

# Melink Solar™



## Melink Solar & Mount Saint John

Energize Your Business: On-Site Solar Investment for Cost Savings

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**Drew Guthridge**  
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Beavercreek, Ohio  
Fixed Tilt Ground Mount  
854.4 kW-DC  
Completed 2023

## Introduction

# Meet the Presenters

**DREW GUTHRIDGE**  
Chief Financial Officer  
Melink Solar  
Milford, OH



Drew Guthridge holds B.A. in Accounting and a M.B.A. from Wright State University in Dayton, Ohio. Drew joined the Melink Solar team in September of 2023.

Prior to joining Melink Solar Drew worked 10+ years in tier-1 automotive manufacturing including CFO & CEO roles in global organizations. During his time in manufacturing, Drew lead sustainability initiatives including solar implementations, carbon footprint analyses and net-zero carbon roadmaps.

Now, Drew is part of the Melink team and focused on empowering our commercial and manufacturing customers to understand and realize the benefits of on-site solar generation.

**JEFF BOHRER, M.S., P.E.**  
Director of Facilities  
Mount Saint John  
Beavercreek, OH



Jeff Bohrer is a civil engineer by training with a masters degree in dam engineering. He became passionate about energy efficiency, and renewable energy after he moved on from civil engineering into teaching. He used his home as a laboratory, adding a ground source heat pump and PV solar, and installed solar thermal himself and have been enjoying an almost net zero home for over 10 years. Jeff developed a Renewable Energy Engineering course for high school students that was added to the curriculum during his tenure as a high school physics teacher. Jeff's facilities background took off in earnest when he became the Director of Property Management and Real Estate for the Archdiocese of Cincinnati. He promoted and helped parishes implement energy efficiency strategies and renewable energy projects to the point where the Archdiocese was seen as a leader in promoting care for the earth practices. Jeff is now the Director of Mount Saint John Facilities at the 160 acre, 8 building campus to maintain and plan and implement for the future. He oversaw a \$4M major renovation to the retreat center where he served as the project designer and general contractor and a \$1.7M solar array installation that makes the campus net zero on an annual basis.





## Introduction

# Learning Objectives

- **Understanding Energy Market Trends** – gain an understanding of domestic energy market dynamics, historical trends, the current market & future projections.
- **Financial Analysis (ROI)** – review the financial analysis of a recent example of a solar installation for a family-owned manufacturing company. Take our audience through the various ROI metrics and projected cash flows related to an on-site solar installation.
- **Solar System Financing Options** – preview various financing options that are available for on-site solar generation.
- **Regulatory and Incentive Landscape** – outline and discuss the relevant portions of the 2022 Inflation Reduction Act. Additionally, understanding what other local/state incentives are available to companies investing in on-site solar.
- **Environmental & Sustainability** - understand the environmental benefits of solar energy, including reduced carbon emissions and sustainability initiatives. Particularly the shift towards sustainability in customer preferences; Wal-Mart, Amazon, Automotive Industry.
- **Learn from Industry Leaders** - learn why a local organization made on-site solar generation a reality - and how it is WINNING.



Loveland, OH  
Standing Seam Roof Mount  
429 kW DC  
Completed 2022

# Agenda

- 1 Melink Solar - Introduction
- 2 Energy Market Trends
- 3 Regulatory & Incentive Landscape
- 4 On-site Solar Financial Analysis (ROI)
- 5 Sustainability
- 6 Learn from Industry Leaders





Introduction - Melink Solar

# Melink Solar



## **ABOUT MELINK SOLAR**

Founded in 2009 and based in Milford, Ohio, Melink Solar is a leading developer of solar arrays in the Commercial/Industrial (C&I) and Independent Power Producer (IPP) markets.

Melink Solar has installed over **200 MW of generation** and over **400,000 solar panels since inception**.

## **SOLAR EPC (Engineering, Procurement, Construction)**

Melink Solar is a full-service commercial solar **EPC** firm delivering turnkey projects for a seamless customer experience. Melink Solar partners with businesses and developers to design and build innovative solar PV systems of all sizes — from 100 kW to >30 MW — including ground-mounted, roof-mounted, and solar canopy arrays.



Melink Solar Campus  
Net Zero – LEED Platinum  
Milford, OH

Introduction - Melink Solar

# Regions & Customers Served

amazon

NORTHROP GRUMMAN

TOYOTA

FedEx®

NEXTERA ENERGY

P&G

WORTHINGTON INDUSTRIES

R.A. JONES  
a coesia company

DHL

Lexmark

Melink Solar™





Introduction - Melink Solar

# Examples of Completed Projects



Salem, Ohio



Warren, Ohio



Burton, Ohio



Lawrence, New Jersey



Oahu, Hawaii



Beaver Falls, Pennsylvania



Mt. Morris, Illinois



Rockford, Illinois



Indianapolis, Indiana



Rhode Island



Buffalo, New York



Chicago, Illinois



Beaver Falls, Pennsylvania



Coldwater, Michigan



Haskins, Ohio



Cincinnati, Ohio



Oahu, Hawaii



Cincinnati, Ohio



Walnut Grove, Indiana



Cedarville, Ohio



Nebraska



Colorado



Massachusetts



Texas



# Agenda

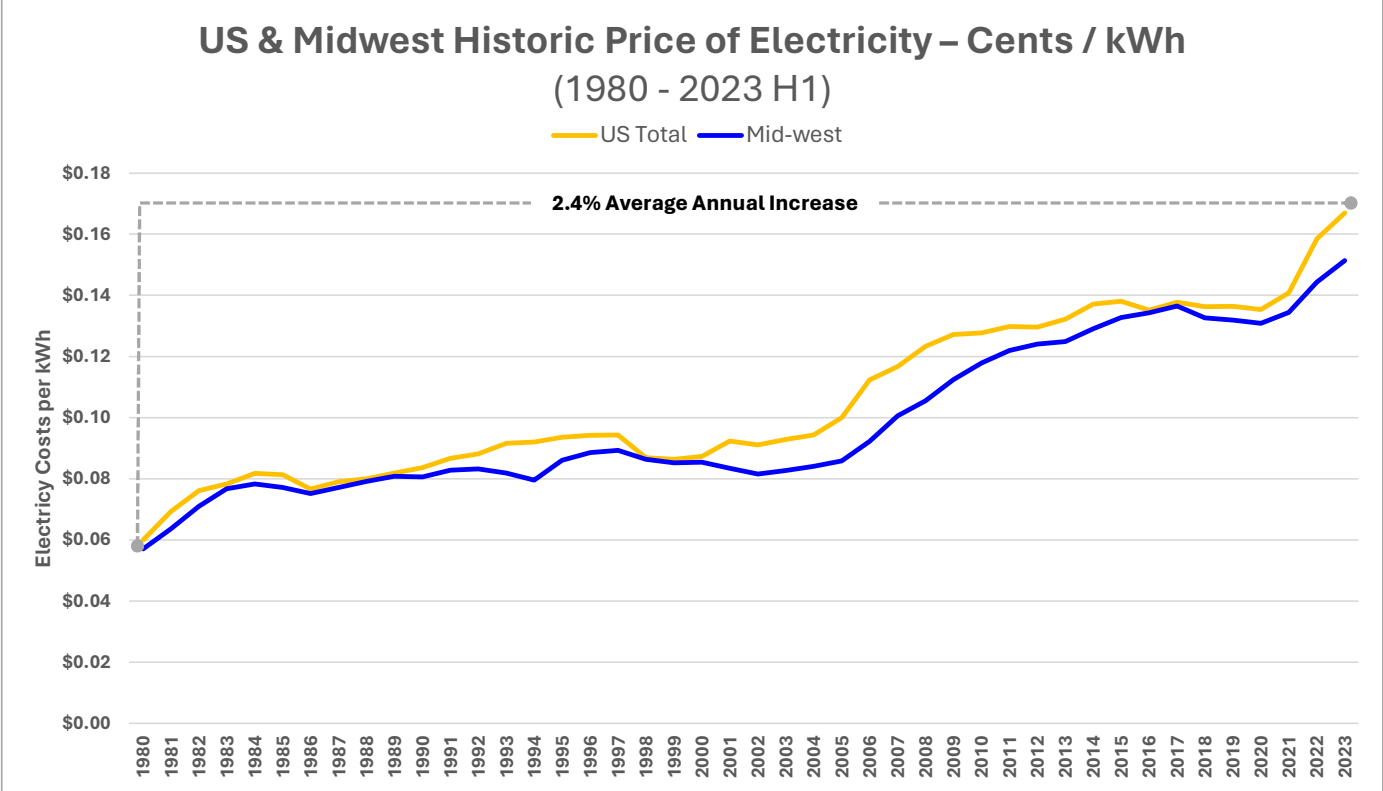
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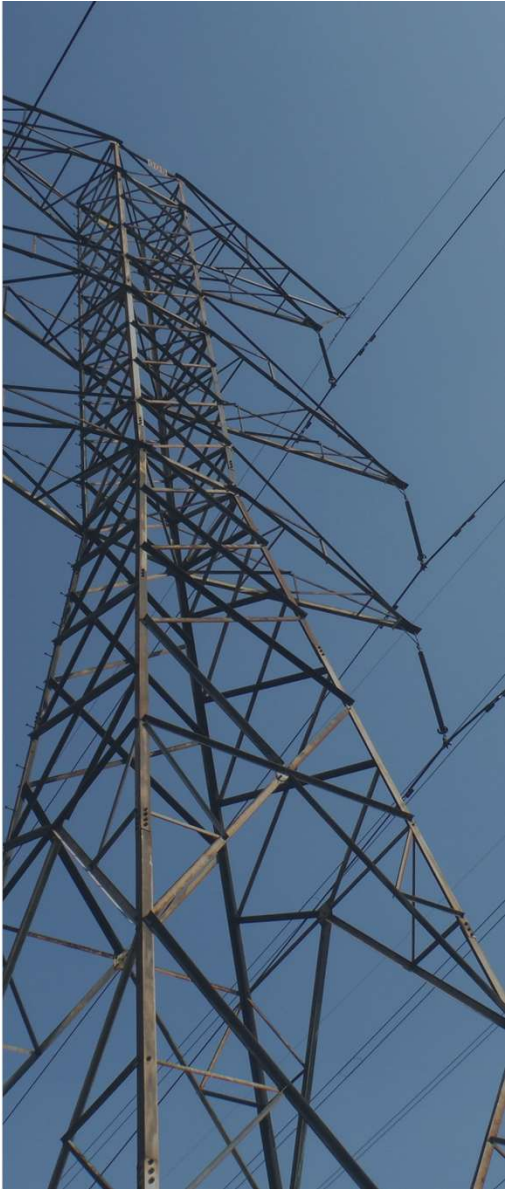


