Melink® Solar

Lessons Learned from Industry Leaders with Onsite Solar: Why Now Is the Right Time to Lock in a Lower Energy Rate!

Seth Parker
CEO
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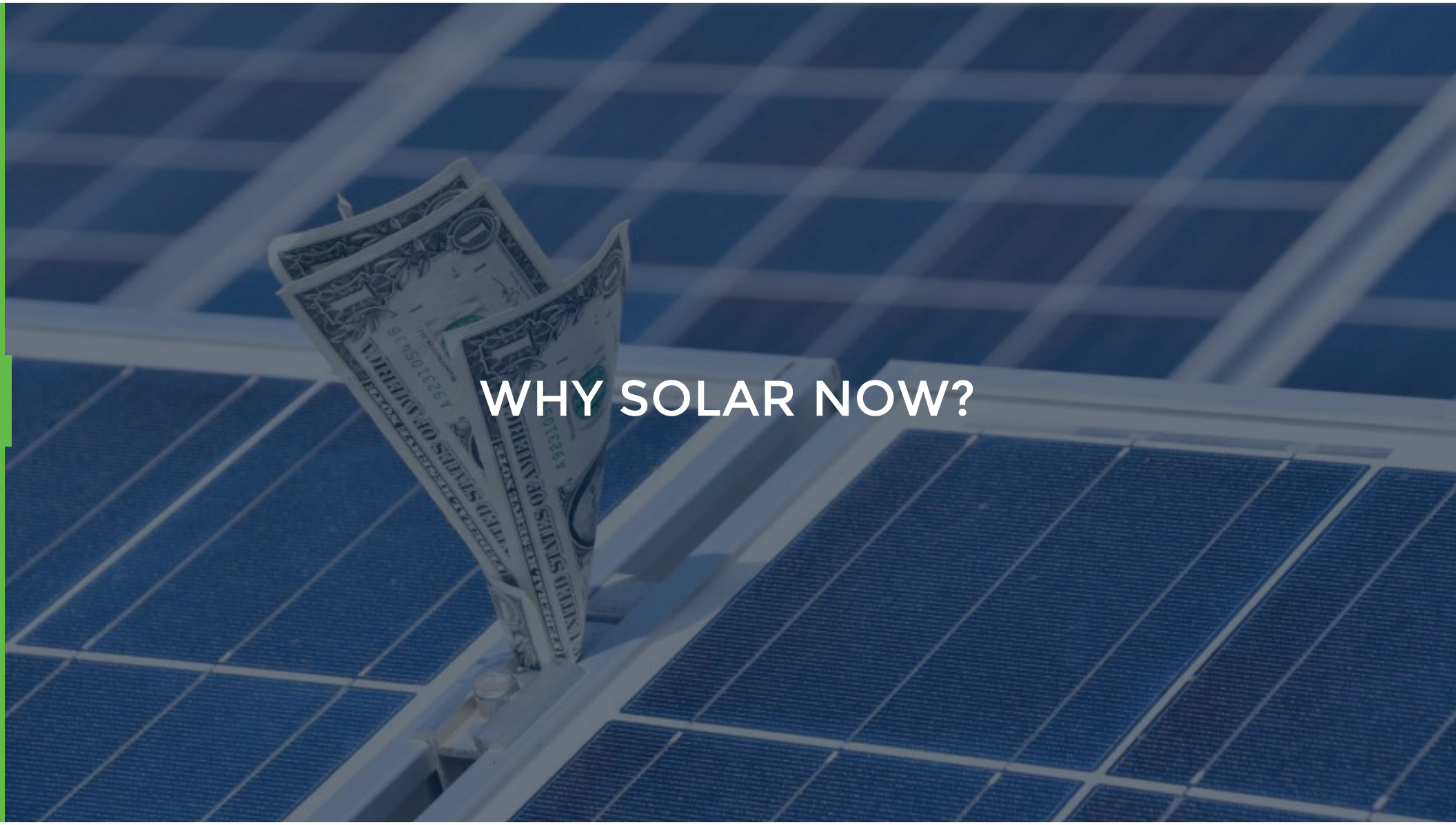
Agenda:

- **Why Solar Now?**
- **Solar 101**
- **Ways to Pay for Solar**
- **Selling Solar Internally**
- **Types of Solar**
- **“Going Solar” stories**



WHY SOLAR NOW?

