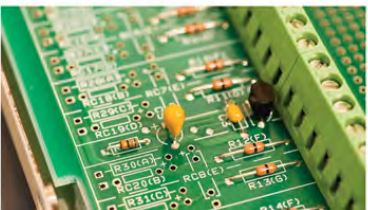
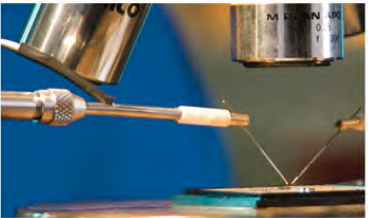
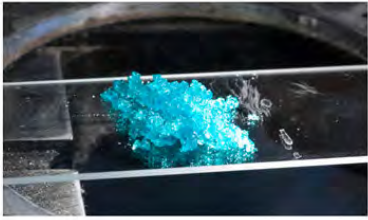


Economic Development Strategies for Clean Energy Technologies in Michigan

ESD Institute

Clean Energy Symposium

September 14, 2009



Strategy:

Cluster Based Economic Development

- 2 year research program to identify industry diversification opportunities leveraging MI competitive advantages
 - International/Federal/State trends
 - Market Analysis (size, trajectory, etc.)
 - Partner input
- Worldwide best practice review in industry acceleration programs (Swedish Triple Helix, Cluster Approach)
- Included targeted industry clusters in MEDC 2008 Strategic Plan
- Implementation of Cluster teams (advanced biofuels, wind, water, solar, advanced energy storage) to guide strategy
- Passage of key legislation for targeted incentives to grow clusters

Strategy:

Targeted Industry Clusters

- Targeted industries
- Potential for significant growth
- Leverage state strengths
- Generally not mature
- Gap exists – requires economic assistance

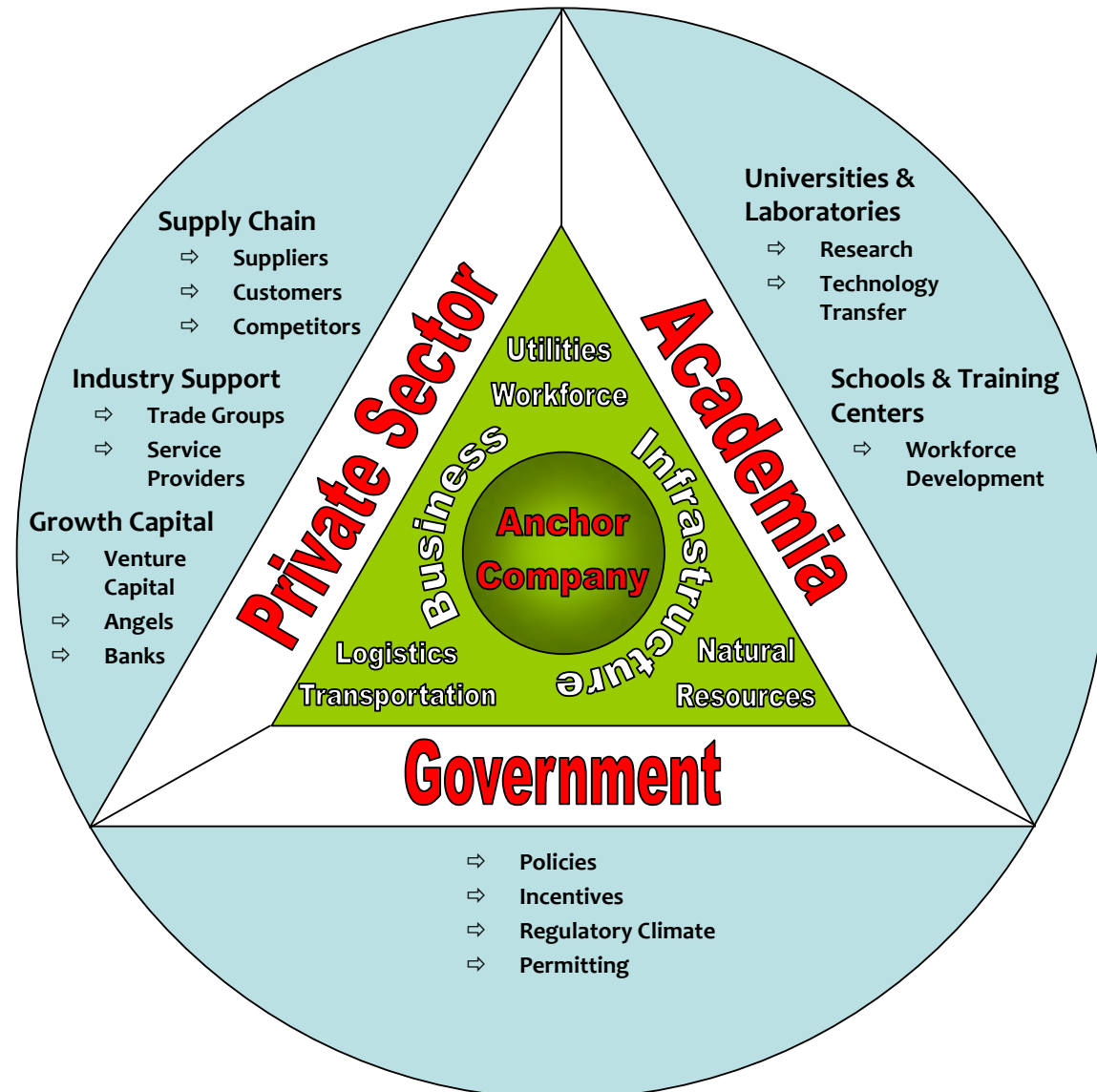
- 1. Advanced Biofuels**
- 2. Advanced Energy Storage**
- 3. Wind Turbine Mfg.**
- 4. Solar/Photovoltaic**
- 5. Water Technology**

