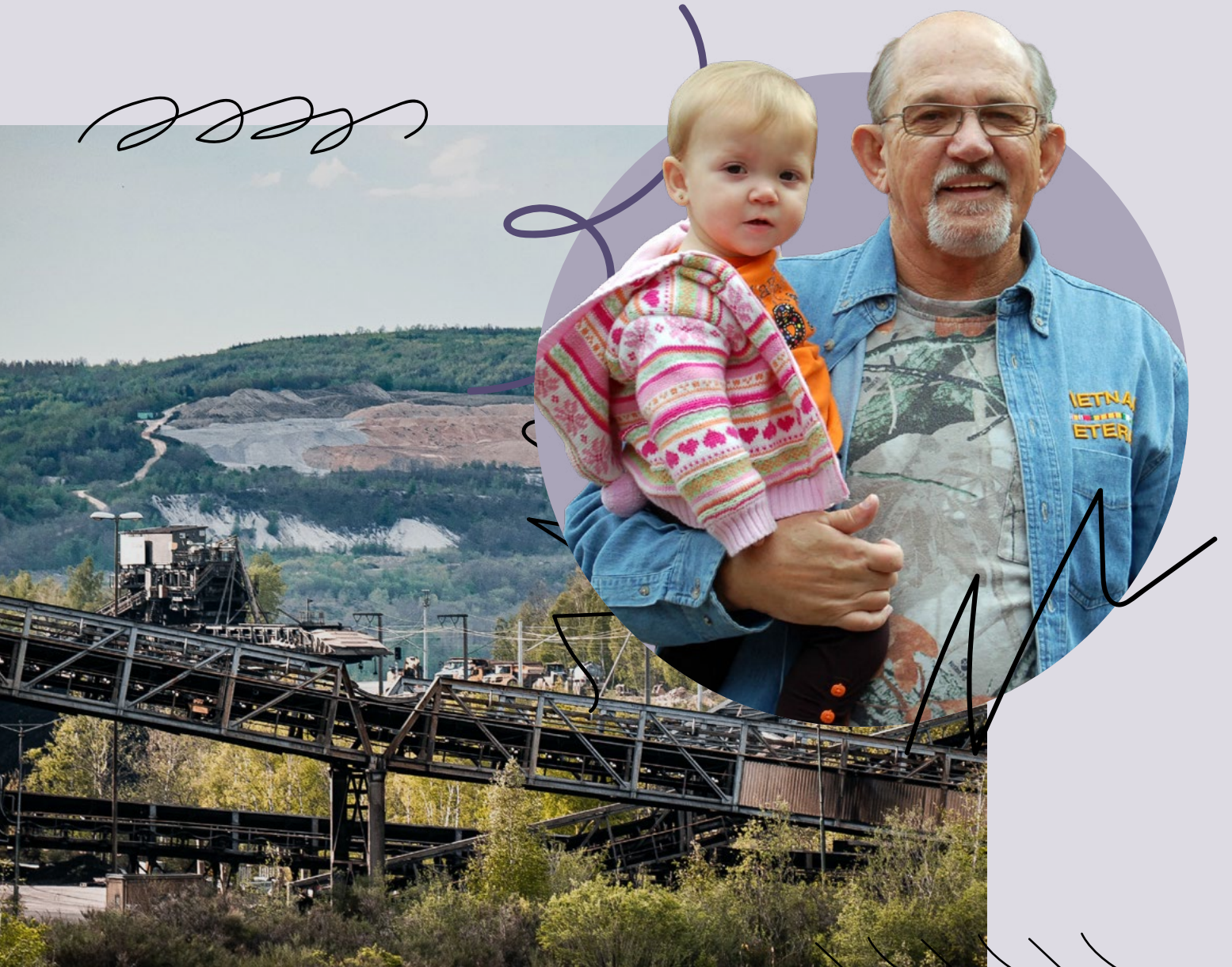


CASE STUDY

Green Skills, Creative Placemaking, and a New Green Learning Agenda in Eastern Kentucky

COLLEEN UNROE



Caption (right): Carl Shoupe - a retired 3rd generation coal miner and union organizer from Benham in Harlan County, Kentucky, instrumental in getting solar panels on the Benham Coal Mining Museum. Photo credit: Colleen Unroe

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About the New Green Learning Agenda Project

As we find ourselves in a kaleidoscope of efforts, strategies, and actors in pursuit of results-oriented approaches to tackling the climate crisis and achieving a just transition, we are alarmed by the inadequate attention to the education and training required to support meaningful and sustainable actions in the short-term and to seed deep systemic transformation in the long-term.

