

THE OBERLIN PROJECT

A CLINTON CLIMATE INITIATIVE CLIMATE POSITIVE PROJECT



Photovoltaics



Downtown Oberlin



Oberlin College Campus



A.J. Lewis Center

**A Collaborative Venture Among
Oberlin College, the City of Oberlin,
Oberlin City Schools and Private Sector
Organizations to Build a Prosperous
Post-Fossil Fuel Based Economy.**

Contact:

David W. Orr, Paul Sears Distinguished Professor of Environmental Studies and
Special Assistant to the President, Oberlin College
david.orr@oberlin.edu 440-935-0294 or 440-775-8400

EXECUTIVE SUMMARY

Converging crises of climate destabilization, environmental deterioration, rising inequity, and economic turmoil call for extraordinary responses by organizations and institutions at all levels. For its part, Oberlin College has launched a project that joins the many strands of sustainability including urban revitalization, green development, advanced energy technology, sustainable agriculture and forestry, green jobs, and education, into an integrated response. We have three goals:

- Development of a 13-acre block as a platinum-rated arts district and regional economic and educational catalyst;
- Transition rapidly to a carbon-free energy system including both college and city; and
- Establish a 20,000 acre greenbelt for agriculture, forestry, biofuels, and carbon sequestration.

We expect four outcomes:

- Creation of a prosperous post-fossil fuel economy in the heart of the U.S. rust-belt;
- Establishment of an educational consortium including a two-year college, a vocational school, the local school system, and Oberlin College that prepares all of its young people for good work in a green economy;
- A long-term ‘conversation’ between a vibrant arts community and the sciences around the many issues of sustainability; and
- A successful model of sustainable development widely emulated throughout the U.S. and beyond.

*“thrilling, bold, imaginative,
and compelling...potentially
an international model”*

*Judith Rodin, President
Rockefeller Foundation*

“Oberlin College and the city of Oberlin have long shown real leadership in driving innovation... This project has the potential to drive real change in the way our communities are planned, designed and built – and, ultimately, the way we expect our communities to sustain the health of our environment, our economy and our populations.”

*Rick Fedrizzi Scott Horst
President, CEO and Senior V.P.
Founding Chair USGBC
USGBC*

The heart of the project is the redevelopment of a 13-acre block designed to catalyze the renewal of its downtown and initiate a process leading to a prosperous post-fossil fuel powered economy, while improving its facilities and continuing one of the most important educational experiments in the United States. The investment in construction, renovation, and energy technology is intended to stimulate the expansion of existing businesses and create new enterprises that meet emerging demands for energy services, solar technologies, green products, and locally grown foods and forest products. The collaboration, now underway between the college and city, can be a model for politics and planning in other communities. We intend to use this project to (a) shift electrical use from coal to efficiency and

renewable sources; (b) minimize auto-dependence; (c) catalyze sustainable land-use patterns in the surrounding area; (d) equip high school, vocational, and college students with the analytical skills, technical know-how, and vision necessary to become leaders in the transition to a prosperous and sustainable future; and (e) contribute to a deeper national dialogue about the challenges and opportunities of actually creating a sustainable world, one city and region at a time.

BACKGROUND

Oberlin College is widely known for its academic and artistic excellence and for its historic leadership in educational access. In the nineteenth century, Oberlin was America's first coeducational college (1833) and the first U.S. college to make the education of African American and white students together central to its mission (1835). In the twentieth century, it similarly led on a variety of progressive causes and emerged as one of America's most distinctive and distinguished liberal arts colleges. In the late 1990s, it constructed the first substantially green, entirely solar powered, zero-discharge building on a U.S. college campus (the Adam Joseph Lewis Center). Other LEED projects are currently underway, including the highest LEED-rated Jazz studies and performance center in the world. In 2004, the Trustees adopted what is still the most comprehensive environmental policy in higher education. In the same year the college also initiated development of a campus resource monitoring system (the first of its kind technology) that provides students with real-time feedback on their electricity and water use in dormitories to engage, educate, and empower them to conserve resources. In 2006, the college became a charter signatory to the American College and University Presidents' Climate Commitment. Oberlin now seeks to launch the most ambitious green development and education project yet proposed by any comparable institution of higher education—one that coincides with major economic and environmental initiatives at federal and state levels. In brief, we propose a five- to seven-year effort to improve college and city facilities in a way that revitalizes the downtown economy and catalyzes the emergence of a prosperous post-fossil fuel based economy in the Northeast Ohio region. The college will work at multiple levels and in various ways with city and county governments, the municipal utility, the Oberlin public schools, the county vocational school, Lorain County Community College, civic organizations, and other educational and arts organizations to rebuild substantial parts of the downtown beginning with the redevelopment of thirteen acres in the city center. Our goals are to build a prosperous and sustainable economy based on efficiency and renewable energy while creating a practical educational experience for high school, vocational, and college students.

