

ALL IN ON BUILDING DECARBONIZATION

IN THE AGE OF THE INFLATION REDUCTION ACT



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**AMERICA IS
ALL IN**

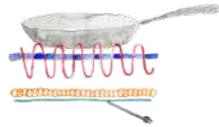
MAIN TAKEAWAYS



Buildings account for **nearly one-third of U.S. emissions from on-site fossil fuel combustion and electricity use**, and current gas infrastructure worsens air quality and public health outcomes.



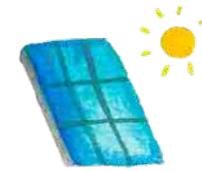
Energy efficiency and electrification investments are needed in low-to-middle-income (LMI) households to reduce inequitable energy and housing cost burdens. These investments will cut emissions, save consumers money, and improve air quality and public health.



The 2022 Inflation Reduction Act (IRA) includes over \$50 billion to accelerate a transition to healthy and electrified buildings. Most of the investments goes toward residential and commercial energy efficiency tax credits (estimated \$37 billion) and two new rebate programs (\$8.7 billion) for electrification and whole home upgrades, with priority on LMI households.



To unlock IRA's full potential to reduce buildings emissions, state, tribal, and local governments can raise awareness of incentives and **design programs for maximum climate benefits and accessibility to LMI households.**



While the IRA is expected to reduce emissions by 40% if well implemented, **further action is needed to meet our goal of halving U.S. emissions by 2030.** State, tribal, and local governments can build off the IRA incentives by implementing their own ambitious policies such as net-zero building codes.



The IRA is a game-changing bill, but it is largely a bill of "carrots", not "sticks". **The impact of the IRA mainly depends on policymakers, consumers, businesses, and civil society taking advantage of the new incentives.** *All In* members should use the tax credits and rebates that make energy efficiency and electrification more affordable and also advocate for more ambitious policies in their communities.

BUILDING DECARBONIZATION TODAY

BUILDINGS ARE A MAJOR DRIVER OF GREENHOUSE GAS EMISSIONS AND POLLUTION IN THE UNITED STATES, making [up 31 percent of U.S. emissions](#) from on-site combustion of fossil fuels and electricity use.

Ambitious action is needed to usher in a future of clean and healthy buildings, and with a recent influx of government funding, there has never been a better time to act. In addition to over \$5 billion of dedicated funding for building decarbonization in the 2021 Infrastructure Investment and Jobs Act (IIJA), the newly passed 2022 Inflation Reduction Act (IRA) offers more than \$50 billion of funding for a suite of rebates, grants, and tax credits that will support beneficial electrification and efficiency with dedicated funds for low-to-middle-income (LMI) households.

The buildings provisions in the IRA make it more affordable to improve building efficiency and install all-electric appliances. While IRA provisions help lower the upfront cost of these building improvements, improving efficiency and converting to electric appliances

will pay dividends for the lifetime of the building by reducing our reliance on fossil fuels in buildings. For example, [a recent analysis](#) shows that in Wisconsin, [heat pumps](#), an efficient, climate-friendly and cost-effective heating and cooling appliance, can save households hundreds of dollars a year as compared to electric or propane furnaces. Reducing our reliance on fossil fuels in buildings can make energy costs more stable and predictable over time since oil and gas prices historically have been [two to four times more volatile than electricity](#).

In addition to cost savings, [efficient, all-electric buildings reduce indoor air pollution that is harmful to human health](#). Learn more in the companion to this report, “Improving the American Indoors: The Health, Economic,

and Community Benefits of Better Buildings,” which provides a deep dive into the economic and health benefits of building decarbonization.

Now that the money is available, it is up to governments, the private sector, and civil society to seize the opportunities to reduce their own emissions and help others do the same. This action guide for building decarbonization discusses key programs in the IRA that the *All In* coalition should use to create a cleaner, healthier, and more economically vibrant country and built environment.



AMBITIOUS ACTION IS NEEDED TO USHER IN A FUTURE OF CLEAN AND HEALTHY BUILDINGS.

