

Strategy: Why It Matters and How to Do It



Greg Main, President,
St Gregory's University

Michigan and Oklahoma

	Michigan	Oklahoma
• Population	9.9 m	3.8 m
• Employment	4.1 m	1.5 m
• GDP	\$378 b	\$161 b
• Per Capita Income	\$35,957	\$36,421
– Rank	37	34
• Econ. Concentration	Automotive	Energy

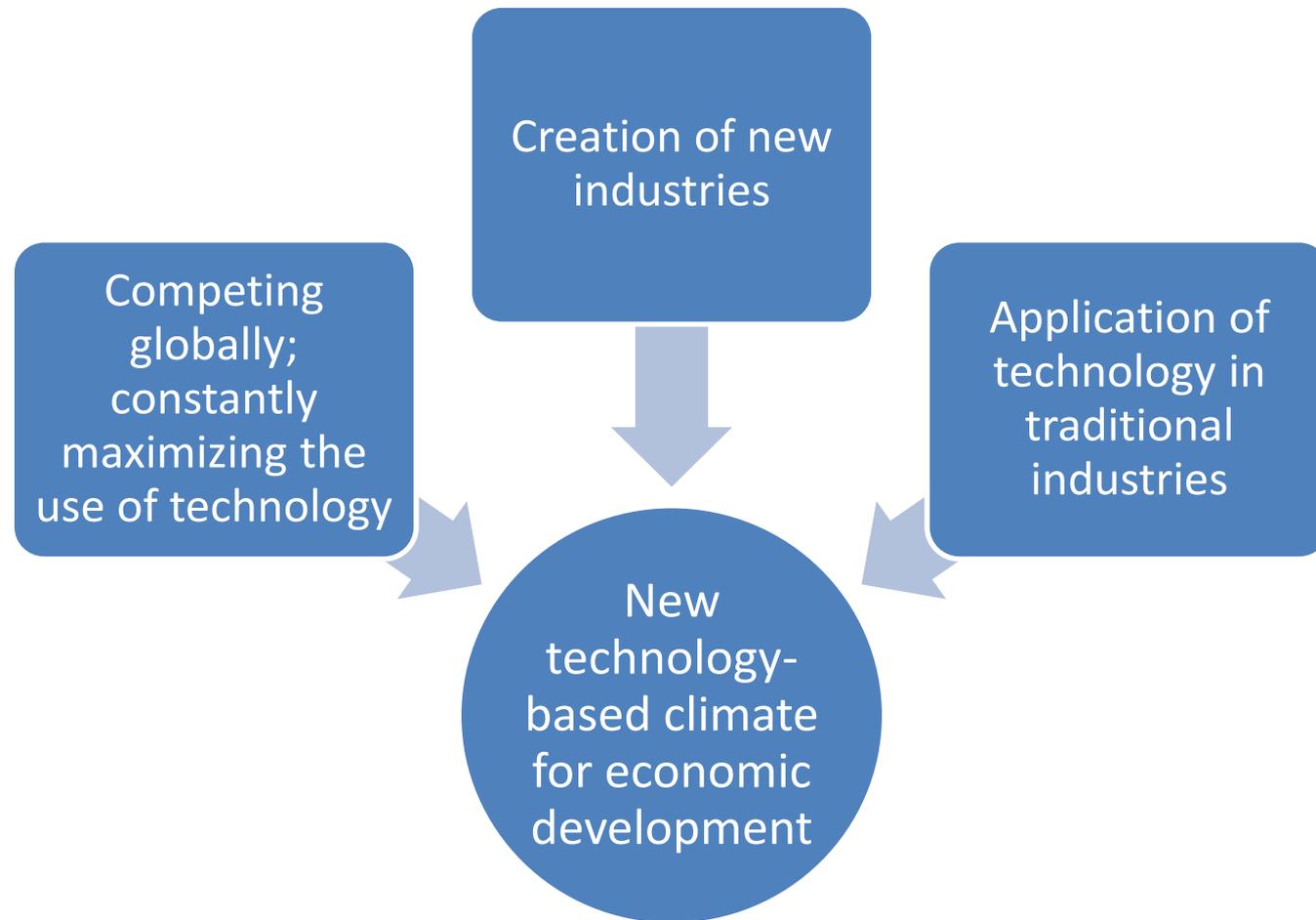
Spring 2009 Situation Analysis

- Economy crumbling – highest unemployment rate (13.3%) in the nation
- GM & Chrysler staring into the abyss of bankruptcy
- Thousands of supplier companies losing markets with no financing to retool for new markets.
- Michigan is the poster child of economic devastation.

