

AN *ALL IN* CASE STUDY

The Ohio State University Wexner Medical Center: A Case Study of IRA Funding for Sustainable Design

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Executive Summary

The Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) have created historic opportunities for states, cities, tribes, businesses, healthcare, non-profits, and universities to lower their costs, clean their air, boost local economies, and increase resilience while advancing decarbonization goals. With billions in funding for climate and clean energy investments available in the form of tax credits, competitive grants and formula funding, how these actors take advantage of this funding will determine how successfully the legislation delivers climate benefits.

Many in the U.S. healthcare system are working to improve the environmental sustainability of their facilities and operations. The financial incentives provided by IIJA and IRA can help support healthcare systems looking to build and retrofit facilities to be more efficient and rely on renewable sources of energy that can reduce local pollution and greenhouse gas emissions.

America Is All In worked with The Ohio State University Wexner Medical Center to evaluate federal incentives for sustainability features in a new outpatient clinic. This evaluation helped Ohio State adjust the design to include a heat recovery chiller, EV charging in the parking lot, and solar-ready roof design, and has yielded valuable lessons in how healthcare systems and others can best leverage the incentives in IRA to improve their sustainability. A key takeaway from this process is the importance of taking a holistic and early review of the project for funding opportunities so that sustainability can be maximized by incorporating it into the budget and design from the start.

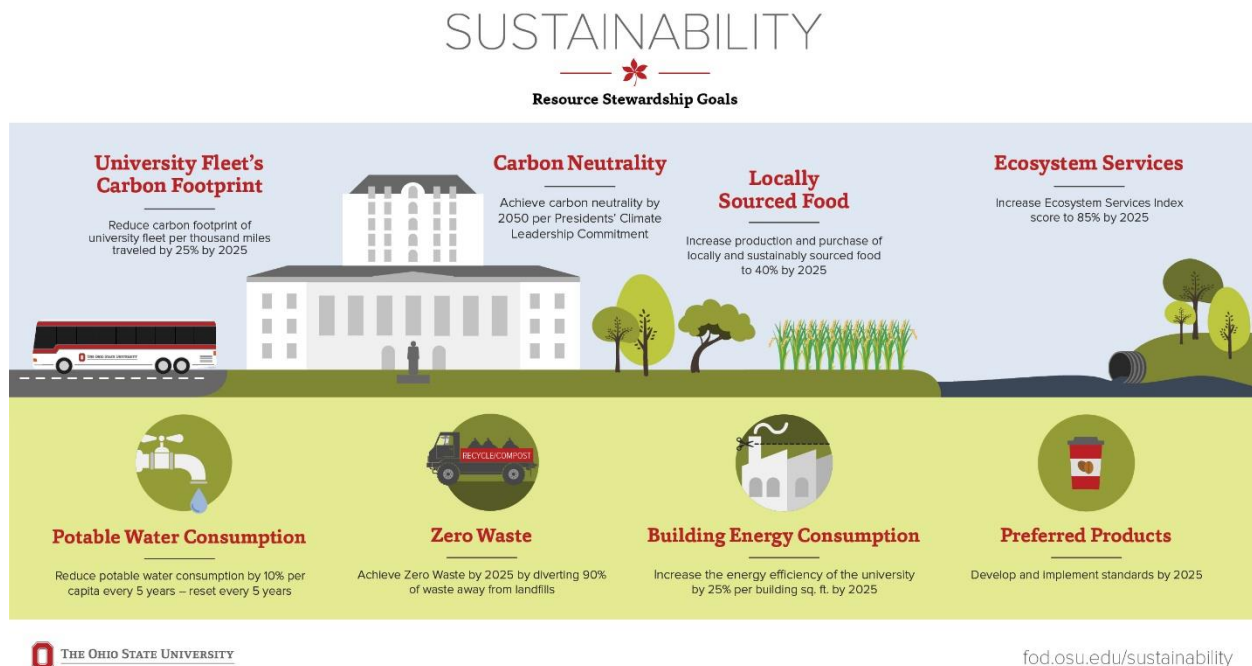
The cost-savings analysis and Ohio State's insights on the design process are offered here as an example of how other actors can leverage federal funding to advance sustainability goals.

