

**Powering Michigan  
Agriculture Conference**

East Lansing, MI

**March 10, 2016**



**RURAL MICHIGAN'S  
ENERGY LANDSCAPE**

**Jim Byrum**

# Why Energy?

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- New Attention
- Cost!
- Highest Electricity Rates in the Midwest
- New Technology



# Energy

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- Energy and Agriculture
- Saving Energy, Saving Money
- Renewable Generation – “The Next Frontier”
- Opportunities



<b>Corn</b>		<b>Acres</b>	<b>Yield<sup>1</sup></b>	<b>Production<sup>2</sup></b>
	<b>1970</b>	1,730,000	81	140,130,000
	<b>2025</b>	2,662,000	250	666,500,000
<b>Soybeans</b>				
	<b>1970</b>	515,000	26	13,390,000
	<b>2025</b>	2,282,500	65	148,362,500
<b>Wheat</b>				
	<b>1970</b>	495,000	39	19,305,000
	<b>2025</b>	555,500	110	61,105,000
<b>Total Bushels</b>				
	<b>1970</b>	2,740,000		172,825,000
	<b>2025</b>	5,500,000		874,967,500



# Energy - Production

<sup>1</sup> bushels/acre <sup>2</sup> bushels

# Energy is Critical!

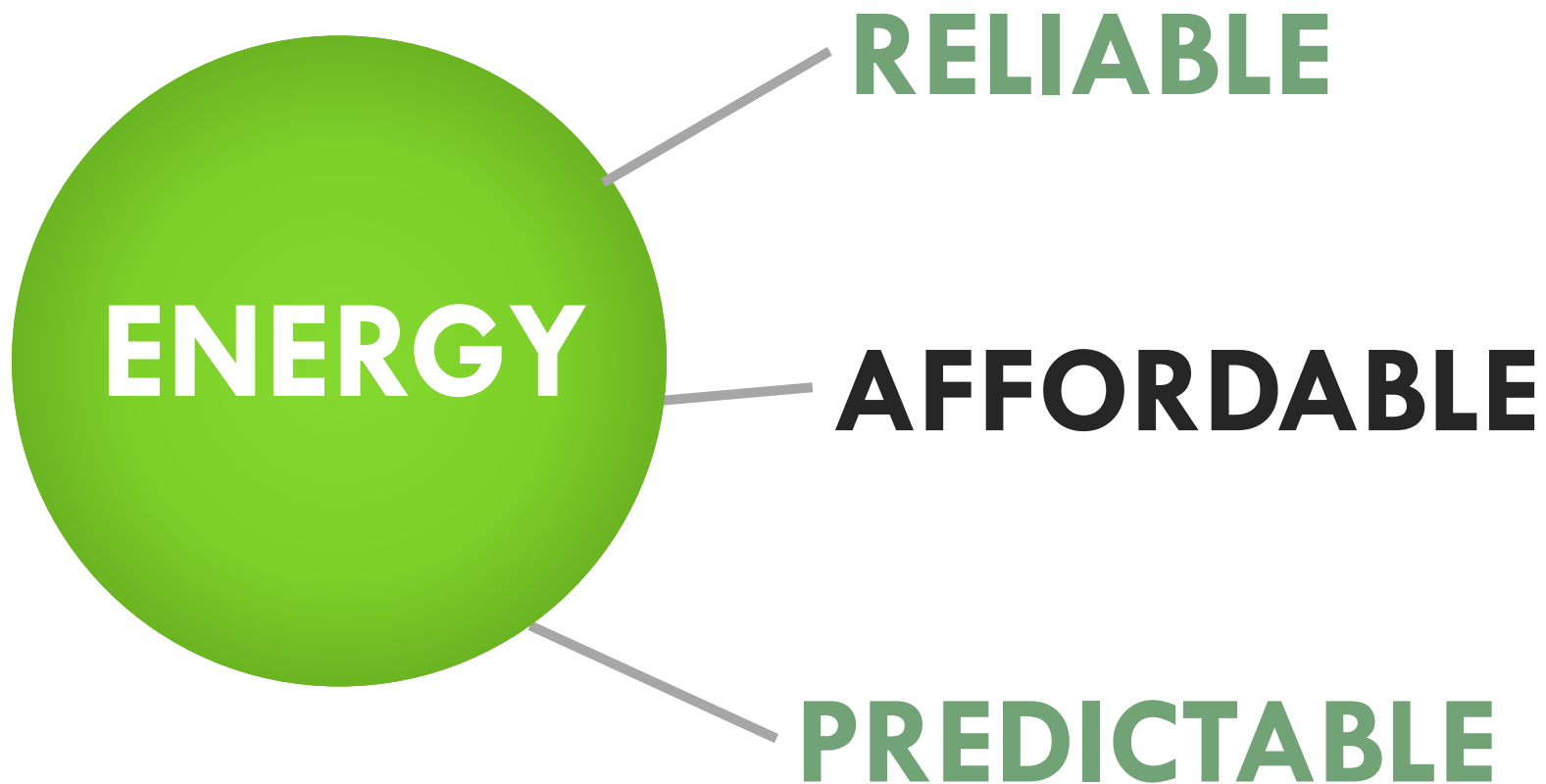
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- Facilities
- Drying Grain
- Processing
- Storage



