

# HIGHER ED AND CLIMATE PROVISIONS IN THE INFLATION REDUCTION ACT

The higher education sector plays an important yet underutilized role in addressing climate change. With the diverse breadth and depth of post-secondary educational institutions in the US, the higher education ecosystem is uniquely positioned to ensure that future generations are prepared to succeed in the clean economy, to innovate, test, and deploy climate solutions, and to lead a more sustainable, resilient and equitable society. Although many institutions across the US are already taking action to address climate change, there are further opportunities for the sector to advance climate action and build our societal capacity to tackle the climate crisis.

During Summer 2022, in the wake of unprecedented heat waves and deadly floods, Congress passed the Inflation Reduction Act (IRA). With \$369 billion in climate and energy provisions, the bill signifies the largest climate investment in US history and has the potential to reduce carbon emissions by approximately 40 percent by 2030, promote environmental justice objectives in communities most impacted by climate change, and create high-paying clean energy jobs. Several provisions included in the IRA will help unlock the higher education sector's ability to mitigate and adapt to climate change, within their own organization and in surrounding communities.

This resource, developed in partnership between The Aspen Institute's This Is Planet Ed, Second Nature, and MIT Office of Sustainability, outlines the potential ways the IRA can support higher education's activities to address climate change.

Importantly, the Administration will issue regulations and guidance in the coming months to provide further clarity on how colleges and universities can leverage opportunities in the IRA. Institutions can also look to the [Infrastructure Investment and Jobs Act](#) and the [Creating Helpful Incentives to Produce Semiconductors \(CHIPS\) and Science Act](#), which authorizes new and expanded investments in STEM education and training to access multiple resources to advance climate solutions.

In this resource, we provide information about the IRA's tax credits, financing mechanisms, and grants. In each case, we provide a short description of the provision, highlight the lead agency and eligible beneficiaries, and discuss the potential benefits to institutions. While this list provides initial potential opportunities, forthcoming guidance from lead agencies will create additional clarity.

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**Mitigation:** The higher education sector has substantial resource needs that impact the environment, including land, energy, buildings, food, water, and transportation. With approximately 20 million students enrolled in post-secondary institutions, over 5 billion square feet of floor space in the US, and an estimated \$6 billion energy bill annually, integrating climate solutions into educational experiences can have an immediate impact on campuses. The IRA provides opportunities to help institutions make their buildings more efficient, transition to clean energy, and electrify transportation systems which can help reduce their carbon footprints, save money, and support student health.



**Adaptation:** The impacts of climate change — from floods to heat waves to wildfires— are already disrupting the higher education sector across the country. Institutions have the ability to build resilience and respond to disasters in and for their surrounding communities. Funding and grants in the IRA will allow institutions of higher education to proactively adapt to worsening climate impacts, anticipate likely climate risks related to health and learning, and support students as the impacts of climate change worsen.

# Tax Credits and Deductions

The IRA provides opportunities for institutions of higher education to use tax credits directly to transition to clean energy and clean transportation. It also enables the use of tax deductions through a third-party to support energy efficiency.

## TAX CREDITS FOR CLEAN ENERGY

The tax credits for clean energy focus on two types of credits—for **investment** or for **production**. The credits for investment can go towards the upfront costs of installing a clean energy system like solar or geothermal. The credits for production are based on the projected amount of energy a system will produce. Institutions will select either an investment or production credit. Investment tax credits are typically more beneficial for smaller-scale clean energy projects, while production tax credits may be more beneficial for large-scale projects.

### Extension and Change to Tax Credits for Clean Energy Investment Sec. 13102 and New Clean Electricity Tax Credit for Investment Sec. 13701

The IRA enhanced and extended the renewable electricity investment tax credit (ITC). These tax credits for clean energy investment and installation can help institutions of higher education reduce the costs for installing renewable energy, like solar panels, geothermal heat pumps, and energy storage systems. Importantly, these provisions include a direct pay option which means schools may be able to receive the credit directly for eligible projects.