ACKNOWLEDGEMENTS

This report was led by the US Program at RMI with feedback from the Center for Global Sustainability (CGS) at the University of Maryland and World Resources Institute (WRI). These three organizations represent the analytical team of *America Is All In*. Thank you to Nicole Kelner for her partnership in creating the art for this guide. The authors gratefully acknowledge helpful comments from the broader *America Is All In* organization and colleagues at RMI. The recommendations in this report are solely the views of the author and do not necessarily reflect the perspectives of *America Is All In* member organizations. This work was made possible with funding from Bloomberg Philanthropies.

Suggested Citation: J. Rosas, J. Chiu, K. Gronendyke, T. Massey-Green, K. Clark-Sutton, E. Hartman, J. Prentice-Dunn. *All In on Building Decarbonization in the Age of the Inflation Reduction Act*. America Is All In (2022).

UNLOCKING BUILDING DECARBONIZATION WITH THE INFLATION REDUCTION ACT

With the Inflation Reduction Act signed into law, the buildings sector can now anticipate a flood of over **\$50 billion in building decarbonization provisions**. The IRA's building provisions, listed below, include rebates, tax credits, loans and grants, and other funding.

	IRA PROGRAM	TOTAL BUDGET	WHAT DOES IT COVER?	HOW DOES IT WORK?	WHEN IS IT AVAILABLE?
REBATES Get cash back when you make a purchase	High-Efficiency Electric Home Rebate Act (HEEHRA)	\$4.5 billion	Project costs for new electric and efficient appliances such as heat pumps	Covers 100% of electrification project costs for low-income households and 50% of costs for moderate-income households. It considers a maximum rebate of \$14,000 and up to: (1) Heat pump water heater: \$1,750; (2) Heat pump dryer: \$840; (3) Heat pump for space heating: \$8,000; (4) Induction stove, cooktop range or oven: \$840; (5) Electric load service center upgrade: \$4,000; (6) Insulation, air sealing, and ventilation: \$1,600; (7) Electric wiring: \$2,500.	<u>Start date:</u> August 2023 <u>End date:</u> December 2034
	Home Energy Performance-Based, Whole-House Rebate program (HOMES)	\$4.3 billion	Comprehensive home energy retrofits	Includes up to \$4,000 per unit that achieves 35% savings (\$8,000 per unit for low- and moderate-income households)	<u>Start date:</u> August 2023 <u>End date:</u> December 2034
TAX CREDITS Dollar-for-dollar reduction of the income tax you owe	New Energy Efficient Home Credit (45L)	Uncapped	Construction of new homes or dwelling units that meet 45L energy efficiency requirements.	Up to \$2,500 tax credit for single-family and multifamily new homes and major renovations built to ENERGY STAR standards and up to \$5,000 for homes when they are certified as a DOE Zero Energy Ready Home	<u>Start date:</u> January 2023 <u>End date:</u> December 2032
	Energy Efficient Home Improvement Credit (25C)	Uncapped	Energy efficiency upgrades such as heat pump installations, breaker box upgrades.	Tax credit of up to 30% of efficiency upgrade costs. Not to exceed \$600 per energy efficiency improvement with following exceptions: (1) Heat Pump: \$2,000 max; (2) Heat Pump Water Heater: \$2,000 max; (3) Home Energy Audit: \$150 max	<u>Start date:</u> January 2023 <u>End date:</u> December 2032
	Energy Efficient Commercial Buildings Deduction (179D)	Uncapped	Energy efficient retrofits in existing commercial buildings	Applies to commercial buildings that achieve at least a 25% reduction in on-site Energy Use Intensity (EUI). The incentives start at \$2.50/square foot (SF) and increase by \$0.10/SF for each additional % reduction in EUI up to a max of \$5/SF. The maximum credit carries prevailing wage and apprenticeship requirements. Importantly, tax exempt entities such as churches, non-profits, and government entities, can pass credits through to the designer or developer of the property.	<u>Start date:</u> January 2023 <u>End date:</u> December 2032
	Residential Clean Energy Credit (25D)	Uncapped	Purchase of solar arrays, microgrid controls, geothermal, and storage systems	Credit for residential properties that covers 30% of the cost of solar arrays, microgrid controls, geothermal or biomass technologies and stand-alone battery storage systems with a capacity greater than 3 kWh.	<u>Start date:</u> January 2023 <u>End date:</u> December 2034
	Energy Credit (48)	Uncapped	Purchase of solar arrays, combined heat power systems, qualified fuel cells, microgrid controls, and stand-alone storage systems	Credit for commercial solar systems with a base of 6%, with a bonus credit of 30% depending on prevailing wage and apprenticeship requirements. An additional 10% credit is available if specific domestic content requirements are met, with a 10% potential bonus if it is in an energy community and 10-20% in a low-income community	<u>Start date:</u> January 2023 <u>End date:</u> January 2025