Understanding Energy Market Trends

# Increasing Electricity Price Trends



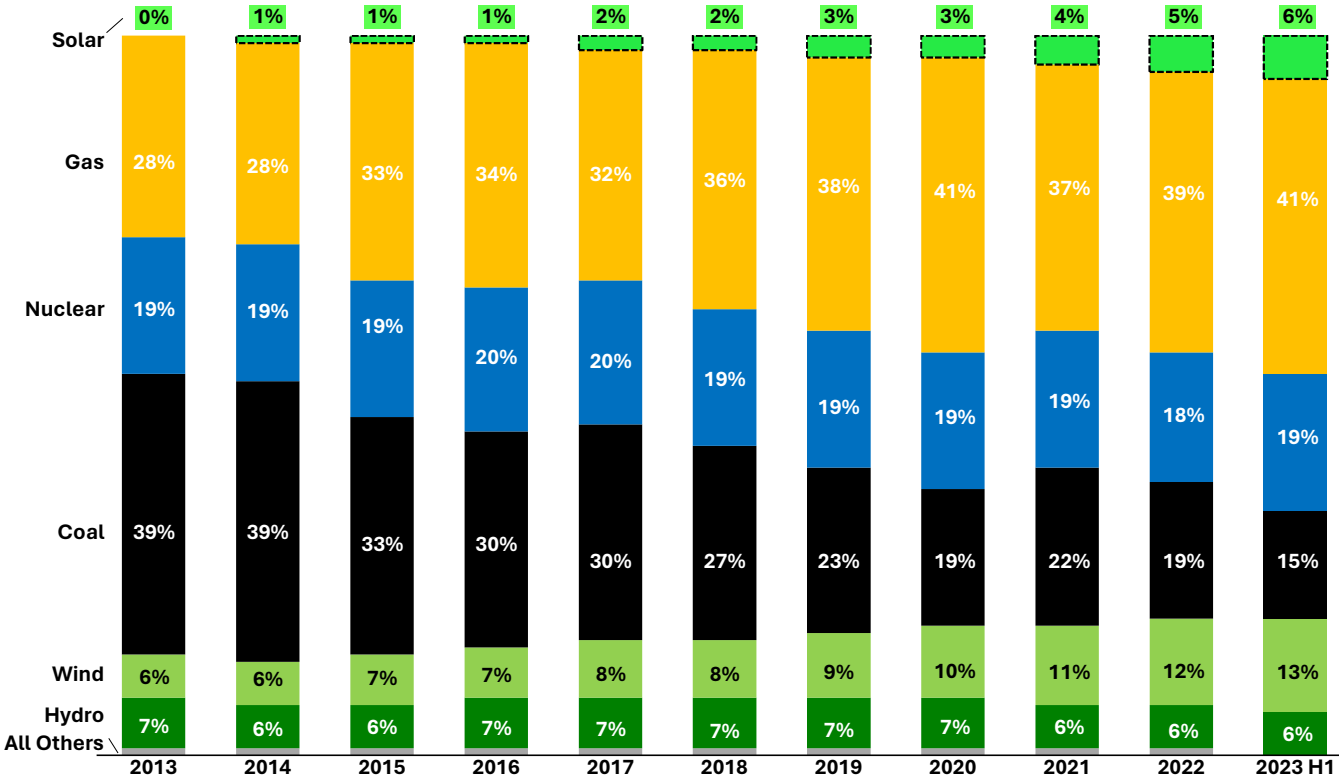
Source: U.S. BUREAU OF LABOR STATISTICS



Understanding Energy Market Trends

# Historic & Current Generation by Source

**Total US Electricity Generating Capacity Mix  
2012 – H1 2023**



Source: US Energy Information Administration (.GOV)

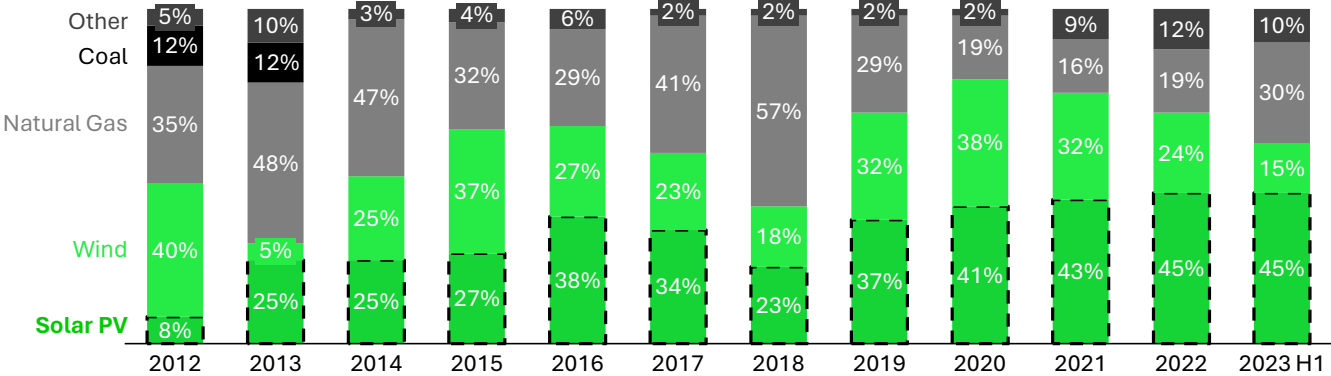




Understanding Energy Market Trends

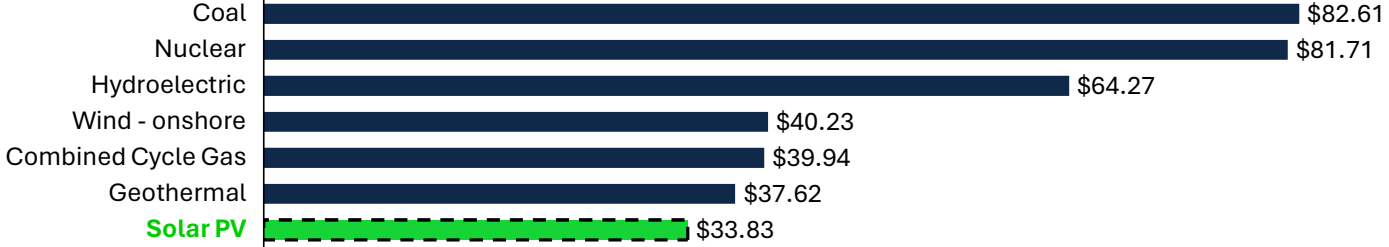
# Historic Generation Shift to Solar PV

**New US Electricity Generating Capacity Additions, 2012 – H1 2023**



Source: Wood Mackenzie, US Energy Information Administration (for all other technologies)  
[https://go.woodmac.com/l/131501/2023-09-06/2zs132/131501/1694057827/bd8uovO/US\\_SML\\_Q3\\_2023\\_Executive\\_Summary.pdf](https://go.woodmac.com/l/131501/2023-09-06/2zs132/131501/1694057827/bd8uovO/US_SML_Q3_2023_Executive_Summary.pdf)

