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POWERING CLIMATE ACTION ON CAMPUS

A Landscape of State Policies to Support
Climate Action in Higher Education

EXECUTIVE SUMMARY



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To tackle the immense challenges posed by a warming planet, we need all our social institutions to contribute to solutions, including higher education. Colleges and universities have taken the lead in many areas from commitments to reducing carbon emissions to research on scaling up clean energy production. Going forward, higher education has a critical role to play to mitigate its impact on the environment, adapt to a changing climate, train the rising generation for a new clean economy, and prepare students to lead a more sustainable, resilient, and equitable society.

Despite the large role that state governments play in America's higher education system, state leadership and support for climate action on campus is noticeably less than it needs to be. This report summarizes a range of state policy levers that could help colleges and universities reach their full potential in addressing climate change. We focus on six key areas for action on climate change in higher education: Mitigating Carbon Pollution; Adapting to Climate Change; Training a Clean Economy Workforce; Driving Climate Research and Innovation; Advancing Equity and Environmental Justice; and Sharing Knowledge, Building Partnerships.

MITIGATING CARBON POLLUTION

Overview: The higher education sector has substantial resource needs that impact the environment, including land, energy, buildings, food, water, and transportation. Like other industries, higher education must reduce its greenhouse gas emissions to tackle climate change.

Policy Levers: Bonds for net-zero infrastructure; statewide higher education climate commitments; power purchase agreements.

ADAPTING TO CLIMATE CHANGE

Overview: Higher education institutions must prepare for the consequences of climate change, including more frequent or intense extreme weather events that could impact campus operations, student enrollment, or campus well-being.

Policy Levers: Bonds for adaptable infrastructure; resources for research and technical assistance centers on climate adaptation.

TRAINING A CLEAN ECONOMY WORKFORCE

Overview: Colleges and universities have enormous influence over workforce preparation, training, and retraining. As the clean energy transition fundamentally alters our economy, creating new jobs and changing existing roles, higher education must adapt to meet society's needs.

Policy Levers: Attainment goals in clean energy industries; financial support and partnerships between economic development agencies and higher education.

DRIVING CLIMATE RESEARCH AND INNOVATION

Overview: Universities have led much of the research documenting the growing climate crisis as well as potential solutions ranging from new solar technologies to policy ideas. Higher education will need policymaker support to maintain and expand this critical role.

Policy Levers: Align state economic development goals with university research priorities to support regional industries.

ADVANCING EQUITY AND ENVIRONMENTAL JUSTICE

Overview: The transition to a clean economy provides an opportunity to avoid past injustices such as placing the burden of pollution on communities of color, and to advance a just economy.

Policy Levers: Funding schools that serve historically marginalized populations; information and financial aid to programs connected to quality clean economy jobs.

SHARING KNOWLEDGE, BUILDING PARTNERSHIPS

Overview: Colleges and universities serve as sources of trusted information for communities far beyond academic research. State policymakers can amplify higher education's role as a community partner.

Policy Levers: State higher education governing boards make information dissemination a priority; state climate action plans.



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ABOUT US

This Is Planet Ed is an initiative of the Aspen Institute Energy & Environment Program that intends to unlock the power of education as a force for climate action, climate solutions, and environmental justice to empower the rising generation to lead a sustainable, resilient, and equitable future. This Is Planet Ed works across Early Years, K-12, Higher Education, and Children’s Media to build our societal capacity to advance climate solutions. www.ThisIsPlanetEd.org.

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INTRODUCTION



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Climate change is reshaping our economy and our lives — from how we use energy to how we get around, from what food we eat to what kind of jobs we work in, and even how we build our homes. To tackle the challenges of this transition and adjust to the many consequences, all our social institutions must contribute to solutions, including higher education. Colleges and universities have a critical role to play, including mitigating our impact on the environment, adapting to a changing climate, training the rising generation for a new clean economy, and preparing students to lead a more sustainable, resilient, and equitable society.

Despite the large role that state governments play in America’s higher education system, state leadership and support for climate action on campus is noticeably less than it needs to be. This report summarizes a range of state policy levers that could help colleges and universities reach their full potential in addressing climate change. We focus on six key areas for action on climate change in higher education: Mitigating Carbon Pollution; Adapting to Climate Change; Training a Clean Economy Workforce; Driving Climate Research and Innovation; Advancing Equity and Environmental Justice; and Sharing Knowledge, Building Partnerships.