Recent Pricing: Skyrocketing Rates

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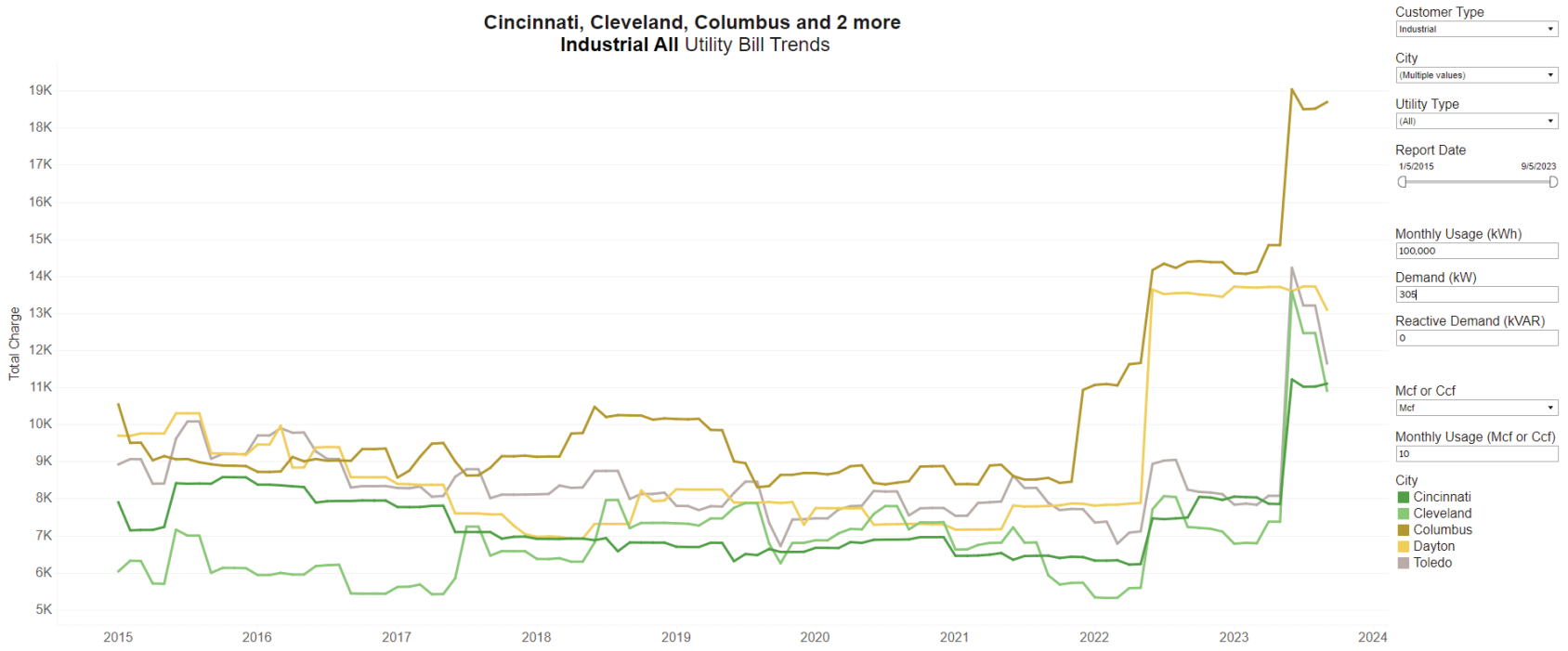
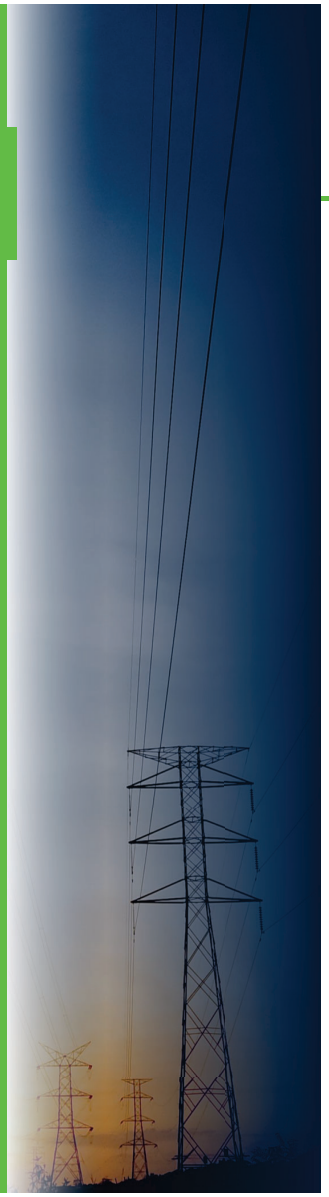
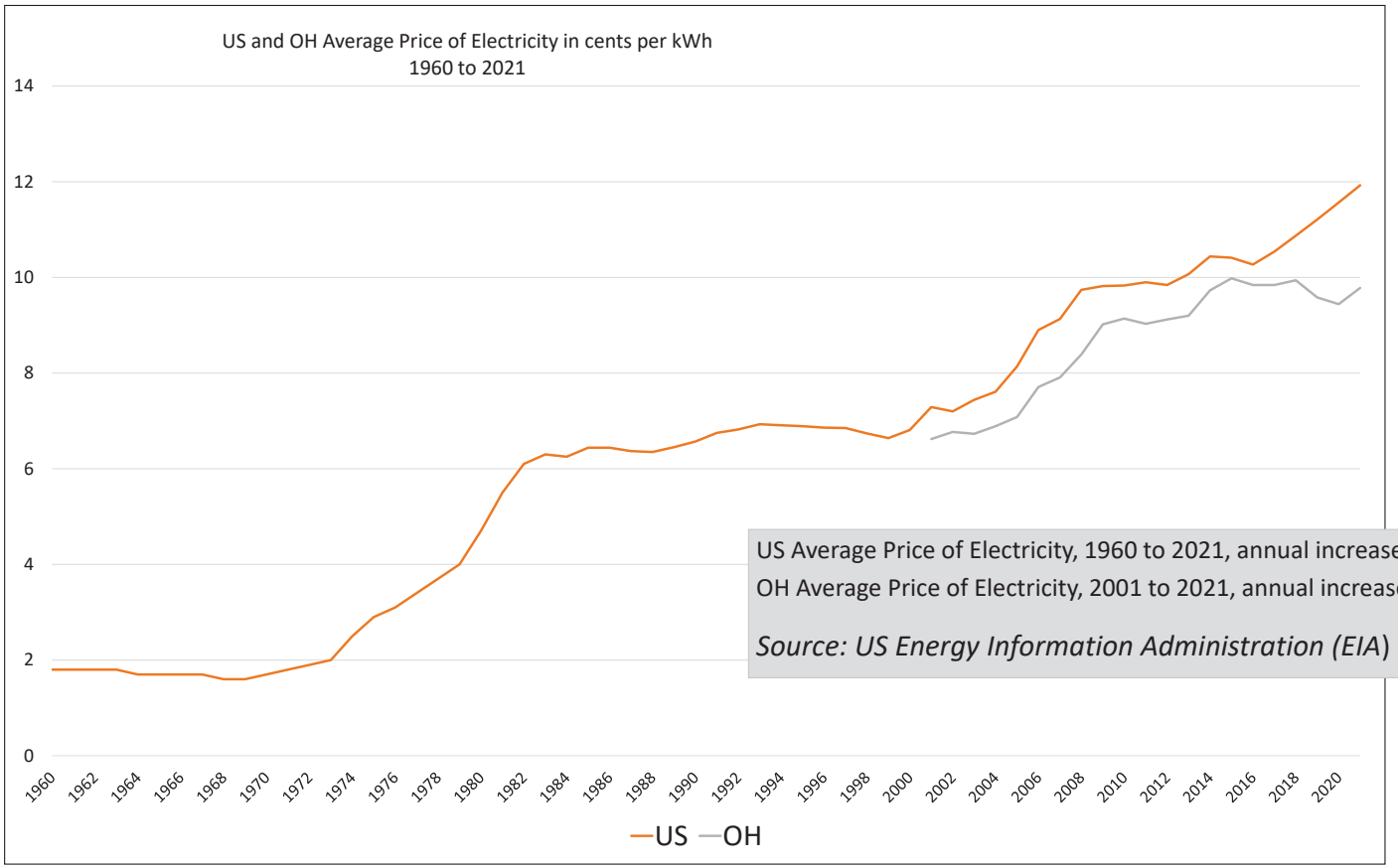