Centers of Energy Excellence

- 2008 SB 1380 / PA 175 was signed into law July 8, 2008.
- Authorized **\$45 Million** grant program, awards made by the **Michigan Strategic Fund**.
- Objective was to partner private sector, universities, and government to commercialize innovative energy technologies - where Michigan has competitive advantages in such areas as:
 - Workforce
 - Intellectual Property
 - Natural Resources
- Assigned to areas where there are technical or supply chain issues that prevent commercialization.
- Focused on areas which have impact on Michigan's:
 - Energy security
 - Environmental profile
- Potential for significant economic impact.
- Potential to leverage **significant federal dollars**.

Michigan Incentives: Centers of Energy Excellence Model

- Goal is to rapidly grow an industry cluster
- Includes high profile anchor company at the center
- Geographically located in area with strong business infrastructure
- Surrounded by private sector companies, academic institutions, and government entities



Michigan Incentives: Centers of Energy Excellence

- Bold initiative to help 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
- **\$43 Million** awarded to Six Centers of Energy Excellence in 2008:

A123
SYSTEMS

Sakti3

Advanced Batteries:
\$13 Million

**AMERICAN
PROCESS**

 **MASCOMA**

Working Bugs™


Swedish Biogas
INTERNATIONAL

BioEconomy:
\$30 Million



COEE Awards

\$43 Million awarded to Six Centers of Energy Excellence in 2008:



Michigan Advanced Battery Credits

- 2008 HB 6611 / PA 580 was signed into law January 14, 2009. It was amended by SB 319 / HB 4515.
- Total value of credits: **\$800 Million**.
- Provides **refundable credits** on the Michigan Business Tax for battery cell manufacturing, vehicle battery pack assembly, and advanced battery engineering, designed to make Michigan the battery capitol of North America.
- The **Michigan Economic Growth Authority** is responsible for entering into agreements for tax credits available through this program.
- Potential to leverage **significant federal dollars**.

Michigan Advanced Battery Credits: \$800 Million in Refundable Credits

		Status
Pack Manufacturing Credit for manufacture of plug-in traction battery packs	\$135 Million	\$115M GM \$20M Available
Vehicle Engineering Credit to support battery integration, prototyping, launch expenses	\$135 Million	\$45M GM \$45M Ford \$45M Chrysler
Advanced Battery Technologies Engineering Credit to support engineering activities	\$30 Million	\$30M Ford
Cell Manufacturing Credit up to 50% capital investment for cell manufacturing facility	\$500 Million	\$100M JCS \$100M KDABG \$100M A123Systems \$100M LGChem \$100M Xtreme Power

Michigan's Stimulus for Cell Manufacturing

\$500 Million awarded to 5 Ventures

 | 

\$100 Million



\$100 Million

 | 

\$100 Million

KD Advanced Battery Group

 | 

Townsend Ventures, LLC 

\$100 Million



\$100 Million

Federal Stimulus for Cell Manufacturing

\$1.3 Billion Awarded to Michigan! (August 5, 2009)



\$299 Million



\$249 Million



\$151 Million

KD Advanced Battery Group



\$161 Million

Awards also to GM, Ford, Chrysler, Magna, South Coast Air Quality Management District, University of Michigan, Michigan Tech, Wayne State University

Thank you!

Martin Dober | VP, New Markets
Michigan Economic Development Corporation
doberm@michigan.org