Admirably, higher education has already taken on a leadership role. Much of the academic research and proposed solutions to climate change occurs on college campuses. Hundreds of college and university leaders have engaged with organizations such as Second Nature and Association for the Advancement of Sustainability in Higher Education (AASHE) to demonstrate commitments to mitigate their climate impact and improve campus sustainability. Over 900 college campuses in the U.S. have signed onto one of Second Nature’s climate commitments since its inception in 2006, and 13 have achieved carbon neutrality.¹ Colleges and universities around the country have created academic and training programs ranging from certificates focused on HVAC modernization to doctorate degrees in climate science.

Despite the progress made, there remains an enormous opportunity to expand higher education’s contribution to a cleaner economy and a more just society. Only a fraction of the 4,000 colleges and universities across the country have signed onto voluntary climate commitments so far — thousands more can join the movement to take action. The size of the higher education sector itself means continued and expanded progress in reducing carbon emissions can have a significant societal impact. Colleges and universities manage over 210,000 buildings with 6.2 billion square feet of floor space leading to large energy demands that can benefit from decarbonization.²



And like every other social institution, higher education is increasingly impacted by climate change. Greater frequency and intensity of extreme weather, including heat, drought, floods, wildfires, and storms, already affect colleges and universities. In the future, enrollment patterns may shift — sometimes dramatically — as the climate in certain regions becomes less predictable, stable, and desirable. Extreme weather events will also increase student exposure to trauma, affecting well-being, success, and retention.³ Yet, the systematic consequences of climate change extend well beyond heat, droughts, and floods. The dramatic enrollment reductions caused by the COVID-19 pandemic demonstrate the scale on which these changes could occur.

Among the most important potential supporters for higher education are state policymakers. States remain a significant funder of public higher education institutions.⁴ More than three quarters of students attend public schools — both two-year community colleges and four-year universities — that are under state level control.⁵ A variety of actors ranging from legislators, governors, state secretaries of education, higher education oversight boards, and state higher education executive officers can play a role in establishing goals for higher education systems, setting state policy, and allocating resources. States also play a major role in linking the higher education system to economic and workforce development through partnerships with state agencies, including departments of education, labor, and economic development.



For most community colleges and regional four-year universities under state control, endowments do not play a major role in their operating budget, though some public flagship institutions such as the University of Texas and University of California do maintain a sizable endowment.⁶ In this paper, we focus on policy levers that implicate higher education institutions' influential role in society rather than their role as investors.

Many institutions will need additional help and resources to address their impact. Community colleges, state schools, Historically Black Colleges and Universities (HBCUs), Predominantly Black Institutions (PBIs), Tribal Colleges and Universities (TCUs), Hispanic Serving Institutions (HSIs), and other minority serving institutions (MSIs) often lack the funds to modernize infrastructure, launch new education programs, or sponsor critical research. Yet, these same institutions will be essential to addressing climate change and ensuring that the clean energy transition does not further disadvantage communities that have historically been left behind. This moment creates an opportunity to leverage the strengths of the institutions serving students of color and low-income students to address past inequities.

Roadmap

In this report, we identify six broad themes tied to climate action on campus: mitigation, adaptation, workforce, research, equity and environmental justice, and colleges as community knowledge centers. We provide a landscape for potential state policy levers that can support climate action and highlight bright spots where states are leveraging policy to support action. We aim to offer information to the Higher Ed Climate Action Task Force as they create policy recommendations to promote comprehensive climate action across the higher education sector.