These credits will apply for projects starting construction before 2025. Projects after 2025 will be eligible for new clean electricity investment tax credits through 2032, which will be similar in structure to the credits outlined below pending guidance from the IRS. The value of the new credit does not depend on the type of facility that produces clean electricity, as long as its greenhouse gas emissions rate is less than zero.

Lead Agency	Internal Revenue Service
Relevant Eligible Beneficiaries	Tax-exempt entities, such as colleges and universities, states, local, and Tribal governments, are eligible for direct pay or transfer of credit.
Credit Amount	<p>The amount of the tax credit depends on the project as well as factors such as wage requirements and whether materials were produced domestically.</p> <ul style="list-style-type: none"><li>• Systems larger than 1 megawatt of electrical or thermal energy, the base credit is 6% and must meet prevailing wage and apprenticeship requirements to receive the 30% credit of eligible project costs</li><li>• Systems smaller than 1 megawatt of electrical or thermal energy, the credit is 30% of eligible project costs</li><li>◦ <i>Additional potential credits:</i><ul style="list-style-type: none"><li>■ Up to 10% credit can be added if the project uses certain materials, including iron and steel, produced in the US</li><li>■ 10% could be added for projects located in an energy community</li><li>■ Additional application-based credits up to 10% may be added for solar or wind projects in low-income communities. The availability of these credits and the stacking restrictions will depend on additional guidance from the EPA and IRS.</li></ul></li><li>• Credits may be reduced up to 15% of the credit if the project is financed with a tax-exempt bond.</li></ul>

## Example

A university wants to purchase and install a 500 kW solar system at a cost of \$1 million.

- Base Credit 30%: \$300,000
- Additional credits: If the project is located in an energy community and if it utilized materials produced in the US, it would receive two additional credits of 10% each (\$200,000).
- Total Credit: The university would receive a direct payment of \$500,000.

A university wants to install a 280-ton geothermal heat pump system at a cost of \$10 million.

- Base Credit 30%: \$3 million
- Additional Credits: If the project is located in an energy community and if it utilized materials produced in the US, it would receive two additional credits of 10% each (\$2 million).
- Total Credit: The university would receive a direct payment of \$5 million.

## Benefits for Higher Education

Investments in solar energy and energy storage can help institutions:

- Reduce annual energy costs
- Mitigate their climate impact
- Adapt to climate change with potential microgrids
- Provide opportunities for students and faculty to learn about improved clean energy technology

Investments in geothermal heat pump systems can help institutions:

- Improve indoor and outdoor air quality by eliminating the onsite combustion of fossil fuels
- Reduce annual energy costs
- Mitigate their climate impact
- Provide opportunities for students and faculty to learn about improved clean energy technology and storage

### KEY DEFINITION:



**Direct Pay:** Direct pay options for elective payments (Sec. 13801) allow non-taxable entities (like many higher education institutions) to directly benefit from the credit and receive the eligible amount as a cash payment directly from the IRS. Previously, to access credits non-taxable entities had to rely on third-parties with tax liability to claim the credit and pass along a portion of the savings by reducing the costs for institutions of higher education.





**Extension and Change to Tax Credits for Clean Electricity Production Sec. 13101 and New Clean Electricity Tax Credit for Production Sec. 13701**

The IRA extended and changed the renewable electricity production tax credit (PTC). These tax credits for clean energy production can help schools receive funding for the renewable energy, like solar energy, they produce. Importantly, these provisions include a direct pay option which means schools may be able to receive the credit directly for eligible projects. Notably, the production tax credits are more advantageous for large renewable energy systems. Depending on the system size, institutions may opt for the investment tax credit.

These credits will apply for projects starting construction before 2025. Projects after 2025 will be eligible for new clean electricity production tax credits through 2032 which will be similar in structure to the credits outlined below pending guidance from the IRS. The value of the new credit does not depend on the type of facility that produces clean electricity, as long as its greenhouse gas emissions rate is less than zero.

