

WTCS RENEWABLE ENERGY SUMMIT 2008

THE FUTURE OF Wind Technician Training in
the Midwest; March 14, 2008

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Will this be your campus ??



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Wind Energy Programs in the Midwest, right now -

- Iowa Lakes Community College – Estherville, Iowa – first class admitted in 2004, current enrollment is 32.
- Minnesota West Community and Technical College, Canby, Minnesota – graduating five this spring, anticipate 30 by 2009.
- Lakeshore Technical College, Cleveland WI – WTCS approval April 2008.

Midwest wind programs Proposed Overview

- Northland Community and Technical College, East Grand Forks, Minnesota – understudy.
- Highland Community College, Freeport, Illinois, - under development
- Cloud County Community College, Concordia, Kansas – first class admitted fall 2007.
- Michigan - understudy

Western U.S. wind programs

- Lane Community College, Eugene, Oregon
- Columbia Gorge Community College, The Dalles, Oregon
- North American Wind Research and Training Center, Mesalands Community College, Tucumcari, New Mexico

Great links for finding programs

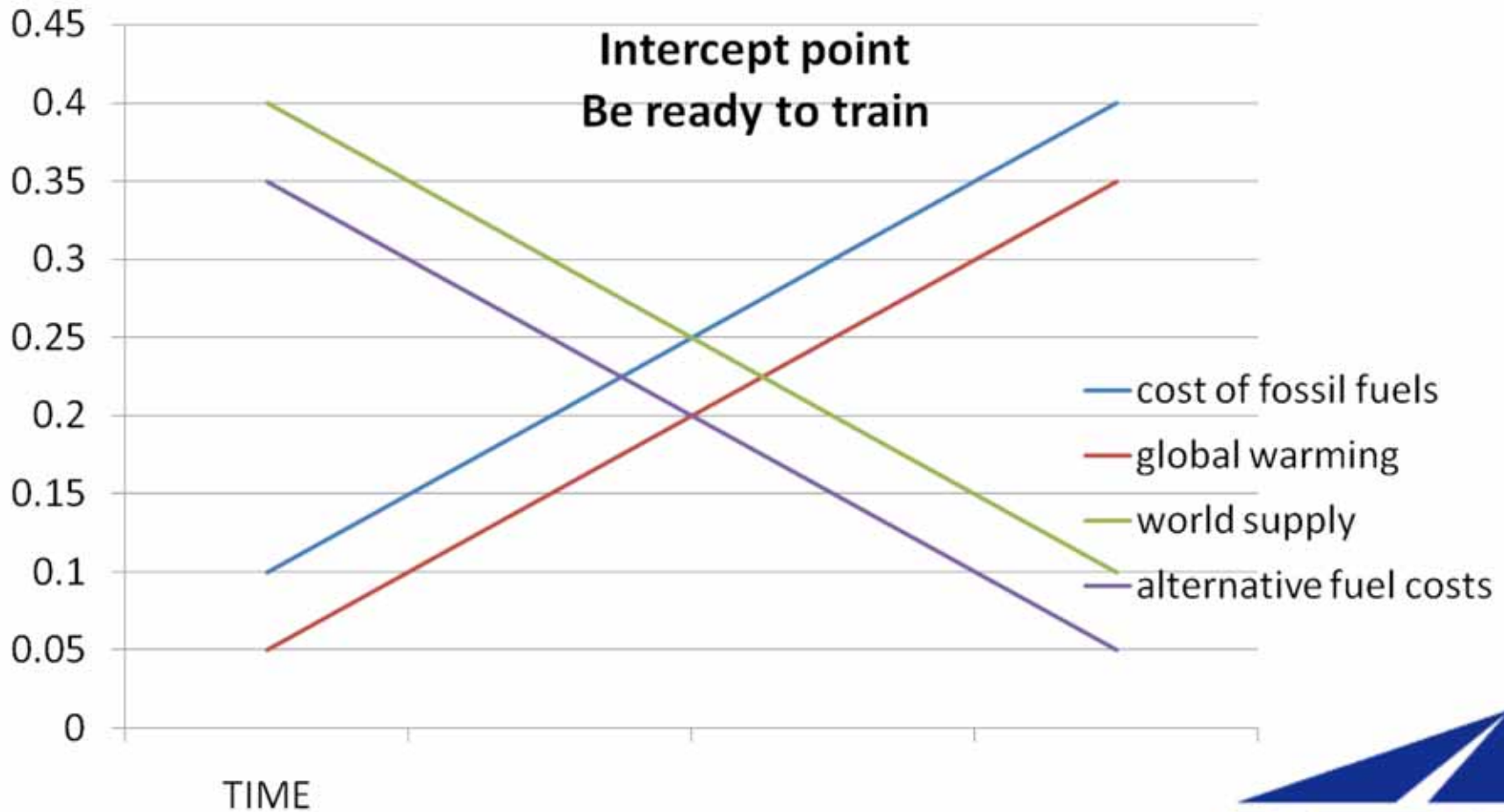
- [http://www.interwest.org/wiki/index.php?title=Education and Training for Clean-Energy Careers](http://www.interwest.org/wiki/index.php?title=Education_and_Training_for_Clean-Energy_Careers)