POLICY TERM	DEFINITION
Statewide Goals	<p>Broad objectives established by state governments that can encompass climate action and educational attainment.</p> <ul style="list-style-type: none"> • State Climate Action Plans: A tool used by state governments to coordinate climate action across a range of state agencies, including higher education institutions. • Statewide Higher Education Attainment Goals: Goals set by states to increase the number of individuals achieving a postsecondary degree.
Higher Education Funding Streams	<p>State funding that can be used to promote climate action in higher education.</p> <ul style="list-style-type: none"> • State Appropriations to Higher Education: Direct state financing to higher education institutions, often calculated based on enrollment. <ul style="list-style-type: none"> ◦ <i>Performance Based Funding:</i> A subset of state appropriations that ties funding to successful student outcomes like completion rates. • Financial Aid: State financial aid is money given by the state to help students pay for college or training, typically in the form of grants or scholarships. • Bonds: Financing tool used by state governments to cover large capital projects at public higher education institutions, including efforts to support climate mitigation and adaptation.
State Higher Education Agencies and Governing Boards	<p>State higher education governing bodies with policy-making authority can implement strategies ranging from capital investments to workforce development.</p>
Non-Education Agencies and Regulatory Opportunities	<p>A variety of other state agencies beyond higher education can use policy levers to support climate action on campus.</p> <ul style="list-style-type: none"> • State Economic Development, Labor, and Workforce Agencies: These agencies often partner with higher education institutions to support industries and workforce training. They can help higher education develop programs complementing state economic development goals, especially regarding the clean energy economy. • State Legislation and Regulations: State policymakers can promote climate action through legislation and regulations, including building codes, permitting processes, and power purchase agreements. Building codes can enforce energy efficiency standards, while permitting reform can support the installation of renewable energy projects on campuses. Power purchase agreements can support universities in installing renewable energy on campus.

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MITIGATION



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The higher education sector substantially impacts the environment through emissions related to land use, water and energy consumption, construction, food waste, and transportation. Higher education institutions must make measurable progress to reduce their carbon pollution.

Colleges and universities manage over 210,000 buildings with 6.2 billion square feet of floor space and spend \$36.8 billion annually on facilities operations, maintenance, and utilities, of which \$27.8 billion goes toward new construction or renovation.¹ They also spend an estimated \$6 billion annually on energy.² Many facilities were built over 50 years ago to make space for the baby boomer generation in the 60s and 70s, and state underinvestment in higher education has contributed to an enormous maintenance backlog.³ The APPA, an association for education facilities professionals, estimates that colleges require \$112.3 billion to close the gap.⁴

KEY DEFINITION

Climate Mitigation refers to measures to reduce the amount and speed of future climate change by reducing emissions of greenhouse gasses (GHGs) or by increasing their removal from the atmosphere.⁵

Old buildings are much less likely to be energy efficient or use modern HVAC technology, like geothermal heat pumps. Community colleges and regional state universities that enroll more low-income students and students of color are much more likely to own older infrastructure, further exacerbating educational inequities. College campuses also frequently rely on fossil fuels, including carbon-intensive sources such as fuel oil, in their own power plants and heating systems, contributing to our country's carbon emissions.⁶

According to one international comparison, energy use through electricity as well as heating, cooling, and cooking are typically the largest emissions generators on campus. On average these sources account for 52.1% of emissions with some schools reaching as high as 76.8% and others as low as 8.6%. Broadly mobility and transportation-related emissions take up an average of 45% of a campus's carbon pollution with commuting alone accounting for 27.7% on average.⁷



Mitigation in Action

Higher education institutions across the country have already taken action to reduce their carbon pollution. Led by Second Nature, more than 900 colleges have signed onto carbon neutral climate commitments.⁸ These climate commitments push institutions to develop climate action plans to reduce their emissions across their campuses and measure and evaluate progress along the way. Additionally, the Association for the Advancement of Higher Education Sustainability (AASHE) has created voluntary targets for higher education institutions through their Sustainability Tracking, Assessment & Rating System (STARS).⁹ STARS includes carbon emissions reductions as part of its rating system.

On-campus climate mitigation efforts can include electrifying building systems and transportation, retrofitting, or building new healthy, efficient learning spaces. Clean energy production on campus is another avenue for colleges and universities to mitigate societal carbon emissions and possibly raise revenue should projects generate enough power. Butte Community College in California is the first college to generate enough clean energy to give back to the grid.¹⁰



BRIGHT SPOT

The Presidents' Climate Leadership Commitment, led by Second Nature, invites colleges and universities to take a leadership role addressing climate change by publicly signing onto one of three options. The Carbon Commitment promises a college will create a plan to achieve carbon neutrality and report on progress annually. The Climate Resilience Commitment involves a similar process focused on adapting a campus to climate change. The Presidents' Climate Commitment includes both carbon neutrality and resilience. As an example, [Colgate University signed onto the Carbon Commitment in 2009¹¹](#) and achieved carbon neutrality in 2019, placing it among 13 institutions to accomplish this goal so far.