# Energy Needs in Agriculture

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# Energy Efficiency

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## **Lower Costs, More Reliable**

- **Slow-Start Motors**
- **Variable Speed Drives**
- **HVAC**
- **Lighting**

# Energy Efficiency

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- **Energy audits** – a key first step often provided for free or reduced cost through utilities.
- Helps determine useful technology
- Significant savings for major users





# Renewable Energy

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- Consider **long-term opportunity**
- **Cost** will continue to fall
- **Storage needs** are rapidly advancing
- Agriculture has opportunities for **partnership**



# Renewable Energy

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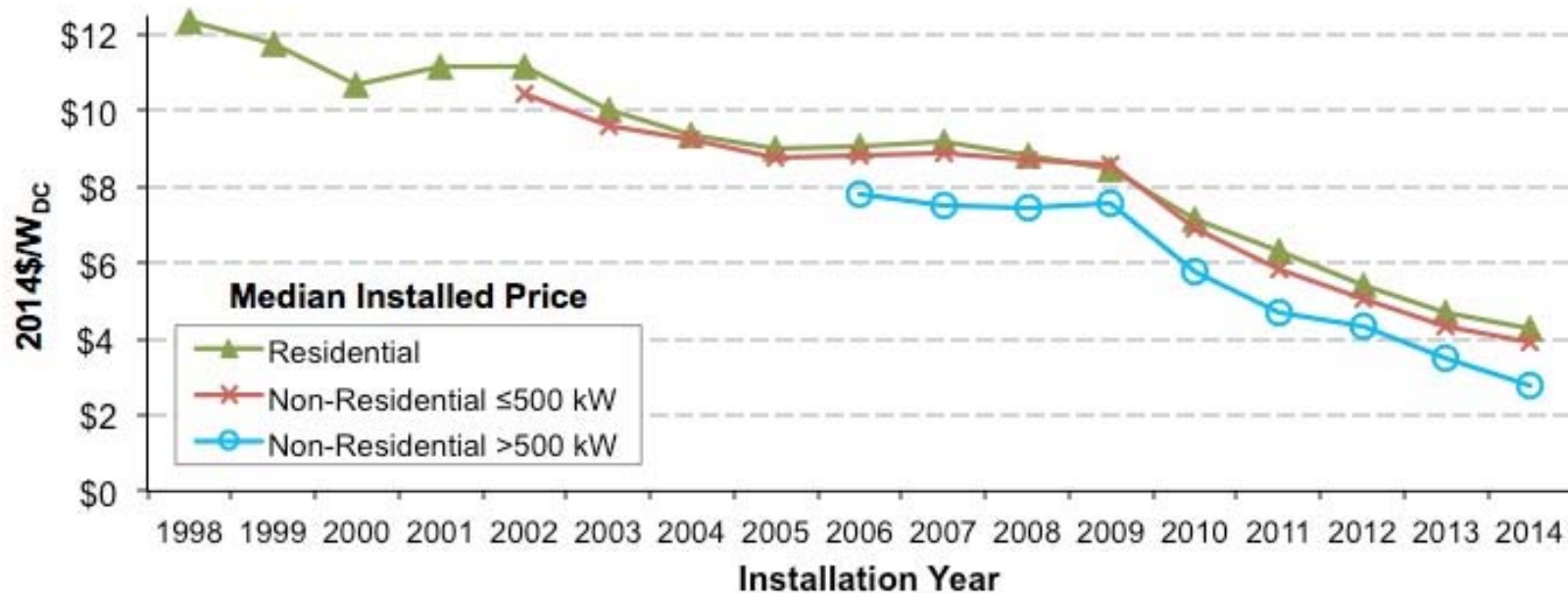
- **Rural Energy for America Program (REAP)** – funding for on-farm renewable energy generation, or energy efficient technology.
  - Loans
  - Grants