Increasing Electricity Price Trends

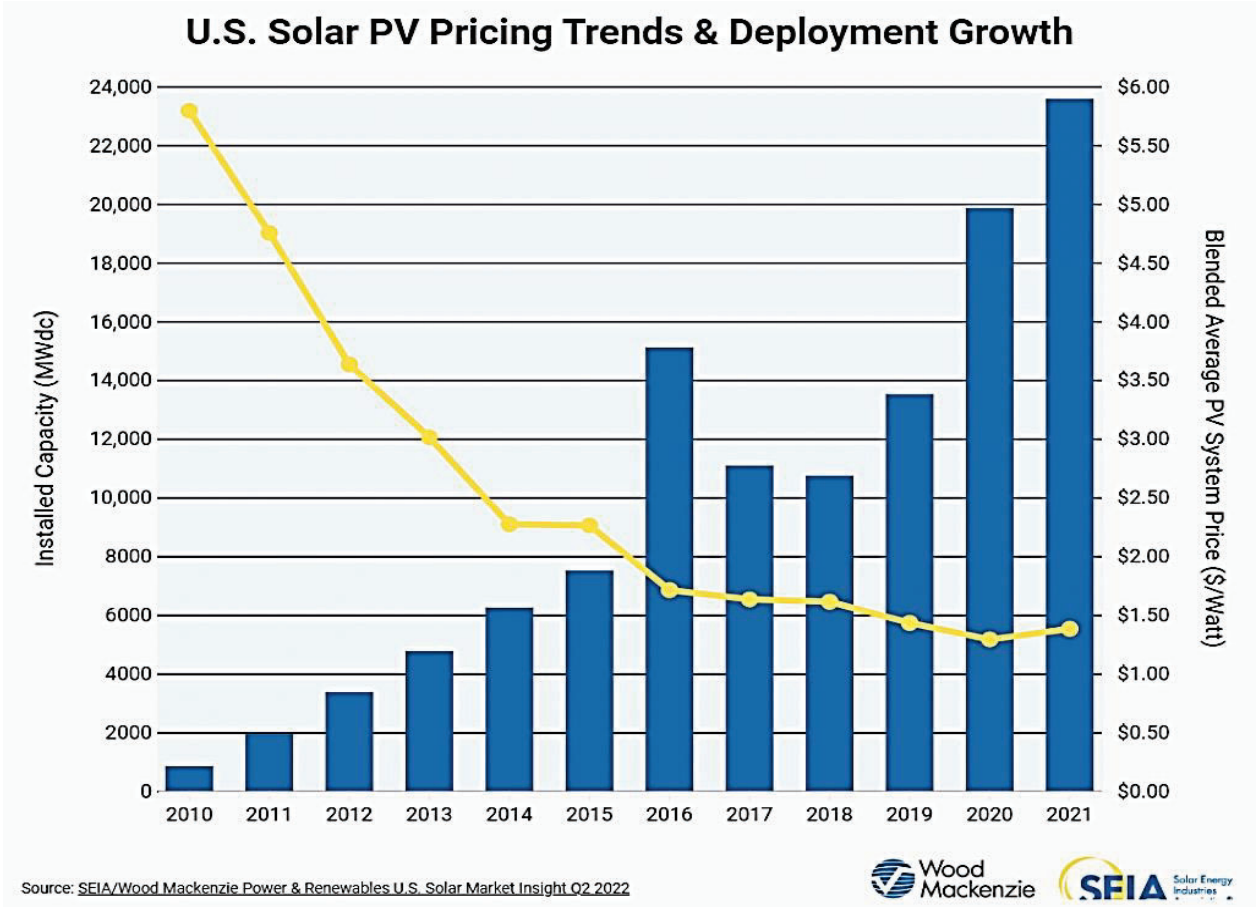
National average increase of 3.15% PER YEAR between 1960 and 2021