This project aims to address this gap by organizing the richness of perspectives not always invited to green economy decisionmaking tables. In doing so, this project aims to empower the actors in the education and training ecosystem to identify actions toward building a New Green Learning Agenda. This agenda will serve as a vision for education and training in a climate-impacted world that ensures the transition to the green economy is inclusive, diverse, and just, centering the needs and experiences of environmental justice communities and climate vulnerable populations around the globe. This report is the second report of two.

The first report, *Education and Training: An Opportunity to Achieve a Just Transition to a Low-Carbon, Socially Inclusive Economy*, illuminates the extent and scope of postsecondary education and training investments needed to achieve a just transition in the U.S. The report maps the landscape of green jobs, green skills, and green learning opportunities with an eye toward understanding how gaps in these landscapes intersect with issues of justice, equity, diversity, and inclusion. The report also provides recommendations to postsecondary institution leaders and education decisionmakers to direct future U.S. climate policy attention toward more transformative investments in education and training.

This second report is the byproduct of a collaboration between Unbounded Associates and place-based research partners in Hawai'i, Chicago, and Kentucky. Together, we explore community-driven approaches to closing green learning opportunity gaps from a variety of voices across three case studies: from community-based organizations to workforce training program alumni and from faculty and administrative staff of postsecondary institutions to students of community and technical colleges. This report synthesizes insights from these actors and cases on the paradigm shift required among postsecondary institutions to unlock their potential as both community-based actors and community-serving actors. The report also offers a set of recommendations for postsecondary institutions to co-define with community-based organizations a New Green Learning Agenda that can enable a just transition that serves the needs of historically marginalized populations in their surrounding communities.



Introduction

Central Appalachia is composed of counties in Kentucky, Ohio, Tennessee, Virginia, and West Virginia. This region has long been associated with extreme poverty and unequal distribution of land where outside corporate interests colonized through resource exploitation (Montrie, 2003). The coal industry negatively affects residents' health, miners' working conditions, and environmental quality, and these detrimental effects continue to increase (Ahern et al., 2011; Aken et al., 2009; Bell, 2013). Nevertheless, the local communities' strong identification with coal mining also continues (Bell & York, 2010). The global coal market decline and climate change increase the need for economic transition in these communities (Evans & Phelan, 2016). Some communities have started to focus on what is being called "Just Transition," which consists of "a strategy for reconciling the needs of workers with the imperative of environmental reform" (Abraham, 2017, p. 222).

Since the end of World War II, and most starkly the last two decades, increased mechanization of the coal industry reduced jobs for residents, increased productivity of coal, and caused greater environmental

damage (Carley et al., 2018). Figure 1 demonstrates the long-term decline in coal employment. From 1985 to 1997, direct coal employment dropped by 50%, while production hit its peak in 2011 (McIlmoil et al., 2013). Since 2011, coal production has dropped, due in part to a shift towards an increase in lower-carbon natural gas development and environmental regulations (Carley et al., 2018). Coal employment declined as the industry shifted to strip mining, particularly mountaintop removal mining, that enables the coal companies to maximize profits. As one interviewee described it, "We've been struggling, I mean, even with low-labor force participation, with poor educational outcomes, with extremely high poverty, with underfunded schools, underfunded local governments for 50 years or since the '60s when they started measuring stuff like that."

The impact of coal mining has not only put communities in Central Appalachia at a higher risk of exposure to environmental hazards, but it has also contributed to climate change through fossil fuel emissions, increasing the frequency of large-scale flooding and resulting in the region to be highly vulnerable to climate disruptions. On July 28th, 2022, there was a 1,000-year flood that resulted in 43 deaths and 10,000 people applying for aid from FEMA (Estep, 2023a; Hudson, 2023). At the same time, the underinvestment in the region has resulted in communities not having the opportunities to build the skills needed for economic transitions, let alone just transitions, nor the job opportunities that could revitalize the local economy and help build more climate resilience. There is an urgent need to address the investment in community economic development and green skills development (also referred to as green learning) that is more broadly defined to include and build upon local cultural assets, improved health, community identity, and belonging.

However, the predominance of the coal industry in the region has been a barrier to thinking about economic diversification and the significant investments needed in "human infrastructure," including living wage green jobs for people in the community. As one interviewee stated, "If you even hinted that we needed economic development that wasn't tied to the coal industry,



Caption: Tile Mosaic in the Appalachian Center at Southeast Kentucky Community and Technical College in Cumberland, Kentucky. Photo credit: Higher Ground.

you were seen as radical.” As a result, communities in Eastern Kentucky are left with few options. Right now, there are plenty of jobs if you can afford to work for 10, 12, 15 dollars an hour. I mean, they’re not great jobs, but they’re there.” But because these jobs do not pay a living wage, the alternative is to remain unemployed to remain eligible for social programs that grant access to basic needs like food and health insurance.