<b>Lead Agency</b>	Internal Revenue Service
<b>Relevant Eligible Beneficiaries</b>	Tax-exempt entities, such as colleges and universities, states, local, and Tribal governments, are eligible for direct pay or transfer of credit.
<b>Credit Amount</b>	<p>The amount of the tax credit depends on the project as well as other factors such as wage requirements and whether materials were produced domestically.</p> <ul style="list-style-type: none"><li>• Systems larger than 1 megawatt must meet prevailing wage and apprenticeship requirements to receive the 1.5 cents per kWh produced credit</li><li>• Systems smaller than 1 megawatt, the credit is 1.5 cents per kWh produced</li><li>◦ Additional potential credits:<ul style="list-style-type: none"><li>■ Up to 10% credit can be added if the project uses certain materials, including iron and steel, produced in the US</li><li>■ 10% could be added for projects located in an energy community</li><li>■ Additional application-based credits up to 10% may be added for solar or wind projects in low-income communities. The availability of these credits will depend on additional guidance from the EPA and IRS.</li></ul></li><li>• Credits may be reduced up to 15% of the credit if the project is financed with a tax-exempt bond.</li></ul>
<b>Benefits for Higher Education</b>	Institutions that produce their own renewable energy can receive funding back based on that energy production. This will help mitigate campus impact on the climate, save on annual energy bills, and receive an added bonus for energy production. Students also may have the opportunity to learn about, experiment with, and maintain renewable energy systems.



## TAX CREDITS FOR CLEAN TRANSPORTATION

### Qualified Commercial Clean Vehicle Tax Credit Sec. 13403

This tax credit can aid institutions of higher education in purchasing clean light- and heavy-duty vehicles, including buses or other vehicles owned and operated by the institution. Electric buses and other electric vehicles can cost more upfront than diesel or gas-powered cars, therefore these credits can reduce the upfront cost of electric vehicles. Importantly, these provisions include a direct pay option which would allow institutions to receive the credit directly for eligible vehicles as tax-exempt entities.

#### Lead Agency

Internal Revenue Service

#### Relevant Eligible Beneficiaries

Tax-exempt entities, such as colleges and universities, states, local, and Tribal governments, are eligible for direct pay.

#### Credit Amount

The amount of the tax credit depends on the type of vehicle and the weight of the vehicle with the total potential amount up to 30% the cost of an electric vehicle or the incremental cost against that of a comparable vehicle, whichever is less. The credit has the following limitations:

- For vehicles more than 14,000 lbs the credit will be up to \$40,000 per vehicle
- For vehicles less than 14,000 lbs the credit will be up to \$7,500 per vehicle

#### Benefits for Higher Education

Transitioning to electric vehicles can help institutions mitigate their impact on the climate, reduce air pollution, and improve health and learning for students. These tax credits reduce the upfront cost of electric vehicles, and once owned, electric vehicles cost institutions less annually for maintenance and operations.





**Alternative Fuel Refueling Property Credit Sec. 13404**

The IRA extended and modified a tax credit for alternative fuel refueling property, which could include electric charging stations on campuses for electric buses and other vehicles. Specifically, institutions in low-income and rural areas may be able to utilize this credit through direct pay given their tax-exempt status.