**Capacity Weighted Levelized Cost of Electricity (LCOE) – 2021 \$/MWh**

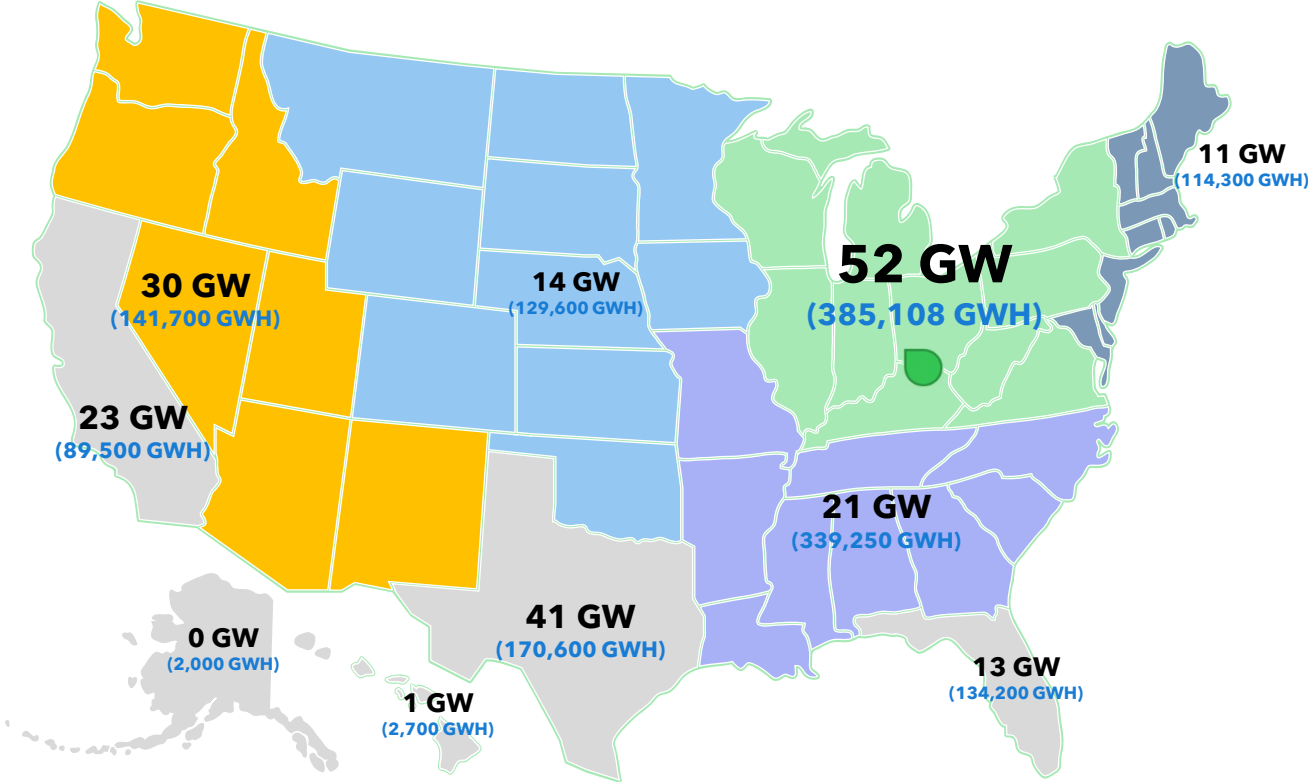


Source: US Energy Information Administration  
[https://www.eia.gov/outlooks/aeo/pdf/electricity\\_generation.pdf](https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf)



Understanding Energy Market Trends

# Solar Growth Projections



“What happens now is not just about the short run, It sets the path to a long-term target for 2050.”

Humayun Tai  
Senior Partner, McKinsey

New Solar PV Generation Forecasted 2023-2028 in GW. **Total is 205 GW**  
2022 Energy Consumption in GWH. **Total is 1,510,000 GWH**



Source: SEIA Solar State by State: <https://www.seia.org/states-map>  
Source: McKinsey & Company, Humayun Tai, Senior Partner  
<https://www.mckinsey.com/our-people/humayun-tai>



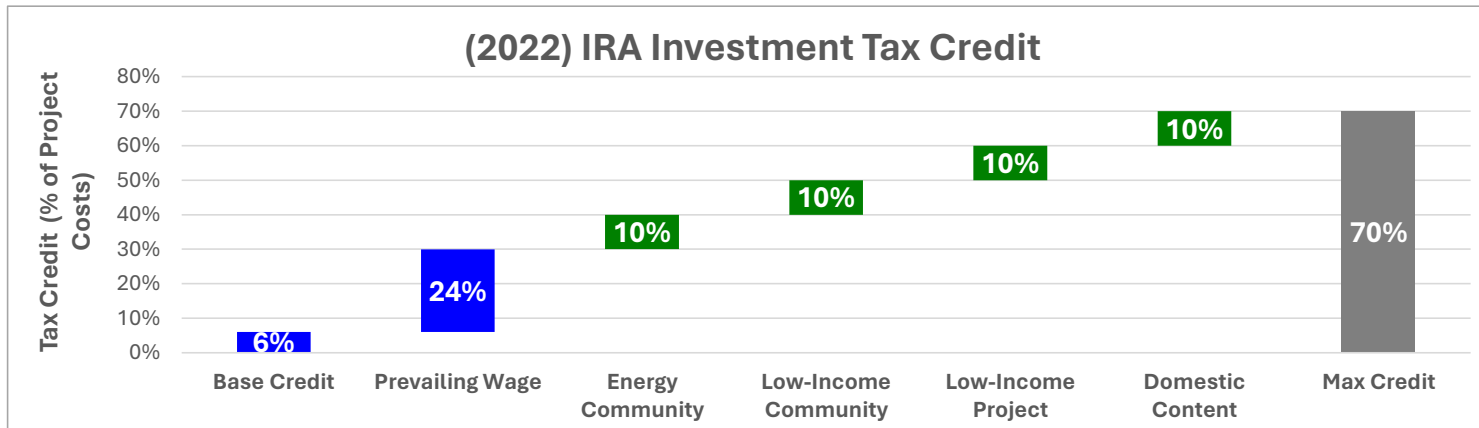
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## Regulatory & Incentive Landscape

# Inflation Reduction Act Tax Credits (2022)



**The Investment Tax Credit (ITC)** reduces upfront investment costs for a solar PV system or battery energy storage system that is installed during the tax year. Eligible costs include: the system itself, installation costs, and interconnection costs for projects 5 MW or less. The ITC is applicable for tax years 2023 through 2033.

### OVERVIEW OF TAX CREDITS & ADDERS

**Base Credit** – Generally applies across solar PV systems and/or battery energy storage systems.

**Prevailing Wage** – For projects >1MW-AC certain local prevailing wage and apprenticeship hours requirements must be met. For projects <1MW-AC the prevailing wage is automatically added to the “Base Credit” for a total base credit of 30%.

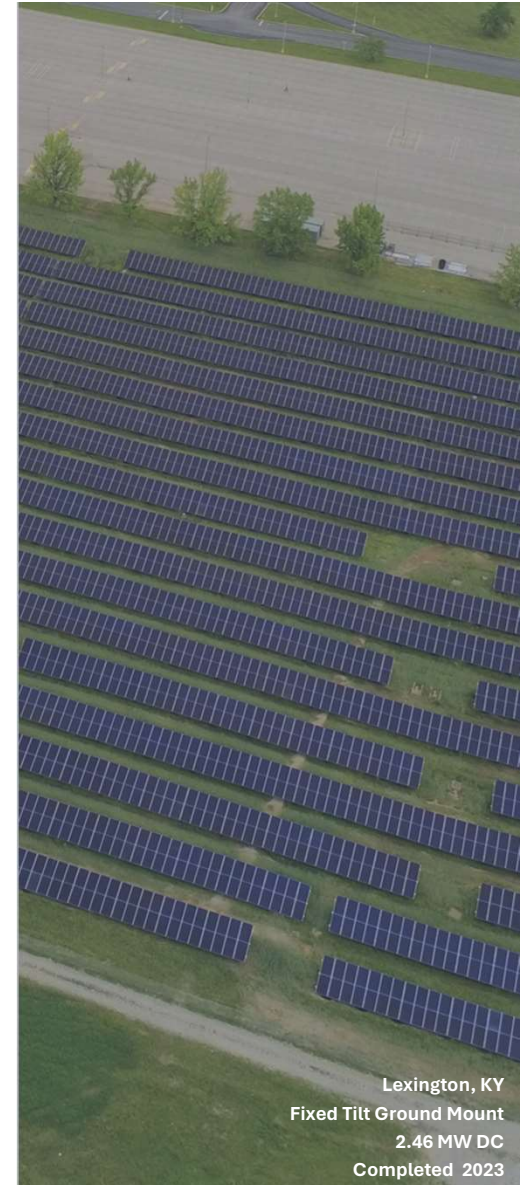
**Energy Community** – Projects located in DOE designated “energy communities”.

**Low-Income Community** – Projects located in “low-income communities”.

*\*\*There will be a finite pool of tax credits available each year that applicants can apply and compete for an award.\*\**

**Low-Income Project** – Projects that meet criteria for qualified low-income residential building / qualified low-income economic benefit project.

**Domestic Content** – Projects that meet a defined “domestic content” requirement. Elements of this requirement are still under draft by the US Dept of Treasury.