US Average Price of Electricity, 1960 to 2021, annual increase of 3.15%
OH Average Price of Electricity, 2001 to 2021, annual increase of 2.02%

Source: US Energy Information Administration (EIA)

Historic Price Decreases Leveling Off



Lowered Operating Costs

Your usage snapshot - Continued

Choice Service ID [redacted]

Current Electric Usage

Meter Number	Usage Type	Billing Period
328933657	Actual	May 10 - Jun 8

Usage Values	
Billed kWh	0.000 kWh
Actual kVA	27.478 kVA
Actual Demand-kW	47.040 kW
Billed Demand-kVA	27.478 kVA
Power Factor	89.822 %

Billing details - Electric

Billing Period - May 10 to Jun 08

Meter - 328933657

Net Metering - Credit	$-208.82
Duke Energy Delivery	
Service Delivery	
Distribution-Customer Charge	45.95
Delivery Riders	12.08
Generation Riders	0.11
Total Current Charges	**$-150.68**

DUKE ENERGY® duke-energy.com 800.774.1202

Your Energy Bill

Page 1 of 3

Amount due

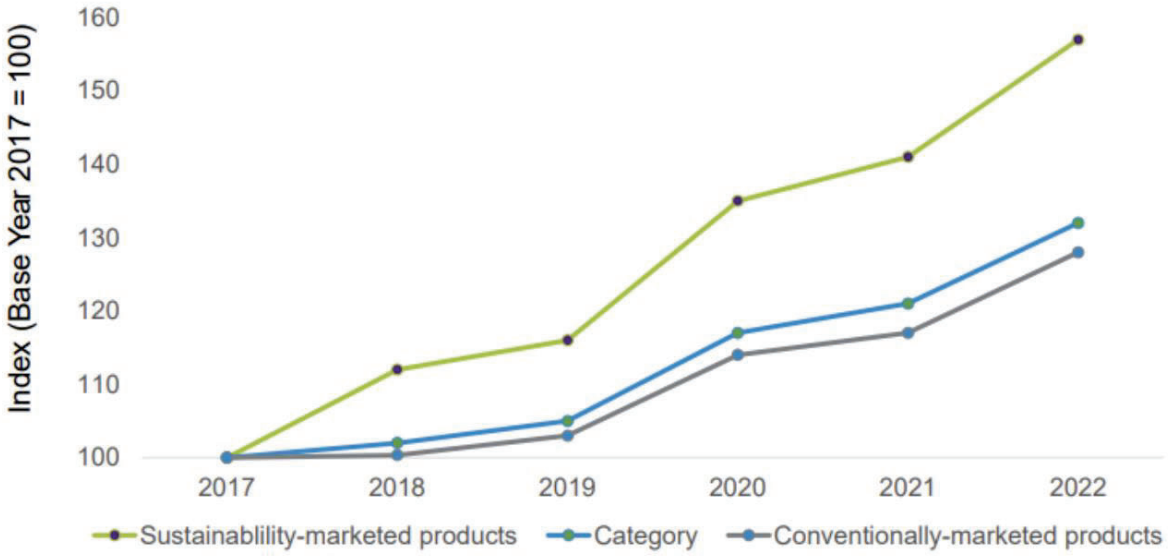
$0.00

No payment is required at this time.

Market leaders & Sustainability

Customer preferences follow market leadership, including sustainability investing

- NYU Stern School of Business



Sustainability-marketed
5-YR CAGR:
9.43%

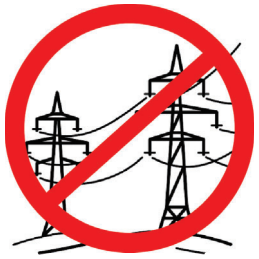
Total Market 5-YR CAGR:
5.68%

Conventionally-marketed
5-YR CAGR:
4.98%


SOLAR 101

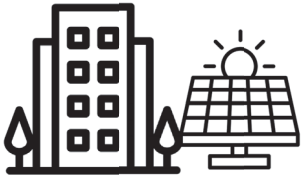
Onsite vs Off-Site Solar

Generation



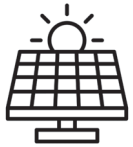
Transmission

Distribution

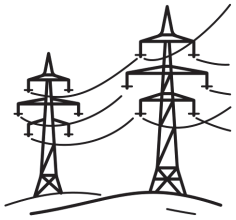


Onsite Solar

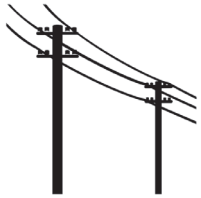
Onsite Solar: Avoidance of generation costs, transmission and distribution charges