<b>Lead Agency</b>	Internal Revenue Service
<b>Relevant Eligible Beneficiaries</b>	Tax-exempt entities in low-income or rural areas, such as institutions of higher education, may be eligible for direct pay or transfer of credit.
<b>Credit Amount</b>	<p>Up to 30% the cost of refueling property (including electric charging) for a maximum credit of \$100,000.</p> <ul style="list-style-type: none"><li>• Allows for bidirectional charging meaning that in the event of power outages the batteries from electric vehicles could be used to supply power to part of the institution.</li></ul>
<b>Example</b>	If a college in a rural area wanted to add electric chargers in their parking lot for electric vehicles owned by the institution, faculty, students, or community members, they could receive up to 30% of the cost of installing the charging system back from the IRS.
<b>Benefits for Higher Education</b>	<p>Increasing the use of electric vehicles around campuses can mitigate transportation emissions and reduce air pollution, improving health and learning. With campuses located in many communities throughout the country, enabling electric vehicle charging can increase access to charging for the broader community. Bidirectional charging will build community resilience, ensuring power in the event of outages.</p>



## TAX DEDUCTIONS FOR ENERGY EFFICIENCY

### Energy Efficient Commercial Buildings Deduction Sec. 13303

This tax deduction can support energy efficiency measures on campuses. Institutions can access this benefit through the businesses responsible for the energy-saving projects, by passing the tax deduction to that business.

<b>Lead Agency</b>	Internal Revenue Service
<b>Relevant Eligible Beneficiaries</b>	Although tax-exempt entities, like institutions of higher education, can not directly utilize the deduction, the contractors or other entities responsible for the design or retrofit can claim the deduction and reduce overall project cost.
<b>Deduction Amount</b>	<p>To receive a deduction, a project must increase building energy efficiency by 25%.</p> <ul style="list-style-type: none"><li>• The base deduction will be \$0.50 per square foot, and the deduction can be increased \$0.02 cents for each percentage point increase in energy efficiency, up to \$1 per square foot.</li><li>• The bonus deduction will be \$2.50 per square foot if prevailing wage and apprenticeship requirements are met, and the deduction can be increased 10 cents for each percentage point increase in energy efficiency, up to \$5 per square foot.</li></ul> <p>The amount of the deduction depends on the energy efficiency plan and includes improvements such as:</p> <ul style="list-style-type: none"><li>• Interior lighting design</li><li>• Heating, cooling, ventilation, and hot water systems</li><li>• Building envelope</li></ul> <p>To receive the maximum deductions, the projects must meet prevailing wage and apprenticeship requirements.</p>
<b>Example</b>	A university building (100,000 square feet) works with a contractor to install new lighting, insulation, and controls that will increase the building's energy efficiency by 25%. Throughout the project, the contractor meets the apprenticeship and prevailing wage requirements. The project will receive a deduction of \$250,000 ( $\$2.50 \times 100,000$ sq ft), which will decrease the overall cost of the project for the university.
<b>Benefits for Higher Education</b>	Energy efficiency projects can help campuses save on annual energy costs, improve student health and learning, and mitigate their climate impact. Deductions claimed by the contractors make these projects more affordable to institutions of higher education.





# Financing Opportunities

The IRA uses different mechanisms to support climate action over the next decade and beyond. In addition to tax credits and deductions, the Greenhouse Gas Reduction Fund may create opportunities for institutions of higher education to access financing mechanisms, such as no- or low-interest loans, to support mitigation efforts.

## Greenhouse Gas Reduction Fund Sec. 60103

The Greenhouse Gas Reduction Fund will provide grants to help establish “Green Banks” across the country. The structure of the Green Banks will vary based on application structure and potential proposals, but banks will have the goal of rapid deployment of low- and zero-emission technologies. There is an opportunity to ensure these resources also help deploying low- and zero-emission technologies at institutions of higher education and in their surrounding communities.

An example of a similar financing structure can be seen through a partnership between [Morgan State University \(MSU\)](#), [Maryland Clean Energy Capital](#), and [Siemens Industry](#). MSU completed an Energy Performance Contract through financing to install energy efficiency measures and equipment on their campus.