As one interviewee put it, “I do think, part of the challenge right now are the benefit cliffs where people, if they go back to work, then they lose these benefits.” Without adequate social support or the widespread availability of living wage jobs, and without the skill-building infrastructure needed to set in motion the economic development needed in the region, communities in Central Appalachia will be left behind.

This case study focuses on the need to support the Appalachian communities that bear the brunt of the negative impacts of industrialization that the rest of the country has relied on for several years. The study highlights the experiences of 14 participants with postsecondary education in multiple counties in Eastern Kentucky, including Perry, Harlan, Knott, Breathitt, and Letcher Counties. Many of these conversations took place before the devastating floods in 2022 and right after during recovery.



Key Findings

Key Players in Green Learning in Kentucky

There are a variety of actors engaged with building skills to help transition the local economy. Several post-secondary institutions exist within the region, including the Kentucky Community and Technical College System (KCTCS), University of Pikeville, Union College, Alice Lloyd College, and the University of Kentucky Extension.

For this case study, the community colleges were the central focus to learn about their role in efforts to support change in green learning. The KCTCS System has had a Sustainability Initiative since 2009. This plan stated that it would “facilitate cultural change, promoting sustainable communities inside and outside of KCTCS, using an all-encompassing, no-silo approach” that would address each functional area of KCTCS. This plan was called the KCTCS Green + (Plus) Initiative, and included four forces: environment, economics, energy, and stakeholders (Kentucky Community and Technical College, 2009).

Nonetheless, this approach was not systematically integrated or prioritized throughout each of the KCTCS campuses. For example, efforts on food security and community gardens have been at the prerogative of individual faculty members. In contrast, Higher Ground is a community arts organization that is a part of the Appalachian program at Southeast Community and Technical College. The organization works with community members on important community issues through different art mediums, including musicals based on oral histories and tile mosaics.

Within the community colleges in the region, there are several Workforce Ready programs tied to jobs that are currently available, such as manufacturing, construction, transportation, health care and business. These programs are informed by major employers in the area, like the coal companies, Appalachian Regional Hospital, and Pikeville Medical Center. Some of these programs target green jobs, like the carpentry program, allied health, welding; others do not target green jobs, like coal miner, truck driver, and auto repair programs.

Many local community-based organizations, such as Mountain Association, Housing Development Alliance (HDA), North Fork Local Foods, Community Farm Alliance, Appalachians for Appalachia, Foundation for Appalachian Kentucky, and Invest Appalachia (a regional investment fund), and Shaping Our Appalachian Region (SOAR), are also addressing specific needs for skill development that support socially inclusive, green economic development. This includes providing skill-building support for specific sectors like community health, local foods, and clean energy, as well as business skills development to support creative placemaking through entrepreneurship and business development within the region. Some of the entrepreneurial efforts draw from the local culture through the arts. These efforts address specific needs identified by the organizations and are sometimes done independent of the post-secondary institutions.

Just transition stakeholders recognize that skills training is key for economic development, and several different entities are creating learning opportunities that are consistent with the vision of a New Green Learning Agenda (NGLA)—an agenda that orients education and training to climate action and the pursuit of climate justice. Importantly, some of the skills gaps are being filled by community-based organizations. While these organizations indicate that community colleges are supportive of community-driven efforts, there could be more communication to create a shared vision for the region that helped to identify a breadth of green skills to move the region forward.

Moving from Labor-market Driven to Community-driven Processes

The traditional approach to identifying vocational training programs has been labor-market driven and in partnership with businesses in the community. However, when considering green skills and a just transition, there is a need to go beyond traditional approaches to community-driven approaches to identify opportunities, like carpentry, that respond to a community need, like the lack of housing.

The process of community engagement reflected in the Higher Ground approach could be a model to explore green learning needs. There is also a need for community-based organizations to work in partnership with different post-secondary institutions for different segments of the population, like farmers and carpenters. Furthermore, there is a need for processes to take a more inclusive approach as it relates to gender.

Postsecondary institutions in the region have traditionally identified vocational training opportunities through a process that industry identifies needs to post-secondary institutions. As one interviewee expressed,

[How] It typically works is business and industry will come to a local college and say, 'Hey, look, we have this need and how can you help us meet it? Can you help develop programming?' There's also program advisory committees that are made up of business and industry from multiple different sectors of business. In other words, the skills development and learning priorities are a labor-market driven approach. This approach is conducted by faculty and leadership of the community colleges.

And then you know, we also are still like doing our own research, you know, into trends, labor market trends, and in our various colleges. So, it's a combination of different things that we do. But most of the time, it usually starts with, you know, the people being knowledgeable about their local economy and, you know, looking at the forecasts of business coming into the area and meeting the needs of existing business and industry.

There is a need to go beyond this approach to think more holistically about what the learning needs are in terms of creating opportunities for just transitions. This current strategy merely looks at the existing job opportunities as opposed to think about what could be created locally.