“an extraordinary project that will transform a community and show America how to create a prosperous, creative, and sustainable world... visionary, revolutionary, and certainly necessary”

*Sherrod Brown,
U.S. Senate*

LOCATION



Oberlin College is located in a city which is a microcosm of much of the mid-West. Its challenges are similar to, if somewhat less extreme than, those of nearby large cities like Cleveland and Detroit. Its energy comes mostly from coal mined in southern Ohio. It is part of the “rust-belt” region that has been losing jobs and residents for decades. In the past year, the economic, housing, and banking crises hit the region particularly hard and the prospects for early recovery are not good. At the national level we face perhaps the most daunting agenda in our nation's history. The present economic deficits are the largest ever in the midst of the most difficult economic challenges since the Great Depression. The federal government cannot solve these problems alone. It is a time for leadership and new ideas at the state and local level as well. Colleges and universities have a

particularly important role to play in this transitional time by providing vision, leadership, new investment, purchasing power, and by harnessing the energies and creative talents of the rising generation, to create the foundation for a new, post-carbon economy. They can set a powerful example of imaginative, committed, and cooperative leadership for others in the region and nation to follow. To maximize the project's quality and impact we will draw on an advisory committee that includes some of the nation's leading sustainability experts from architecture, urban design, renewable energy, and economic planning.

THE PROPOSAL

The project has three major components.

1. Oberlin College will develop a 13-acre downtown block that includes the Allen Memorial Art Museum (designed by Cass Gilbert and housing one of the finest college or university art collections in the U.S.), a performance facility (Hall Auditorium), and the Oberlin Inn. Both the Allen and Hall Auditorium will be substantially renovated and upgraded to LEED Silver or Gold standards. The Oberlin Inn will be replaced by a platinum-rated, four-star hotel with a restaurant featuring organically grown, local foods. The remaining nine acres will include new facilities for student housing, a small conference center, office and retail space for local businesses, a black box theater, a center for ecological design, and an on-site waste-water-processing system similar to the Living Machine of the Adam Joseph Lewis Center on a larger scale. The block will be powered by renewable energy sources, discharge no waste product, and meet or exceed the highest standards for both building and neighborhood design proposed by the U.S. Green Building Council (USGBC), the American Institute of Architects, and the “2030 Challenge” proposed by architect Ed Mazria. One of the most interesting outcomes of this part of the project will be at the intersection of the arts and music with the global issues of sustainability.



Allen Memorial Art Museum



Oberlin Inn



A. J. Lewis Center

The Green Arts District is intended to be a major driver in the development of a post-carbon economy as well as an example of advanced ecological design at the neighborhood scale. The Green Arts District will build on the example set by the creation of the Adam Joseph Lewis Center in the late 1990s in which 250 Oberlin College students participated in the design. Hundreds since have used the building as a laboratory for research and study of the major issues of sustainability pertaining to water purification, solar energy technologies, architectural design, landscape management, horticulture, and energy monitoring. The Lewis Center serves as an integral part of the curriculum and research, not merely a facility where teaching occurs. Each year, dozens of students work in the Living Machine that

purifies waste water, monitor and analyze data on the performance of the building’s systems, and maintain the surrounding landscape. Significantly, students who have worked on the Lewis Center have gone on to launch successful businesses in development, building monitoring technology, bio-fuels, food service, and agriculture.