Lexington, KY

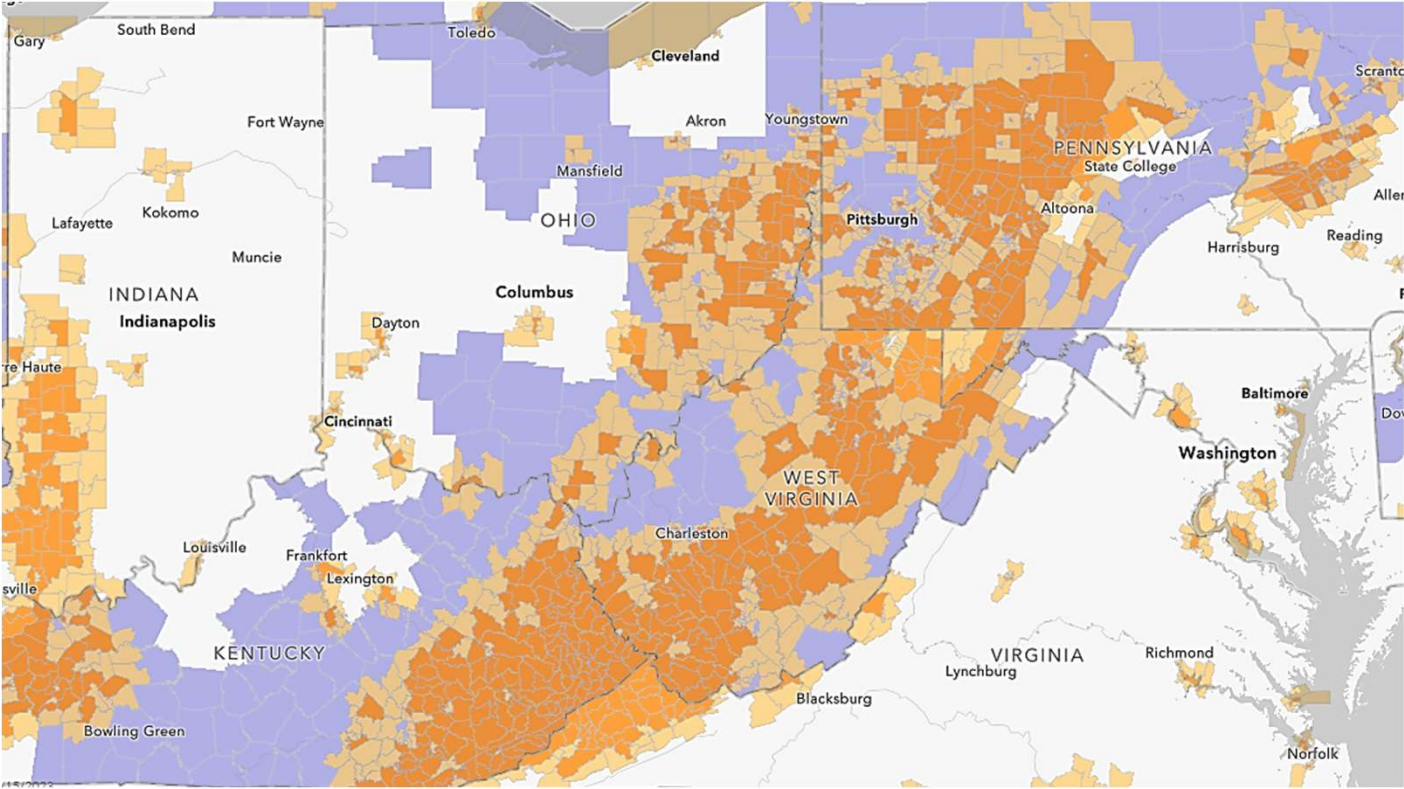
Fixed Tilt Ground Mount

2.46 MW DC

Completed 2023

# Regulatory & Incentive Landscape

## Energy Community Map - US DoE



Source: US Department of Energy (.GOV)

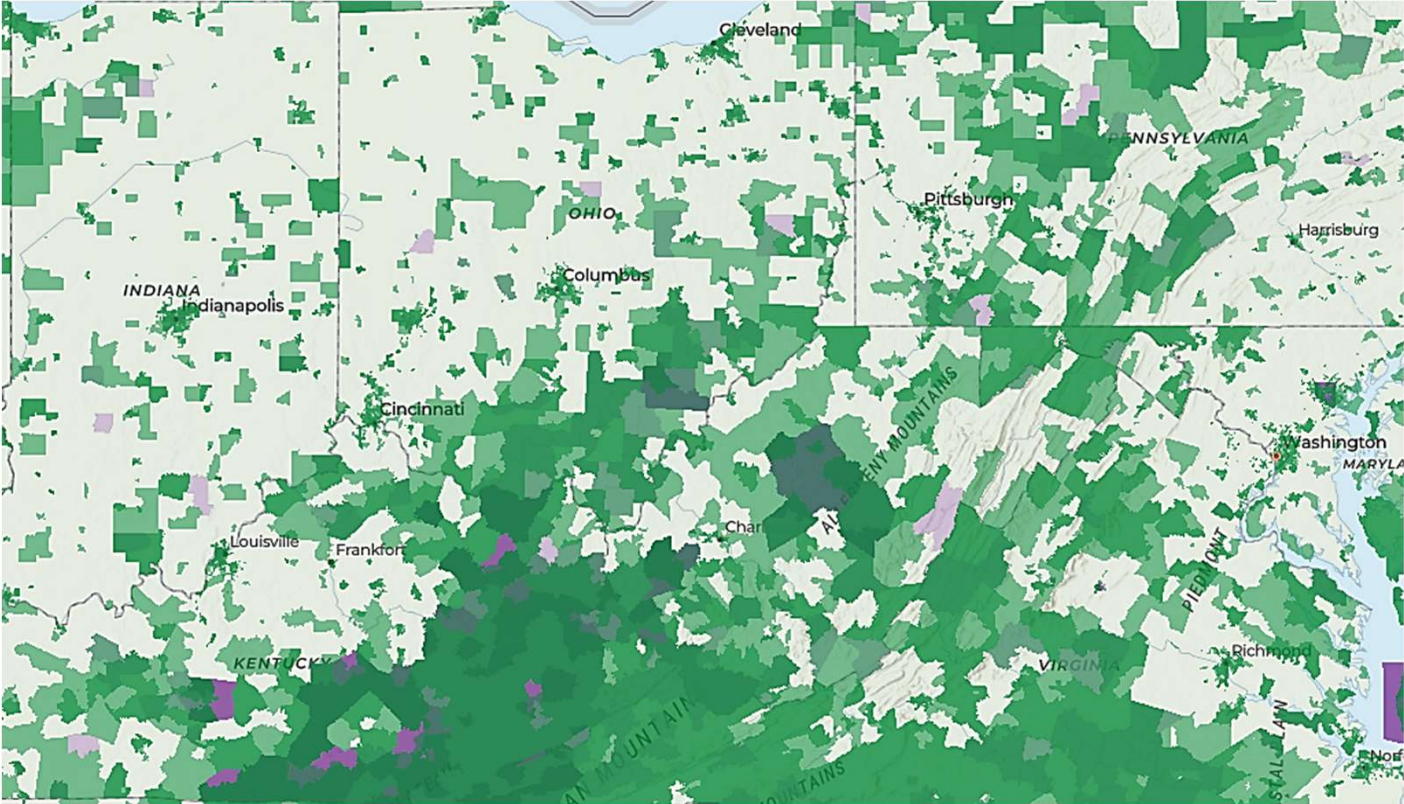


Hebron, KY  
Ballasted Roof Mount  
307 kW-DC  
Completed 2023

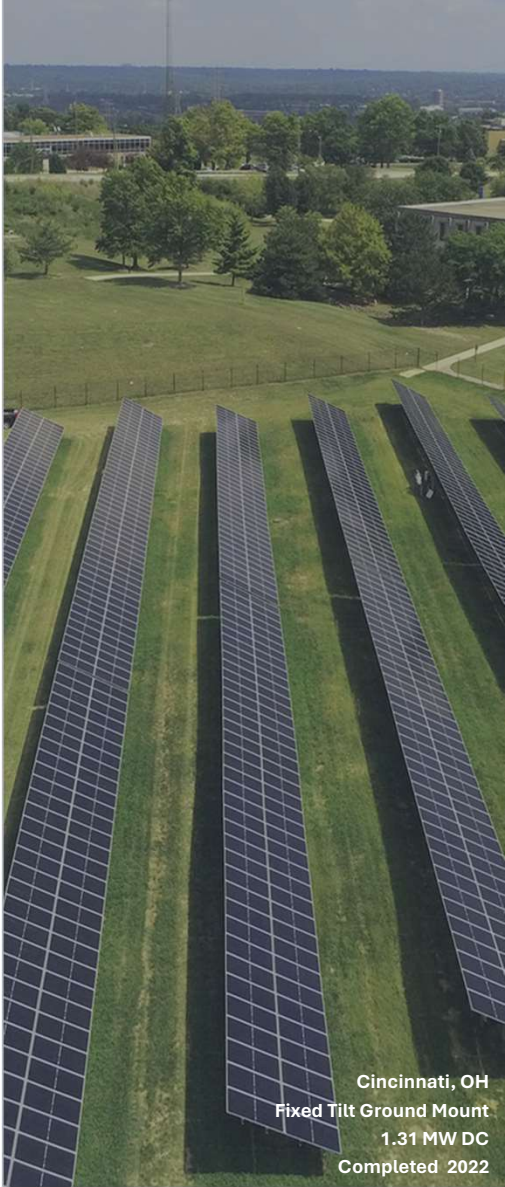


Regulatory & Incentive Landscape

# Low-Income Communities Map (Cat. 1)



Source: U.S. Department of Energy, National Renewable Energy Laboratory (NREL)