While the community colleges in the region have vocational training programs that aim to transition people into jobs, these are sometimes in service of community-development needs. Not only are these programs driven by a labor-market approach to prioritizing skills, but sometimes these programs train people for jobs that are not available. As one interviewee noted,

I think it's more through workforce development training, you know, that's on the technical side and then the training in allied health areas, from nursing to radiography to physician assistants to things of

that sort. They train some truck drivers to get their licenses to drive you know, long haul trucks and things, you know, carrying big loads.

These kinds of opportunities are addressing some of the immediate industry needs in the area but are not necessarily helping to support the cultivation of sustainable long-term employment. For example, one person described that everyone they knew who had participated in the lineman program had to move outside of the area to find work.

There are a few examples of community-based organizations and post-secondary institutions working in partnership to develop green skills. The HDA partners with the Hazard Community and Technical College (HCTC) in a program called Hope Building. In this joint program, HCTC, HDA, the Perry County Drug Court, and Hickory Hills Recovery Center support the on-the-job skills development of people recovering from drug addiction. This effort includes four trainees at a time for up to a year. Trainees work with HDA 4 days a week and attend college classes at HCTC 1 one day a week, working towards a certificate. An interviewee explained that this structure has made the program successful because:

The college has been super flexible to work with us [HDA]. Some of our students are essentially doing independent study and all of that because their normal carpentry pro classes were two days a week for four or five hours a day. That [kind of schedule] would have interfered with actually having a job or doing the training, and so they've been super flexible to make that more doable.

This model reflects a community-of-care approach that addresses green learning opportunity gaps by providing support to people facing barriers to access, like those in recovery from addiction. Although a successful partnership, the reach of Hope Building has been small and predominantly male—in part because the drug recovery programs are targeted at males and the carpentry skill-building program and resulting jobs are predominated by males. Future partnerships between community-based organizations and post-secondary institutions should consider gender-responsive approaches to opening the door to job opportunities by encouraging more females to participate in male-dominated green sectors.

Existing efforts at green learning make it evident that the process of just transition requires community engagement. The Higher Ground project from

Southeast Kentucky Community and Technical College in Cumberland, Kentucky, is a good example that used the arts to respond to the opioid crisis in the community in a way that created dialogue and relationship building across the community. In a gender-inclusive way, this effort strengthened community belonging and community pride. Being able to build connections across lines of difference is important to exploring opportunities for just transitions. This effort has included photography, a community photography exhibit, theater, a tile Mosaic Project, and a local music festival. As described by the coordinator of the project,

We did a long, a community engagement process. I think we interviewed over 200 people for it. It was kind of student managed. The strength of the work was in the amount of input and the number of people giving input that came from the community, that it had to be in response to energy within the community.

The Higher Ground Project has and continues to involve strong community ownership. It also enabled students to gain skills to engage in a project in the arts and culture field that is relevant for a sense of belonging.

Another resident reflected, “It created opportunities for people to have a dialogue.” This community engagement created a place for people across the county to be able to embrace the culture and talk about critical issues like the opioid crisis. A leader in a local organization stated that this was especially



Caption: Mural by Lacy Hale, Hindman in Knott County, Kentucky. Photo credit: Colleen Unroe

important for their community work as well. She stated, “All the money in the world isn’t going to help us, isn’t going to do much for us, unless we have the community behind it.” Creating community dialogue and ownership that bolsters a sense of identity is critical to identifying opportunities for just transitions and related green learning opportunities.

Approach to Green Learning Content in Eastern Kentucky

To achieve a just transition in Eastern Kentucky, a new green learning agenda needs to be created that goes beyond responding to the immediate needs of big businesses to identifying green economic development possibilities that are rooted in anticipated community needs. Looking more closely at existing approaches to green learning in Eastern Kentucky, there are potentially six entry points, which include green carpentry, energy efficiency, creative placemaking, small business, local foods, and green soft skills that promise to support a bottom-up approach to green community development.

Green Carpentry and Energy-Efficient Housing

With the recent flooding in Kentucky, there is a significant need to address the lack of adequate housing in the region. Developing carpentry skills would respond to this community-driven need. A state senator’s efforts to get investments in housing during the special legislative session related to the flooding did not result in substantial resources at the state level. But with the Inflation Reduction Act’s (2022) attention to investing in energy-efficient retrofits to existing infrastructure, there is an opportunity to ensure that what housing is developed is energy efficient.

There are several efforts around enabling people to gain green carpentry skills with an interest in retrofitting homes to make them more energy efficient. As stated by one respondent associated with a nonprofit housing organization, “We teach a lot [and] we employ a lot of carpenters, and we’re teaching energy-efficient construction to them . . . small things that matter.” Similarly, through the local affordable housing organization, HDA workers are learning green construction skills on the job. As noted, “We’re teaching energy-efficient construction to them . . . when they leave here and they go someplace else [within the region], they will take those skills with them.” And the Mountain Training Network, an offshoot of the Higher Ground effort at Southeast Community and Technical College, is “teaching construction

trades in areas that aren't as common within the community." One area is a focus on commercial roofing that enables people locally to address renovations needed for dilapidated buildings. This would enable the revitalization of the local economy while building skills locally for a need identified by the community.