Introduction

Healthcare institutions and universities have key roles to play in advancing climate action. Healthcare has a unique vantage point as it is a sector both with healing in its mission and directly impacted by the health impacts of climate change on its patient population. The impacts of extreme weather on healthcare facilities and the supporting public infrastructure can have devastating effects on community health in the short and long term. Further, [healthcare systems](#) are responsible for 4-5% of greenhouse gas emissions worldwide, and in the United States, it's projected to be between 8-10% of national emissions, which means healthcare providers are contributing to the very diseases they are trying to treat. Hospitals and universities both anchor local economies, procure and build in large quantities, and serve as community centers and points of resiliency in times of disaster. As civic actors, they are visible stewards of community health, knowledge, and values. The work of the *America Is All In* coalition and its research demonstrate the impact they can have by acting collectively to achieve the Paris Agreement target of keeping warming below 1.5 degrees Celsius and avoiding catastrophic climate change.

Founded as a federal land-grant institution in 1870, The Ohio State University (OSU) serves over 60,000 students from its main campus in Columbus, Ohio. In 2015 The Ohio State University adopted [eight sustainability goals](#).

The Ohio State University Sustainability Goals



The Ohio State University Wexner Medical Center is the medical school, research center, and patient care provider for Ohio State. The medical center manages over 100 buildings and operates five outpatient clinics in Columbus and two in its suburbs. Ohio State is planning a third suburban outpatient facility in Powell, Ohio to meet the growing needs of the patient population. As the work on design of the new medical center progressed in the summer of 2023, Health Care Without Harm, a coalition partner of [America Is All In](#), connected Ohio State to other *America Is All In* partners to review how to make use of funds available under the Inflation Reduction Act to help finance sustainability features being considered for the facility.

The IRA includes many provisions that could benefit Ohio State, ranging from the [Investment Tax Credit \(ITC\)](#) and [Production Tax Credit \(PTC\)](#) for renewable energy to [tax credits for fueling infrastructure](#) for alternative fuels to [tax deductions for energy efficiency improvements](#). The IRA [increases the value of tax credits for projects in certain locations](#) such as energy communities, brownfield communities, low-income communities (for the ITC only), and Indian lands (as defined under the Energy Policy Act of 1992).

The IRA also included [provisions that allow tax-exempt entities](#) like Ohio State to benefit from the tax credits and deductions available under the law. Elective (or direct) pay for certain tax credits will allow tax-exempt entities to convert non-refundable income tax credits into direct payment despite not having any federal tax liability. Direct pay will allow Ohio State to access tax credits for clean energy technologies that include solar, wind, combined heat and power, and others.

The IRA also allows the transfer of some tax deductions to the designer of or construction firm for an energy efficient commercial building, which could result in some, or all, of the tax deduction savings getting passed to the building owner. This deduction can help lower the cost of implementing sustainable and energy-efficient infrastructure.

America Is All In, Health Care Without Harm, and Ohio State worked together to evaluate how IRA provisions could help finance clean energy and energy efficiency upgrades to the Ohio State Outpatient Care Powell project. *America Is All In* has previously explored the [opportunities to decarbonize buildings](#) and the [benefits](#) of doing so.

Case Study: Ohio State Outpatient Care Powell

The Ohio State University Wexner Medical Center is developing a new outpatient clinic that will consist of a medical office building and ambulatory health center in Powell, Ohio. The OSU Board of Trustees approved design and preconstruction work for the clinic in May 2022, and the clinic is expected to open its doors in 2026.

After the passage of the Inflation Reduction Act in 2022, Health Care Without Harm connected Ohio State with its *America Is All In* partners RMI and World Resources Institute to identify potential federal funding for design features that were under consideration for the clinic. Staff from Ohio State and *America Is All In* worked together in the summer of 2023 to evaluate potential ITC or PTC credits for four potential sustainability measures: either a full or partial geothermal well field and heat recovery chiller (the full version offering greater benefits at a higher upfront cost), solar panels on the roof of the ambulatory health clinic, and solar panels as parking canopies. The team also considered possible applicability of the commercial buildings energy efficiency deduction to the project and the alternative fuel infrastructure tax credit.