Cincinnati, OH  
Fixed Tilt Ground Mount  
1.31 MW DC  
Completed 2022

# Agenda

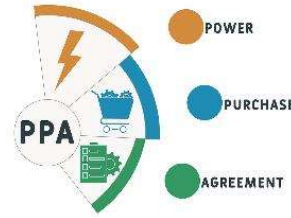
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# On-site Solar Financial Analysis (ROI)

## Solar PV Purchase Options



	Purchase	Property Assessed Clean Energy (PACE)	Power Purchase Agreement (PPA)
Upfront Cost	\$\$\$	Zero	Zero
Tax Benefits:	Owner	Owner	Third party investor
Payments:	100% Upfront	Tax bill	Monthly
Typical Term:	N/A	20-30 years	20-30 years
Best For:	Best ROI	Cash flow neutral	Fixed rate for 30-years
O&M:	Owner	Owner	Third party investor



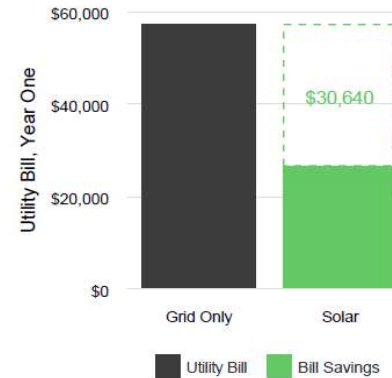
Chicago, Illinois  
 Standing Seam Roof Mount  
 1.8 MW DC  
 Completed 2020



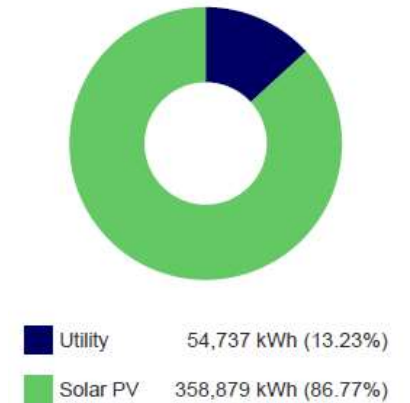
# On-site Solar Financial Analysis (ROI) Savings Case Study

- **Family-Owned Manufacturing Company**
  - Cincinnati, OH
  - 45,000 square foot facility
  - Building age, 47 years
  - Current Annual Electricity Costs = \$57,000
  - Target Annual Electricity Costs < \$31,000
- **Mechanically Attached Rooftop Solar Array (276KW)**
  - Installed December 2023

ELECTRIC BILL



Energy Mix



CURRENT ELECTRIC BILL

Time Periods Bill Ranges & Seasons	Energy Use (kWh) Total	Charges			
		Other	Energy	Demand	Total
1/1/2023 - 2/1/2023 S1	34,900	\$49	\$2,641	\$2,118	\$4,808
2/1/2023 - 3/1/2023 S1	34,000	\$49	\$2,573	\$2,118	\$4,740
3/1/2023 - 4/1/2023 S1	32,000	\$49	\$2,422	\$2,118	\$4,589
4/1/2023 - 5/1/2023 S1	40,000	\$49	\$3,026	\$2,118	\$5,193
5/1/2023 - 6/1/2023 S1	29,000	\$49	\$2,196	\$2,118	\$4,363
6/1/2022 - 7/1/2022 S1	38,000	\$49	\$2,875	\$2,118	\$5,042
7/1/2022 - 8/1/2022 S1	39,000	\$49	\$2,950	\$2,118	\$5,117
8/1/2022 - 9/1/2022 S1	40,000	\$49	\$3,026	\$2,118	\$5,193
9/1/2022 - 10/1/2022 S1	33,900	\$49	\$2,566	\$2,118	\$4,733
10/1/2022 - 11/1/2022 S1	31,800	\$49	\$2,407	\$2,118	\$4,574
11/1/2022 - 12/1/2022 S1	29,800	\$49	\$2,257	\$2,118	\$4,423
12/1/2022 - 1/1/2023 S1	31,216	\$49	\$2,363	\$2,118	\$4,530
<b>Total</b>	<b>413,616</b>	<b>\$588</b>	<b>\$31,303</b>	<b>\$25,414</b>	<b>\$57,305</b>

NEW ELECTRIC BILL (Year 1)

Time Periods Bill Ranges & Seasons	Energy Use (kWh) Total	Charges			
		Other	Energy	Demand	Total
1/1/2023 - 2/1/2023 S1	20,925	\$49	\$1,587	\$2,026	\$3,662
2/1/2023 - 3/1/2023 S1	15,692	\$49	\$1,193	\$1,995	\$3,237
3/1/2023 - 4/1/2023 S1	3,729	\$49	\$284	\$1,770	\$2,103
4/1/2023 - 5/1/2023 S1	3,269	\$49	\$249	\$1,688	\$1,986
5/1/2023 - 6/1/2023 S1	-12,390	\$49	\$942	\$1,709	\$815
6/1/2022 - 7/1/2022 S1	-6,435	\$49	\$490	\$1,719	\$1,278
7/1/2022 - 8/1/2022 S1	-5,652	\$49	\$430	\$1,551	\$1,169
8/1/2022 - 9/1/2022 S1	-1,736	\$49	\$133	\$1,790	\$1,707
9/1/2022 - 10/1/2022 S1	504	\$49	\$39	\$1,821	\$1,909
10/1/2022 - 11/1/2022 S1	5,848	\$49	\$445	\$1,903	\$2,397
11/1/2022 - 12/1/2022 S1	12,941	\$49	\$984	\$1,934	\$2,967
12/1/2022 - 1/1/2023 S1	18,043	\$49	\$1,370	\$2,016	\$3,434
<b>Total</b>	<b>54,738</b>	<b>\$588</b>	<b>\$4,156</b>	<b>\$21,921</b>	<b>\$26,665</b>

Savings

-87%    -14%    -53%



# On-site Solar Financial Analysis (ROI)

## Solar Investment & Cash Flow Projection

### System Price

#### Solar PV System Cost and Incentives

Solar PV System Cost	\$601,165	
Federal Tax Credit	(\$180,350)	-30%
Federal - MACRS Bonus Depreciation	(\$189,066)	-31%
State (OH) Depreciation	(\$30,058)	-5%
<b>Net Solar PV System Cost</b>	<b>\$201,691</b>	<b>34%</b>

<b>Total Project Costs</b>	\$601,165	<b>Net Present Value (@ 5.50%)</b>	\$354,313
<b>Lifetime Electric Bill Savings</b>	\$1,336,106	<b>ROI</b>	186%
<b>Payback Period</b>	6.2 Years	<b>Internal Rate of Return</b>	13.6%

Years	Project Costs / Bill Savings				Reduction to Tax Liability			Federal Tax Credit	Annual Cash Flow	Cumulative Cash Flow
	Project Costs	New Inverters	Electric Bill Savings	PV Generation (kWh)	OH Income Decrease (Tax Depreciation)	FED Income Decrease (MACRS Tax Depreciation)				
<b>Upfront</b>	\$ (601,165)	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ (601,165)	\$ (601,165)
1	\$ -	\$ -	\$ 30,640	358,878	\$ 6,012	\$ 158,816	\$ 180,350	\$ 375,818	\$ (225,347)	
2	\$ -	\$ -	\$ 31,402	357,083	\$ 9,619	\$ 12,100	\$ -	\$ 53,121	\$ (172,226)	
3	\$ -	\$ -	\$ 32,181	355,289	\$ 5,771	\$ 7,260	\$ -	\$ 45,212	\$ (127,014)	
4	\$ -	\$ -	\$ 32,979	353,495	\$ 3,463	\$ 4,356	\$ -	\$ 40,798	\$ (86,216)	
5	\$ -	\$ -	\$ 33,796	351,700	\$ 3,463	\$ 4,356	\$ -	\$ 41,615	\$ (44,601)	
6	\$ -	\$ -	\$ 34,632	349,906	\$ 1,731	\$ 2,178	\$ -	\$ 38,541	\$ (6,060)	
7	\$ -	\$ -	\$ 35,488	348,111	\$ -	\$ -	\$ -	\$ 35,488	\$ 29,428	
8	\$ -	\$ -	\$ 36,365	346,317	\$ -	\$ -	\$ -	\$ 36,365	\$ 65,793	
9	\$ -	\$ -	\$ 37,262	344,523	\$ -	\$ -	\$ -	\$ 37,262	\$ 103,055	
10	\$ -	\$ -	\$ 38,180	342,718	\$ -	\$ -	\$ -	\$ 38,180	\$ 141,235	