UNLOCKING BUILDING DECARBONIZATION WITH THE INFLATION REDUCTION ACT

	IRA PROGRAM	TOTAL BUDGET	HOW DOES IT WORK?	WHEN IS IT AVAILABLE?
GRANTS AND LOANS Funding to cities and states add up to \$4.5b for the next 4 to 8 years.	Assistance for Latest and Zero Building Energy Code Adoption	\$1 billion	Support state and local governments to adopt updated building energy codes: <ul style="list-style-type: none"> Residential buildings must meet or exceed the 2021 International Energy Conservation Code Commercial buildings must meet or exceed the ANSI/ASHRAE/IES Standard 90.1-2019 	<u>Start date:</u> TBD depending on further planning <u>End date:</u> September 2029
	Improving Energy Efficiency or Water Efficiency, or Climate Resilience of Affordable Housing	\$1 billion	Loans and grants to fund projects targeting affordable housing for building electrification, energy efficiency improvements, enhance indoor air quality and the implementation of low-emission building materials.	<u>Start date:</u> TBD depending on further planning <u>End date:</u> September 2028
	State-Based Home Energy Efficiency Contractor Training Grants	\$200 million	Grants to states to develop and implement programs to train and educate contractors on installation of home energy efficiency and electrification improvements.	<u>Start date:</u> TBD depending on further planning <u>End date:</u> September 2031
	Low-Embodied Carbon Labeling for Construction Materials	\$100 million	Funding to the Environmental Protection Agency (EPA) to identify and label construction materials and products with low levels of embodied greenhouse gas emissions associated with production, use, and disposal.	<u>Start date:</u> TBD depending on further planning <u>End date:</u> September 2026
	Environmental Product Declaration Assistance	\$250 million	Support for the development and standardization of environmental product declaration for construction materials and products.	<u>Start date:</u> TBD depending on further planning <u>End date:</u> September 2031
OTHER FUNDING In addition to provisions that specifically target buildings, some IRA provisions are flexible and can be used for building decarbonization.	GHG Reduction Fund (also known as Green Bank)	\$27 billion	Funding to the Environmental Protection Agency (EPA) to establish the Greenhouse Gas Reduction Fund <ul style="list-style-type: none"> \$7 billion to make grants for zero-emissions technologies deployment \$20 billion to make grants for projects that reduce greenhouse gas emissions, of which \$8 billion or 40% of benefits must be flow to low-income and disadvantaged communities. 	<u>Start date:</u> February 2023 <u>End date:</u> September 2024
	Climate Pollution Reduction Grants	\$5 billion	Competitive grants for states, cities, or tribes to implement GHG air pollution reduction plans. It must consider low-income and disadvantaged communities' environmental impacts.	<u>Start date:</u> May 2023 <u>End date:</u> September 2031
	Environmental and Climate Justice Block Grants	\$3 billion	Support for disadvantaged communities in reducing greenhouse gas emissions, mitigating risks from extreme heat, improving climate resiliency, and reducing indoor air pollution.	<u>Start date:</u> February 2023 <u>End date:</u> September 2026



