

Cuyahoga
Community
College



WORKFORCE OPPORTUNITIES IN OHIO'S WIND INDUSTRY

Ohio Wind Working Group

December 10, 2008

EMERGING INDUSTRIES AND TECHNOLOGIES

- ① Focused on five key areas:
 - ① Advanced and renewable energy
 - ① Advanced manufacturing
 - ① Logistics and supply chain management
 - ① Bioscience
 - ① Information technology

Short –Term Employment Impact of S.B. 221 Cuyahoga Community College 	AEPS Benchmark	Year	Wind MW	# of 1.5 MW turbines	# of 2.5 MW turbines	Estimated Ohio Technician Jobs
	0.25	2009	82	55	33	7-11
	0.50	2010	178	119	71	14-24
	1.00	2011	369	246	148	30-49
	1.50	2012	557	371	223	45-74
	2.00	2013	745	497	298	60-99
	2.50	2014	933	622	373	75-124
	3.50	2015	1,320	880	528	106-176
	4.50	2016	1,707	1,138	683	137-228
	5.50	2017	2,088	1,392	835	167-278
	6.50	2018	2,469	1,646	988	198-329
	7.50	2019	2,792	1,861	1,117	223-372
	8.50	2020	3,099	2,066	1,240	248-413
	9.50	2021	3,388	2,259	1,355	271-452
	10.50	2022	3,706	2,471	1,482	296-494
	11.50	2023	4,012	2,675	1,605	321-535
12.50	2024	4,302	2,868	1,721	344-574	

APPROACHING MAXIMUM ONSHORE CAPACITY

% of Total Onshore Potential (66,000 MW)	Estimated # of 1.5 MW Turbines	Estimated # of 2.5 MW Turbines	Estimated Ohio Technician Jobs
10%	4,250	2,640	528-850
25%	10,625	6,600	1,320-2,125
50%	21,250	13,200	2,640-4,250
75%	31,875	19,800	3,960-6,375
100%	42,500	26,400	5,280-8,500



MANUFACTURING IMPACT

- ⊙ Assuming 74,000 MW of new wind development in the US...
 - ⊙ 13,215 manufacturing jobs created in Ohio
 - ⊙ 1,743 manufacturing jobs created in Cuyahoga County
 - ⊙ \$257 M investment in the County
 - ⊙ \$1.9 B investment statewide



CUYAHOGA COMMUNITY COLLEGE WORKFORCE AND ECONOMIC DEVELOPMENT DIVISION



WIND TECHNICIAN CURRICULUM OVERVIEW

- ③ Focus: Install, Maintain, and Troubleshoot
 - ③ Same core courses as several existing certificate programs
 - ③ Five additional specialization courses
 - ③ Wind Turbine Mechanical Systems
 - ③ Electrical Practical Applications
 - ③ Airfoils and Composite Repair
 - ③ Power Generation and Transmission
 - ③ Data Acquisition and Assessment
- ③ Total of 512 contact hours

COLLABORATIVE RELATIONSHIPS

Education

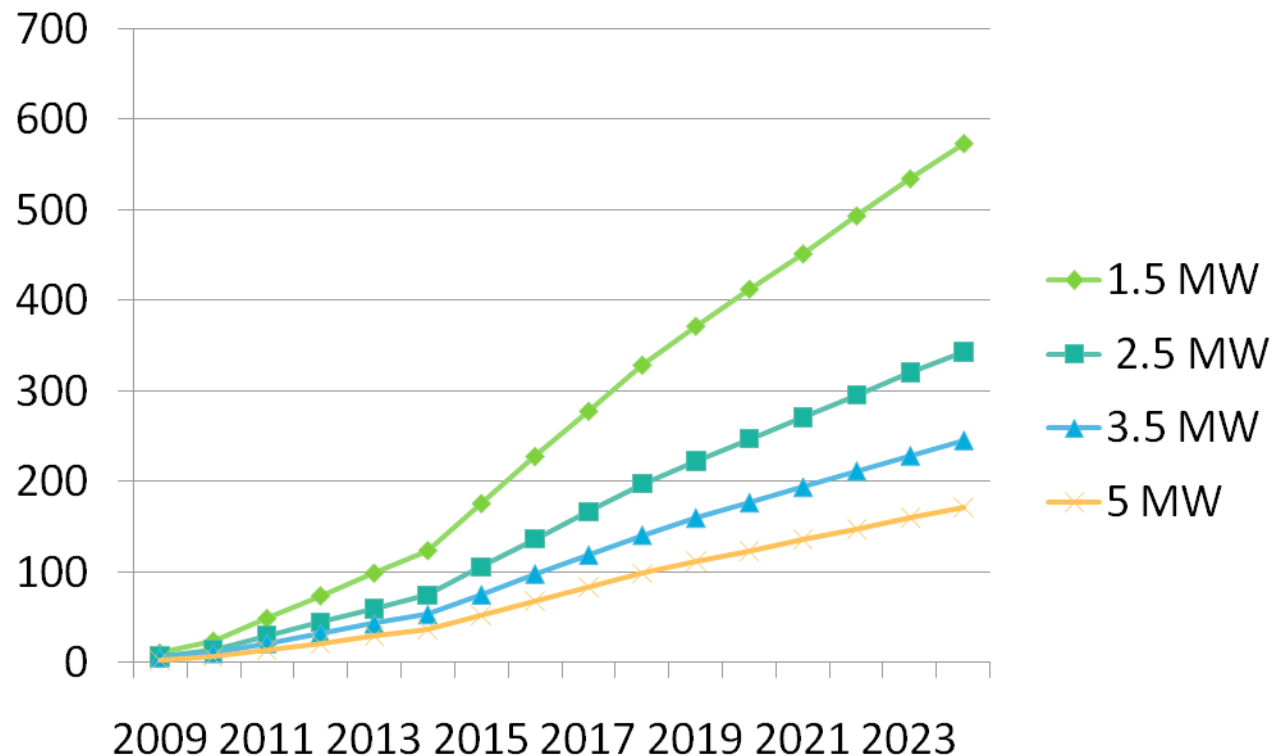
- ⊙ Texas State Technical College
- ⊙ Iowa Lakes Community College
- ⊙ Columbia Gorge Community College (OR)
- ⊙ Highland Community College (IL)
- ⊙ Mesalands Community College (AZ)
- ⊙ Max Hayes High School (Cleveland)
- ⊙ MC²STEM High School (Cleveland)

