Midwest
Wind & Solar
Renewable Energy Experts

Agenda

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

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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

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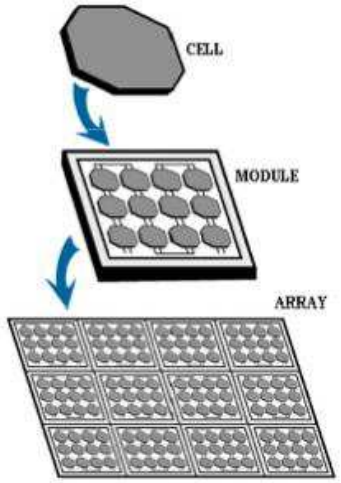
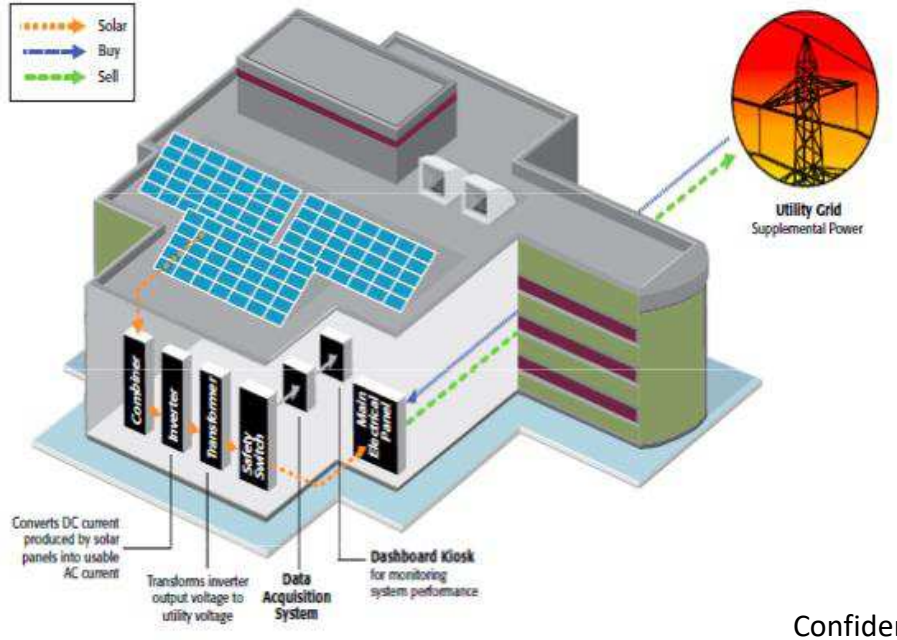
Solar Basics

- 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





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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