The Opportunity

- Solid, Well Researched Strategy
- Strong Commitment to Entrepreneurship
- A Seasoned and Talented Team
- Strong Local Partners
- Bi-partisan Legislative Support
- Talented Governor willing to Go Anywhere and Do Anything to grow the Michigan economy

Strategic Approaches to Innovation-based Economic Development



Strategic Plan for Transforming Michigan's Economy

Quality of Life
and
Skilled
Workforce

Capacity
and
Prowess in
Mfg. and
R&D

Seek New
Global
Markets

Apply New
Tools

Make
Strategic
Investments

Branding - \$40 million

- Pure Michigan campaign introduces Michigan to national television and social media channels and produces a 3:1 ROI
- Narrated by Tim Allen, campaign is declared one of top ten best ever by Forbes
- Upper Hand business development campaign with Jeff Daniels as spokesman, features CEOs touting exceptional workforce, r&d expertise, strong university and community colleges and quality of life.

Michigan's Transformation Strategy:

New Global Markets

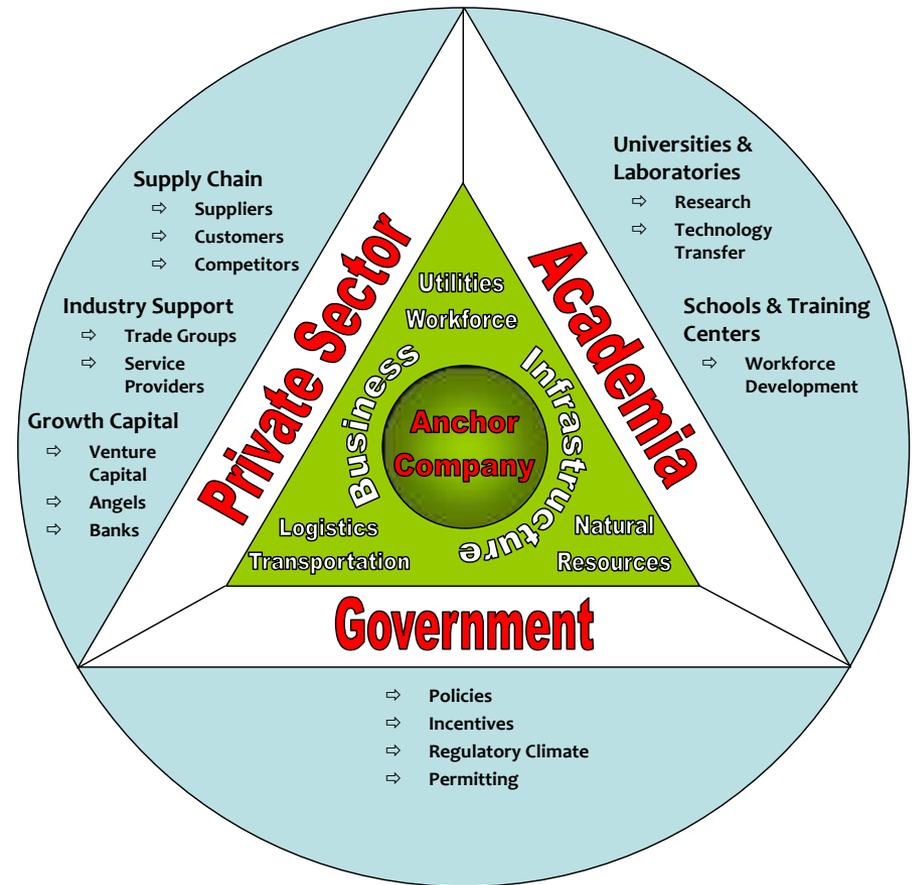
- Potential for significant growth
- Leverage state strengths
- Generally not mature
- Gap exists – partnership opportunity

- 1. Advanced Energy Storage**
- 2. Solar/Photovoltaic**
- 3. Wind Turbine Mfg.**
- 4. Bio-energy**
- 5. Defense**

Michigan Tools:

Centers of Energy Excellence Model

- Goal: Rapidly grow a new industry cluster
- Centered on high profile anchor company
- Strategically located in area with strong business infrastructure
- Surrounded by private sector companies, academic institutions, and government entities