Generation



Transmission

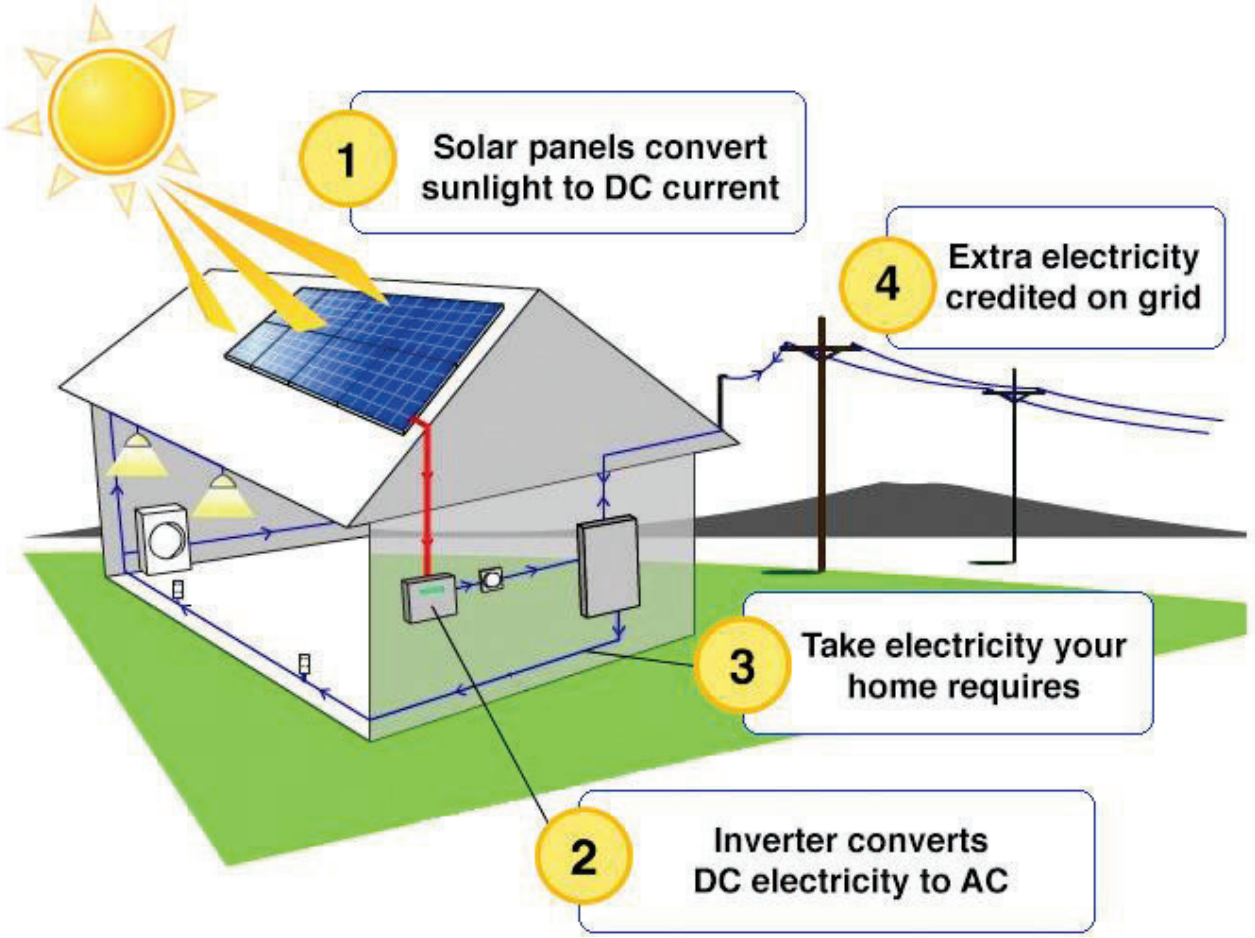


Distribution

Offfsite Solar

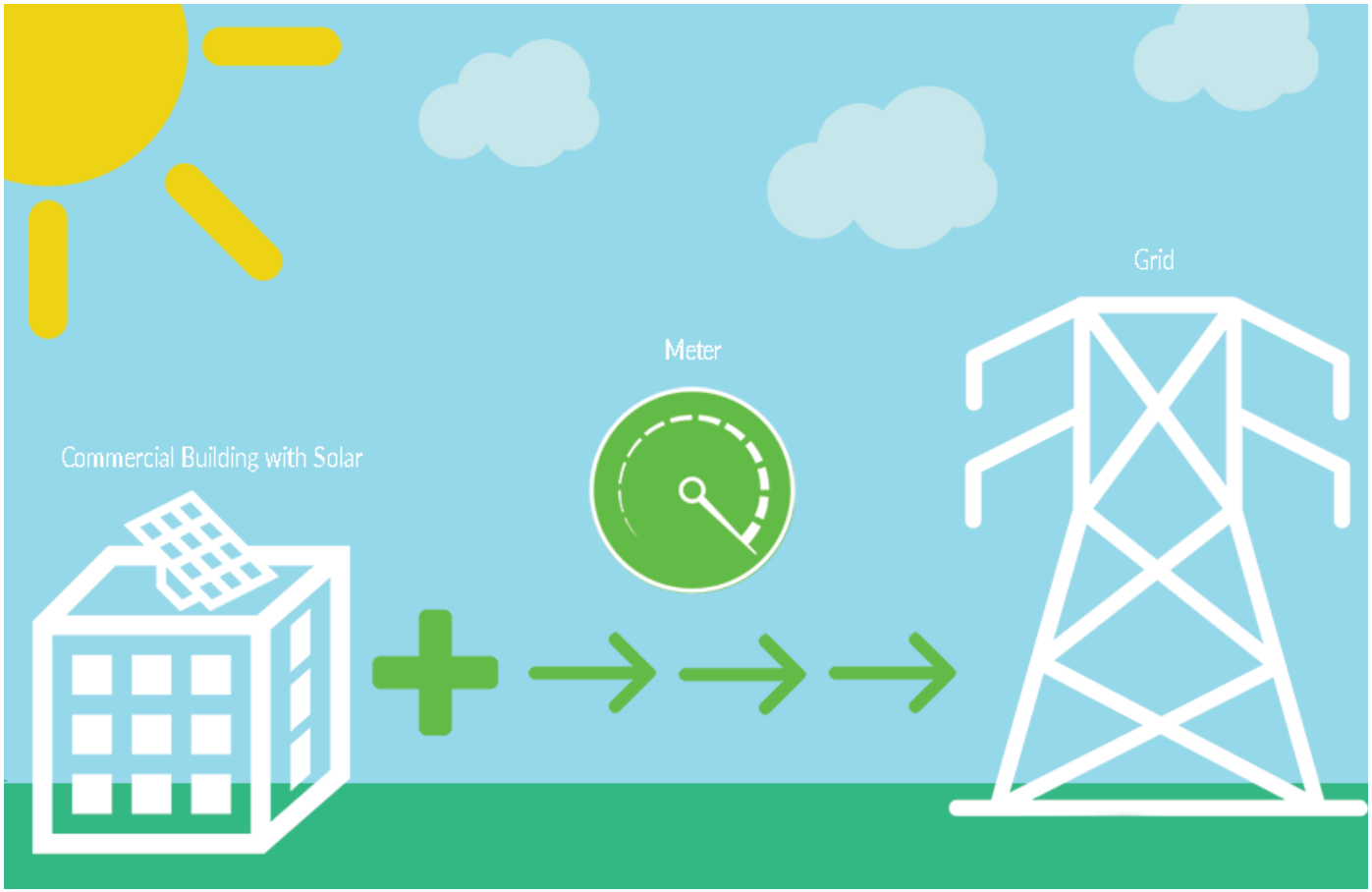
Offsite Solar: ONLY avoiding generation costs – swap supplier – less savings

PV: What is it, and How does it work?