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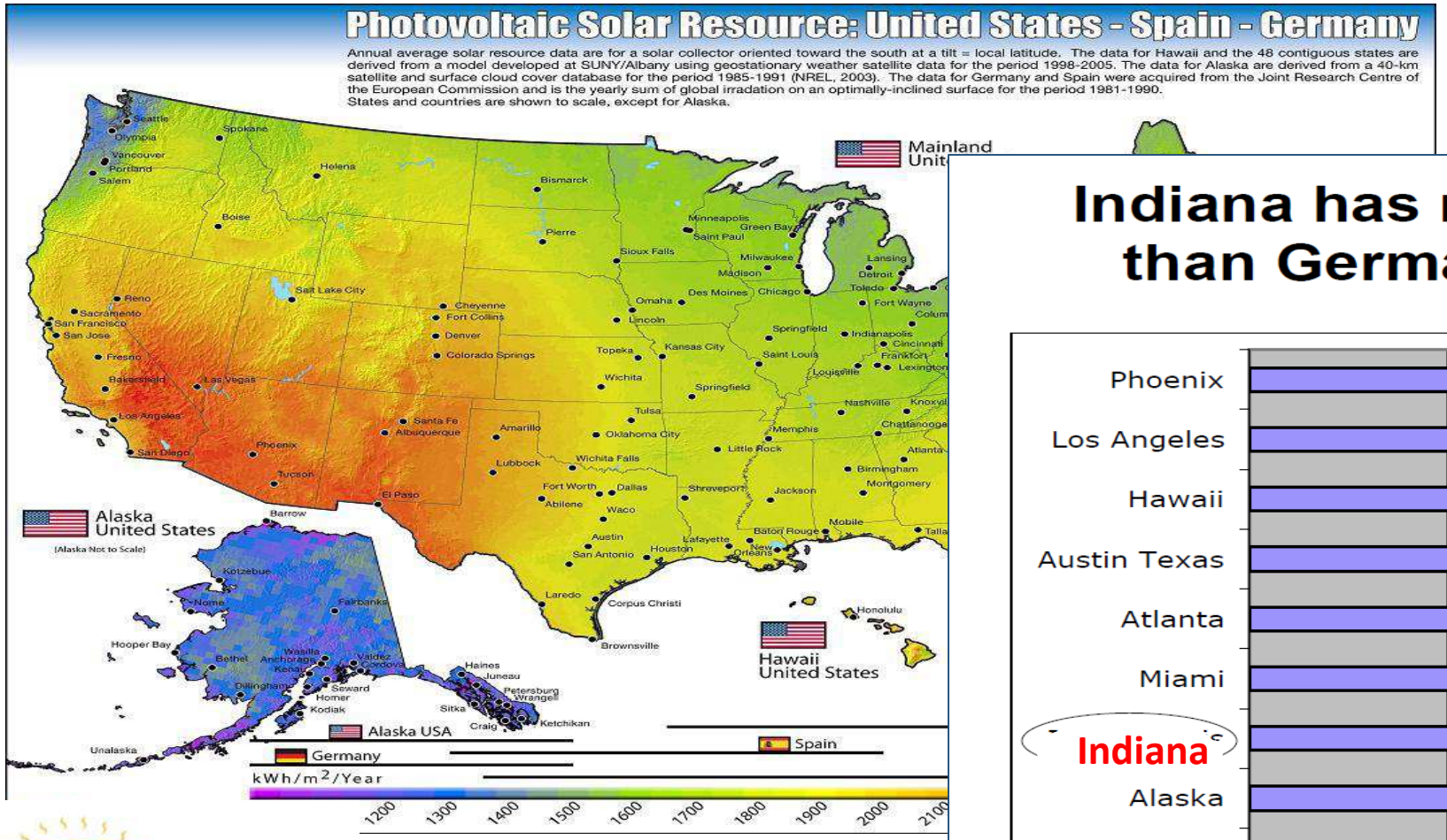
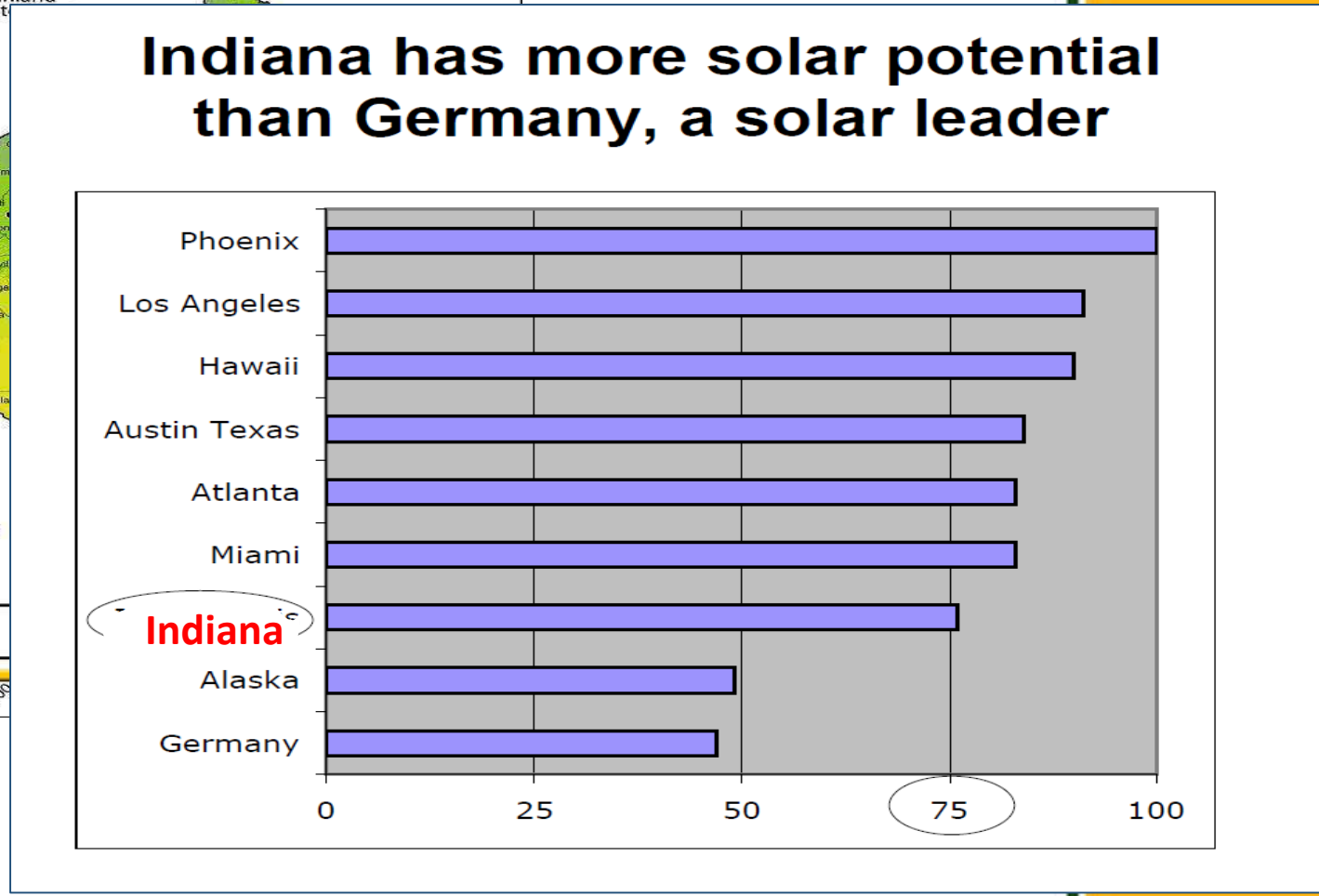
Not Enough Sun in Midwest?