Michigan Tools:

Centers of Energy Excellence

- Bold initiative to develop, grow and sustain alternative energy clusters
- Matches private sector with universities, national labs, and the state to accelerate the commercialization of innovative energy technologies
- \$60.5 M awarded to ten Centers leveraging \$366 million
 - *Advanced Energy Storage - Two Centers \$13 million*
 - *Bio Energy - Four Centers \$30 million*
 - *Wind - Four Centers \$17.5 million*

Transforming Michigan's Economy

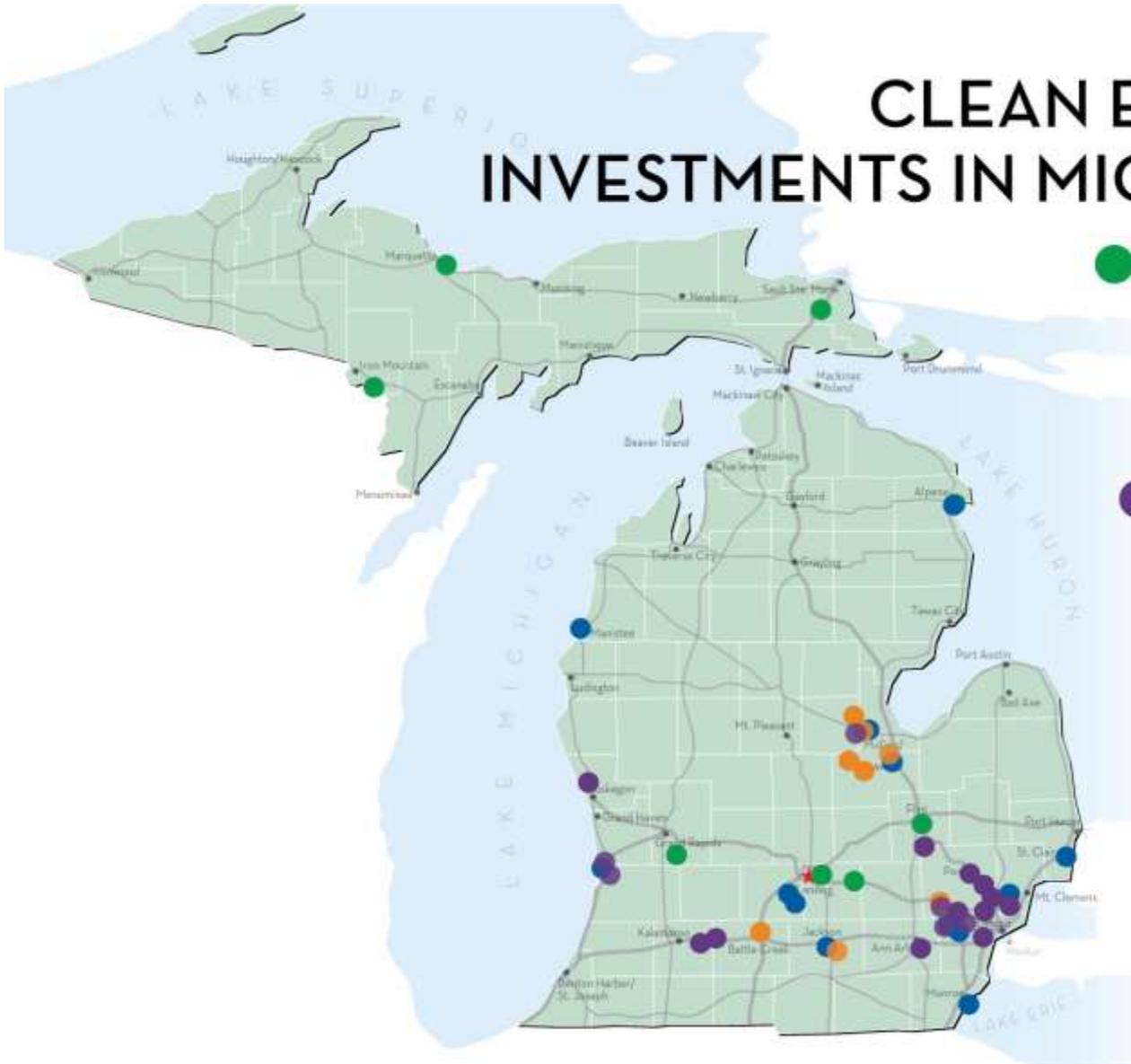
Green Energy, Green Jobs

- Michigan currently (2010) boasts 109,067 total green jobs, 3% of the state's private sector workforce.
- Recently announced investments will add 91,000 new green jobs to Michigan's economic base:

