

# NextGeneration

News about Northeast Ohio's Sustainable Economy from The Generation Foundation

## Great Lakes Wind Network Links Suppliers, Turbine Manufacturers

In the midst of a recession, one Cleveland manufacturer is hiring. Swiger Coil Systems – a Cleveland-based manufacturer of wind turbine generators – has added \$1.8 million in capital spending and 79 new employees in the past 18 months, and it expects to hire another 30 people this year. Driving this growth is an explosive demand for wind turbine components. Like many others in Northeast Ohio, the company got its introduction to the wind industry from WIRE-Net's Great Lakes Wind Network (GLWN).

GLWN was launched in early 2007 with an initial grant from The Kent H. Smith Charitable Trust. That support led to more from The Cleveland Foundation, Burton D. Morgan Foundation, The Generation Foundation and others. All saw GLWN building a new industry sector that would stimulate new investment and job growth, while meeting the industry's demand for precision components for North America's growing wind market.

GLWN set out to establish itself as a global expert in wind supply chain development, believing that NEO can become a magnet for the wind industry. In some ways, that's exactly what is happening. The group has gained international recognition for its capacity to assess and connect the world's leading original equipment manufacturers (OEMs) with the region's component manufacturers.

"We are highly focused and have a network with over 600 manufacturers spanning fourteen states and Canada, said. Ed Weston, GLWN Director. "We have built relationships with most European, Asian, and American wind turbine manufacturers (OEM) including Vestas (Denmark), General Electric (US), Suzlon (India), Clipper Windpower (US) and Nordex (GE). Our job is to understand their critical requirements and serve as components head hunters. We save them time by providing pre-qualified supply chain connections."

The Network offers OEMs varying degrees of support, ranging from conducting individual component searches to sourcing entire nacelle (the "golf ball" on the top of the turbine tower, which houses the mechanical and electrical components of the turbine) assemblies. GLWN makes individual company referrals and orchestrates multi-day supply chain events

**"NEO can become a magnet for the wind industry."**

during which GLWN may schedule as many as twenty manufacturers for individual meetings with visiting OEM supply chain managers based on specific criteria.

"To our knowledge, GLWN is unique," Weston says. No other organization combines technical expertise, connections into the world's leading wind turbine OEMs, and access to the hundreds of excellent suppliers throughout America's manufacturing belt to increase the rate of domestic content to North America's wind turbines. We're proud of that."

According to John Colm, WIRE-Net President and Executive



Testing the heart of every wind turbine – like this 125 kilowatt generator manufactured by Cleveland's Swiger Coil Systems, LLC. – are (left to right) John Colm, WIRE-Net CEO; Ed Weston, Great Lakes Wind Network; and Bob Hartman, Swiger Coil Systems, LLC. Vice President.

Director, and the driving force behind this new markets initiative, roughly 500 of Ohio's potential wind energy supply chain firms are located in NEO's 13 counties, with approximately 10% of these located in Cuyahoga County. This new market aligns with NEO's manufacturing base. The region's skilled workforce, strong university-based research community, capacity to produce precision components, and long history in the metals industry combined to give GLWN an auspicious start.

In a \$ 7.8 billion market that the US Department of Energy expects to increase by double digits each year for the next twenty, NEO companies can thrive, Colm believes.

"America could have twice the wind business that we do today if it could expand its domestic wind manufacturing capacity—and that's our goal," Weston said.

Swiger Coil isn't the only company seeing wind as a strong force in their future. Rotek, Inc. recently announced an \$82 million investment at its Aurora, Ohio facility to serve its own expanding large diameter slewing ring production and help meet the growing demands in the United States for seamless rolled rings. The expansion will create 150 new full-time jobs within three years and retain the 215 existing full-time jobs. Kalt Manufacturing in Lorain County announced a \$3.3 million project that will create 22 new jobs and plans to add space and equipment to allow for the growth of its wind business. Cardinal Fastener & Specialty Co., Inc. in Bedford Heights, which in January hosted Barack Obama, has also benefited from growth in this industry. "If anyone doubts that we can dig ourselves out of this hole," the president-elect exclaimed, "I invite them here to look at Cardinal Fastener." The company expects to add 20 new jobs to meet the increasing demand for its fasteners from wind turbine manufacturers. □

# Offshore Wind Project Feasible, Study Concludes

Cleveland may be home to the world's first freshwater wind farm, located a few miles offshore in shallow Lake Erie. A yearlong study, commissioned by Cuyahoga County's Great Lakes Wind Energy Center, concluded that a pilot project with up to eight wind turbines could be successful if approved by regulators and supported by community stakeholders.

The County's vision – to make Cleveland a center for wind turbine innovation, attract new business to the area and create thousands of manufacturing jobs – was enthusiastically received by community leaders at a May 1 press conference.

The study estimates capital costs of a potential Pilot Project between \$77-92 million (depending on turbine size), representing design and construction, associated infrastructure and onshore facilities. The study recommends investigating alternative funding sources, including grants from the Department of Energy, National Renewable Energy Laboratory and Stimulus money.