With the focus on energy-efficient housing, there has been a lot of interest in state and national-level policy discourse around solar installers as an avenue to create green jobs within the region. This is especially the idealized vision for supporting the transition of former coal miners to green jobs. There are efforts in the region to create such solar training programs, including Big Sandy Community and Technical College in Prestonsburg. However, stakeholders in the region debate the feasibility as well as the potential impact of such programs on green transitions in the region. For example, someone with an affordable housing organization in the region raised the question:

How many solar installers does East Kentucky need? Even if you were bold and said that across the whole of East Kentucky, we need 20—which seems like a lot to me from where I'm sitting, but it may not be. Because if you're doing residential, I mean, [it will take] you two, three days. And not everybody on the crew has to be an installer. You just have to have one or two people who know what they're doing, and the others can be laborers. So, with 20, does that become 10 crews? And if you have 10 crews, and they can do a solar install, and you know, two per week, that's 100 a week. If you got 10 crews, it's 1,000 a year. Can we do 1,000 residential installs a year in Eastern Kentucky? So, what ends up happening, I think, particularly when you think about training programs is you end up having to scale them way down. And then some of the federal programs, they're not big enough to have an impact.

While solar installers are expected to be among the fastest-growing green jobs over the next decade, it remains to be seen whether it would be possible to shift a significant number of former coal miners in these types of roles. A more community-driven approach would reflect the need to invest in green carpentry and energy efficiency as a point of entry to green learning more than renewable energy.

Creative Placemaking

The National Endowment for the Arts defines creative placemaking as an integration of "arts, culture, and design activities into efforts that strengthen

communities (National Endowment for the Arts, n.d.)." This brings attention to community assets, brings new energy to communities, envisions new possibilities, and connects communities. To achieve this reinvigorated sense of place, investments are needed in efforts like Higher Ground that enable people to make art to cultivate a sense of belonging. Creating these spaces has enabled people to critically reflect on their communities, which is important to build green transitions. Postsecondary institutions have not adequately invested in creative placemaking and may need to be made aware of the interest, possibilities, and opportunities to support creative placemaking as a way to support efforts to facilitate green transitions.

Several respondents talked about the importance of changing the narrative of the region. This is one of the main areas of work for one of the local organizations, Appalachians for Appalachia. One respondent described,

Narrative work really has a hand in changing perspectives of people inside. I think changing perspectives outside the region is an obvious goal, but it's just [as important to] change the mindset of people [inside the region] saying [things] like, 'There's nothing here; there's no room for growth, no sort of upward mobility or anything of that nature.'

Changing how people view themselves and the possibilities within the region seems to be a key factor. The local community colleges could help support these efforts through their engagement with students and how they engage with the community.

Some of the community colleges seek to ensure that Appalachian culture is incorporated within it. As one person was describing the Southeast Kentucky Community and Technical College,

It was important that the Appalachian culture and history [were centered]. The kind of engagement with the region, [with] its culture more than [with the region's] issues. [This culture and history] needed to be a strong part of the identity of the college, so that it would be seen as community integrated.

Tapping into local cultural assets, like Appalachian foodways, music and the arts, or connection to the land, is important for creative placemaking. As another interviewee noted,

It's all about creating the new narrative that art has value. And that when we teach it to young people, we

teach them to think outside of the box; we teach them to be the next people that are going to deal with, you know, our, you know, dependency on fossil fuels.

Additionally, there have been efforts to enable artisan-based activities to create economic opportunities. One example is the Kentucky School of Craft at the Hindman branch of Hazard Community and Technical College which enabled people to gain skills in the making of different crafts, like furniture making, jewelry making, and metalworking. Importantly, “the idea was to train people not just in the craft but in the business of the craft.” This includes both tangible artisan skills as well as business skills.

However, many of the craft-making and related business programs have been cut over time. Many of the respondents felt like the lack of support for the School of Craft was a missed opportunity:

They didn't have very good leadership there. It was very small-minded in terms of what they could do or wanted to do . . . I thought that they had a huge opportunity to be super successful. And they just really didn't. [They just] kind of let it be what it was, and [did] not really look for growth or partnership or ways to continue to develop.

This lack of leadership included limited efforts by the leadership to expand funding. But, there was strong interest in reviving this effort and really investing in this program. As a result, community



organizations have sought to fill in some of the gaps. For example, The Foundation for Appalachian Kentucky and Mountain Association reports having,

brought in professional artists to just discuss how they were successful, they would do PowerPoints and talk about how to price your work and do the math on that, because that's a complicated area, when you're creating something more like, how do you evaluate the hours put in, you know, all these elements that you don't think about.