West Chester, OH  
Attached Roof Mount  
276 kW-DC  
Completed 2023

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Sustainability

# Customer Sustainability Targets

Source: Brand Purpose Sustainability Report 2023



*“Suppliers commit to achieving carbon neutrality for their Scope 1 and Scope 2 emissions by dates based on their respective industry. These are 2025 or earlier for Professional Services, 2035 or earlier for Manufacturing”*

**-GM Newsroom (APR-2022)**

Source: GM Newsroom

*“We’re asking existing suppliers to adopt carbon reduction targets to cut their emissions. And we’re prioritizing partnerships with new suppliers who already have science-based emissions targets in place.”*

**-Unilever Sustainability Report**

Source: Unilever Sustainability Report



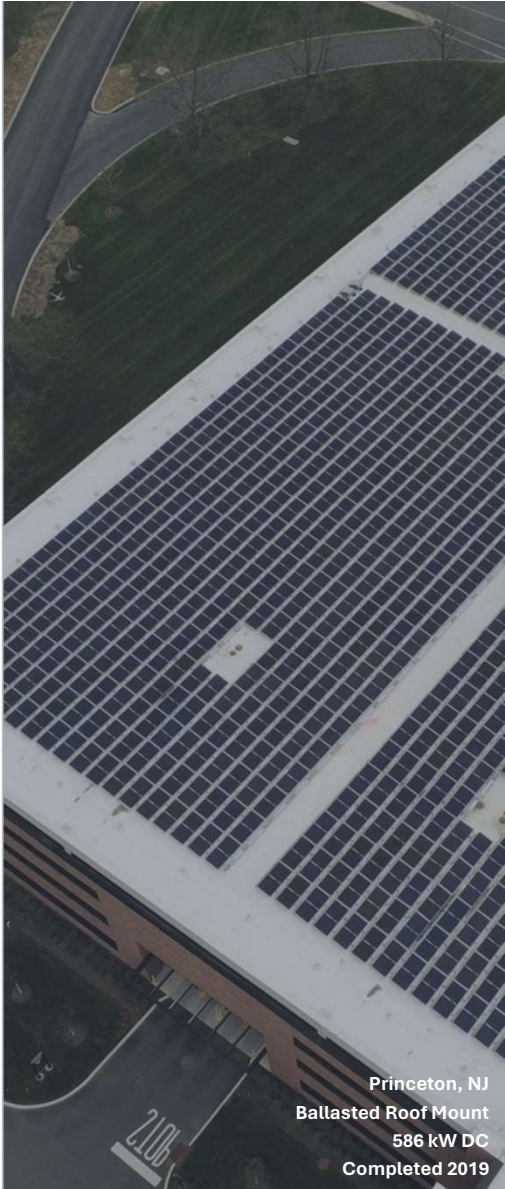
Peoria, IL  
Single Axis Tracker Ground Mount  
2.40 MW DC  
Completed 2021

Sustainability

# Sustainability For Talent Attraction

“I would only work for an employer that prioritizes sustainability.”

- Wall Street Journal



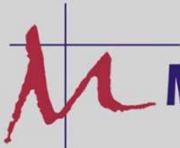
Princeton, NJ  
Ballasted Roof Mount  
586 kW DC  
Completed 2019

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**Mount Saint John**

The Marianists

*I Like a Good Deal*

Mount Saint John: Why We Went Solar, and Why You Should Too



**Jeff Bohrer, M.S., P.E.**  
Director of Facilities - MSJ  
[jbohrer@sm-usa.org](mailto:jbohrer@sm-usa.org)

Beavercreek, Ohio  
Fixed Tilt Ground Mount  
854.4 kW-DC  
Completed 2023



*I Like a Good Deal*

# About Mount Saint John

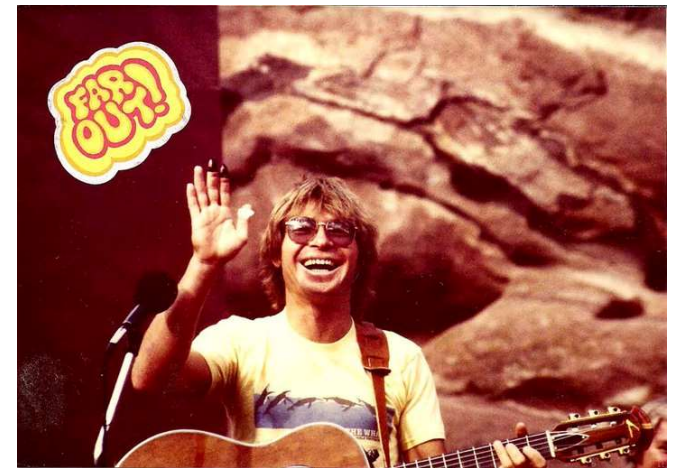
- ▶ 150-acre property located in Beavercreek, Ohio owned by the Society of Mary (Marianists), a Catholic community of brothers and priests.
- ▶ The Marianists have lived and ministered here since 1910.
- ▶ Home to
  - ▶ Residential communities of Marianist Brothers and Priests
  - ▶ Marianist Environmental Education Center
  - ▶ North American Center for Marianist Studies
  - ▶ Marianist Mission
  - ▶ Bergamo Center for Lifelong Learning
  - ▶ Queen of Heaven Cemetery
  - ▶ 100-acre preserve



*I Like a Good Deal*

# A Frugal Upbringing

- ▶ My family valued saving money and getting a good deal.
  - ▶ Like Cola
- ▶ I love a good sale!
- ▶ Saving energy = Saving money
  - ▶ Using less energy
  - ▶ Using renewable energy
- ▶ What started out as saving energy to save money became so much more.
  - ▶ Environmental Biologist
  - ▶ Inconvenient Truth
  - ▶ Realized saving energy also = helping earth and its people
    - ▶ Less energy = less coal and gas burned = less CO<sub>2</sub>
- ▶ So, I could save money, and save the planet?





*I Like a Good Deal*

# A Good Deal at Home



- ▶ 2006 Geothermal
- ▶ 2008 Solar Thermal
- ▶ 2011 PV Solar - 4.08 kW
- ▶ Saving Grid Energy=Saving \$\$ and Saving the Planet.  
That's A Good Deal!



*I Like a Good Deal*

## A Good Deal at Work

- ▶ Installed in 2023
- ▶ Melink Solar was the General Contractor.
- ▶ Solar Array spans 3 acres
- ▶ 850 kW of DC power at peak sun
- ▶ 1.1 million kWh per year-- net zero annually
- ▶ Fence over 1/4 mile long
- ▶ Longest row of solar panels is 301 ft
- ▶ 1,920 - 445 Watt panels locally made by Toledo-based First Solar
- ▶ Panels 3 ft off the ground 8 ft tall
- ▶ 20 degree fixed tilt
- ▶ More than we need during the day, so the electricity is going back into the grid as a credit for night time and cloudy days



*So Why Is It A  
Good Deal??*

# Why The Marianists Went Solar

## Diversify Investment Portfolio

### Two Scenarios:

- ▶ Invest \$1.06M at 6.0% compounded annually for 30 years....
  - ▶ **Result = \$6.1M** 👍
- ▶ Use the same \$1.06M to purchase a 850kW solar array and invest the blended electricity \$\$ savings each year at 6.0% over a 30-year period.
  - ▶ **Result = \$14.2M!!!** 👍
- ▶ Consider solar as a diversification to the investment portfolio with large potential financial gains.
- ▶ The Marianists did just this to pay for the system.

Investment Principle (Cost of solar)	\$ 1,062,708
Term (yrs)	30
Investment Annual Interest Rate (%)	6
Annual Electric Usage (kWh)	1,125,833
Annual Electric Energy Cost Increase (%)	3.0%
Starting Electric Blended Rate (\$/kWh)	\$0.1140





## Why The Marianists Went Solar

# Payback & Return on Investment (ROI)

### Cash Purchase - W/ Inverters Option Cash Flow

Years	Cash				PV Generation (kWh)	Total Cash Flow	Cumulative Cash Flow
	Project Costs	New Inverters	Direct Pay ITC	Electric Bill Savings			
Upfront	-\$1,771,180	-	-	-	-	-\$1,771,180	-\$1,771,180
1	-	-	\$708,472	\$130,144	1,137,273	\$838,616	-\$932,564
2	-	-	-	\$133,647	1,133,861	\$133,647	-\$798,917
3	-	-	-	\$137,242	1,130,449	\$137,242	-\$661,675
4	-	-	-	\$140,932	1,127,038	\$140,932	-\$520,743
5	-	-	-	\$144,721	1,123,626	\$144,721	-\$376,022
6	-	-	-	\$148,610	1,120,214	\$148,610	-\$227,412
7	-	-	-	\$152,602	1,116,802	\$152,602	-\$74,810
8	-	-	-	\$156,700	1,113,390	\$156,700	\$81,890
9	-	-	-	\$160,906	1,109,978	\$160,906	\$242,797
10	-	-	-	\$165,224	1,106,567	\$165,224	\$408,021
11	-	-	-	\$169,656	1,103,155	\$169,656	\$577,677
12	-	-	-	\$174,205	1,099,743	\$174,205	\$751,882
13	-	-	-	\$178,875	1,096,331	\$178,875	\$930,757
14	-	-	-	\$183,668	1,092,919	\$183,668	\$1,114,425
15	-	-\$42,720	-	\$188,587	1,089,508	\$145,867	\$1,260,292