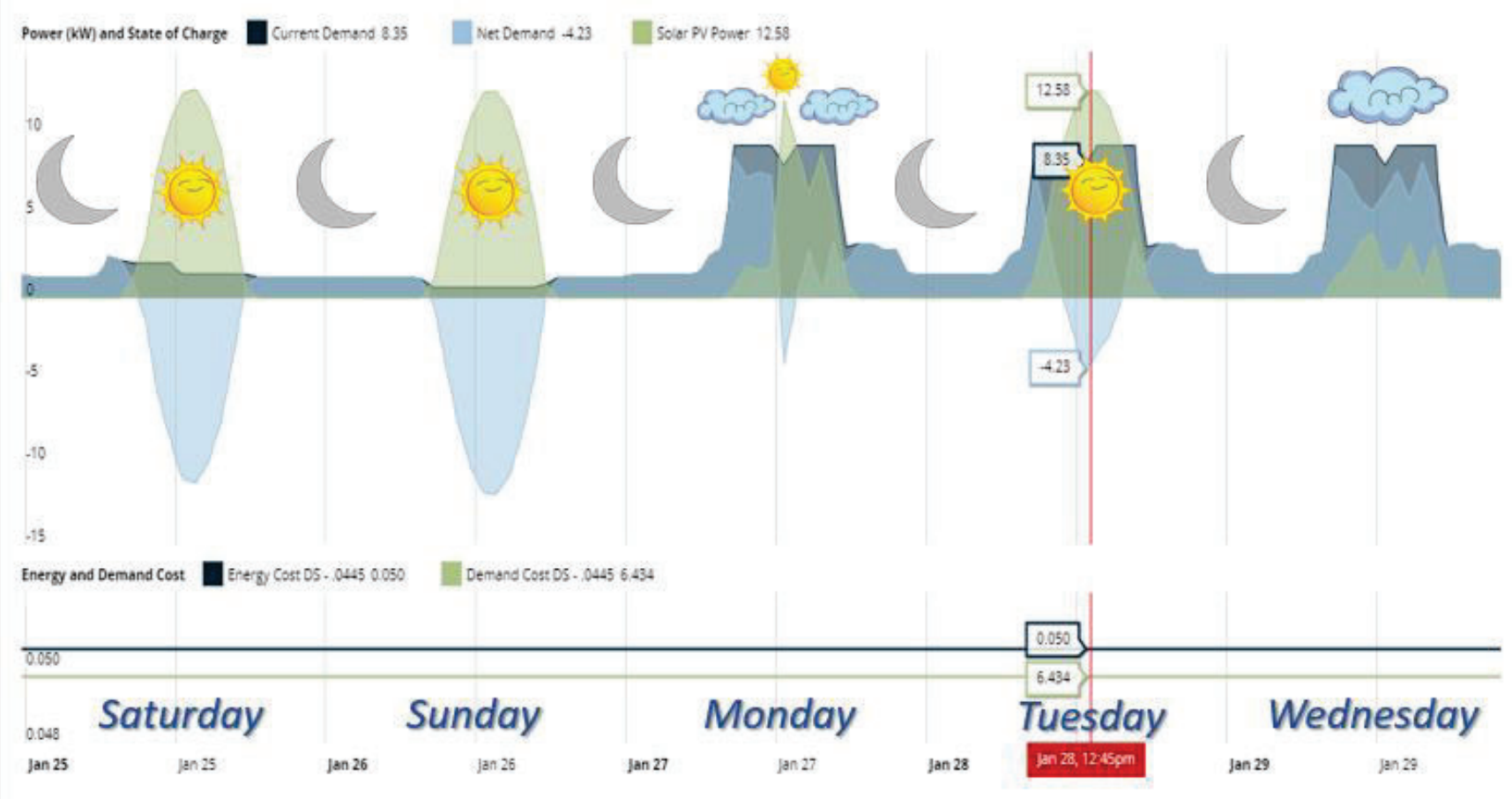


Net Metering

Onsite Solar: Behind the Meter



Net Metering – Office Building example



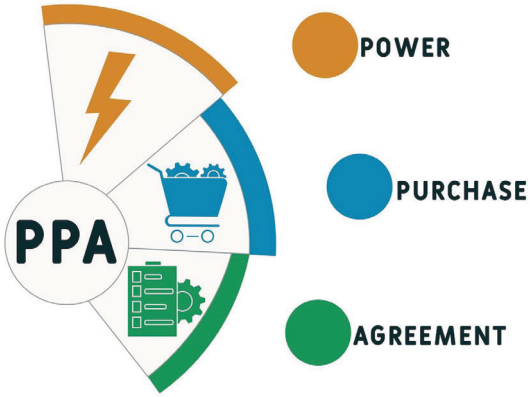

HOW DO I PAY FOR IT?

“Purchase” Options

Cash Purchase

Property Assessed Clean Energy
PACE

PACE Loan



PPA

“Purchase” Options

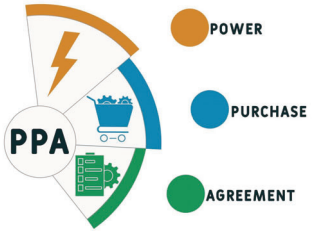
Property Assessed Clean Energy
PACE

PPA
POWER
PURCHASE
AGREEMENT

	Purchase
Upfront Cost	$$$
Tax Benefits:	Owner
Payments	100% Upfront
Typical Term	N/A
Long Term Benefits	Best ROI
O&M	Owner

“Purchase” Options

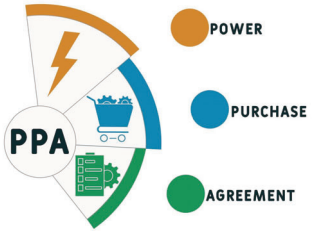
Property Assessed Clean Energy
PACE



	Purchase	Property Assessed Clean Energy (PACE)
Upfront Cost	$$$	Zero
Tax Benefits:	Owner	Owner
Payments	100% Upfront	Tax bill
Typical Term	N/A	20-30 years
Long Term Benefits	Best ROI	Cash flow neutral
O&M	Owner	Owner