ALL IN ON BUILDINGS

MAKING THE MOST OF THE INFLATION REDUCTION ACT (IRA)

CULTURAL INSTITUTIONS

INVEST IN EFFICIENT, ALL-ELECTRIC SYSTEMS + EDUCATE THE COMMUNITY ON CONSUMER INCENTIVES + CLIMATE ACTIONS

HIGHER EDUCATION

TRAIN THE ENERGY TRANSITION WORKFORCE + USE IRA INCENTIVES TO ELECTRIFY CAMPUSES + GO SOLAR

RESIDENTIAL BUILDINGS

IMPROVE ENERGY EFFICIENCY + ELECTRIFY YOUR RESIDENCE WITH IRA PROVISIONS



STATES, CITIES + TRIBES

DESIGN IRA PROGRAMS THAT BUILD ELECTRIC, EFFICIENT BUILDINGS AND PRIORITIZE LOW-INCOME COMMUNITIES

BUSINESSES

USE IRA REBATES AND TAX CREDITS TO ELECTRIFY BUILDINGS AND INCREASE ON-SITE RENEWABLE GENERATION

HEALTHCARE

ELECTRIFY THERMAL LOAD SYSTEMS + BACK-UP GENERATORS (WHILE PROTECTING PATIENT SAFETY)

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HOW THE AMERICA IS ALL IN COALITION CAN ACT

The *America is All In* coalition is made up of many non-federal organizations, from state and local governments to businesses and universities, each with their own unique roles in society. Most members are also either an owner or a tenant of a building. With the injection of new incentives from the Inflation Reduction Act, there is something for every stakeholder group in the *All In* coalition. This section describes the important role of state, tribal, and local governments and lists the different programs non-government stakeholders can take advantage of.



OPPORTUNITIES FOR NON-FEDERAL GOVERNMENTS

State, tribal, and local governments have a critical role to play in implementing the building provisions in the IRA.



PROGRAM DESIGN

State and tribal energy offices have the discretion to design key rebate programs (HEEHRA and HOMES) and can choose to favor all-electric solutions over gas to ensure consumers get the maximum emission reductions and economic benefits. Energy offices can also design programs to complement state and local incentives like utility incentives.

States will also be eligible for grants that they can use to support communities in making clean energy building investments (see previous section for more detail).



EDUCATION

Most of the IRA's value depends on consumers and organizations taking advantage of the provisions. State, tribal, and local governments can educate the public about the opportunities, so that consumers take advantage of IRA incentives.



CONTRACTOR ENGAGEMENT

With the help of a \$200 million contractor training program through IRA, local governments can ensure that contractors receive the proper training and knowledge to make clean energy building installations and educate their customers about efficiency or electrification opportunities.



LEAD BY EXAMPLE

Governments themselves can benefit from the IRA by investing in efficiency, electrification, and renewable energy in their own buildings with provisions like the Energy Efficient Commercial Buildings Tax Deduction (179D).

HOW NON-GOVERNMENT ACTORS CAN ACT

There is something for everyone in the Inflation Reduction Act. Non-government members of *America Is All In* can take advantage of programs that make clean, healthy buildings more affordable upfront and over time.