**7.6 year payback period**  
**3.6 year payback period incl.**  
**tax depreciation**

Mount Saint  
John

CASH FLOW

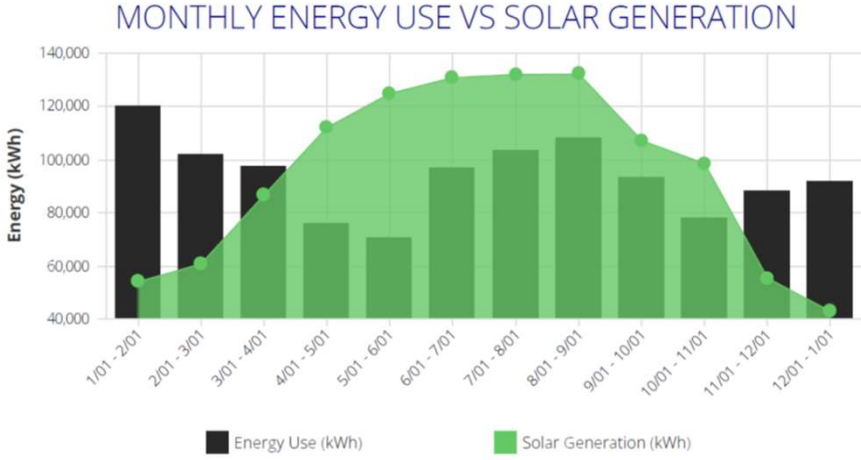
Cash Purchase -  
W/ Inverters  
Option

- ▶ Simple payback-no interest included
- ▶ Assumed 3.0% annual electric rate escalation
- ▶ Assumed \$0.114/kWh initial electric rate
- ▶ Source: Melink Solar report to MSJ



# Why The Marianists Went Solar

## Ongoing Operating Costs Reduction



Source: Melink report to MSJ

**Zero Dollar Energy Bill –  
AUG/2023**



Usage Detail										
Meter Service	Meter Use	Billing Period From To	Billing Days	Meter Reading Previous	Meter Reading Current	Multiplier	Usage	Rate	Rate Description	
1857939	Actual	08/02/23 09/05/23	34				57,867	787	Primary	
	Received	08/02/23 09/05/23	34				80,924			
	Net	08/02/23 09/05/23	34				-23,057			
	Current Kw Demand Set On Aug 14 At 10:30am							188.8		
	Current Kvar Demand							116.6		
	Power Factor 85.08%									
	Billed Kw Demand At 75%, Set In Feb 2023							224.6		
	Billed Kvar Demand Set In Feb 2023							103.1		

Emergency Service 877-4OUTAGE 877-468-8243 | Online Anytime aesohio.com | AES Ohio Customer Service 800-253-5801

Please detach and return only this portion with your check made payable to AES Ohio



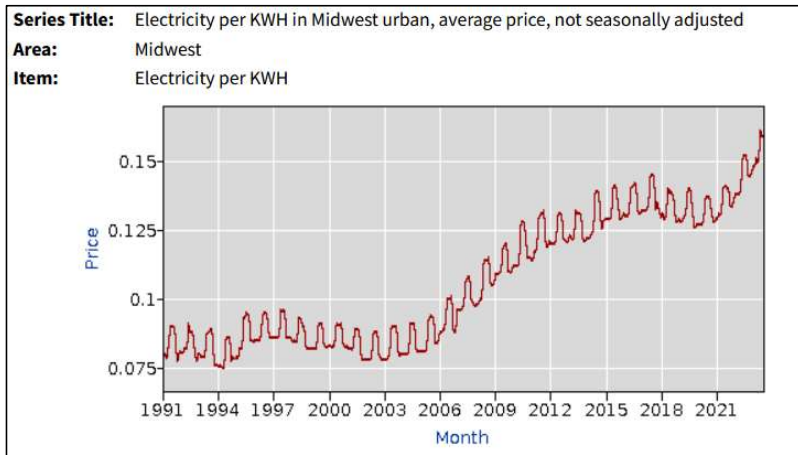
**NO PAYMENT DUE**  
**Account Number** 2601825199  
**PROMPT AMOUNT** pay by 10/03/2023 \$0.00  
**LATE AMOUNT** pay after 10/03/2023 \$0.00  
 Amount Enclosed \$ \_\_\_\_\_

MOUNT SAINT JOHN  
 4435 E PATTERSON RD  
 DAYTON OH 45430

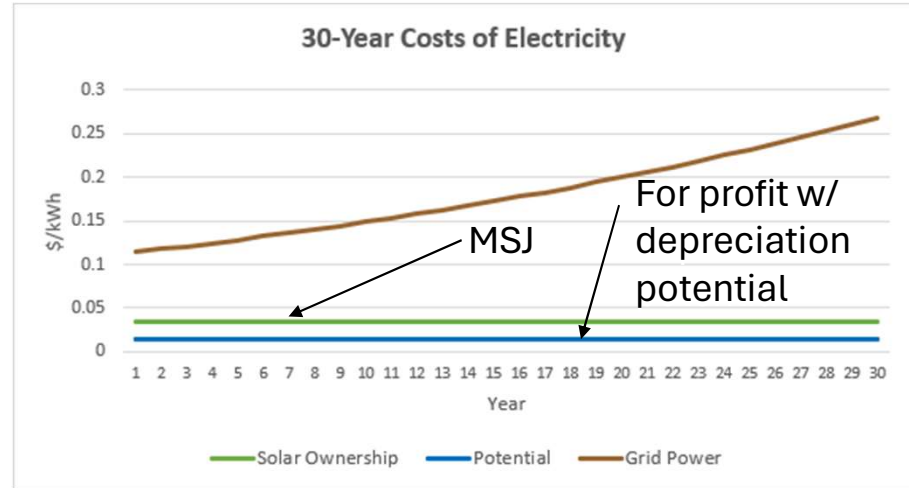
AES OHIO  
 PO BOX 2631  
 DAYTON, OH 45401-2631

# Why The Marianists Went Solar

## Future Energy Costs Risk Mitigation



<https://data.bls.gov/pdq/SurveyOutputServlet>



Source: Metink graph

- ▶ Historical average annual electrical increase in the Midwest is 2.8% over the past 30 years, with the increase rate being an average of 4.1% per year since 2006.
- ▶ Levelized Cost of Energy (LCOE) over 30 years for MSJ is \$0.034/kWh
- ▶ LCOE over 30 years for a for profit with depreciation potential is \$0.015/kWh

