

K12 EDUCATION AND CLIMATE PROVISIONS IN THE INFLATION REDUCTION ACT

The education sector plays an important yet often overlooked role in addressing climate change. Across the country, nearly 100,000 public schools, each with a substantial carbon footprint, make up one the largest consumers of energy in the public sector. Additionally, with 480,000 school buses, our schools operate the largest mass transit fleet in the country. Efforts to decarbonize our schools also create opportunities for the 50 million students enrolled in schools to engage with climate solutions first-hand, helping to build our societal capacity to address climate change now and into the future.

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 highpaying clean energy jobs. The Inflation Reduction Act can help unlock the education sector's ability to mitigate and adapt to climate change and provides critical funding to support schools in creating healthy, sustainable learning environments.

This resource, developed in partnership between The Aspen Institute's This Is Planet Ed and the World Resources Institute's Electric School Bus Initiative, outlines the potential opportunities in the Inflation Reduction Act to support schools. Importantly, the Administration will be issuing regulations and guidance in the coming months which can provide further clarity on how schools can leverage opportunities from the IRA. Schools can also look to the <u>Infrastructure Investment and Jobs</u> <u>Act</u> and the <u>American Rescue Plan</u> to access multiple resources to advance climate solutions.

In this resource, we provide information about tax credits, potential 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 schools. While this list provides initial potential opportunities, guidance from lead agencies can help schools determine specific opportunities.

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Mitigation: K through 12 public schools have substantial resource needs that impact the environment, including land, energy, buildings, food, water, and transportation. Schools are one of the largest public sector energy consumers, operate a fleet of roughly 480,000 school buses, and serve 7 billion meals each year. By making their buildings more efficient, transitioning to clean energy, and electrifying school bus fleets, schools can reduce their carbon footprints while saving money and supporting student health and learning. The IRA provides potential opportunities for funding or other financial benefits that can help schools pursue these goals.



Adaptation: The impacts of climate change —from floods to heat waves to wildfires—are already disrupting schools across the country and exacerbating existing inequities. Funding and grants in the IRA will allow schools 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 Inflation Reduction Act provides opportunities for schools to use tax credits directly to transition to clean energy and clean transportation. It also enables schools to utilize 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. School systems select either an investment or production credit. In many cases for schools, the **investment credit** will provide the greater value based on the size potential of school clean energy systems.

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 schools 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 depending on forthcoming guidance from the IRS.

Lead Agency	Internal Revenue Service
Relevant Eligible Beneficiaries	Tax-exempt entities, such as school districts, states, local, and Tribal governments, are eligible for direct pay or transfer of credit.
Credit Amount	The amount of the tax credit depends on the project as well as factors such as wage requirements and whether materials were produced domestically.
	 Systems smaller than 1 megawatt of electrical or thermal energy, the credit is 30% of eligible project costs; Systems larger than 1 megawatt, the base credit is 6% and must meet prevailing wage and apprenticeship requirements to receive the 30% credit of eligible project costs;
	 Additional potential credits: Up to 10% credit can be added if the project uses certain materials, including iron and steel, produced in the US; 10% could be added for projects located in an energy community; 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. Credits may be reduced up to 15% of the credit if the project was financed with a tax-exempt bond.

Examples

A school district 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 school system would receive a direct payment of \$500,000.

A school district wants to purchase and 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 school system would receive a direct payment of \$5 million.

Benefit to Schools Investments in solar energy and energy storage can help schools:

- Reduce annual energy costs;
- Mitigate their climate impact;
- Adapt to climate change.
 - For instance, schools that install solar panels with battery storage can create microgrids and build resilience for their communities; and
- Provide opportunities for students to learn about clean energy.

Investments in geothermal heat pump systems can help schools:

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

KEY DEFINITION:



Direct Pay: Direct pay options for elective payments (Sec. 13801) allow non-taxable entities (like schools) 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 schools.



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. Importantly, the production tax credits are more advantageous for large renewable energy systems. Depending on the system size, many school districts will likely 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 depending on forthcoming guidance from the IRS.

Lead Agency	Internal Revenue Service
Relevant Eligible Beneficiaries	Tax-exempt entities, such as school districts, states, local, and Tribal governments, are eligible for direct pay or transfer of credit.
Credit Amount	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.
	 Systems smaller than 1 megawatt, the credit is 1.5 cents per kWh produced; Systems larger than 1 megawatt must meet prevailing wage and apprenticeship requirements to receive the 1.5 cents per kWh produced credit;
	 Additional potential credits: Up to 10% credit can be added if the project uses certain materials, including iron and steel, produced in the US; 10% could be added for projects located in an energy community; 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.
	• Credits may be reduced up to 15% of the credit if the project was financed with a tax-exempt bond.
Benefit to Schools	Schools that produce their own renewable energy can receive funding back based on that energy production. This will help schools mitigate their impact on the climate, save on annual energy bills, and support students in learning about