State Policy Opportunities

State policymakers can take a range of actions to accelerate campus climate mitigation solutions. Funding allocated through state bonds and general appropriations can help public institutions modernize existing buildings, build new infrastructure, or establish clean energy power sources. State higher education executives or governing boards can set goals and standards for infrastructure at public institutions. More broadly, state regulations like building codes can speed electrification of new and modernized buildings, while allowing for power purchase agreements can increase production and use of clean energy. States can also play a critical role in helping institutions understand how they can best leverage federal resources through the Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act (IIJA) to accelerate mitigation.



Photo by Allison Shelley for American Education: Images of Teachers and Students in Action.



BRIGHT SPOT: CALIFORNIA

The University of California committed all nine of its campuses to Second Nature's carbon neutrality standards by 2025 for all emissions generated on campus and through indirect emissions from power generation (also known as scope 1 & 2 emissions). By 2050, the UC system aims for carbon neutrality across all its activities, including commuting and air travel (scope 3 emissions).¹²



BRIGHT SPOT: PENNSYLVANIA

Penn State, in 2019, signed a power purchase agreement to secure 25% of its statewide electricity needs for 25 years from three solar power projects. The university expects to save \$14 million over the contract term and reduce its greenhouse gas emissions by 57,000 metric tons of carbon dioxide per year – the equivalent of taking over 12,000 cars off the road.¹³ Over 30 states currently do not allow these types of agreements.¹⁴

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ADAPTATION



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Higher education institutions must prepare for the consequences of climate change, including more frequent or intense extreme weather such as heat, flooding, wildfires, and more, which impact campus operations, student enrollment, and campus health.

On September 29th, 2022, Hurricane Ian crashed into Florida's gulf coast delivering a storm surge and severe flooding that resulted in the state's deadliest storm in 80 years. Several higher education institutions found themselves directly in Ian's path. Florida Gulf Coast University canceled classes for over a week and offered its basketball arena as a shelter.¹ Floodwaters stranded hundreds of students at the University of Central Florida, who required rescue transportation from the Federal Emergency Management Agency (FEMA). Bethune-Cookman University, a historically Black institution (HBCU), evacuated the entire campus and suffered damage to multiple historic buildings. Academic researchers have long recognized that elevated greenhouse gasses in the atmosphere increase the intensity of extreme weather, including heat, flooding, drought, and category 4 hurricanes like Ian.²

KEY DEFINITION

Climate Adaptation refers to actions taken at the individual, local, regional, and national levels to reduce risks from even today's changed climate conditions and to prepare for impacts from additional changes projected for the future.³

In California, 18 of 150 public institutions are in severe wildfire zones.⁴ Southwestern colleges may soon need to make plans for limited water supplies.⁵ Schools in the southeast need to prepare for more intense hurricane seasons.⁶ These institutions will need to consider how these risks may threaten their infrastructure as well as increases in their insurance costs.

Adaptation in Action

The recent experience of Florida's colleges also serves as a warning signal for higher education institutions everywhere. College campuses can expect to deal with the consequences of more frequent or more intense extreme weather including floods, hurricanes, tornadoes, wildfires, and heat waves.

However, the potential impacts on the higher education system go well beyond severe storms, droughts, and natural disasters. These patterns of extreme weather can impact the ability of institutions to enroll, retain, and graduate students. For instance, institutions in regions more susceptible to climate risks may become less attractive to students seeking stable learning conditions.



BRIGHT SPOT

With increasing reports of climate-induced stress, burnout, and emotional challenges among professionals and the communities they assist, there's a clear need for mental and emotional support frameworks. The Adaptive Mind Project is developing ways to foster resilience, enhance coping strategies, and build a supportive network of professionals in the face of constant traumatic and transformative change.⁷ Their work provides a vital blueprint for ensuring students and faculty are emotionally fortified to address climate challenges and lead transformative solutions.

The COVID-19 pandemic demonstrated how broader societal shocks and interruptions to learning harm student success and mental health. Over a million fewer students enrolled in higher education in 2021 compared to 2019 and completion rates fell for the first time in a decade.⁸ Meanwhile, the remaining student body experienced a mental health epidemic: three in five students met the criteria for a mental health problem during the 2020–2021 academic year.⁹

Institutions need to learn from recent experience to adapt to impending climate changes. They can also support broader societal needs and efforts to adapt to a changing climate.