This type of approach enabled new artists to gain skills in how to figure out an important part of their work. One person described how valuable their training was to help with “marketing and all of the different facets of business ownership.” This reflects the business side of crafts.

Other small business support

Beyond the business of craft-making, the development of business skills appears to be an important pathway to supporting community-driven green economic development. One interview said, “We need to be training young folks to build up an entrepreneurial ecosystem, while tangibly having the option to work in rising sectors like solar or tech, coding, etc.” He also stated that there is a need for “business and financial literacy training.” There could also be value in worker-self-directed enterprises (Billings, 2016).

Different community organizations support entrepreneurship development in the Eastern Kentucky area, including Mountain Association, the Foundation for Appalachian Kentucky, and SOAR—although stakeholders have mixed opinions about the focus of SOAR. Local nongovernmental organizations, including Invest 606, have also taken this on. The mission of Invest 606 seeks “to catalyze business growth in the 606 by connecting entrepreneurs with the resources they need to succeed today and grow tomorrow” (Invest 606, n.d.). This effort includes cohorts of small business owners, including all genders and races, from across the region that gains skills over time. An additional interviewee described,

And what that has translated to is a stronger small business ecosystem and a more entrepreneurial community, where folks are encouraged and supported to, you know, take up a new challenge, you want to start a business, go for it, we're going to try and figure out the tools and resources you need to survive and make it a success. So, I think a lot of that

starts with, you know, educational anchors, being supporting and training young entrepreneurs in really innovative ways.

This is an area of growth in terms of support for community colleges.

Local Foods

There is a growing emphasis on supporting small-scale local farmers in the region. Supporting local agriculture reflects an important sector of a just transition and an area to build green skills. Much of the work within the region has been through the North Fork Local Foods and the Community Farm Alliance, which identifies skill-building needs from the ground up. This included “visiting a farm and talking with farmers one on one about what they need and what they want and how they want to grow and making connections.” Many of the younger farmers they spoke with about their needs and goals are female. This is an opportunity to encourage more females in male-dominated green sectors.

Another important avenue for learning is the Eastern Kentucky Farmer Conference. This annual gathering consists of farmer leaders and technical assistance providers leading workshops over a day and a half. The farmer conference was described as an important way to help farmers build their skills and develop relationships with one another to build a regional network. This combination of nonformal education and informal learning has supported the local agriculture sector, particularly with the development of skills and a network.

Food security is another area where people are feeling the effects of climate change, providing an opening for new green learning opportunities. Farmers are seeing the changes happening in the weather patterns and with extreme weather events, and they have also been drastically affected both financially and psychosocially by the flooding that has occurred during the last 2 years. As a result of recurring crop loss and damage to farms, green learning opportunities that provide knowledge and skills on how to mitigate these impacts are in high demand. Exploring the University of Kentucky Cooperative Extension services could also be of benefit since they have local agents within the region.

Green Soft Skills

Green learning efforts in Eastern Kentucky stress a need for soft skills, like critical thinking and leadership, and not just technical skills like carpentry

or retrofitting energy efficient housing, that can support bottom-up green economic development. As stated by one respondent, “Critical thinking and reasoning and just literacy and communication skills and being able to read and interpret a text are in demand by employers.” It was also stated, “If we want to promote sustainable development truly, you have to have these institutions be places of reflection and critical thinking.” The community colleges, especially through efforts like Higher Ground, have been important places for critical reflection about larger systems and structures that help to create a sense of solidarity and belonging, therefore building trust and the potential for community development.

Leadership also emerges as an important green soft skill for students, especially in helping to build confidence and a sense of self-efficacy and agency to start a small business, for example, or to pursue green economic opportunities that have not been tried before or that may have seemed unachievable. To illustrate, a local entrepreneur described her experience teaching high school seniors how to make jewelry,

I spent a week with the high schoolers, and they were just stunned about cutting glass and using torches and grinders. Like [they] started out [saying], I can't do that. That's always the way it starts out. I do jewelry making, and the first thing I do is I start up a torch and put it in somebody's hands. We talk about safety, of course. And the thing is, it seems so big and so impossible and scary until you realize it's not, until you have that opportunity to weld something, to use a torch, to use a forge and hammer. And I think [for these] young people, [they thought welding] was what other people did. It seemed like [a] foreign thing. And the moment that you do something like use a torch, that develops a kind of self-efficacy. And it also develops an interest in trying and doing new things, things that don't seem typical.