Project Evaluation

Investment Tax Credit (ITC) and the Production Tax Credit (PTC)

The ITC provides a guaranteed financial benefit by granting a one-time credit based on the full eligible cost basis of a clean energy project. The PTC provides a credit to clean energy project owners based on the rate of production of clean energy throughout a 10-year period. Project owners cannot claim both the ITC and the PTC for the same property. A key consideration in choosing between the two is the timing of the benefits. While the ITC provides an immediate benefit, the PTC is distributed over a period of 10 years. Consequently, projects seeking immediate financial relief would find the ITC more advantageous due to its upfront nature, helping to offset initial capital and financing costs. The ITC appears to be the better option for this project and was the focus of this evaluation. As part of the [recent modifications](#) under the Inflation Reduction Act, the ITC now starts at a base rate credit equivalent to 6% of eligible project expenses, increasing to 30% for projects below 1 MW or that meet [prevailing wage and apprenticeship requirements](#). The direct pay provision in the IRA for the ITC means that Ohio State could receive payment for this credit despite being tax exempt.

The prevailing wage requirement is that all laborers and mechanics are paid the same or greater wage and benefits as others in their specific worker classification in the location where the project is located. The apprenticeship requirement mandates that 12.5% of total labor hours on the project (rising to 15% by 2024) be performed by apprentices registered in U.S. Department of Labor certified programs or that good faith effort be made to meet that threshold.

Because the two solar projects combined are less than 1 MW, they qualify for the 30% credit. However, if the geothermal project is greater than 1 MW, it would need to meet those requirements to receive the 30% credit; otherwise it would get the 6% base rate credit.

Projects receive a 10% tax credit bonus if they meet domestic content requirements, which call for U.S. production of 100% of the project's steel or iron and 40%, 45%, 50%, or 55% of the project's manufactured components for projects put in service before 2025, in 2025, in 2026, or after 2026, respectively. In addition, as a tax-exempt entity, Ohio State must meet the domestic content requirement to receive the full ITC credit via direct pay. Projects seeking direct pay that do not meet the domestic content requirement will receive 90% of the credit if started in 2024, 85% of the credit if started in 2025, and 0% of the credit if started after 2025.

While the ITC also includes enhanced credits for projects located in energy communities, brownfield communities, low-income communities, and Indian lands, the planned medical center is not located in an area that would qualify for these enhancements.

Estimated Savings by Sustainability Measure

	Geothermal Well Field and Heat Recovery Chiller		Solar – Ambulatory Health Center Roof	Solar - Parking Canopies
	Full	Partial		
Upfront cost	\$ 21,989,350	\$ 11,448,180	\$ 1,967,690	\$ 3,982,410
Direct pay as a percentage of total investment	40%	40%	40%	40%
Amount of direct pay from ITC	\$ 8,795,740	\$ 4,579,272	\$ 787,076	\$ 1,592,964

Note: These estimates assume the project meets the domestic content requirements and either are less than 1 MW or meet the prevailing wage and apprenticeship requirements, but do not qualify for any of the geographically based enhancements.

Commercial Energy Efficiency Buildings Deduction

Under the IRA, the Section 179D tax deduction for commercial energy efficient buildings is based on the degree to which the building exceeds ASHRAE building efficiency standards and whether the project qualifies for the prevailing wage and apprenticeship requirements. To qualify for the deduction, a building's energy efficiency must exceed the applicable baseline by 25%, and the deduction increases until a building is 50% more efficient.

Amount of Commercial Energy Efficiency Building Tax Deduction per Square Foot

Energy savings relative to baseline standard *	Prevailing wage and apprenticeship requirements	
	Projects not meeting requirements	Projects meeting requirements
25% reduction	\$0.50/sf	\$2.50/sf
For each additional percentage of reduction	\$0.02/sf	\$0.10/sf
50% and above	\$1.00/sf	\$5.00/sf

* For buildings placed in service before 2027, ASHRAE Standard 90.1- 2007 is the applicable standard. For buildings placed in service after that, the standard is ASHRAE Standard 90.1-2019.

The project will earn the commercial building energy efficiency tax deduction, which can be allocated to the project designer or construction firm, if the design meets at least a 25% reduction in building energy usage over the baseline code. The value of the deduction will need to be determined based on energy modeling for the final design, but the range of possible values, assuming the project meets the prevailing wage and apprentice requirements is shown in the table below. Ohio State can negotiate with the project designer or construction firm to share the cost savings from this deduction.

Potential Amount of Commercial Building Energy Efficiency Tax Deduction for Powell Medical Center

	Ambulatory Health Center (56,000 sf)		Medical Office Building (151,530 sf)	
Assumed percentage reduction in building energy usage compared to standard	25%	50%	25%	50%
Total tax deductions per square foot	\$2.50	\$5.00	\$2.50	\$5.00
Amount of tax deduction (based on assumed energy use reduction)	\$140,000	\$280,000	\$378,825	\$757,650

Note: These estimates assume the project meets the prevailing wage and apprenticeship requirements. Reduction in building energy usage will be evaluated based on final building design.