http://www.eere.energy.gov/windandhydro/windpoweringamerica/schools_training.asp

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Converging Drivers - Ups & Downs



Program Attractions

- Federal grant \$\$'s for Renewable Energy
- Federal grant \$\$'s for HGJTI
- Industry \$\$\$'s for program support, equipment, facilities.
- Green campus – sustainability focus area.
- Student count - Job Market Demand.
- Electronics program areas in decline.
- Technology is universal – stable.
- Risk versus Leadership

Sounds Great



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Program Disincentives

- Controversial in some communities.
- Equipment is extremely expensive !
- Qualified instructors are in short supply and not inclined to leave the industry.
- Faculty requirements, education and lifestyle appear restrictive to this group.
- Partnership development is essential, but can be frustrating.

Equipment

- Familiarity with maintenance and electronic testing equipment: voltage testers, amp clamps, oscilloscopes, megohmmeters, infrared testers, hydraulic torquing, alignment and various hand and/or power tools. Detailed knowledge and Experience with cranes and rigging procedures.

English Language Ability

- Clear and readable printing
- Knows fundamental terminology of wind turbines and their operation
- Ability to read and understand technical manuals

Mechanical

- General maintenance oriented knowledge of hydraulics, gear boxes and machine inspection, lubrication, nuts and bolts
- Working knowledge of the fundamentals of hydraulics, gear box analysis and inspection, lubrication, alignment, nuts and bolts. Fiberglass repair. Blade pitching; weights and balance. Fiberoptic, phase motors.

Electronics

- Working knowledge of AC/DC circuits, low voltage, transmission switching, test motors and generators, lockout and tagout, end connectors.
- PLC programming and troubleshooting, SCADA experience, systems approach.
- Applicable code awareness and references.

Wind Industry Specific

- In depth knowledge of blade pitching, wind speed measurement, and operations of wind farms.



Physical Effort Ability

- Ability to climb 260 foot towers and lift up to 70 lbs and work in confined spaces.
- Ability to work in extremely adverse weather conditions.

Safety and Rescue



Other

- Familiarity with electrical and climbing safety. Ability to conduct oneself in a professional business like manner
- Familiarity with safety issues: tower rescue, approach, clothing. Able to prepare business and technical communications. General knowledge of meteorology.

- Advanced knowledge of safety issues: tower rescue, approach, clothing and personal protective equipment. Possess ability to communicate business and technical information, explain terminology, public relations skills. Ability to read and understand MSDS.
- EMT Certification

Wind Farm installations are just now - in the ramp up phase

- Anticipate more colleges starting programs.
- Anticipate more demand for technicians.
- Expect individual graduates of different colleges and programs to have *markedly* different job performances and areas of success.

When Midwest Wind Farms are commissioned and maintained.

- Company in-plant training will mature and improve. Opportunities in organizing their stuff – and it is just stuff, at this point.
- Early partnership activities will continue to evolve; anticipate less \$\$'s commitment and more employer feedback and training participation.
- Regional employer and curriculum models will be likely developments.



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