	<u>Investment</u>	<u>Jobs</u>
○ Solar:	\$3.1 billion	21,666
○ Advanced battery:	\$5.8 billion	63,585
○ Wind;	\$360 million	5,319
○ Biofuels:	\$354 million	897



CLEAN ENERGY INVESTMENTS IN MICHIGAN



- Bio-energy
- Wind
- Solar
- Advanced Energy Storage



Case Study – Advanced Battery

Becoming the Epicenter of Advanced Battery Manufacturing

Develop Specialized Knowledge Base

- Staff & Consultants
- Partners – National Labs, Companies

Map the Value Chain

- End users
- Materials, Components , Assemblers, Logistics, etc.

Identify Top Global Players

- Market Share
- Technology Leaders

Design Special Market Driven Incentives

- Federal Support i.e., DOD, DOE, Labs
- Customer Linkage

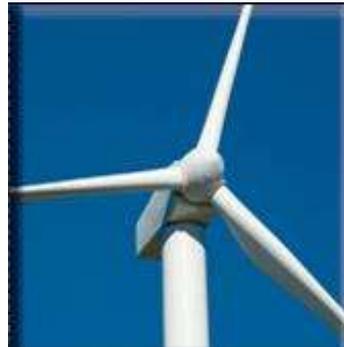
Invite Participation in a Stealthy Competition