State Policy Opportunities

State policymakers can use funding and state regulation to prepare higher education infrastructure for climate change. Policymakers can also look to higher education to help their states adapt, supporting research and technical assistance at state institutions to help other sectors survive and thrive in a changing climate. Finally, state system leaders can ensure adequate health and mental health resources are available for students to build their resilience to respond to climate impacts in the future.



BRIGHT SPOT: ARIZONA

Arizona State University (ASU) has taken on a major leadership role in supporting local and state level community adaptation to climate change. This includes a \$40 million investment¹⁰ in future water security on and off-campus that integrates sustainability into ASU's academic fabric. University leaders also take on critical public roles. For instance, one of ASU's faculty members serves as the Chief Heat Officer for Phoenix, leading research and action on heat resilience.¹¹



BRIGHT SPOT

Second Nature's Presidential Climate Commitment includes an option for colleges to set a climate resilience goal. Colleges commit to developing a climate action plan that includes concrete steps to integrate climate resilience into their curriculum, research, and operations as well as to take steps to support climate resilience in their broader community.



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WORKFORCE



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America’s colleges and universities have extensive influence over workforce preparation, training, and retraining. As the clean energy transition fundamentally alters our economy, creating new jobs and changing existing roles, higher education must respond to meet society’s needs.

Higher education institutions play a central role in training and preparing American workers. More than six in 10 high school graduates enroll in some form of higher education shortly after leaving school.¹ Colleges and universities also frequently enroll returning adult students seeking to finish a two- or four-year degree or garner additional skills to adjust to the changing job market needs. Nearly a third of college students — more than 6.4 million — are over the age of 25.² Graduate and professional schools offer advanced training for researchers and specialized jobs.

A combination of major policy investments in the United States, the European Union, and China along with energy price increases triggered by Russia’s invasion of Ukraine have sped up the global economy’s transition to renewable energy.³ Some independent estimates expect that the United States’ recent clean energy policy changes alone will create nearly 9 million jobs from public and private investments over the next decade.⁴ However, across a wide range of clean energy sectors, the transition will require many more trained workers in fields, including electrical work, heat pumps, clean energy construction, advanced manufacturing, and STEM. Beyond these specific areas of training, numerous other fields will need to adjust to a changing climate, including business, architecture, supply chain management, and more. Yet, LinkedIn’s Global Green Skills report estimates that the supply of workers with green skills will increasingly fall short of labor market needs in just a few years.⁵

Workforce in Action

Higher education will need to play a critical role in preparing learners to succeed in the clean energy economy of the 21st century by both integrating climate solutions and sustainability into existing curricula and creating new learning opportunities. Curriculum ranging from courses in HVAC installations to advanced manufacturing and engineering will need updates to cover the latest advances in energy production, energy storage, and electrification. In other cases, institutions will need to create entirely new programs for growing sectors like wind turbine maintenance and battery manufacturing. Moreover, fields across campus from business and data science to health and education will need to provide students with knowledge and skills to lead a decarbonized, sustainable, adaptable, and equitable society.



State Policy Opportunities

State policymakers have a range of potential levers to support public higher education systems to meet these economic imperatives. Statewide goals such as climate action plans and higher education attainment objectives can help coordinate and mobilize government leaders toward preparing state workers for the clean energy transition. States can play a critical role in funding higher education programs that prepare workers for the 21st century workforce both through creating programs at institutions and partnerships with state economic development agencies.



BRIGHT SPOT: NORTH CAROLINA

In 2010, North Carolina's Community College System launched "Code Green," a revamp of 82 programs across all 58 of the system's community colleges to better prepare North Carolina students for the transitioning economy. The changes impacted five sectors of study: energy efficiency and sustainability, building, transportation, engineering technologies, and environment and energy all received an update. The updated programs provide workers with a broad foundation of skills, helping them stand out in fields such as car maintenance where graduates are able to service all vehicles, including electric vehicles and hybrids.⁶



BRIGHT SPOT: ALASKA

Alaska's statewide higher education attainment goals set specific targets for the production of degrees in the health field and industries with strong job market demand in the state. For instance, the state board of education seeks to graduate 9,700 students annually in higher demand majors, as defined by the state department of Labor, by 2027.⁷ It expects 2,800 of those graduates to come in health fields. A similar strategy could align state higher education systems with economic goals to grow clean energy industries.