Advisory Committee

- ⊙ Vestas
- ⊙ Swiger Coil
- ⊙ Cardinal Fasteners
- ⊙ Millwrights Local 1871
- ⊙ First Energy
- ⊙ GL Institute for Energy Innovation
- ⊙ GL Science Center
- ⊙ Rotek (invited)
- ⊙ GE (invited)

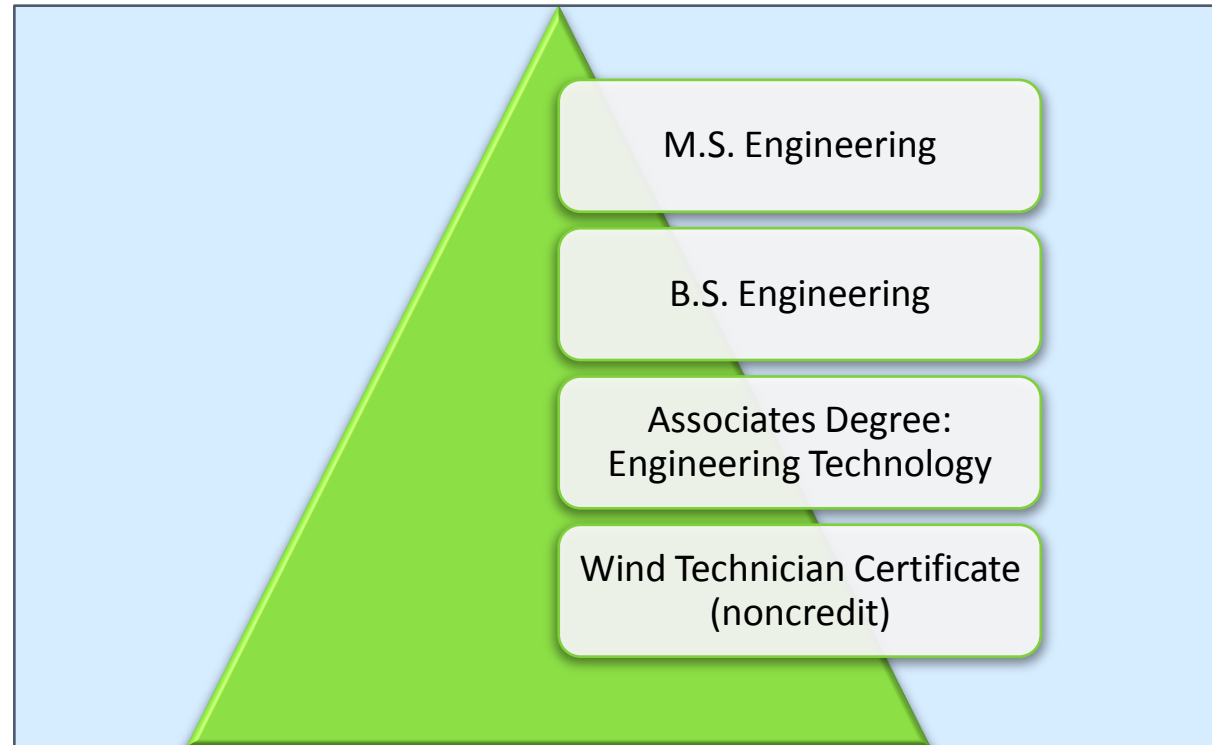
TECHNOLOGY'S IMPACT ON TECHNICIAN DEMAND

Technicians Needed to Maintain Ohio's Planned Wind Installations





SOLUTION: STACKABLE CERTIFICATES TO CREATE CAREER PATHWAYS





CALL FOR PARTNERS

- ① Advisory Committee
- ① Interested Stakeholders
- ① Employers
- ① Education/Training Providers



CONTACT US

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QUESTIONS? IDEAS?