- Awards based on performance

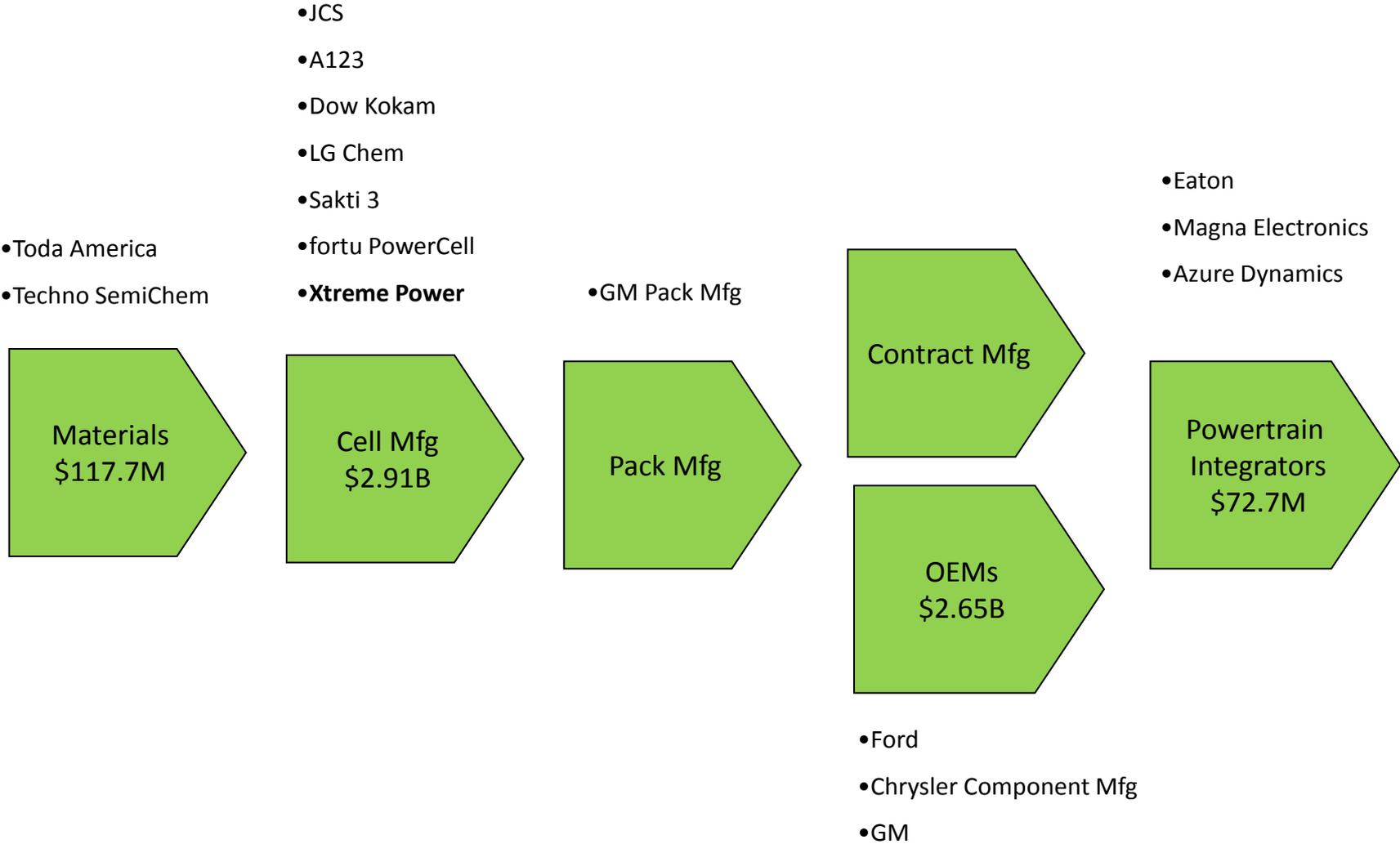
Transforming Michigan's Economy

Case Study: A123 Systems

- Nov. 2008: A123 Systems awarded COEE
- Jan. 2009: Gov. Granholm signs Battery Tax Credit
- Apr. 2009: A123 announces \$600M investment
- Aug. 2009: USDOE awards \$249M
- Today: Operations in 3 locations, Ann Arbor, Livonia and Romulus, on path to create 5,000 new jobs



Battery Value Chain Demonstration



From COEE to Center of the Battery World

Cell Manufacturers



Value Chain



TECHNO SEMICHEM CO., LTD.



Vehicle Builds



Battery COEE



\$13M

Announced Investment Since 11/2008

\$5.2B

Michigan 's Entrepreneurial Heritage



Michigan Tools/Strategic Investment 21st Century Jobs Fund

A \$2.0 billion, long-term program to develop and commercialize technologies to grow and diversify the Michigan economy.

Areas of focus:

- *Alternative energy*
- *Life sciences*
- *Advanced manufacturing and R&D*
- *Homeland security/defense*

Michigan Tools/Strategic Investment 21st Century Jobs Fund- Key Elements

Investments in start up companies - \$78M

Grants supporting research - \$56M

Commitments to VC partnerships - \$95M

Support for Entrepreneurial Services - \$40M

Supplier Diversification Fund - \$26 Million

Michigan Tools/Strategic Investment 21st Century Jobs Fund- Results

- 35 new spin out companies
- 3,770 jobs created by businesses, universities and nonprofits
- 344 products commercialized.
- 575 patents issued or pending

Strategic Investment - Advanced Batteries

\$1 Billion in Performance based Refundable Tax Credits

Cell Manufacturing



\$100 Million



\$100 Million



\$100 Million



\$100 Million



\$100 Million



\$100 Million

Pack Assembly



\$115 Million



\$78 Million



\$20 Million



\$100 Million

Engineering



\$45 Million



\$75 Million



\$45 Million

Wind

- MI Strengths – Advanced Manufacturing workforce, Wind Capacity, and new RPS
- MI Tools – RPS, Centers of Energy Excellence
- Results
 - Federal investment of \$39.3 Million
 - Total new business investment of \$132.1 Million

Wind Energy

Focus on companies engaged in the manufacturing of wind energy systems (turbines).

Market Size: Fast growing US market - broke \$3 billion in 2005, expected to grow to \$7.5 billion by 2010. (2005 - all wind turbine vendors in North America sold-out of product).

Key Competitors: Europe and India, North Dakota (Generation), California and Texas