BRIGHT SPOT: FLORIDA

Florida's performance funding program provides financial incentives to state universities for producing bachelor's degree graduates in strategic fields such as education, health, and STEM.⁸ Financial incentives to train workers in green skills could encourage students and colleges to meet future needs.



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CLIMATE RESEARCH & INNOVATION



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American universities are global leaders in researching, documenting, and analyzing our changing climate. They are ideally suited to drive the innovative solutions necessary — from new technologies to policy ideas — to address the challenges of the new climate reality.

American research universities are well-regarded for contributing cutting edge innovation, knowledge, and awareness to our broader societal understandings. According to the U.S. News and World Report global rankings, 15 of the top 20 research universities are located in the United States.¹ Decades of government investment coupled with an entrepreneurial higher education sector have made universities not only major knowledge centers, but also leaders in innovation.² Many of the United States' most innovative urban areas, from Silicon Valley in the Bay Area to Boston, coalesce around universities where new ideas on campus find their way into start-up enterprises.

Research and Innovation in Action

Consistent with these trends, much of the research detailing the impacts of climate change and potential solutions to the problem have flowed from research universities. As the economy undergoes a transition to clean energy, companies will need to draw on continued research and innovation from America's college campuses. Beyond the economic imperative, our ability to address issues from climate mitigation and adaptation to sharing information and environmental justice all rest on higher education's continued ability to create and share knowledge about climate change.



BRIGHT SPOT: NEW YORK

Binghamton University's New Energy New York initiative has been awarded over \$113 million³ to create a battery technology hub in upstate New York. This endeavor, supported by both federal and state funds, aims to turn the Southern Tier and Finger Lakes regions into a national center for battery innovation and manufacturing. The project is anticipated to generate a \$2 billion economic impact, promoting domestic battery production and high-paying jobs.



State Policy Opportunities

State policymakers frequently support local industry hubs and can continue to support and expand this role by aligning state economic development plans with state climate action plans. Frequently, states will try to develop innovation hub strategies that bring together educators and businesses in leading state industries. State policymakers can do the same with clean energy and related fields by supporting university research and innovation on public campuses linked to clean economic development goals.



BRIGHT SPOT: MONTANA

Montana's climate action plan seeks to establish multiple regional innovation clusters to develop clean energy industries in partnership with local state universities and community colleges. For example, Montana State University Bozeman, Montana Tech, and University of Montana Western are pegged to develop a cluster around renewable hydrogen technology and advanced energy storage. The state plan envisions six total clusters in industries ranging from biofuels to net-zero manufacturing.⁴



BRIGHT SPOT: NEW JERSEY

The New Jersey's state economic development agency (NJEDA) created the New Jersey Wind Institute in partnership with local community colleges to train workers for the offshore wind farms and to establish the state as an industry leader in research and innovation.