The project will build on and expand this tradition, educating and preparing hundreds of future students to become agents of positive change. Accordingly, the project is an unprecedented opportunity to engage Oberlin College students as well as those from local public schools, the nearby Joint Vocational School, and Lorain County Community College in acquiring the skills, aptitudes, and analytical abilities essential to emerging professions in solar technologies, energy services, urban planning, and ecological design.

“The Oberlin School District is committed to a strong partnership with the development initiative.”

*Geoffrey Andrews
Superintendent
Oberlin Public Schools*

The Green Arts Block will be developed in four phases over the next five to seven years:

- a. In the first phase, substantial improvements will be made to the Allen Memorial Art Museum and to the performing arts facility, Hall Auditorium, both at the USGBC Silver or Gold level. In addition we propose the construction of a new four-star hotel and restaurant at the Platinum level.

“an economic force that will help the entire community prosper...I am committed to this partnership with Oberlin College...”

*Eric Norenberg
Oberlin City Manager*

- b. In the second phase, we propose the design and construction of additional student housing, a black box theater, and space for local businesses designed to LEED Platinum standards.
- c. In the third phase, we propose the design and construction of a conference center and environmental facilities for wastewater treatment and solar technologies that will serve the entire block.
- d. In the final phase, we propose to build an ecological design center serving both as an educational facility for Oberlin students and as a research and catalytic facility to advance the practice of ecological design in rust belt cities.

2. The second component of the project aims to make the college and city carbon neutral.

The keystone of the project will be the transition from our present heavy dependence on coal to utilization of landfill gas in a cogeneration facility to supply heat for the college and 15 to 25 megawatts of electrical power which is roughly the range of our combined town and college base-load and summertime peak. On completion, both the city and college electrical system would be “carbon-neutral” for 30 to 40 years. Further, in collaboration with the city-owned utility and Sunwheel, Inc. we seek funding for a city-wide solar program to install up to 12 MW of photovoltaic (solar) power. Third, in collaboration with Oberlin Municipal Light and Power System and a private company, we intend to establish a thorough demand-side management effort to promote continuous improvements in energy efficiency throughout the OMPLS service area. Finally, in collaboration with Lucid Design, Inc. (a company begun by Oberlin students and presently based in San Francisco) we will deploy real-time feedback technology for residents and large users of electricity.

3. The third component of the project, in partnership with Lorain County Metro Parks, the Western Reserve Land Conservancy, private landowners, and state and federal agencies, is a greenbelt of up to 20,000 acres for agriculture, forestry, biofuels, and carbon sequestration. Using the purchase of development rights, easements, land-trusts, cooperative agreements, and land acquisition we propose to re-direct the surrounding region from declining farms and suburban sprawl to profitable agricultural and forestry production serving the Oberlin market and downtown restaurants including those in a new hotel and conference center. Moreover, as a national climate policy is established, carbon sequestration will become a profitable part of land management in regional economies. Accordingly, we propose to encourage efforts to reforest substantial parts of the greenbelt in order to sequester carbon and provide the basis for wood products businesses that meet much of the local demand for materials and crafts as presently profitably done at Berea College in Kentucky. The final result would be a permanent zone dedicated to:

- local food production and reestablishment of profitable farms serving local needs;
- forestry as a basis for a local timber and craft business, similar to that, say, at Berea College;
- carbon sequestration as a part of a national climate policy;
- biomass production for both liquid fuels and chipped woody materials for combustion; and
- improved esthetics and property values.

“The scope and panache of the Oberlin project take my breath away.”

*Dr. David Shi, President
Furman University*

OUTCOMES

The three elements described above are parts of an integrated package requiring substantial cooperation among the college, city government, the municipally owned utility, Lorain County Community College, the public schools, the Joint Vocational School, and civic and arts organizations, as well as county, state, and federal governments. The outcomes will include:

- a. markedly improved educational facilities serving both the college and the city in ways that enhance value as a local, regional, and national model of sustainable development;
- b. the development of a “green arts district” that creatively joins a vibrant arts community with the larger national and international conversation about sustainability;
- c. secure electrical energy for the city from renewable sources at stable and affordable long-term rates;
- d. elimination of carbon emissions;
- e. creation of substantial numbers of green jobs in the energy sector as well as food, forestry, crafts, and subsidiary areas;
- f. creation of new businesses serving needs for energy services, deployment of solar technology, new sales in crafts, food, and hotel and conference center staffing while retaining dollars in the local economy;
- g. a restored and vital downtown with thriving shops, restaurants, and businesses as well as a new residential community in downtown apartments and condominiums;
- h. robust economic development throughout the local economy that includes local farmers and landowners;
- i. the first regional model of a prosperous and sustainable carbon-neutral economy formed on and renovation of a large part of the existing downtown as well as a transition to zero-carbon energy sources, the creation of new business, and development of new green jobs in energy Technology, energy services, and sustainable agriculture and forestry;
- j. innovation in educational curricula at the College, the high school, and the Joint Vocational School to equip a new generation with the analytic abilities, skills, and vision necessary to lead in the development of a green economy that creates durable prosperity throughout all levels of the community—replicating the educational experience of the Adam Joseph Lewis Center at a much larger scale;
- k. establishment of an ecological design center that functions as part of the Oberlin curriculum as well as operating as a center to advance the ecological design arts and catalyze practical applications throughout the Detroit-Cleveland-Youngstown region and beyond.



Site Plan for Proposed Green Arts District

“one of the most important leading-edge models of sustainability in the country and will catalyze many more...”

*Kenny Ausubel
Bioneers*

SCHEDULE

The initial design feasibility study by Westlake, Reed & Leskowsky was accepted by the Oberlin Trustees in December of 2008. Bob Berkebile of BNIM Architects is managing the next phase of design work which will be completed in the summer of 2010. Renovation has begun on the Allen Memorial Art Museum. The first phase of the project will require one year for planning and design with construction beginning in 2011. A study of town energy use was completed by Concentric Energy Advisers, a Massachusetts engineering firm, in January of 2008. A specific study of campus energy use was completed by Michael Philips and Energy Ventures International in March of 2009 and another by Tom Kiser and Professional Supply, Inc. Palmer Capital of Boston has studied the possibilities to use landfill gas. The College has also contracted with Professional Supply, Inc., to further investigate the potential to improve energy efficiency.

	2009	2010	2011	2012	2013	2014	2015	2016
Green Arts District								
Phase 1	Feasibility + Planning	Design & Fundraising	Renovation & Construction					
Phase 2			Design	Construction				
Phase 3				Design	Construction			
Phase 4					Design	Construction		
Energy/CO₂								
Engineering	Analysis							
Efficiency	EVI Study	PSI Study	Implementation					
Solar City	Analysis	Funding	Deployment					
Landfill Gas		Engineering	Implementation					
Greenbelt								
Agricultural Lands		Land Study Ownership	Acquisition					
Forest		Study	Acquisition					
Biomass		Study	Acquisition					
CO₂ Sequester		Research Potential	Cooperative Arrangements					

FUNDING

Funding for the first goal of the project, the Green Arts District, will be sought from foundations, private philanthropists, investors, and federal and state programs including various tax credits available for urban development and historic preservation. The second goal will be funded from a combination of federal assistance and private investment in the development of landfill gas. The third goal will be funded from a combination of federal and state programs, private market transactions, and direct acquisition by land trusts and Lorain County Parks.

SUMMARY OF OBERLIN DEVELOPMENT PROJECT: THE POST-CARBON ECONOMY

GOAL 1: Downtown Revitalization		RATIONALE:		
		<ul style="list-style-type: none"> ▪ Upgrade college facilities ▪ Catalyze economic renewal of downtown 		
Goals	Partners	Economy	Education	Funding
Allen Memorial Art Museum & Hall Auditorium Restoration	Oberlin College		Green design, architecture, historic preservation	<ul style="list-style-type: none"> ▪ Philanthropy ▪ Tax credits
Hotel/Conference Center; Office Space For Local Businesses	Oberlin College; private hotel company; investors	Destination hotel coinciding with emergence of greenest small town in the US building on increased attention to sustainability	Classes in ecological design arts; sustainable economic development; urban politics	Private investment + tax credits
Student Housing & Black Box Theater	Oberlin College		Ecological design; Expanded environmental arts programming + “one world living” std	Philanthropy + federal support
Other: Center For Ecological Design & Living Machine	Oberlin College		Ecological engineering, urban planning, economic renewal . . .	Philanthropy + federal support