Project Outcomes

This evaluation identified significant potential tax deductions based on the project's expected energy efficiency and potential credits from the ITC. However, because the evaluation took place relatively late in the design process, Ohio State had limited ability to take advantage of these opportunities.

Given its energy efficient design, Ohio State anticipates that the project will qualify for the commercial energy efficient building tax deduction. The size of the deduction will be determined by energy modeling of the final project design. A heat recovery chiller, which is expected to decrease natural gas use in the ambulatory health center by 30%, was added to the project, and Ohio State is exploring a cost-savings sharing agreement with the project construction firm to help offset this additional cost.

The possible addition of geothermal energy, rooftop solar or a solar parking canopy would have provided significant tax credits under the ITC, but the budget and design process was too far along to

incorporate these features. However, the design now incorporates conduits for rooftop solar to allow addition of solar panels that could qualify for the ITC in the future.

Though federal guidance for the Alternative Fuel Infrastructure Tax Credit has not yet been finalized, the project includes six parking spaces with EV charging infrastructure installed and an additional 35 spaces to be EV-ready.

The analysis highlighted the potential benefits of including geothermal technologies in future projects and the necessity of including sustainability considerations in initial project budgeting conversations. Ohio State also used the Outpatient Care Powell project as a pilot for calculating the embodied carbon in building materials to help shift material selection toward lower carbon options in future projects.

Lessons Learned

This case study provides insight into the ability of developers to tap into IRA funding for improving the sustainability of their projects. While not a complete view of potential IRA funding, it shows the importance of evaluating IRA and other funding opportunities early in the planning process. The case study highlights insights applicable to other projects at Ohio State, as well as to states, cities, tribes, businesses, healthcare and other non-profits across the nation seeking to take advantage of the billions of federal dollars available to help meet climate and sustainability goals. Below are some of the key takeaways.

Start Early and Include a Buffer

Sustainability considerations impact the financial bottom line, and taking them into consideration at early stages — whether identifying real estate in a neighborhood that is eligible for location-specific tax bonuses or selecting a site with good solar exposure — can have significant payoffs as the design process plays out. Convening the sustainability charette early in the process, and including stakeholders from key groups like Real Estate, Finance, Design, and Construction can help projects plan in ways that access more federal funding. Even absent this, setting aside a pool of funding in the initial budgeting process to allocate to sustainability improvements as building design is finalized can help enable cost-saving and climate-friendly investments while avoiding the need to revisit prior approvals.

Identify a Champion

Institutions often have overarching sustainability goals or targets, and identifying high-level champions who help link project-specific decisions to those targets can help secure approval for key project outcomes. Individuals responsible for meeting sustainability targets or for identifying cost-savings and finding efficiencies can help make the case for up-front investments that will pay off over the life of the project. Achieving net-zero by 2050 means no vehicle, building, or institution can be left behind, and decade-long IRA tax credits offer a window to accelerate progress.

Long-term and Holistic Appraisals Better Reflect Investment Value

This process has started a more comprehensive review of the IRA's financial opportunities and how they can accelerate progress toward Ohio State's energy efficiency and carbon neutral goals. The advantages

of the IRA need to be looked at holistically across energy reduction strategies, master planning, deferred maintenance, and new building design. This should include consideration of the savings incurred over the lifetime of the investment, and the avoided costs of retrofits that would be necessary to meet net zero targets absent present day action. While this *America Is All In* analysis looked only at up-front cost-savings from available tax credits, a more comprehensive analysis would include consideration of energy efficiency savings from the shift to energy efficient and low-carbon technology offerings. While such a detailed analysis of building energy use patterns and existing service contracts was beyond the scope of this case study, it could highlight risk mitigation opportunities and make a case for the return on investment of ambitious climate action.

Conclusion

States, cities, tribes, businesses, universities, healthcare and other non-profits can realize significant savings by leveraging IRA incentives to advance sustainable investments. Maximizing IRA uptake within an institution will require coordination across multiple levels and consideration in advance of specific project requests. Far from being an afterthought, sustainability considerations can unlock tens of thousands in up-front and operational savings.