Agenda

• Introduction
• Solar 101
• Case Studies
• Midwest Wind & Solar Benefits
Introduction

• 9 years of satisfying customer’s solar needs
• Proven track record in:
  ✓ Residential
  ✓ commercial & industrial
  ✓ education
  ✓ municipalities
• Fully certified including solar NABCEP
• Honest craftsmen committed to:
  ✓ consultative communication
  ✓ customer satisfaction
  ✓ reliable solar system performance
  ✓ safety and ethics
Solar Basics

• Solar Photovoltaic (PV) systems convert sunlight to electricity without water or moving parts.

• PV systems use cells connected together to form solar modules, or panels, which then linked together form solar arrays.

• Solar panels can be mounted on roof tops, parking structures, or on the ground.

• Solar systems produce predictable on site generated electricity with minimum maintenance.

• Solar technology is well established (+40 years) and the system construction materials used are safe
Common Myths

• It’s not sunny enough

• Solar Panels are Fragile

• Too Expensive/Too subsidized

• Costs jobs/Hurts the Economy

• New -Untested Technology

• Unattractive/Hurts property values

• Dangerous Glare
Not Enough Sun in Midwest?

Indiana has more solar potential than Germany, a solar leader

- Phoenix
- Los Angeles
- Hawaii
- Austin Texas
- Atlanta
- Miami
- Indiana
- Alaska
- Germany

Solar Energy Potential:

- Indiana
- Germany
What About All That Snow? Will they be storm damaged?

Yes, snow shuts down your solar array (temporarily) when it blocks the light.

**BUT...**

- There is very little sun in the winter.
- December, January and February = about 5% of yearly sun
- If snow covers your panels for a few weeks, you are losing very little energy production.
- Panels can withstand 2 inch hail, 90 mph wind.
Solar is too expensive

- Solar installation costs are dropping rapidly. They went down 70% in seven years between 2010 and 2017.
“New Technology”

Solar PV Performance

- Some systems have been in place since the 70s
- Demonstrated 80 percent of original output after 25 years
Tri-Creek Case Study

- Installed 23kW in November 2015 with significant student engagement
- Added 59kW in May 2016
Lake Prairie Elementary School Solar Array

- System Size: 273 kW DC
- Location: Lowell, IN
- Client: Tri-Creek Schools
- Racking Type: Patriot Solar
- Racking Quantity: 5 Full Rows
- Foundation Type: Driven C Channel
- Foundation Quantity: 103
- Module Type: Hanwha Q Cell (335W)
- Module Quantity: 828
- Date Completed: May 2017
- MWS Role: Turn-Key Installation
Three Creeks Elementary School Solar Array

- System Size: 229 kW DC
- Location: Lowell, IN
- Client: Tri-Creek Schools
- Racking Type: Patriot Solar
- Racking Quantity: 11 Rows
- Foundation Type: Driven C Channel
- Foundation Quantity: 100
- Module Type: Hanwha Q Cell (330W)
- Module Quantity: 694
- Date Completed: July 2017
- MWS Role: Turn-Key Installation
Solar benefits

Midwest Wind and Solar Value

• Local personal service and outstanding craftsmanship:
  - Free consult, site assessment and custom design
  - Total solution: Midwest Wind and Solar experts install, monitor and maintain your system
  - 5 year workmanship warranty
  - Solar financing support program

• Professional engineering:
  - Optimized system design
  - Tier One component solutions (and robust warranty programs; 25 year production warranty)

Benefits

• Save up to 100% in monthly energy bill and vastly reduce total electricity cost over the 20-25 year term by protecting against electricity rate increases
• No upfront investment by client using financing
• No ongoing maintenance responsibilities for the solar projects
• Achieve 20 % reduction in carbon emissions
Thank You!
BJ Ward Elementary School Solar Array

- System Size: 358 kW DC
- Location: Bolingbrook, IL
- Client: PSI
- Racking Type: S:Flex
- Racking Quantity: 1055
- Foundation Type: Ballasted Roof
- Foundation Quantity: 934
- Module Type: Trina Solar (340W)
- Module Quantity: 1055
- Date Completed: July 2017
- MWS Role: Mechanical/DC/AC Installation
Jamie McGee School Solar Array

- System Size: 244 kW DC
- Location: Bolingbrook, IL
- Client: PSI
- Racking Type: S:Flex
- Racking Quantity: 729

- Foundation Type: Ballasted Roof
- Foundation Quantity: 828
- Module Type: Hanwha Q Cell (335W)
- Module Quantity: 729

- Date Completed: July 2017
- MWS Role: Mechanical/DC/AC Installation
Jane Addams Middle School Solar Array

- System Size: 450 kW DC
- Location: Bolingbrook, IL
- Client: PSI
- Racking Type: S:Flex
- Racking Quantity: 1344
- Foundation Type: Ballasted Roof
- Foundation Quantity: 792
- Module Type: Hanwha Q Cell (335W)
- Module Quantity: 1344
- Date Completed: July 2017
- MWS Role: Mechanical/DC/AC Installation
John Lukancic Middle School Solar Array

- System Size: 308 kW DC
- Location: Bolingbrook, IL
- Client: PSI
- Racking Type: Panel Claw
- Racking Quantity: 921
- Foundation Type: Ballasted Roof
- Foundation Quantity: 2055
- Module Type: Hanwha Q Cell (335W)
- Module Quantity: 921
- Date Completed: July 2017
- MWS Role: Mechanical/DC/AC Installation