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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.

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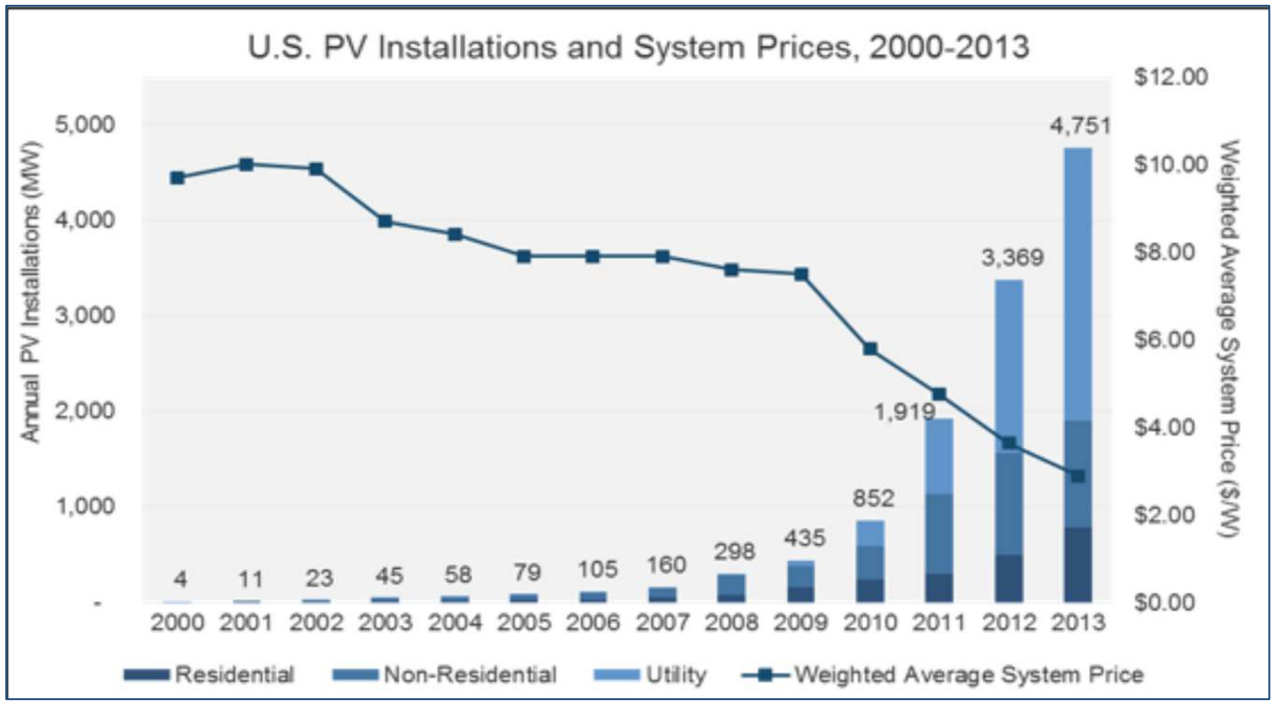
Solar is too expensive



