

WPI News & Events

News Releases

WPI Students' Research Leads to Major Investment to Build First Wind Turbine in Worcester

\$575,000 grant awarded to Holy Name Jr. Sr. High School

FOR IMMEDIATE RELEASE/November 3, 2006

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Worcester, Mass.

- Aided in research by four Worcester Polytechnic Institute (WPI) undergraduate students, plans to harness clean energy on Vernon Hill in Worcester took a major step forward Friday, Nov. 3, following the announcement of a \$575,000 grant from the state's Renewable Energy Trust. The grant will help design and build a new 600-kilowatt wind turbine on the campus of Holy Name Central Catholic Jr. Sr. High School.

The project is the result of a partnership between Holy Name, Congressman James P. McGovern, WPI, state and local officials, and the Massachusetts Technology Collaborative (MTC).

"When Congressman McGovern brought school officials to meet with us six months ago, we were extremely excited about the prospects for a major wind energy installation in Worcester," said Mitchell Adams, executive director of MTC, which manages the state's Renewable Energy Trust. "The school put together such a thorough application, it scored number one out of 19 applications for funding. This turbine will educate people throughout the region about the benefits of wind energy and help us on the path toward a cleaner energy future for our state."

Four WPI mechanical engineering and electrical and computer engineering students tirelessly worked for two years as part of a required academic project. Brian Foley, Tyler Forbes, Hans Jensen, and Adam Young (all Class of 2007) collected data, researched the feasibility and construction of a wind turbine, and applied to federal agencies on behalf of Holy Name, work that led to the successful grant approval.

"It is truly exciting to see this positive outcome of our students' work," said Richard F. Vaz, dean of the Interdisciplinary and Global Studies Division at WPI. "This is a wonderful example of the benefits of WPI's unique project-enriched approach to education. In Worcester and 20 other sites around the world, our students have the opportunity to put their science and engineering knowledge to use in the real world, solving problems and making a difference for communities and organizations like Holy Name."

"This project has come together with a lot of hard work and dedication from all involved," said Hans Jensen, who approached Holy Name Headmaster Mary Riordan a year ago with his idea to build a wind turbine at the school. The WPI students suggested in May 2006 that Holy Name apply for a construction grant to the MTC; the high school applied for the grant in August 2006.

"We couldn't have done this without the WPI students," said Riordan. "WPI should be so proud of those students. They did such an outstanding job, and they are as committed as I am to this alternative form of energy."

WPI Professor Alexander E. Emanuel, who served as the project advisor, credited the students for their accomplishments.

"I have been at WPI since 1978, and this was the most rewarding and best academic project I have been involved with," Emanuel said. "This project could be a bonanza for the city of Worcester."

The project has already helped the WPI students get valuable hands-on experience with wind energy. The group conducted an extensive feasibility study, finding that the Holy Name campus has a strong wind resource and is therefore an excellent site for a wind turbine. The school will continue to work with offices in the City of Worcester for approvals surrounding the turbine's site, and will hold public hearings for residents who would like to learn more about the project.

"These four WPI students' will have a tremendous impact on our future, and they are not even out of college yet," Riordan added.

The turbine, which will be located adjacent to the football field on the school's campus, will generate enough clean electricity to power approximately 135 homes. The school will use 54 percent of the power, while the rest will go into the electric grid. The turbine, which could be installed as early as November 2007, will stand approximately 262 feet tall to the tip of the blade.

"I am thrilled that this innovative project is another step closer to reality," Congressman McGovern said. "With this use of sustainable energy, Holy Name and the Diocese will be seen as pioneers in the effort to wean ourselves from fossil fuels. This project will serve as a model around the state and across the country. I want to commend the Mass. Tech Collaborative for their enthusiastic support."

"The active support of Congressman McGovern and his staff has been critical toward moving this project ahead, and we're truly grateful for his leadership and involvement," said Steve Perla, superintendent of the Diocese of Worcester Catholic Schools.

Under Riordan's leadership, the school has demonstrated its commitment to energy conservation through energy efficiency improvements, and with the new turbine, it will expand that commitment, Perla noted. The turbine will also be an important educational tool, with plans underway to incorporate it into the school's science curriculum.

"There is no doubt that saving tens of thousands of dollars is critical to the school, but as an environmentalist, I have a real passion for this project and what it means in terms of being a good steward of the environment," said Riordan.

The turbine project was one of 19 grants totaling more than \$4 million awarded in the most recent round of awards from the Renewable Energy Trust's Large Onsite Renewables Initiative, which supports renewable energy projects with installed capacity greater than 10 kilowatts. Nine of the awards went to feasibility studies, while the remaining 10 were for design and construction. The Holy Name turbine was the only wind project awarded in this round.

About the Massachusetts Technology Collaborative

The Massachusetts Technology Collaborative (MTC) is the state's development agency for renewable energy and the innovation economy. MTC administers the Renewable Energy Trust, which seeks to maximize the environmental and economic benefits of clean, renewable energy technologies for the Commonwealth's citizens. The Trust supports feasibility and installation projects throughout the state, as well as early-stage companies in the growing clean energy cluster. For more information, visit www.masstech.org.

About Worcester Polytechnic Institute

Founded in 1865 in Worcester, Mass., WPI was one of the nation's first engineering and technology universities. WPI's 18 academic departments offer more than 50 undergraduate and graduate degree programs in science, engineering, technology, management, the social sciences, and the humanities and arts, leading to the BA, BS, MS, ME, MBA and PhD. WPI's world-class faculty work with students in a number of cutting-edge research areas, leading to breakthroughs and innovations in such fields as biotechnology, fuel cells, and information security, materials processing, and nanotechnology. Students also have the opportunity to make a

difference to communities and organizations around the world through the university's innovative Global Perspective Program. There are more than 20 WPI project centers throughout North America and Central America, Africa, Australia, Asia, and Europe.

Maintained by webmaster@wpi.edu
Last modified: Nov 03, 2006, 14:32 EST

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