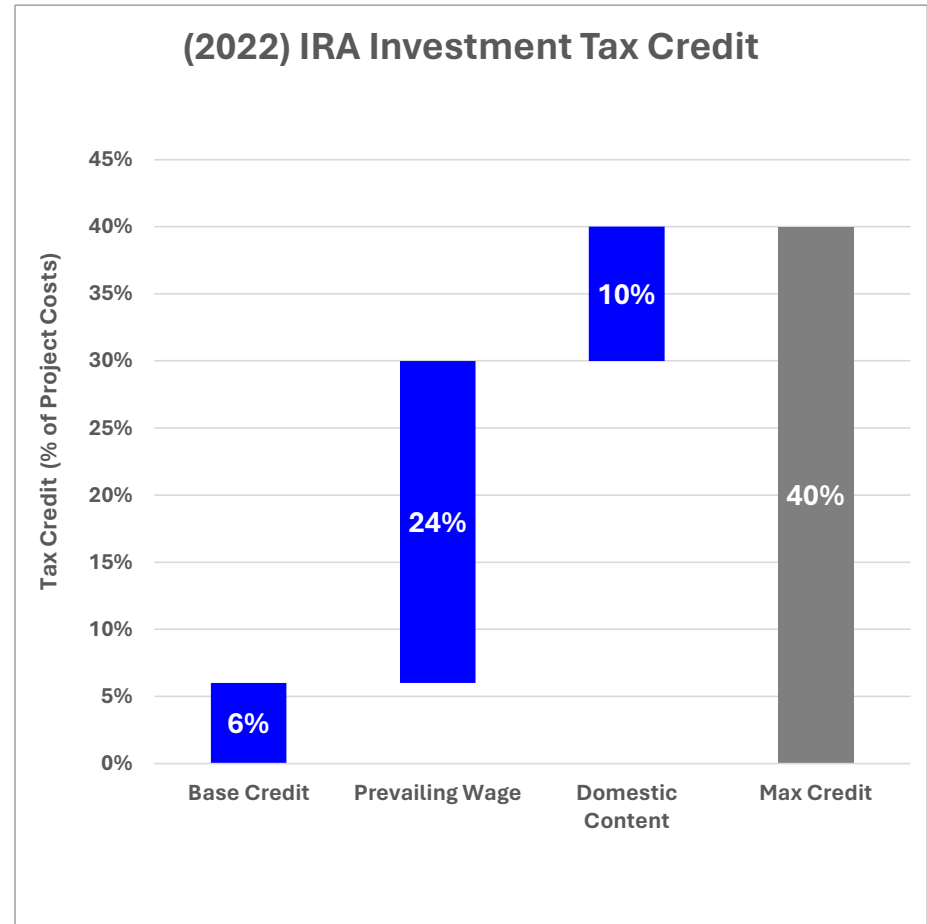




## Why The Marianists Went Solar

# Historic Tax Incentives Available (IRA-2022)

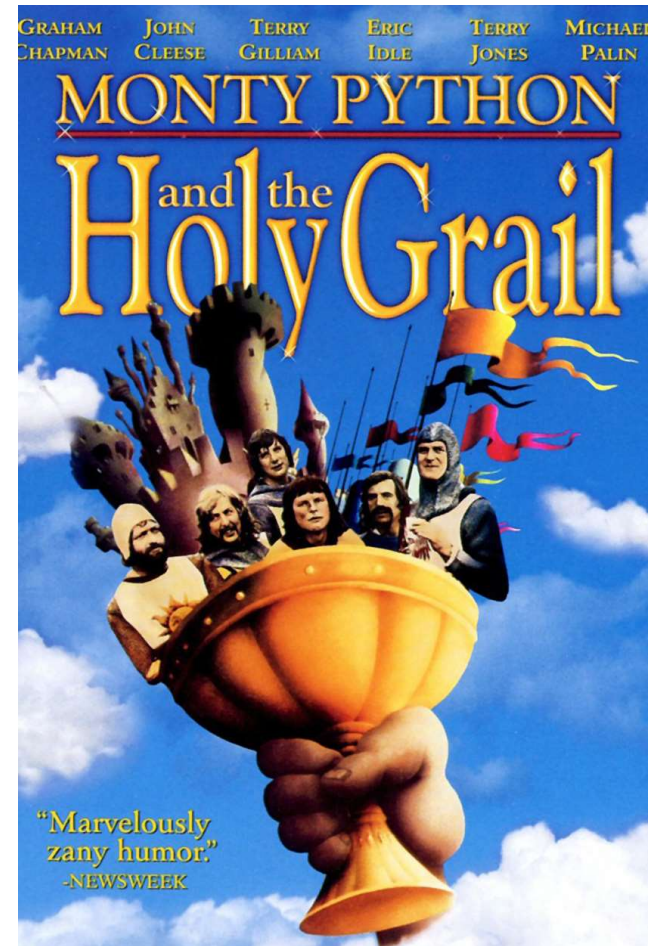
- ▶ **The Inflation Reduction Act of 2022 (IRA)**
- ▶ Allows **non-profits** to receive a **direct payment** for tax incentives
  - ▶ Through 2033 without decreasing percentages
- ▶ The Marianists hope to receive a 40% direct payment credit from the government, lowering their \$1.77M project to \$1.06M.



## Why The Marianists Went Solar

# Costs Are Way Down

- ▶ 2011 My home installed system cost after 30% tax credit
  - ▶ \$4.55/Watt
- ▶ 2023 MSJ installed system cost after 40% tax credit
  - ▶ \$1.24/Watt
- ▶ That's 73% lower in 12 years!!!!
- ▶ This means the *manufacturing* cost of solar is below the holy grail of \$1.00/Watt
  - ▶ The target manufacturing cost for solar to compete with coal-burning electricity on the grid or (grid-parity)

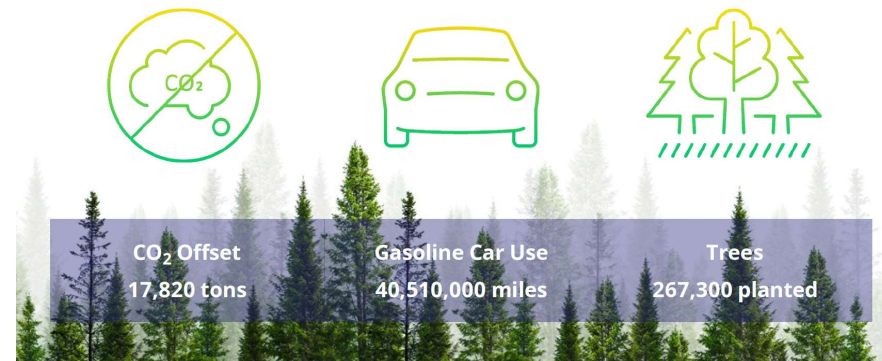


## Why The Marianists Went Solar

# Environmental Impact

- ▶ Reducing CO<sub>2</sub> helps reduce the amount of heat trapping gas in the air.
- ▶ Over emission of gases like CO<sub>2</sub> are the cause of climate change.
- ▶ Fossil fuel usage emits large amounts of CO<sub>2</sub>.
- ▶ In the Catholic religion, the Laudato Si Action Platform and the Marianist Family Encounters Project challenge us to provide real and lasting solutions to the ecological crisis.
- ▶ Solar is part of the response to the challenge of climate change.
  - ▶ Investing in solar reduces emissions of those climate changing gases.

### MSJ 30-Year Effect of Solar



Source: Melink Solar Report to MSJ



## Why The Marianists Went Solar

# Education & Leadership

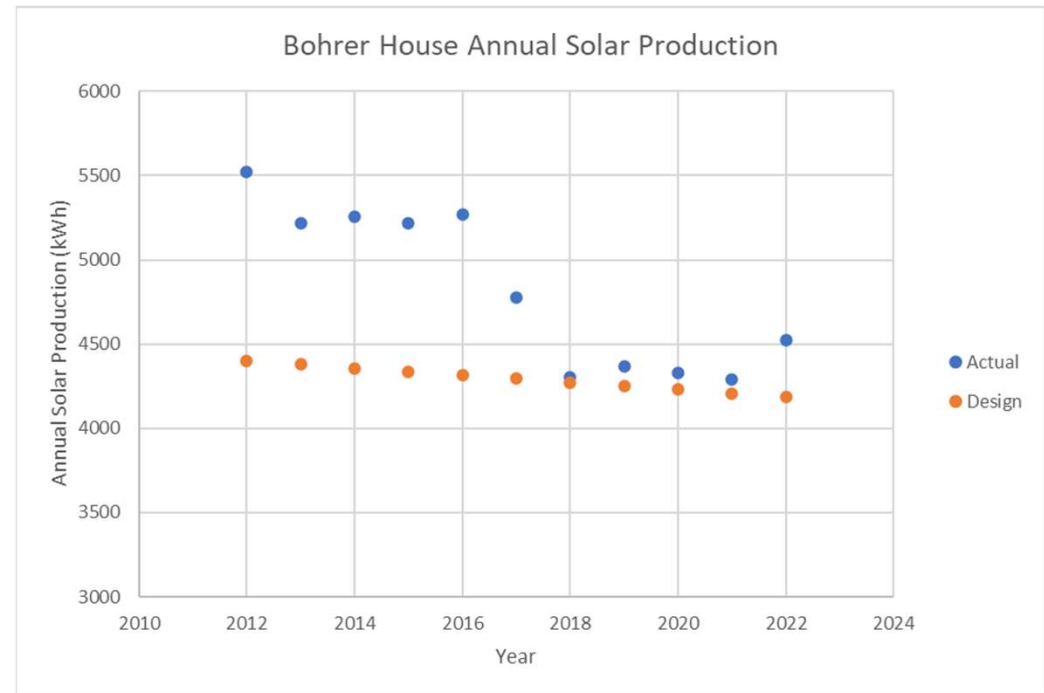
- ▶ Mount Saint John hosts hundreds of high school students and visitors to campus each year.
  - ▶ Bergamo Retreat Center
  - ▶ MEEC
  - ▶ Hiking trails
  - ▶ Grotto
- ▶ Set an example to other organizations of what is possible.



## Why The Marianists Went Solar

# Are Those Promises For Real?

- ▶ Assumed solar production rates are based on historical data.
- ▶ My experience
  - ▶ Home
    - ▶ Solar production
    - ▶ System payback
      - ▶ SREC's and energy cost
  - ▶ MSJ Production
    - ▶ **Jun 78%, Jul 101%, Aug 101%, Sept 104%, Oct. 75%, Nov. 137%, Dec. 92%**
    - ▶ **Avg: 98%**



*I Like a Good Deal*

# Why Should You Go Solar?

- ▶ **Diversify your Investments!**
  - ▶ \$6M vs. \$14.2M
- ▶ **ROI**
  - ▶ 7.6 years; 3.6 years
- ▶ **Lower your electricity bill and make it predictable.**
  - ▶ Do not Pay; LCOE = \$0.034/kWh and \$0.015/kWh
- ▶ **Prices are way down.**
  - ▶ \$1/Watt Holy Grail
- ▶ **The time is now—IRA**
  - ▶ 30%-70% tax credit
- ▶ **Care for the Earth**
  - ▶ Reduce CO<sub>2</sub> gas emissions
- ▶ **Leadership and Education**

**Bottom line - It's a good deal!!!**





END