<b>Lead Agency</b>	Environmental Protection Agency
<b>Relevant Eligible Beneficiaries</b>	Varies by use of funds, includes states, municipalities, tribal governments, and qualifying non-profit organizations. While institutions of higher education are not eligible entities to establish Green Banks, they may be able to receive support from the awarded grantees.
<b>Funding Amount</b>	<p>\$27 billion in funding until September 30, 2024. Specifically:</p> <ul style="list-style-type: none"><li>• \$7 billion for competitive grants to enable low-income communities to deploy or benefit from zero-emission technologies</li><li>• Nearly \$12 billion for competitive grants to eligible entities to provide financial and technical assistance to projects that reduce or avoid greenhouse gas emissions</li><li>• \$8 billion for competitive grants to eligible entities to provide financial and technical assistance to projects that reduce or avoid greenhouse gas emissions in low-income communities</li></ul> <p>Importantly, these initial grants provide seed money. After the Green Banks are established and supporting community-based work, they will be able to continue investing in new projects as previous projects are completed.</p>
<b>Benefit for Higher Education</b>	Greenhouse gas emissions reductions projects, including energy efficiency and renewable energy projects, can help institutions of higher education mitigate their climate impact, save on annual energy costs, and improve student health and learning. Green banks can be valuable partners in helping institutions structure project financing in ways that can leverage philanthropic and private capital.



# Grant Opportunities

The IRA lists institutions of higher education as eligible recipients for a number of competitive grant opportunities. Institutions of higher education can either apply directly for these grants, or leverage community partnerships to implement local programs. There are opportunities for building community resilience and for advancing climate research.

## GRANTS FOR CLIMATE WORK IN COMMUNITIES

### Climate Pollution Reduction Grants Sec. 60114

This competitive grant program will award grants to at least one eligible entity per state to plan and implement greenhouse gas reduction programs, particularly in low-income communities. Institutions of higher education can be key partners to advance greenhouse gas reduction efforts.

Lead Agency	Environmental Protection Agency
Relevant Eligible Recipients	States, air pollution control agencies, municipalities, Tribes, or a group of these entities.
Funding Amount	The grants will be awarded in phases with: <ul style="list-style-type: none"><li>• \$250 million available for planning</li><li>• \$4.75 billion available for implementation</li></ul>
Program Details	The EPA Administrator will release additional details about the grant application which will include details about: <ul style="list-style-type: none"><li>• Projected reduction of greenhouse gas air pollution in total</li><li>• Projected reduction of greenhouse gas air pollution in low-income communities.</li></ul>
Opportunities for Higher Education	While institutions of higher education are not directly eligible entities, as sources of research, resources, and volunteers, institutions of higher education can be key partners to eligible entities in supporting efforts to reduce greenhouse gas air pollution.





## Environmental and Climate Justice Block Grants Sec. 60201

The Environmental and Climate Justice program will provide competitive grants to invest in community-led projects in disadvantaged communities to address disproportionate environmental and public health harms related to pollution and climate change.

<b>Lead Agency</b>	Environmental Protection Agency
<b>Relevant Eligible Recipients</b>	Community-based nonprofits or organizations, or a partnership between community-based nonprofit organizations and a Tribe, a local government or an institution of higher education.
<b>Funding Amount</b>	\$3 Billion
<b>Program Details</b>	<p>These grants will support activities, including:</p> <ul style="list-style-type: none"><li>• Community-led air and other pollution monitoring, prevention, and remediation, investments in low- and zero-emission and resilient technologies and related infrastructure and workforce development that help reduce greenhouse gas emissions and other air pollutants</li><li>• Mitigating climate and health risks from urban heat islands, extreme heat, wood heater emissions, and wildfire events</li><li>• Climate resilience and adaptation</li><li>• Reducing indoor toxics and indoor air pollution</li><li>• Facilitating engagement of disadvantaged communities in State and Federal advisory groups, workshops, rulemakings, and other public processes</li></ul>
<b>Opportunities for Higher Education</b>	Institutions of higher education can support eligible community organizations in codesigning, implementing, and evaluating the above activities. They may also consider how to develop or expand programs that train a workforce to install and maintain zero-emission and resilient technologies.