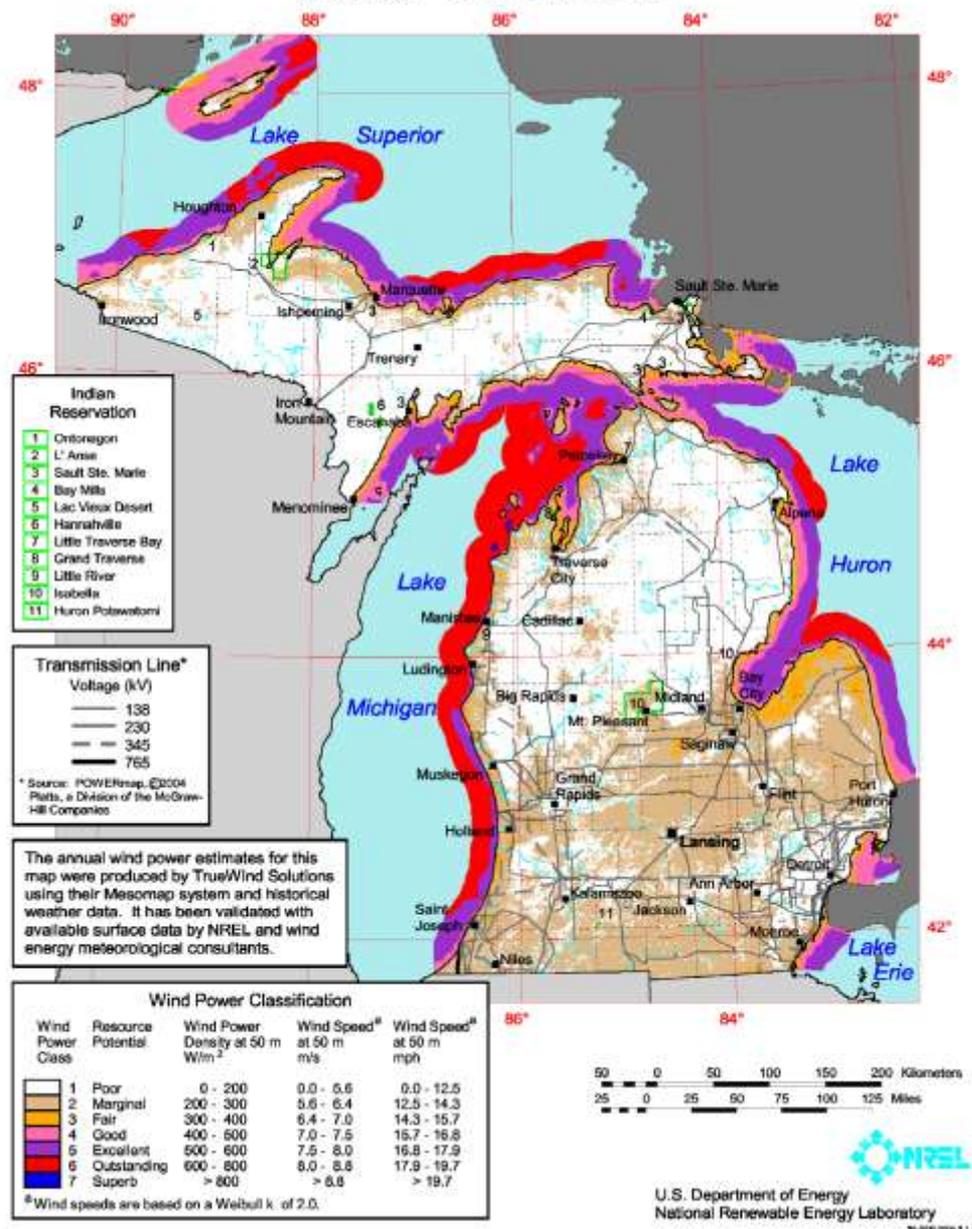
MI Profile: 27 companies engaged in wind turbine or component manufacturing. MI rated as having top 5 manufacturing potential for this category in OHIO sponsored study.

Michigan's Advantages: Available wind along coastline, manufacturing capability. Both must co-exist to maximize opportunity

Michigan Wind Potential Average Annual

- Onshore utility-scale wind resources in Michigan are concentrated along the immediate shores of the Great Lakes
- The Great Lakes have good-to-outstanding wind resource.
- A large area of Class 3 resource is located northeast of Saginaw.
- Given the advances in wind energy technology, a number of locations in Class 3 areas may be suitable for utility-scale wind development.