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

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“New Technology”

Solar PV Performance

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

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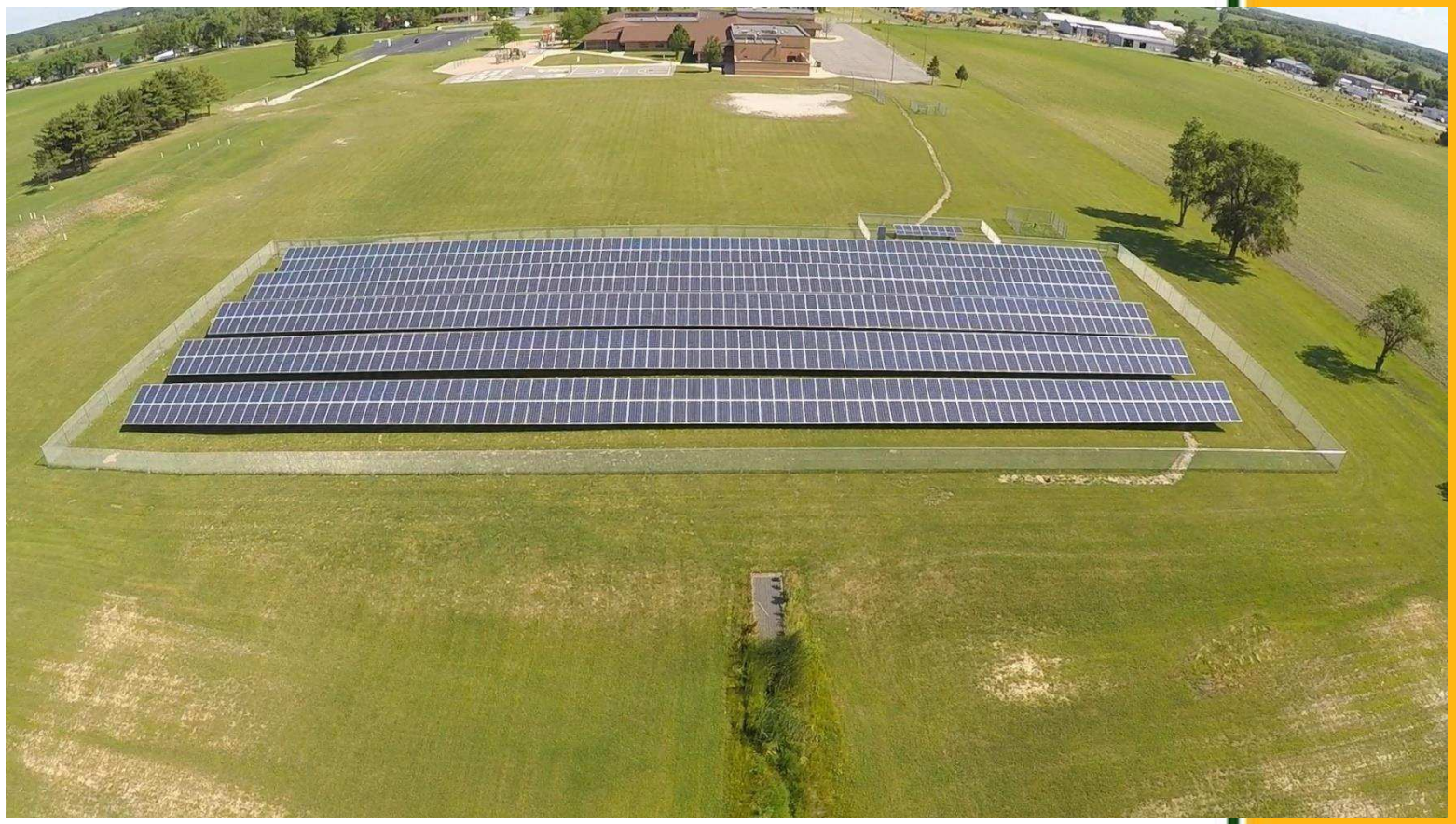
Tri-Creek Case Study

- 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



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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

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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

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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

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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

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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

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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

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