## Neighborhood Access and Equity Grant Program Sec. 60501

The Neighborhood Access and Equity Grant Program will provide competitive grants to support neighborhood equity, safety and affordable transportation access. Improving access to affordable and safe transportation can benefit students who commute, student safety on and near campus, and the overall wellbeing of the community.

<b>Lead Agency</b>	Federal Highway Administration (FHWA)
<b>Relevant Eligible Beneficiaries</b>	Institutions of higher education are eligible as partners with states, local governments, territories, special purpose districts, public authorities with a transportation function, or metropolitan planning organizations
<b>Funding Amount</b>	\$1.9 billion, with an additional \$1.2 billion set aside for disadvantaged communities including communities located in areas of persistent poverty
<b>Program Details</b>	<p>As partners, institutions of higher education can work with eligible entities for grants to support equitable transportation planning and community engagement activities, including:</p> <ul style="list-style-type: none"><li>• Identify, monitor, and assess air quality, transportation emissions, heat areas, tree canopy, and flood-risks</li><li>• Assess transportation equity and pollution</li><li>• Engage underserved communities</li><li>• Provide technical assistance</li></ul>
<b>Opportunities for Higher Education</b>	Institutions of higher education can partner with other eligible entities to conduct research, stakeholder outreach, and to help implement and evaluate projects to make communities safer and more green for residents. Projects may also improve commutes for students enrolled in higher education.

## Investing in Coastal Communities and Climate Resilience Sec. 40001

This program is focused on the conservation, restoration, and protection of coastal and marine habitats and resources, including fisheries, to prepare for extreme storms and climate change effects, as well as for projects that support natural resources to sustain coastal and marine resource dependent communities.

<b>Lead Agency</b>	National Oceanic and Atmospheric Administration (NOAA)
<b>Relevant Eligible Beneficiaries</b>	Coastal states, District of Columbia, Tribal governments, nonprofits, local governments and institutions of higher education.
<b>Funding Amount</b>	\$2.6 billion
<b>Program Details</b>	Funding will be provided in the form of grants, cooperative agreements, contracts, or technical assistance.
<b>Opportunities for Higher Education</b>	Institutions of higher education have the opportunity to support coastal communities and habitats in adapting to the impacts of climate change.

GRANTS FOR CLIMATE RESEARCH

Alternative Fuel and Low-Emission Aviation Technology Program Sec. 40007

The IRA includes competitive grants for projects to accelerate transition to sustainable aviation fuels (SAF).

Lead Agency	Department of Transportation
Relevant Eligible Beneficiaries	Eligible entities include institutions of higher education, states or local governments, air carriers, airports, research institutions, entities that produce, transport, blend or store sustainable aviation fuels (SAF) in the US.
Funding Amount	\$300 million
Program Details	Competitive grants for projects that develop, demonstrate or apply low-emission aviation technologies or produce, transport, blend or storage of SAF.
Opportunities for Higher Education	Institutions of higher education have the opportunity to be on the forefront of developing low-emission aviation technology, reducing the carbon footprint of the aviation sector in the US, strengthening and diversifying the supply chain, and creating new jobs.



# Funding for Workforce Development

To transition to a clean economy, the US will require a qualified green workforce. Several provisions in the Inflation Reduction Act provide funding to institutions of higher education and other organizations to support workforce development. Additionally, the apprenticeship requirements in the IRA require a percentage of labor hours are performed by qualified apprentices. Institutions of higher education, in partnership with K-12 schools and labor, can ensure that there are enough apprenticeship programs to meet these standards.