This kind of personal leadership is valuable for students as they enter the workforce as it helps to cultivate empowerment, which is essential to creating just transitions. But not only is there a need to connect these efforts more strongly to green learning, but also to more inclusive learning. As another interviewee alluded, an important dimension to leadership is the capacity to create safe spaces that are inclusive and welcoming of all, looking out for those most likely to be excluded or marginalized because of historic inequities.



Caption: Solar panels in Lynch, Harlan County, Kentucky.
Photo credit: Colleen Unroe

Like even [with] the Art Station [a local non-profit in Hazard], [...] we have to work around [issues like] being [perceived as being] backwards, racist, homophobic, etc. We've had folks just refuse to come here because they don't feel comfortable, [or] they perceive they won't be comfortable or safe. We have to work on that from the ground up. So I think that's a skill [being inclusive] that a lot of our communities don't have and struggle with.

Indeed, the inclusion of Black people in local leadership is an important issue that needs to be explored more in depth. A local Black leader stated, "A lot of the time, we feel invisible and unheard, which only adds to the stereotypes of how others see us here in Eastern Kentucky." Creating the space for inclusive leadership is essential to facilitating just transitions. While technical green skills are important for the region's transition to a green economy, so too are green soft skills. Skills like critical thinking and leadership are vital to building social foundations and economic opportunities that are inclusive and improve the wellbeing of the community and the surrounding natural environment.

Strategy to Implement Just Transitions

At the heart of green learning opportunities in Eastern Kentucky is the goal of job creation. However, while there have been some investments, like the National Dislocated Workers fund and the U.S. Department of Labor, to stimulate incremental systems change, there has not been a large-scale investment, like that proposed by the Green New Deal, that could help mobilize the scale and pace of change required for a just transition in the region. Some significant investments in the arts have been made that could be further leveraged and modeled by approaches to design and implement a New Green Learning Agenda locally. For example, with the Higher Ground effort, "Our Town' and 'Our Place' grants tied art and cultural work to the redevelopment of economically-strapped communities both within cities." These resources enabled a lot of work to get done quickly. The IRAs focus on energy efficiency could be leveraged to get a lot of work down quickly as well.

Recommendations

KCTCS, the umbrella for the community and technical colleges in the state, can support sustainable economic and cultural development in Eastern Kentucky. With their accessible Kentucky campuses, KCTCS is strategically placed to provide vocational training, fundamental business skills, and liberal arts education. There needs to be a holistic approach to creating an NGLA that integrates community-based organizations. This needs to go much beyond just a concern for retraining former coal miners, many of whom are struggling with a disability, including Black Lung disease (Estep, 2023b); there is a need to look at opportunities for all people in the community. Instead, the concern should be on making sure that all people in the region have the opportunity to gain skills for living wage jobs that are good for the environment and community health and wellbeing.

To facilitate the achievement of just transitions, six priorities should be pursued: invest in creative placemaking, focus on remediation, create a community of care, take a gendered approach to green learning, pursue hybrid models, and advocate for large-scale investments in the region.

1. Invest in Creative Placemaking

Many people attested to the fact that creative placemaking through arts-related opportunities in the community colleges was valuable for creating dialogue and building on local culture and local assets to build community resilience and local solutions to ongoing challenges in the region, including opioid addiction. This approach provides a model for green learning and a just transition in the region, specifically in terms of how creative placemaking skills can be leveraged as a transformative green skill that enables broader systems change, generated from within the community. Such attention to creative placemaking as a transformative green skill will require strong and committed leadership at the postsecondary level—something which seemed to have wavered over time. For instance, there was a clear need for leadership to sustain (and later revive) efforts related to the Kentucky School of Craft, which taught craft-

making skills and business development. Interviewees reflected on what this program could have become:

If it had been invested in harder by the school and by the community, I can't imagine what amazing things could come out of there. And I know some of the dulcimer makers that came out of that program, some of the jewelry makers, and they're doing awesome. And I can't imagine, like if it had been given a little bit more love, I guess a little bit more investment.

Investment in green-oriented creative placemaking skills is important because it provides skills that could enable people to make a living based on local culture.

2. Invest in the Remediation of Environmental Impacts

There is a significant need to address the impact and legacy of the coal industry on the region in terms of its high levels of contaminated water and air pollution. However, remediation is not talked about by either the local community colleges or most community-based organizations working on community development, despite the opportunity to support job creation. For example, the proposed federal RECLAIM Act¹ seeks to fund a large-scale cleanup of abandoned mines by expanding the eligible uses for the Abandoned Mine Reclamation Fund (RECLAIM, 2021). The community colleges in the area could play an important skill-building role, enabling local people to engage in this type of work while promoting the revitalization of local land and waterways and the health and well-being of the community.