Michigan - 50 m Wind Power



Source: US D.O.E Energy Efficiency and Renewable Energy
http://www.eere.energy.gov/windandhydro/windpoweringamerica/maps_template.asp?stateab=mi

2007-2009 Strategy - Drive Demand & Diversify

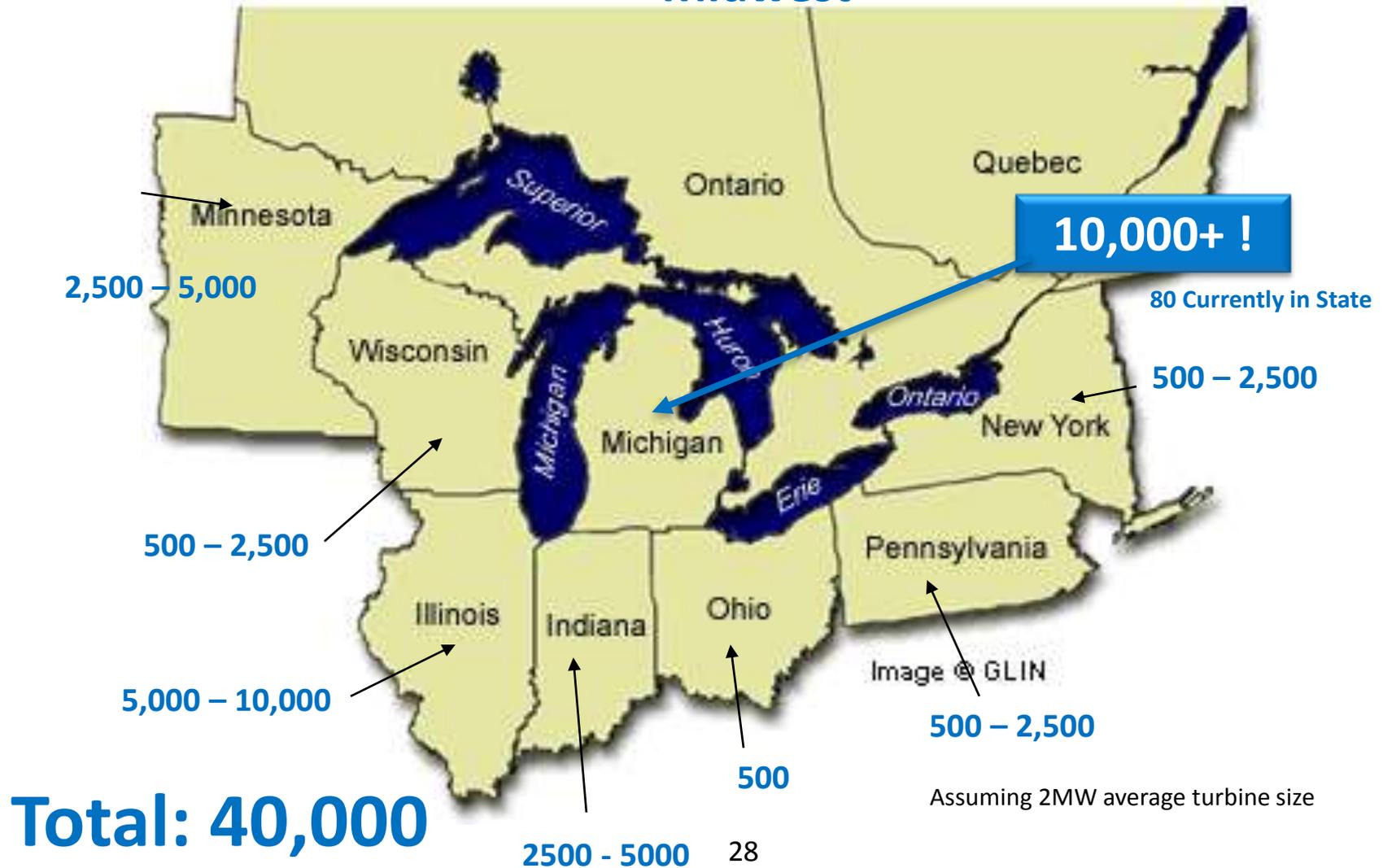
- Renewable Portfolio Standard for MI – (Passed in Sept. '08)
 - Renewable Portfolio Standard –10% by 2015
 - RPS = 1,000+ turbines installed by 2015 to meet RPS
- Attract Tier 1 or OEM to State due to RPS
- Identify and work with suppliers in MI to supply the wind industry market

2007-2009 Strategy - Drive Demand & Diversify

Results...