## USDA Assistance and Support for Underserved Farmers, Ranchers, and Foresters Sec. 22007

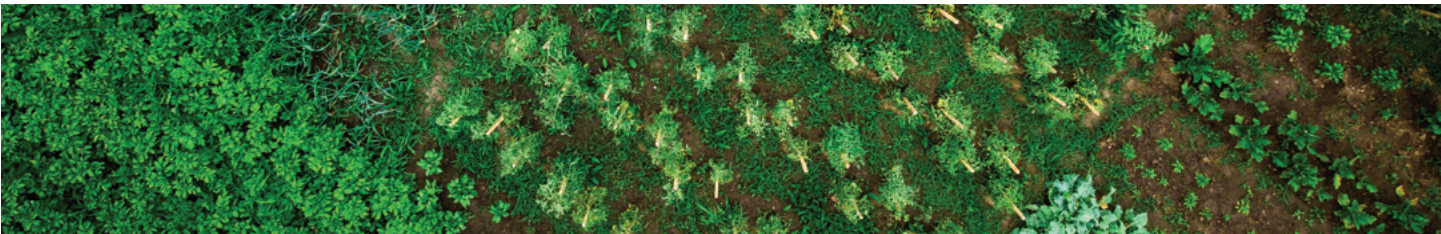
Funding will be provided for research, education, extension and scholarships for programs that provide internships and pathways to the agriculture sector or federal employment.

Lead Agency	Department of Agriculture
Relevant Eligible Beneficiaries	Land-grant institutions, including Tribal land-grant colleges and Hispanic-serving institutions
Funding Amount	\$250 million
Program Details	Research, education, and extension grants to support and supplement agricultural research, education, and extension, as well as scholarships and programs that provide internships and pathways to the agricultural sector.
Opportunities for Higher Education	Through this opportunity, institutions of higher education can build and expand pathways to careers that work to address and respond to climate change in the agricultural sector, with a focus on students from underrepresented communities.

## State-Based Home Energy Efficiency Contractor Training Grants Sec. 50123

This provision will provide financial assistance to states to develop and implement programs to train and educate contractors on installation of home energy efficiency and electrification improvements.

Lead Agency	Department of Energy
Relevant Eligible Beneficiaries	States
Funding Amount	\$200 million
Program Details	Funds may be used to reduce training costs for employees, to provide testing and certification, or to partner with nonprofit organizations.
Opportunities for Higher Education	Institutions of higher education may be able to assist in the training and education of current and future contractors by providing certification and upskilling programs.





# Other Provisions for Institutions of Higher Education to Explore

## **Tax Credit for Carbon Oxide Sequestration Sec. 13104 and Tax Credit for Clean Hydrogen Production Sec. 13204**

Given higher education's ability to lead research and innovation, institutions of higher education might explore opportunities to accelerate carbon sequestration and deployment of clean hydrogen. These tax credits can support carbon sequestration and production of clean hydrogen.

## **Tax Credit for Advanced Manufacturing Production Sec. 13502**

This provision creates a new tax credit for the manufacturing of components including photovoltaic cells and other elements of solar, on- and offshore wind structures, and batteries, as well as critical minerals. Institutions of higher education could receive tax credits directly or engage in partnerships with manufacturing industries to help deploy clean energy technologies.

## **State and Private Forestry Conservation Programs Sec. 23003**

The IRA provides increased funding for the Urban and Community Forestry Assistance program. Institutions of higher education may be able to partner with eligible recipients, or to receive money from states, to increase the amount of trees on campuses. Students can benefit from increased shade and greener spaces, while at the same time learning about urban forestry and the benefits of planting trees.

## **Competitive Grants for Non-Federal Forest Landowners Sec. 23002**

The IRA provides \$500 million for grants to underserved landowners, landowners of forests less than 2500 acres, and private landowners to carry out climate mitigation and forest resilience practices, and implement practices that would increase carbon dioxide sequestration. Higher education institutions that own forest land could be direct recipients of such grants or could partner with eligible recipients.