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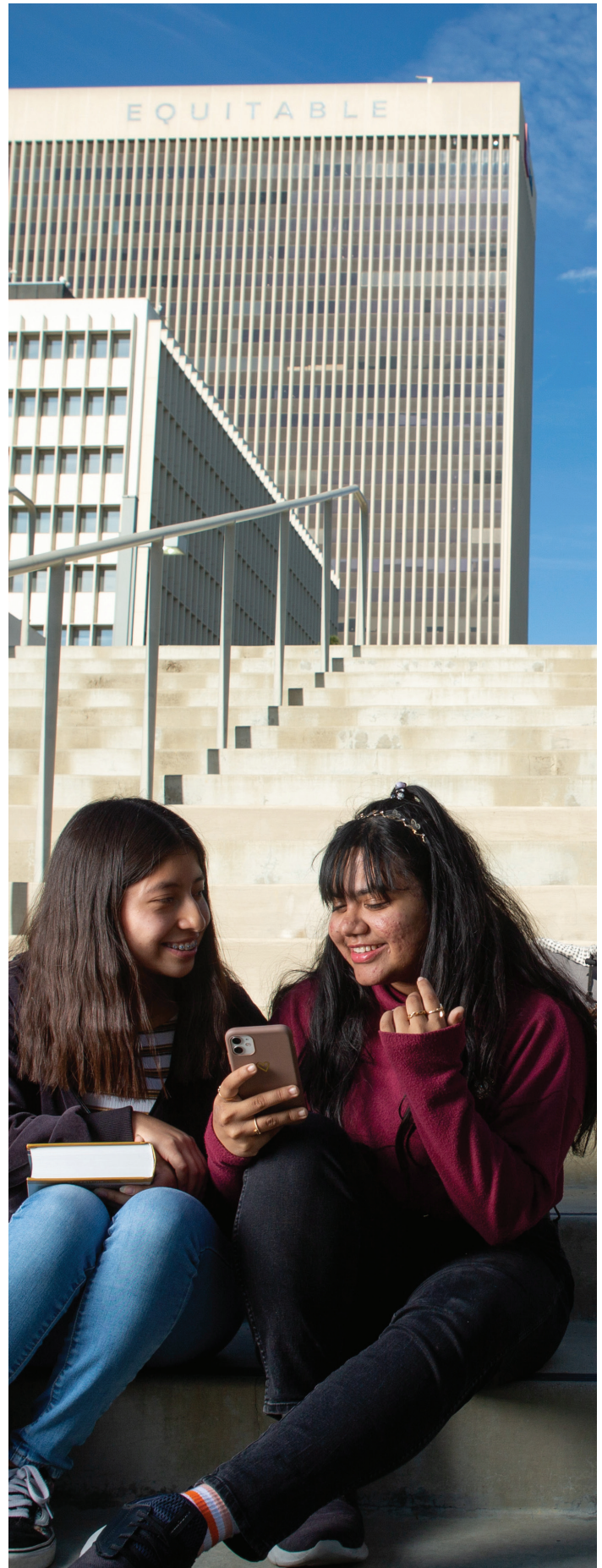


Photo by Allison Shelley for American Education: Images of Teachers and Students in Action.

EQUITY & ENVIRONMENTAL JUSTICE



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The transition needed to build a sustainable and resilient society provides an opportunity to avoid past injustices, such as placing the burden of pollution on low-income communities and communities of color. Higher education can help ensure a more just, equitable, and resilient future.

Universities in the United States are often criticized as being bastions of privilege, serving the interests of an elite few. College enrollment rates are disproportionately higher for wealthy families, and this is especially true at the country's most elite institutions.¹ However, recent research has identified a number of state public institutions such as the City College of New York and Texas A&M with strong track records of launching low-income students into the upper rungs of the economic distribution.² Beyond economic mobility, colleges and universities can advance social justice goals by serving marginalized communities with participatory research initiatives, information, and technical assistance among other resources.

Equity and Environmental Justice in Action

The changing economy will require new skills and create new job opportunities. Higher education will play a pivotal role in ensuring young people from Black, Latino, Indigenous, and other communities of color as well as low-income rural and urban communities — who are most impacted by climate change — can benefit from these opportunities and success. As institutions change their curriculum and degree programs to match economic needs, they must also ensure they provide opportunities to a broader range of people than they have historically. Higher education will need to learn from leading institutions that serve socioeconomically diverse populations well.

The connection to climate justice goes beyond workforce preparation. In almost every aspect of climate work that institutions do — ranging from mitigation and adaptation to research and information sharing — colleges and universities can apply an equity lens to program design. That may mean prioritizing their research and partnerships with historically marginalized Black and Indigenous communities or providing additional technical assistance and information to clean energy startups led by women and people of color.



BRIGHT SPOT

The HBCU Climate Change Consortium³

was launched in 2011 to diversify leadership in the environmental movement and raise awareness about the impact of climate change on marginalized communities. The Consortium seeks to develop HBCU student leaders into scientists, policymakers, and community leaders who take action to address climate change.



BRIGHT SPOT

The American Indian Higher Education

Consortium (AIHEC)⁴ is pioneering multiple climate resilience initiatives. Its partnership with the Bureau of Indian Affairs (BIA) Tribal Resilience Liaison program meets tribal science needs, supports climate adaptation planning, and coordinates federal agency and Tribal collaboration on climate programs. Meanwhile, the Climate Resilience Summer Research Program offers Indigenous students a blend of modern science and traditional knowledge to tackle climate concerns on Tribal lands.

Finally, higher education will need to address its own historic inequities where HBCUs, TCUs, and community colleges that serve more low-income students, students of color, and first generation students generally operate with outdated infrastructure and fewer resources. Efforts to promote mitigation, adaptation, workforce training, and climate research on campus must address these historic inequalities.