TAX CREDITS FOR CLEAN TRANSPORTATION

Qualified Commercial Clean Vehicle Tax Credit Sec. 13403

This tax credit aids schools in purchasing clean light- and heavy-duty vehicles, which can include school buses or other vehicles owned and operated by school districts. Electric school buses and other electric vehicles can cost more upfront than diesel or gas-powered vehicles. These credits can reduce the upfront cost of electric vehicles. Importantly, these provisions include a direct pay option which would allow schools 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 school districts, 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 credit amount up to 30% of the the price of an electric vehicle or the incremental cost relative to the price of a comparable vehicle, whichever is less. The credit has the following limitations:.
	 For vehicles more than 14,000 lbs (like a school bus) 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
Example	A school district purchases an electric school bus for \$350,000. To calculate the value of the credit, the district would consider both:
	 Incremental Cost: The cost for the electric school bus is about \$250,000 more than a comparable diesel bus, above the maximum credit amount. 30% of the cost: The potential credit up to 30% of the cost basis is \$105,000, also above the maximum credit amount.
	With both over the maximum, the district may be eligible to claim a \$40,000 credit as a direct payment.
Benefit to Schools	Transitioning to electric school buses can help school districts mitigate their impact on the climate, reduce air pollution, and improve health and learning for students. These tax credits reduce the upfront cost of an electric school bus, and once owned, electric school buses cost school districts 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 at schools and for electric school buses. Specifically, low-income and rural school districts may be able to utilize this credit through direct pay given their tax-exempt status.

Lead Agency	Internal Revenue Service
Relevant Eligible Beneficiaries	Tax-exempt entities, such as school districts, in low-income or rural areas may be eligible for direct pay.
Credit Amount	Up to 30% the cost of each item of refueling property (i.e. each charger) for a maximum credit of \$100,000.
	• Allows for bidirectional charging meaning that in the event of power outages the batteries from electric school buses could be used to supply power to part of the school.
	 Permitting and inspection fees are not included in covered expenses.
Example	If a rural school district wanted to add electric chargers in their parking lot or bus depot for electric school buses or electric vehicles for educators or families, they could receive up to 30% of the cost of installing each individual charger back from the IRS.
Benefit to Schools	Increasing use of electric vehicles, including school buses, around schools can mitigate transportation emissions and reduce air pollution, improving health and learning. With schools located in every community, enabling electric vehicle charging can increase access for the broader community, and bidirectional

charging can build community resilience ensuring power in the event of outages.



TAX DEDUCTIONS FOR ENERGY EFFICIENCY

Energy Efficient Commercial Buildings Deduction Sec. 13303

This tax deduction can support energy efficiency measures at public schools. Schools can access this benefit through the businesses responsible for the energy-saving projects, by passing the tax deduction to that business.

Lead Agency	Internal Revenue Service
Relevant Eligible Beneficiaries	Although tax-exempt entities, like schools, 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 to the school.
Credit Amount	To receive a deduction, a project must increase building energy efficiency by 25%.
	 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.
	 The bonus deduction will be \$2.50 per square foot if prevailing wage and apprenticeship requirements are met, and the deduction can be increased \$0.10 for each percentage point increase in energy efficiency, up to \$5 per square foot.
	The amount of the deduction depends on the energy efficiency plan and includes deductions related building energy efficiency improvements including:
	 Interior lighting design; Heating, cooling, ventilation, and hot water systems; and Building envelope
	 To receive the maximum deductions, the projects must meet prevailing wage and apprenticeship requirements.
Example	A school (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 x 100,000 sq ft), which will decrease the overall cost of the project for the school.
Benefit to Schools	Energy efficiency projects can help schools 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 schools.



Financing Opportunities for Schools

The Inflation Reduction Act 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 school districts 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 schools.

Lead Agency	Environmental Protection Agency
Relevant Eligible Beneficiaries	Varies by use of funds, includes States, municipalities, Tribal governments, and qualifying non-profit organizations. Schools are not listed as eligible entities but they may be eligible for support from awarded grantees.
Funding Amount	 \$27 billion in funding until September 30, 2024. Specifically: \$7 billion for competitive grants to enable low-income communities to deploy or benefit from zero-emission technologies; Nearly \$12 billion for competitive grants to eligible entities to provide financial and technical assistance to projects that reduce or avoid greenhouse gas emissions; and \$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.
	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.
Benefit to Schools	Greenhouse gas emissions reduction projects, including energy efficiency and renewable energy projects can help schools mitigate their climate impact, save on annual energy costs, and improve student health and learning. Green Banks can be valuable partners in helping schools structure project financing in ways



that can leverage philanthropic and private capital.

