Food Water Energy Nexus
September 30, 2014

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Agenda

• WI Economic Development and Industry Clusters
• Investing In Three Industry Clusters
• The Global Water Council
• Food and Beverage Council
• Mid-West Energy Research Consortium
• Three “Too Much’s and Three Grand Challenges
Wisconsin Economic Development Model Invests In Key Industry Clusters

• Can’t Wish Industry Clusters Into Existence
  - High Industrial Concentration; With Dominant Leadership Positions
  - Strong Academic Presence; Leading Research and Talent Development Organizations
  - Supportive Public Policy and Engaged Government and Non Government Organizations

• Three Driver Clusters in Wisconsin
  - Energy, Water, Food & Beverage
Wisconsin Economic Development Corp

Targeted Six Industry sectors (Statewide)

- Water Technology
- Energy, Power & Controls
- Food/Bev Production/Processing
- Life Sciences/Medical Devices
- Manufacturing
- Advanced/Defense
- Dairy Production/Processing
General Qualifying Criteria for Investment

- Industry Led, Strong Academic Presence
- High Job Creation
- High Economic Impact
- Sustainable
- High Compound Returns
- Low Managed risk
Regional Economic Growth is Spurred By Investment in Three Industry Clusters
The Water Council

- Non-profit, economic development org. focused around water
- Public/Private Partnership launched in 2009
- Consists of over 150 corporate members that encompass the entire water cycle
- Int’l organization, headquartered in Milwaukee, the center of SE WI’s Water Technology Cluster
The Water Council - Initiatives

• **Global Water Center**: Physical hub of Water Technology Cluster, houses office/research/lab space for small, medium & large multinational water tech companies, as well as accelerator space for innovative water entrepreneurs

• **The BREW** (Business. Research. Entrepreneurship. In Wisconsin.): the only place-based, mentor-driven seed accelerator in US strictly focused on addressing freshwater issues

• **Small Business Forward**: Partnership w/ JPMorgan Chase to identify and match potential investment capital resources with entrepreneurs/startups/small businesses, in water

• **Alliance for Water Stewardship (AWS)**: N. American headquarters & Partner for implementation of AWS International Water Stewardship Standard v1.0
We are FaB — the makers, bakers, brewers, canners, bottlers, roasters, operators, artisans, innovators, leaders, owners, managers, professionals and trades, technicians and scientists, growers, distributors, suppliers, grocers and restaurateurs that bring us — and the world — our Food and Beverage.

www.fabwisconsin.com
FaB’s Strategic Objective

“To build an industry ecosystem of support for food and beverage makers”

39th among 74 largest metros for food business

1st concentration of food industry talent*

3rd for the concentration of food scientists*

4th Most competitive water & waste water rates *

*Among 50 Largest Metro
**FaB Wisconsin**

Shaping an economic food future that results in maker job growth

Making it easier to innovate, expand, locate or start a food and beverage enterprise.

**FaB’s Strategic Objective**

To build an industry ecosystem of support for food and beverage makers

1. **A Talent Continuum**  
   Student ↔ Professional  
   Novice ↔ Expert

2. **An Innovation Continuum**  
   Concept ↔ Commercialization  
   Product ↔ Customer

3. **A Business Continuum**  
   Start-Up ↔ Expanding  
   Local ↔ Exporting

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**253 Makers**  
**14,700 Jobs**  
**$580M Payroll**

Average Annual Earnings
- Food Makers: $53K
- Beverage Makers: $68K

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**Zone for Job Growth & Capital Investment**

- Food ingredients manufacturing
- Organics & locally grown
- Functional, healthful foods
- Water rich food products & processes
- Food equipment & packaging manufacturing
- Nutrition & wellness

**Milwaukee Regional Assets**

**Market & Community Growth Trends**

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www.fabwisconsin.com
What is M-WERC?

• M-WERC is one of America’s Largest Energy, Power and Control (EPC) Industry Clusters

• Public Private Partnership that Connects the Region’s Expansive Academic, Economic Development, Government, NGO and Industrial EPC Participants

• Three Year Organizational Growth
  - FY11-12 - 8 to 26 Members & Supporters FY12
  - Year End FY13 = 56 Members
  - FY15 ~104 Members & Supporters, Budget $2.5M

M-WERC Sponsored $2.5 in Research $325K in Workforce Development
We Combine the Power of Wisconsin’s Top Four Engineering Research Universities with the Power of Industry and the Training Know-how of Leading Technical Colleges

M-WERC Academic Participants

Combining Technology Innovation, Workforce Development and Strategic Collaboration to Promote Industry Expansion
Why We Started in Wisconsin

• Energy Power & Control in Wisconsin
  • 900 Companies
  • 100,000 Employees
  • Over $38 Billion in Sales

• Expanding Collaboration in Key Technology Sectors to Companies, Universities and Partners Throughout the Midwest Region

The Midwest Region Has Expansive Capabilities in Energy, Power & Control
M-WERC Technology Cluster

Energy
- Generation
- Renewable
- Fossil
- Nuclear
- Bioenergy

Power
- Transmission
- Distribution
- Storage
- Conversion
- Quality

Control
- Industrial Automation
- Building Automation
- Energy Management
- SMART Grid & Microgrid
- Electric Vehicles

We Are Working on the Future of Energy, Power & Control

PUTTING ENERGY TO WORK
Road Maps Drive Our Missions

- Technology Innovation
- Market & Industry Development
- Supportive Public Policy
- Workforce Development
- Development and Strategic Collaboration

- Distributed Energy Resources and Systems (DERS)
- Building Energy Efficiency
- Energy Water Nexus
- Renewable Energy
- Energy Storage
- Biofuels
The EIC and EPiC Incubator

EIC
(Energy Innovation Center)
- Technical Resources
  - 15,000-60,000 Sq. Ft. Offices and Labs
  - 30 Industry Partner Intrapreneurs
  - 40 Office and Lab Capacity
  - 5 Research University Partners
  - 5 Technical College Partners
- Business Assistance Resources
  - Mentorship
  - Intrapreneur-Entrepreneur Training
  - Legal Services
  - Specialized Financial Services
  - IP Exchange
- External Lab Network
  - UW-Milwaukee Power Lab
  - UW-Madison Power Labs
  - MSOE Rapid Prototype Lab
  - Milwaukee Regional Mfg. Supply Chain Network

EPiC
(Energy, Power and Control Incubation Center)
- Technical and Facility
  - 10,000-20,000 Sq. Ft. Incubator Space
  - 10 to 20 Start-up Bays
  - 3 University Partners Area
  - Energy-Power-Control "Industry Scale" Labs
- Business and Process Resources
  - CTC- SBIR/STTR Assistance
  - Lean Startup, Cleantech Open
  - WMEP Lean Supply Chain
  - CleanTech Lean Startups
  - WEDC - Seed Accelerator

New Technology  Start-ups & Spin-offs  New Products  Company Growth  Joint Ventures
Food Water Energy Nexus

- **Too Much** Water to Produce Today’s Energy
- **Too Much** Energy For Fresh & Waste Water Systems
- **Too Much** Energy, and Water Used in Today’s Food Manufacturing, Storage and Preparation

Grand Challenges

- Global Reliable, Sustainable, Energy & Electric Power
- Global Reliable, Sustainable Fresh Water & Sanitation
- Global Food Prod’n & Distribution To Eliminate Hunger