State Policy Opportunities

State policymakers can assist higher education in ensuring a more just, equitable, and sustainable future, including by providing access to quality higher education experiences to students from a wide variety of backgrounds. Tools like state financial aid, admissions requirements, and outreach to K-12 students all provide opportunities to increase higher education access. Policymakers should also recognize that institutions such as TCUs and HBCUs are essential to the clean energy transition because they play a critical role educating historically marginalized populations. These institutions will need adequate funding, technical assistance, and connections to state economic development initiatives to reach their full potential in taking climate action and preparing students for success.



BRIGHT SPOT

The EPA has selected 16 Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTACs) in partnership with the U.S. Department of Energy that will receive \$177 million to help underserved and overburdened communities across the country. Several institutions of higher education, including the Inter-American University of Puerto Rico-Metropolitan Campus, the University of Minnesota, and San Diego State University, were selected as awardees to collaborate with local partners in order to bring needed support to their state and region.



BRIGHT SPOT: MARYLAND

The Meyerhoff Scholars Program at the University of Maryland, Baltimore was designed to increase diversity among future leaders in science, technology, engineering, and mathematics by supporting students who intend to pursue a Ph.D. or combined M.D./Ph.D. in STEM. Since 1993, the program has graduated over 1400 students and alumni from the program have earned 426 Ph.D.s.

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KNOWLEDGE & PARTNERSHIPS



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Colleges and universities are stewards of their communities, serving as hubs of coordination, learning, and trusted information. Higher education can support a clean energy transition by increasing societal climate literacy, sharing expertise about how to mitigate and adapt to climate change, and partnering with other social institutions in the public and private sector to drive climate action.

Higher education serves a critical social role beyond preparing students for jobs and supporting academic research. Land grant colleges, for instance, have an explicit mission to engage within their communities and offer broad populations access to information and education. Colleges routinely do this through reports and analysis aimed at a public audience, providing access to libraries and museums, sponsored events on and off campus, continuing learning courses, offering free technical assistance and more. Further, higher education serves the broader public good alongside other social leaders in government, community-based organizations, and business.

Knowledge and Partnerships in Action

As climate change progresses, communities will increasingly see major changes to how they work and live. Whether increased frequency or intensity of extreme weather such as floods, hurricanes, and wildfires or increased public health risk of heat-related illnesses — universities are frequently looked to by community leaders, government officials, and the public as trusted advisors that can identify problems and provide recommendations about how to respond. Colleges often provide technical assistance in a wide variety of areas. For instance, the federal government has chosen multiple universities as hubs for technical assistance on implementation of the Inflation Reduction Act.¹ Communities can also look to partner with higher education as they plan, implement, and evaluate their climate goals and strategies.²



State Policy Opportunities

State policymakers can take multiple steps to encourage colleges and universities to step into their role as purveyors of trusted climate information. State higher education executive officers and governing boards can set community outreach as an explicit priority for their public institutions and allocate resources accordingly. State policymakers can also involve universities in broader climate action planning. This can include inviting university representatives to commissions that develop statewide plans, as well as establishing an explicit role for higher education in providing public information and technical assistance related to climate adaptation, energy efficiency, farming, and the clean energy industry.



BRIGHT SPOT: VERMONT

The University of Vermont established a Farming and Climate Change program to help local farmers adapt to dryer summers, milder winters, and a longer growing season. The program provides educational and technical assistance with these challenges to local farmers and performs research to continually develop new solutions.³



BRIGHT SPOT: NEW YORK

Universities frequently partner with government and business to analyze local workforce needs. For instance, in 2019, the University of Buffalo published a Clean Energy Workforce Assessment for Western New York. Working with an advisory panel of local clean energy business leaders, the project team analyzed data to identify industry trends, employer needs, and educational opportunities. The analysis is intended to help local industry and higher education coordinate in the face of a dynamic energy transition.⁴



BRIGHT SPOT: ARIZONA

The City of Phoenix forged a partnership with Arizona State University (ASU) to define baseline emissions levels and create tracking and monitoring systems for the city's climate action plan. With ASU's ongoing advisory role, Phoenix benefits from academic expertise and rigorous scrutiny of their climate action strategies. Their continued relationship highlights the value of sustained partnerships for ongoing adaptation and evolution of Phoenix's climate action plan, allowing the city to more ably and sustainably manage its implementation.⁵

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