- Utility company' s RFPs not large enough to attract outside OEM' s and Tier 1s to state.
- Offshore has potential to change this dramatically, but market is still 5+ years away.
- Over 75 companies active in the wind industry in MI

Required Turbines to Meet Department of Energy 20% Goal in Midwest

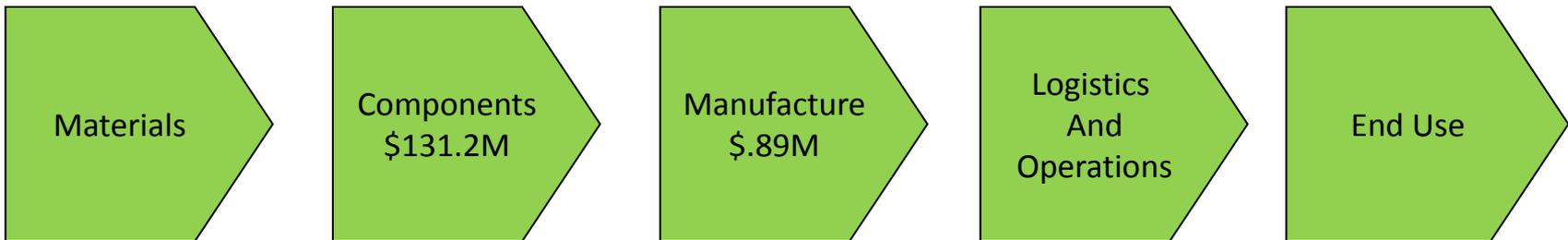


Wind Value Chain Demonstration

- Energetx
- Venn Towers
- Astraeus Wind Energy
- Loc Performance Products
- Merrill Technologies Group*
- Danotek
- ATI Casting Services
- Dowding Industries
- Energy Components Group
- Great Lakes Industry

- Dow Chemical (future)

- Merrill Technologies Group*
- MasTech / Mariah Power



* Investment dollars will be applied over multiple focus areas.

Wind Trends/Issues

- \$63 Billion global market (US \$17 Billion) in 2009 - Five year annual growth rate of 39% (2005-09)
- US goal to generate 20% of electricity from wind by 2030 (currently 1.5%)
- Bigger is better (>5 MW)
- Off-shore market
 - Projected to grow from 1500 MW today to 45,000 MW by 2020
 - Turbines being developed up to 15 MW
- Major reliability issues
 - 20 year blades failing at alarming rate (6 months to 3 years)
 - Unreliable manufacturing techniques (hand layup, etc.)
- Existing material alternatives cost-prohibitive
- International drive to incorporate advanced materials and manufacturing technologies
 - EU, Denmark
- Upcoming US DOE emphasis (Advanced Rotor Program)



2010+ Strategy – Utilize MI Strengths, Leapfrog Technologies

- Identify weaknesses in wind industry for opportunities
- Identify DOE focus for federal funding opportunities
- Match with MI companies strength in advanced manufacturing and material expertise

The Problem



Michigan Advanced Materials Strategy

- Focus on Low Cost Carbon Fiber (Critical National Need)
- Identify Michigan strengths within LCCF value chain – The Dow Chemical Company
- Integrate Michigan approach with Oak Ridge Carbon Fiber Technology Center.
- Seed MI marketplace with Low Cost Carbon Fiber Manufacturing capability – be first in commercial LCCF production in projected \$19 Billion marketplace by 2015
- Tie LCCF facility into projects in Wind, Vehicle Technologies, and defense

Is it working?

Michigan's Economy Expanding

Michigan ranks 15th in 2010 GDP growth

Unemployment rate falls from 14.1% in July 2009
to 10.3% in May 2011

Michigan ranks 6th in growth of per capita
personal income in 2010

The Michigan economy generated more than 143,000 private sector jobs in 2010 and 201,000 more in the 1st five months of 2011.

Beware:

Tyranny of Concentration

Up Front Cash Awards

Lack of Scale

Observations

- “Government shouldn’t pick ‘winners and losers’” is a hollow sound bite coming from the shallow end of the pool.
- Brand management is an underutilized tool, as is ‘place-making’; the two are related.
- Capturing market share requires investment.
- Partnerships with the private companies are essential.

More Observations

- What works and what doesn't:
 - Clear and concrete, researched strategy- *works!*
 - Careful execution/shift with markets– *works!*
 - Sustained effort from focused leadership- *works!*
 - Wishing for success - *doesn't work!*

Parting Thoughts

- Economic development is not rocket science
- “Kites rise highest against the wind- not with it.” *Winston Churchill*
- “Vision is the art of seeing things invisible.”
Jonathan Swift