GOAL 2: Carbon Neutral College and City

RATIONALE:

- Lower cost of energy
- Energy security
- Anticipate federal policy
- Seize technological opportunities, improve reliability and services

Goals	Partners	Economy	Education	Funding
Improve Efficiency DS Management	<ul style="list-style-type: none"> ▪ City of Oberlin ▪ Oberlin Utility ▪ Professional Supply Inc. ▪ Others 	<ul style="list-style-type: none"> ▪ Lower energy costs ▪ Create employment ▪ Business creation 	Green jobs training with partner with Joint Vocational School, Lorain County Community College, and Oberlin High School	En Service Co. Customers
Solar City Initiative	<ul style="list-style-type: none"> ▪ McCormack-Barron, ▪ Sunwheel, Inc. ▪ OMLPS 	<ul style="list-style-type: none"> ▪ Job creation ▪ Business creation ▪ Dependable supply/cost 	Green job skills, JVS and High School	Federal DOE, etc.
Land-Fill Gas	<ul style="list-style-type: none"> ▪ Palmer Capital ▪ OMLPS ▪ Others 	<ul style="list-style-type: none"> ▪ Dependable energy supply ~40 years at affordable cost ▪ Sale of surplus 	<ul style="list-style-type: none"> ▪ Technology –JVS ▪ Economic development-College econ dept. 	Federal/private investment
Biomass	<ul style="list-style-type: none"> ▪ Lorain Co. Metro parks ▪ Firelands land conservancy ▪ Local landowners 	Long-term insurance for local fuel source in a ~5000 acres of managed forest	<ul style="list-style-type: none"> ▪ Forest ecology-Bio dept ▪ Forest management, cutting, milling, drying ▪ Fine woodworking—JVS 	Private investment federal DOE
Liquid Fuels	<ul style="list-style-type: none"> ▪ Full-Circle Fuels 	Energy supply, affordability	Technology development—JVS	Private



GOAL 3: Greenbelt		RATIONALE: ▪ Economic development; local foods economy, long-term energy security, esthetics ▪ climate policy		
Goals	Partners	Economy	Education	Funding
A. Agriculture	<ul style="list-style-type: none"> ▪ New Agrarian Center—Jones Farm; JVS; Extension Service, Ohio State Univ. ▪ Metro parks, Western Reserve Land Conservatory; private landowners 	Local foods economy, jobs in growing, processing, transporting	JVS, High School, College classes/research on methods of sustainable agriculture. Michael Pollan's new food economy	Private investment, local, state, federal support
B. Forestry	Same as above	Wood products economy, crafts, fine woodworking.	Forest ecology, woodlot management, cutting, milling drying lumber, fine woodworking	Same as above
C. Energy-Biomass	Local landowner(s) Preserve ~1000 acres for biomass production for possible fuel source 20-50 years from now	Long-term energy security Future carbon-neutral fuel source. Employment in processing and transporting. Security against higher fuel prices, supply interruptions	Forest ecology; carbon cycle management in biomass and soils	Private investment federal
D. Carbon Sequestration	All of the above	Will be part of federal policy and source of income	Carbon management and accounting	Federal



GOAL 4:	Funding/Financing	RATIONALE:	Create financial mechanisms including lending, investment, and endowment management that catalyze creation of durable value locally, protect natural capital, promote efficiency, and deployment of renewable energy technologies.		
Goals	Partners	Economy	Education	Funding	
Funding and Finance	<ul style="list-style-type: none"> ▪ Local banks, Oberlin College, ▪ Power, investors, local organizations, churches, civic organizations 	Create basis for economic security; economic resilience	Laboratory for sustainable economic development; classes and research on local currencies, micro-lending; use of tax credits, financing.	N/A	

	Phase one	Phase two	Phase three	Phase four	Totals
Design (A & E)	\$5,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$14,000,000
Construction	\$50,000,000	\$25,000,000	\$25,000,000	\$25,000,000	\$125,000,000
Contingency					
Endowment/Other					