Mason

"The strategic purpose of this evaluation was to determine a path to reinvigorate our depressed regional economy by building a new industry that can offer the next generation of jobs," said Prosecutor Bill Mason, Chair of the Great Lakes Energy Development Task Force. "I believe Ohio can become a major hub for this emerging wind industry, just as Houston became the center for the offshore oil industry as a result of its pioneering work in the Gulf of Mexico."

Investments associated with a pilot project would help accelerate an offshore wind industry in the Great Lakes, provide solutions to technical challenges, and explore the viability of large-scale wind energy development. With a strong manufacturing base, and many companies already supplying components to the wind industry, Northeast Ohio is primed to become the leader in research, manufacturing and job growth related to wind energy.

**"The report builds a compelling case."**

– Ronn Richard

Cleveland Foundation. "I am confident the future market for wind turbines in the Great Lakes offers great promise for many companies in our region."

A current problem, however, is that electricity from conventional sources costs about 4-6 cents kWh compared to 7-9 cents for onshore Ohio turbines. Offshore generation is even more expensive. However, new nuclear and coal facilities, especially with carbon capture and sequestration, would produce electricity costing significantly more than current plants. Costs could be significantly reduced through grants from the Department of Energy and by attracting a turbine manufacturer to the pilot project in order to become a leader in the Great Lakes wind market by providing turbines at reduced or no cost.

The study was funded by the County, The Cleveland Foundation, Case Western Reserve, City of Cleveland, The Fund for Our Economic Future, Cleveland-Cuyahoga Port Authority and The Generation Foundation. □



The 400-foot high turbines three miles offshore would be an iconic addition to the Cleveland skyline. These three turbines in the pilot project would be east of the water intake crib and north of Burke Lakefront Airport.

## Case Western Reserve University Launches Sustainability Institute

With "Energy and Environment" chosen as CWRU's #1 academic alliance, the formation of its new Institute for Sustainability should come as no surprise. It brings together researchers and students to collaborate on programs to preserve the environment, form creative community partnerships and leverage the university's strengths for regional benefit.



Ruhl

"There is great interest and activity in environmental sustainability at Case Western Reserve," says John Ruhl, director of the institute and professor of physics.

"We're working to integrate students and faculty across disciplines to work hand-in-hand on solutions to today's most pressing concerns."

The institute focuses much of its attention on two key issues: water and urban sustainability. With researchers pursuing water-related study in areas as diverse as the natural sciences, engineering, law, medicine and even history, CWRU brings expertise to ecological concerns related to the Lake Erie watershed, drinking water quality, and water technology and infrastructure development.

This summer, for example, Professor Gerald Matisoff, chair of the geological sciences department, and undergraduate researcher Nicole Pilasky plan to install 30 sediment traps in Lake Erie to better understand the lake's phosphorus cycling, which could one day improve the quality of the water.

Researchers associated with the institute are also looking at materials and infrastructure issues relevant to the heavily built environment that forms Cleveland's urban core. A broader group in law, medicine, social sciences and engineering has come together to expand that program to deal with a multitude of sustainability issues associated with the aging, inefficient and unhealthy housing that permeates Northeastern Ohio.

To learn more, visit [case.edu/sustainability](http://case.edu/sustainability). □

# Cleveland's New Carbon Fund Supports Local "Green" Projects

**H**ave you ever donated to a national nonprofit organization that will use that money to fund sustainability programs to offset carbon emissions from your driving, flying or home heating?

Corporations and institutions do this too. Last year, Oberlin College bought carbon offsets through Carbonfund.org to offset carbon emissions from their weekend commencement activities.

But it's often hard to know where those donations are going. They might help protect trees that sequester carbon in the rainforest or pay farmers in Nebraska to practice tillage methods that increase carbon in soil.

Realizing that more people would donate to reduce carbon emissions if they could see their donations being invested in their own community to protect the climate and create green jobs, The Cleveland and Gund Foundations, Cleveland Clinic, The Cleveland Museum of Natural History and the City of Cleveland have launched the Cleveland Carbon Fund, the first community-based, open-access carbon reduction fund in the U.S.

Anyone can make a voluntary donation to the fund, and the money will support carbon reduction projects in the Cleveland area. Initial projects are expected to include large-scale CFL bulb replacement, tree planting, and home weatherization.



**clevelandcarbonfund**

"This is an innovative way to produce positive changes in our own backyard," says John Mitterholzer, senior program officer at The George Gund Foundation. Donations to the fund are held by The Cleveland Foundation and are tax-deductible.

A steering committee of representatives from the partners will distribute the

funds as grants to nonprofit organizations. Proposals will be evaluated based on the amount of verifiable carbon reduction achieved, cost, social and economic benefits, and other criteria. All projects will need to demonstrate that the carbon reductions would not have happened but for the project.

The Carbon Fund is working with the GreenCityBlueLake Institute and potential grantees to calculate and validate the expected carbon reduction from each proposed project. These CO<sub>2</sub> estimates will follow the best available greenhouse gas accounting principles, and all calculations will be made as transparent as possible.