# Glossary of Key Terms

TERM	DEFINITION
Apprenticeship	An apprenticeship, registered with the Department of Labor, is a paid job where the employee learns and gains valuable experiences through on-the-job training.
Bidirectional Charging	Electrical vehicle (EV) charging that goes two ways: pulling power from the grid to charge the EV's battery and supplying electricity for other loads from the battery as needed.
Climate Change	Long-term changes in average weather and climate, regionally and globally. Since the 1800's, human activities with the burning of fossil fuels has accelerated climate change.
Direct Pay	Direct pay options for elective payments allow non-taxable entities (like colleges and universities) to directly benefit from the credit and receive the eligible amount as a cash payment directly from the IRS.
Energy Community	An energy community can include brownfield sites, coal communities with closed or retired plants and mines, or communities with higher unemployment and jobs in fossil fuel industries.
Electric School Bus	An all-electric bus that uses a battery pack to store the electrical energy that powers the drive motor.
Geothermal Energy	Energy derived from the earth's heat that is converted into thermal or electrical energy.
Green Banks	A public or non-profit entity established to facilitate private investment into domestic low-carbon, climate-resilient infrastructure.
Greenhouse Gasses	Gasses that contribute to global warming by absorbing infrared radiation, such as carbon dioxide and methane.
Heat Island	Areas that have an average temperature 1.25°F higher than the surrounding city or town.
HVAC Systems	Heating, ventilation, and air conditioning commonly used to cool and heat residential and commercial buildings.
Prevailing Wage	An average wage and benefits for certain work projects within a particular location, set by the Department of Labor.
Renewable Energy	Energy produced from resources that are easily replenished and do not have detrimental effects on the health of humans or the environment. Examples include solar, wind, and geothermal energy. Also referred to as clean energy.
Solar Energy	Energy derived from sunlight that is converted into thermal or electrical energy.
Solar Microgrids	System of renewable energy that is separate from the main power grid in a given area.

## Additional Resources

Second Nature provides a variety of [tools and resources](#) and a [Solution Center](#) that institutions of higher education can use to move towards climate action.

The [MIT Office of Sustainability website](#) describes practices that are being tested and implemented at MIT towards its carbon reduction and climate resiliency goals. The [Climate Primer](#) provides an overview of the science, risks, and solutions of climate change. Other ongoing climate education and research initiatives across the Institute are shared in [MIT Climate Resources](#).

Although focused on K-12 schools, [the Aspen Institute's K12 Climate Action Plan](#) outlines policy recommendations to help schools comprehensively address climate change through mitigation, adaptation, education, and equity and could be a helpful reference for institutions of higher education.

**Acknowledgements:** This brief is an extension of K12 Education and Climate Provisions in the Inflation Reduction Act developed in partnership with the World Resources Institute and reviewed by UndauntedK12 and Generation180.

## About Us

**Higher Ed Climate Action** is a part of **This Is Planet Ed** with the Aspen Institute that seeks to unlock the power of the education sector to be a force for climate action, solutions, and environmental justice. [www.thisisplaneted.org](http://www.thisisplaneted.org)

**The Aspen Institute** is an educational and policy studies organization based in Washington, D.C. Its mission is to foster leadership based on enduring values and to provide a nonpartisan venue for dealing with critical issues. [www.aspeninstitute.org](http://www.aspeninstitute.org)

**Second Nature** is committed to accelerating climate action in, and through, higher education and does so by mobilizing a diverse array of institutions to act on bold climate commitments, to scale campus climate initiatives, and to create innovative climate solutions. [www.secondnature.org](http://www.secondnature.org)

**The MIT Office of Sustainability** was established in 2013 within MIT, a higher education and research institution located in Cambridge, MA. In 2021, MIT released its latest plan to address the accelerating climate crisis. The Fast Forward Plan for Climate Action calls upon MIT to contribute to a just climate transition, by spurring innovation, educating and empowering members of the next generation, while setting a standard of climate leadership with its own campus decarbonization goals. <https://sustainability.mit.edu/>

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Office of Sustainability

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