3. Create a Community of Care

In an effort to shift from industry-identified needs to community-driven opportunities, there is a need to integrate the wellbeing of the community, including meeting basic needs like housing, food security, transportation, childcare, and the cost of education. Such a community of care approach aims to help members overcome barriers to learning opportunities, and not just simply bridge green skills gaps. Enabling

people to address these needs enables people to participate in education, which puts them on a path to participate in the green economy. As one interviewee stated, “The community college has to remain accessible.” The programs that specifically target people in recovery are good models in terms of creating the additional support needed to enable people to thrive. Additionally, there was a suggestion of creating mentoring programs that could support people on the path to becoming entrepreneurs.

There are also much broader needs like universal healthcare and adequate housing. Investing in carpentry and energy efficiency is a green skill that could help to address the housing crisis. The basic infrastructure needs to be addressed, like access to water, sewer, roads, and broadband internet. Overall, there are some examples where the local community colleges and the local community-based organizations are creating a patchwork quilt of green learning opportunities that enable people to get skills in creative placemaking, energy efficiency, small business, remediation, and critical thinking. However, much more investment is needed overall in the region to create jobs and educational opportunities to complement those opportunities.

1. Take a Gendered Approach to Green Learning

A gendered approach to green learning would make educational opportunities and the transition to a green economy more inclusive. This not only means paying

attention to outreach and recruitment (e.g., are all referral partners focused on services for men?), but also to barriers to participation in green education and training programs (e.g., are there adequate support networks and support services, including childcare? Are programs designed to be flexible to accommodate gendered demands on women’s time?). It also means ensuring women have access to living wage green jobs after training programs conclude. Women in the community did not have living wage jobs before the decline in coal mining employment. If the goal is to create a just transition, all people need to have access to living wage opportunities. Many of the available opportunities for women are service sector jobs that do not provide an adequate living. There needs to be greater emphasis on jobs and training that are both gender-inclusive (e.g. equal emphasis on green jobs predominated by males and green jobs predominated by females) and gender transformative (e.g., efforts to encourage males to enter the green jobs predominated by females and vice versa).

2. Pursue Partnership Models between Post-Secondary Institutions and Community-Based Organizations

There could be more opportunities for the local community colleges to collaborate with community-based organizations. Such a model could integrate community-based organizations and post-secondary institutions in partnership for the delivery of green skills development. Some of the areas that are key areas might include local foods, small business skills, and more support for creative placemaking. There is a need for creative ways to support people engaged in the work that do not all need to come through the community college. Hope Building is a good example of a program that involves both community-based organizations and the community college. Creating other opportunities like this could help advance green skills development.

3. Advocate for Large-Scale Investments in the Region

There is a need for substantial investment in the area to create jobs overall. The scale of the investments needs to be on the level of the Marshall Plan, which provided economic assistance and support to restore infrastructure in postwar Europe (National Archives, n.d.). Green learning needs to go beyond education for specific green jobs defined by larger businesses in the area because this strategy is not only missing the breadth of skills but also the need for community-based development.



Caption: 2018 Mural Fest participants, Harlan County, Kentucky. Photo credit: Higher Ground

There is also the fundamental need that regardless of the educational opportunities available, there need to be good jobs with livable wages people can have. There is a need for substantial financial investment, or as one participant put it:

How do we get something like a Green New Deal and get the word out that it's something of value for sustainability? And [when you're] working [to] develop connections with national, regional groups, [then you feel like] you're part of the solution.

If people are not able to find opportunities, then they will take their newly acquired skills and have to leave the area, which is not the intended outcome. For example, there is much need in terms of addressing the housing stock. Substantial investments in energy efficiency could provide opportunities for people to have good-paying jobs. For example,

Because when we've had grant money to pay for energy efficiency, people love it, when we ask people to either choose between energy efficiency, or maybe a new porch because we don't have enough money to do both, people almost always go for the tangible work.

If there were investments directed toward energy efficiency, it could improve the situation.

Conclusion

This case study speaks to the importance of assessing green skills in rural communities rooted in the fossil fuel economy. There are important strides already being made with carpentry and creative placemaking, for example. However, this preliminary research speaks to the need to expand on six key areas of investment in green learning: invest in creative placemaking, invest in remediation of environmental impacts, create a community of care, take a gendered approach to green learning, pursue partnership models, and advocate for large-scale investments in the region.

There is a need to support a breadth of green skills development for more community-driven development that moves beyond a market-driven orientation. By continuing to build on the local culture, there are opportunities to strengthen community belonging while creating economic opportunities. There is a substantial need to cultivate specific green skills, like business and green carpentry.

But green soft skills, like critical thinking and leadership, are also needed to cultivate new green opportunities that are rooted in community needs and backed up by community engagement. Investment in a community of care approach could help to expand childcare, transportation, and additional resources for educational attainment. While some key areas have been identified, a much deeper level of analysis is needed to understand these issues more fully.



Endnotes

- 1 www.congress.gov/bill/117th-congress/house-bill/1733