One of the goals of the fund is to equip local nonprofit organizations with the tools to calculate the carbon reduction benefits of their projects.

"This is one more way that Cleveland is supporting the advancement of green collar jobs. The Cleveland Carbon Fund supports the local economy while helping to reduce our region's carbon footprint," says Andrew Watterson, program director for Cleveland's Office of Sustainability.

To calculate your carbon emissions and donate to the Cleveland Carbon Fund, go to [www.clevelandcarbonfund.org](http://www.clevelandcarbonfund.org). □



Planning "Sustainable Cleveland 2019" are (left to right) Andrew Watterson, Program Director, Office of Sustainability; Mayor Frank G. Jackson; and Ken Silliman, Chief of Staff.

*Photo: Donn R. Nottage*

## City Plans Summit to Map "Sustainable Cleveland 2019"

**T**he fiftieth anniversary of the notorious Cuyahoga River fire could see a radically transformed city based on a sustainable economy. To help make this happen, Mayor Frank Jackson will welcome approximately 700 participants to Sustainable Cleveland 2019, a three-day collaborative planning event beginning August 12 at the Cleveland Convention Center.

"We need a plan that will support business growth, make smart use of natural resources and provide opportunities for individuals to succeed," said Jackson. "This summit will give us that plan."

The summit and its goal of creating new job opportunities are the natural next steps for Cleveland. Jackson points to work done by the City of Cleveland's Office of Sustainability and several local organizations, including Entrepreneurs for Sustainability, the Corporate Sustainability Network, Green City Blue Lake, and the Great Lakes Institute for Energy Innovation that has set the stage for Cleveland to become a powerhouse for green industries.

"Cleveland has the natural resources and business infrastructure to position itself as a leader in advanced manufacturing, renewable energy, and green building," said Andrew Watterson, Program Director for Cleveland's Office of Sustainability.

Dr. David Cooperrider of Case Western Reserve University's Fowler Center will facilitate the event. The Summit's "Appreciative Inquiry" process will engage community stakeholders from corporate CEOs to students, from laborers to middle management, from non-profit leaders to academicians.

Funders for the conference include the Surdna Foundation, CWRU and The Generation Foundation. □

### NextGeneration

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# LocalFoodCleveland Boosts Consumer Awareness

Like biotechnology, advanced energy and green building, another emerging economic development opportunity sits right on our plates – local food. Each year Northeast Ohioans spend over \$10 billion dollars on food, yet less than 2% of those dollars is spent on locally grown foods. The remaining 98% is an emerging business opportunity and represents non-discretionary spending that will benefit the local economy regardless of the next economic boom or recession.

More Americans are beginning to appreciate the benefits of a local food system that reduces greenhouse gas emissions and connects them to where their food comes from. People are choosing to purchase fresh local foods, and this is making a real impact on local economies. Over the last ten years, the number of farmers markets in the United States has more than tripled.

With a network of both farmers markets and community gardens, Northeast Ohio's local entrepreneurs are taking advantage of these business opportunities:

**FarmShare Ohio** is a farm-to-workplace program offering convenient, weekly deliveries of farm-fresh, locally grown fruits and vegetables to employees of Cleveland area businesses.

**Western Reserve Foods** works with Amish farm cooperatives to

distribute cheeses to restaurants and grocery stores.

**The Greenhouse Tavern**, Ohio's first certified "green restaurant" on East 4th St., supports the "farm to plate" movement and plans to install a downtown rooftop garden that will supply its kitchen with fresh produce.



Local farmers markets have tripled since 1999.

Other local resources to help you connect, learn and take action towards creating a sustainable local food system:

**LocalFoodCleveland.org** is an online social network for everyone passionate about growing a sustainable local food economy and culture around Cleveland ([localfoodcleveland.org](http://localfoodcleveland.org))

**Cleveland-Cuyahoga County Food Policy Coalition** is a professional network working towards business and government policies that support local food system development ([cccfoodpolicy.org](http://cccfoodpolicy.org))

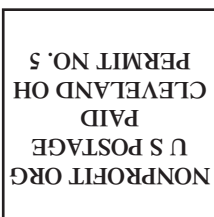
**The Countryside Conservancy** is a small "think-and-do tank" working to establish entrepreneurial and civically responsible approaches to land use, farming and food systems across Northeast Ohio ([cvcountryside.org](http://cvcountryside.org))

**The New Agrarian Center** operates the CityFresh local foods distribution program and provides learning programs on sustainable agriculture and urban farming ([gotthenac.org](http://gotthenac.org)) □

The Generation Foundation is a grantmaking public charity working cooperatively to strengthen the regional economy. 3375 Hollister Rd., Cleveland, OH 44118; (216) 371-0289; Fax (216) 321-1431; [www.generationfoundation.org](http://www.generationfoundation.org). Glenn R. Brown, President; Nancy McCann, Gary A. Oatey, Katherine T. O'Neill and Peter K. Ranney, Vice Presidents; Phillip A. Ranney, Secretary; and James D. Ireland III, Treasurer. Robert Miller, Executive Director.



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