Grant Opportunities for Schools or School-Related Projects

CLEAN TRANSPORTATION

Clean Heavy-Duty Vehicles Sec. 60101

This competitive grant program can provide additional funding to help replace eligible vehicles with zeroemission vehicles (ZEVs), including zero-emission electric school buses.

Lead Agency	Environmental Protection Agency
Relevant Eligible Beneficiaries	States, municipalities, Indian tribes, non-profit school transportation associations and eligible contractors.
Funding Amount	\$1 billion with \$400 million allocated for areas with poor air-quality
Program Details	Provides competitive grant funding to assist in the replacement of Class 6 and Class 7 vehicles (which includes school buses) to electric. Funding can be used for:
	 The incremental costs of replacing a diesel school bus with electric school bus; Purchasing, installing, operating, and maintaining infrastructure needed to charge or maintain electric school buses; Workforce development and training to support the maintenance, charging, and operation of electric school buses; and Planning and technical assistance activities to support the adoption and deployment of electric school buses
Benefit to Schools	Transitioning to electric school buses can help school districts mitigate their impact on the climate, reduce air pollution, improve health and learning for students, and reduce annual operations and maintenance costs for transportation.



ADDRESSING POLLUTION

Funding to Address Air Pollution at Schools Sec. 60106

This competitive grant program provides funding for activities to monitor and reduce greenhouse gas emissions and other air pollutants at schools in low-income and disadvantaged communities.

Lead Agency	Environmental Protection Agency
Relevant Eligible Beneficiaries	Schools in low-income and disadvantaged communities, as defined in the Clean Air Act
Funding Amount	\$37.5 million for grants and other activities and \$12.5 for technical assistance
Program Details	 These competitive grants can be used to: Address environmental issues, Develop school environmental quality plans that include standards for school building, design, construction, and renovation; and Identify and reduce ongoing air pollution hazards.
Benefit to Schools	Schools with the greatest need to improve air quality for their students will have the ability to identify sources of pollution, to address potential health risks, and to improve student health and learning.

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, in particular in low-income communities. Although school districts are not specified as eligible entities, school districts could be key partners to advance greenhouse gas reduction efforts.

Lead Agency	Environmental Protection Agency
Relevant Eligible Beneficiaries	States, air pollution control agencies, municipalities, Tribes, or a group of these entities
Funding Amount	The grants will be awarded in phases with:
	 \$250 million available for planning; and
	• \$4.75 billion available for implementation
Program Details	The EPA Administrator will release additional details about the grant application which will include details about:
	 Projected reduction of greenhouse gas air pollution in total; and Projected reduction of greenhouse gas air pollution in low-income communities.
Benefit to Schools	Schools could be key partners to eligible entities to help support efforts to reduce greenhouse gas air pollution. School districts could connect with their local municipalities, state lead agencies to determine how they might partner, and BIE and Tribal schools could connect with Tribes to determine how they might partner on programs.

CLIMATE JUSTICE IN COMMUNITIES

Environmental and Climate Justice Block Grants Sec. 60201

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

Lead Agency	Environmental Protection Agency
Relevant Eligible Beneficiaries	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
Funding Amount	\$3 Billion
Program Details	These grants will support activities, including:
	 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, Mitigating climate and health risks from urban heat islands, extreme heat, wood heater emissions, and wildfire events, Climate resilience and adaptation, Reducing indoor toxics and indoor air pollution; or Facilitating engagement of disadvantaged communities in State and Federal advisory groups, workshops, rulemakings, and other public processes.
Benefit to Schools	Schools as centers of communities can be key partners with community-based organizations and local municipalities to support the objectives of these grants. For instance:
	 Many schools have heat-trapping asphalt schoolyards that contribute to urban heat-island effects. Replacing those schoolyards with sustainable schoolyards can reduce heat and flooding for communities and create healthy outdoor spaces for children to learn and play. Installing solar with battery storage at schools can help build resilience of communities by ensuring safe places with power for community members in the event of extreme weather.

OTHER PROVISIONS

Neighborhood Access and Equity Grant Program Sec. 60501

• The Neighborhood Access and Equity Grant Program will provide funding to support neighborhood equity, safety, and affordable transportation access with competitive grants. Improving access to affordable and safe transportation can benefit students on their commutes to school.

State and Private Forestry Conservation Programs Sec. 23003

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

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 schools) 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

For additional information about what schools can do, the <u>Aspen Institute's K12 Climate Action Plan</u> outlines policy recommendations to help schools comprehensively address climate change through mitigation, adaptation, and education.

In collaboration with partners and communities, <u>WRI's Electric School Bus Initiative</u> aims to build unstoppable momentum toward an equitable transition of the entire U.S. school bus fleet to electric by 2030, bringing health, climate and economic benefits to children and families across the country and normalizing electric mobility for an entire generation.

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About Us

K12 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**

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**

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