# Renewable Energy: Solar

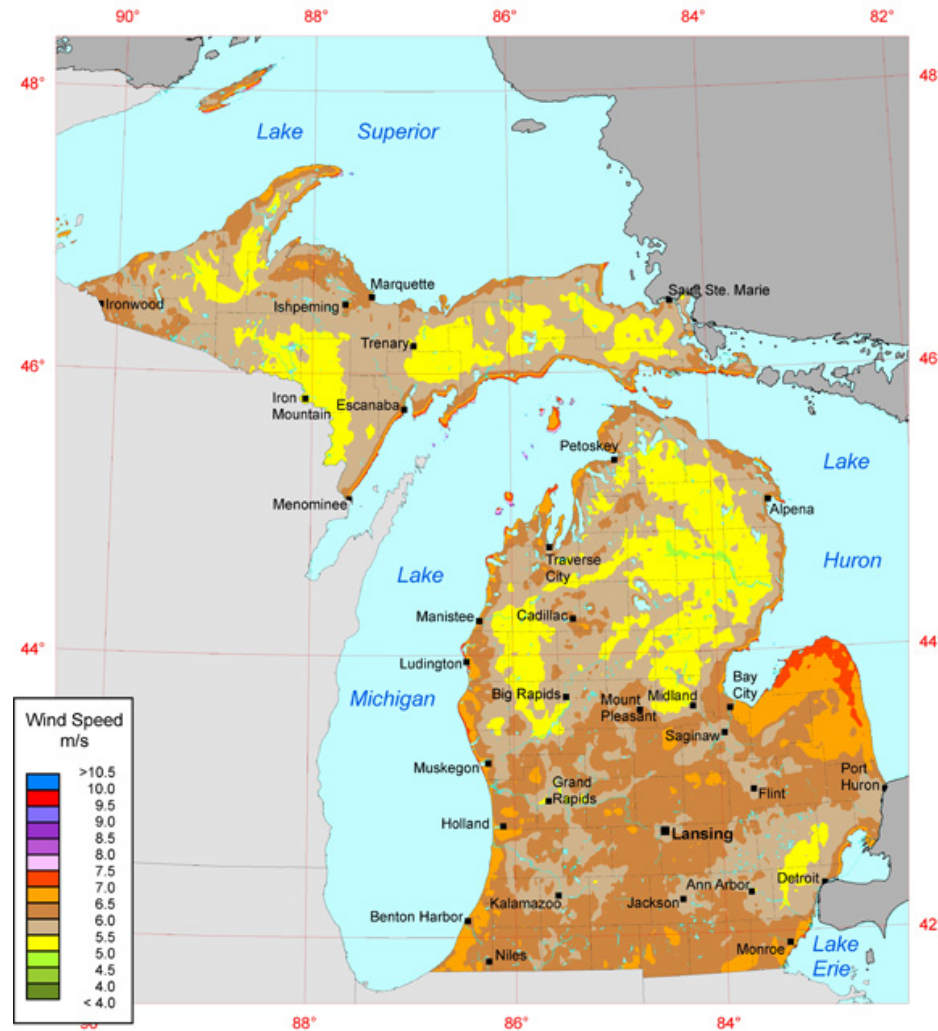
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## Installation costs continue falling...



# Renewable Energy: Wind

Michigan - Annual Average Wind Speed at 80 m



# Opportunity: Sustainability Footprint

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- On-Farm Clean Energy
  - Renewables
  - Efficiency/Savings



Corporate Sustainability Requirements



- **Renewable Energy** is one way to meet corporate sustainability requirements.

# Opportunity: Engaging with Utilities

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*Utilities may not know what you **need!***  
*Utilities may not know what you **want!***

**Consumers Energy**  
*Count on Us*



**DTE Energy**®

# Considerations for Today

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- **Efficiency: Step One!**
- **Renewable Energy:**  
“Where the puck is going.”
- **Partnership with  
Government, Utilities**

# Thank You!

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**“STRIVE TO BE WHERE THE PUCK  
IS GOING TO BE,  
NOT WHERE IT HAS BEEN!”**

Wayne Gretzky



Michigan Agri-Business Association  
[www.miagbiz.org](http://www.miagbiz.org)