IRA PROGRAMS

	Sector-specific action	High Efficiency Electric Home Rebate Act (HEEHRA)	Home Energy Performance-Base, Whole-House Rebate program (HOMES)	New Energy Efficient Home Credit (45L)	Energy Efficient Home Improvement Credit (25C)	Energy Efficient Commercial Buildings Deduction (179D)	Energy Credit (48)	Residential Clean Energy Credit (25D)	Low-Embodied Carbon Labeling for Construction Materials	Environmental Production Declaration Assistance	Environmental and Climate Justice Block Grants
Businesses 	Businesses can benchmark their energy use and emissions and use the IRA and local incentives to invest in building electrification. This may lower their operating costs, lead to stabilized electricity prices, improve their ESG (Environmental, Social and Governance) performance and prepare for future regulatory efficiency standards.					✓	✓		✓	✓	✓
Healthcare 	Healthcare facilities should use IRA provisions to electrify systems with appliances such as heat pumps and implement microgrids for on-site energy generation with battery systems to improve power availability and reliability.					✓	✓				
Cultural Institutions 	Efficiency upgrades in cultural institutions can reduce energy costs, which often come second only to salaries and wages. Sustainability investments in public spaces and cultural centers can showcase the opportunity for others to act.					✓	✓				
Civil Society 	Civil society organizations, including faith-based groups and citizen organizations, have significant influence over local political reform and other local housing and real estate developments. Consumers stand to benefit the most from IRA provisions with numerous opportunities to make the American home all-electric and more efficient.	✓	✓	✓	✓			✓			✓
Higher Education 	As academic and cultural stewards in their respective communities, universities can not only electrify their own buildings but also enable other sectors' progress by training the future clean energy workforce and equipping them with intellectual and technical expertise.					✓	✓				

BUILDING ON THE INFLATION REDUCTION ACT

The IRA is set to accelerate decarbonization in buildings by making electrification cheaper for consumers and businesses. Still, there is more work to do. Even if IRA's full potential is unlocked, the U.S. still has a gap in meeting its emissions reduction goal of 50 percent by 2030 from 2005 levels. States, tribes, and cities should lead the action to build on the IRA and drive ambitious initiatives that are supported by the new incentives available.



ACTION

Implement **net-zero building codes** to require that new buildings are built with robust insulation, all-electric appliances, low embodied carbon materials, on-site solar power generation, and EV-readiness.

Institute **building performance standards (BPS)** that require existing building owners to meet performance targets by actively improving their buildings over time.

Implement **appliance emission standards** to limit hazardous air pollution like nitrogen oxide (NOx) from appliances such as stoves, furnaces, and water heaters.

RESOURCES

Take advantage of federal funding to develop and implement net-zero building codes:

- The IRA program “Assistance for Latest and Zero Building Energy Code Adoption” provides state and local governments financial incentives to change building codes through state energy plans.
- IIJA provides \$225 million in grants to states and their partners for Cost-Effective Codes Implementation for Efficiency and Resilience, as well as innovative complementary policy.

- The [National Building Performance Standards Coalition](#) led by DOE and EPA is a nationwide group of state and local governments that have committed to design and implement building performance policies and programs.

- Air agencies have the authority to set zero-emissions standards for new appliances in buildings.
- This [RMI guide](#) provides insights and recommendations for how air agencies can design standards to require zero-emissions appliances and secure an inclusive and affordable transition for LMI communities.

STAY ENGAGED

MAKING THE MOST OF THE INFLATION REDUCTION ACT will involve all levels of society taking action. Governments can design programs to focus on electrification and lead awareness campaigns to ensure businesses and households, especially in LMI households, are aware of the opportunities. Non-government stakeholders can join in building awareness; greenlight investments of their own with support from the IRA, and advocate for governments to build on the foundation of IRA with more ambitious policy.

America is All In is a unique community of all levels of society working together to take action on climate.

STAY CONNECTED WITH *AMERICA IS ALL IN* FOR ADDITIONAL RESOURCES AND TO LEARN MORE ABOUT BUILDING DECARBONIZATION OPPORTUNITIES BY JOINING OUR NEWSLETTER [HERE](#).

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Tribal Nations:

[National Congress of American Indians](#)

Cities:

[Climate Mayors](#)

[Mississippi River Cities and Towns Initiative](#)

Investors and Large Businesses:

[Ceres](#)

Large and Small Businesses:

[We Mean Business](#)

Small Businesses:

[Climate Collaborative](#)

Colleges and Universities:

[Second Nature](#)

Health Care Organizations:

[Health Care Without Harm](#)

Cultural Institutions:

[Environment and Cultural Partners](#)

Religious Institutions:

[National Religious Partnership for the Environment](#)