“Purchase” Options

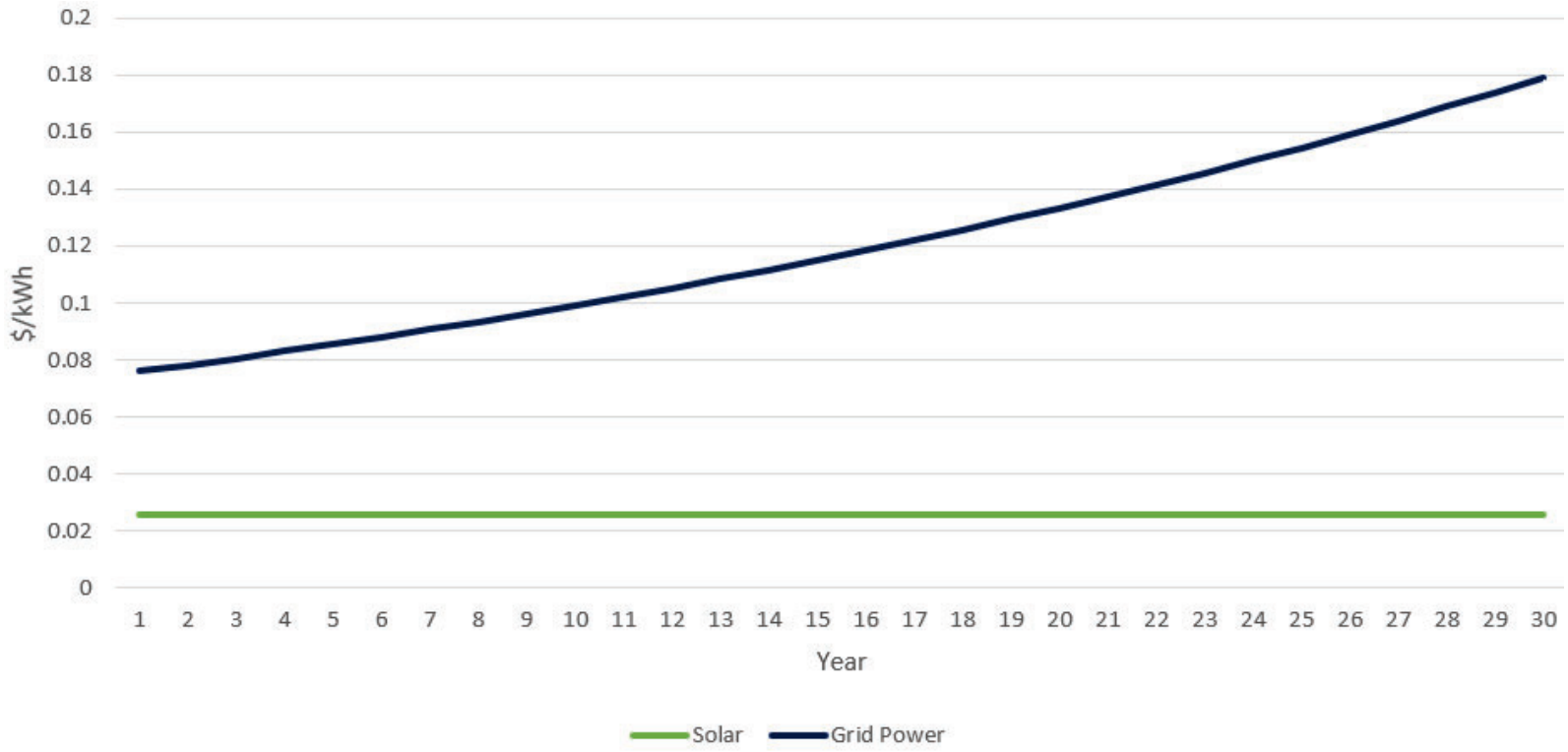
Property Assessed Clean Energy
PACE



	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
Long Term Benefits	Best ROI	Cash flow neutral	Fixed rate for 30-years
O&M	Owner	Owner	Third party investor

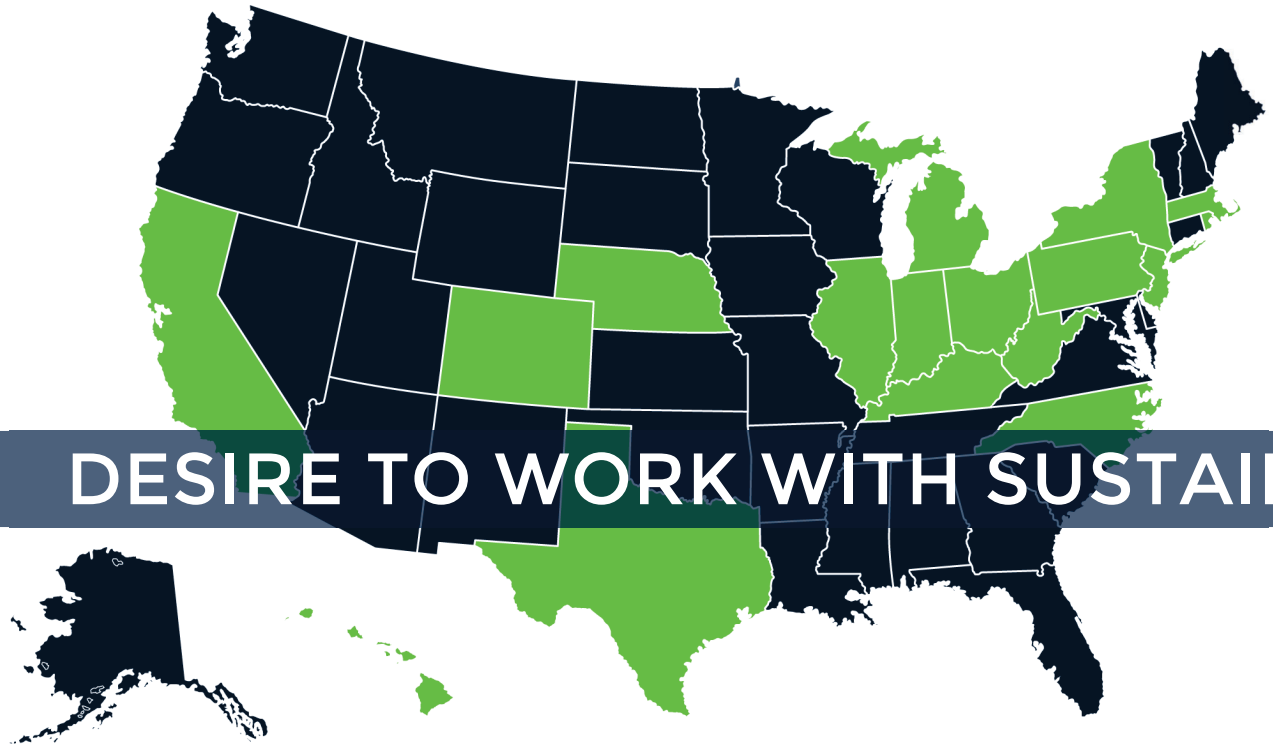

SELLING SOLAR INTERNALLY

Levelized Cost of Energy (LCOE)



HR + PR BENEFITS

DESIRE TO WORK WITH SUSTAINABLE COMPANIES



DESIRE TO WORK WITH SUSTAINABLE COMPANIES

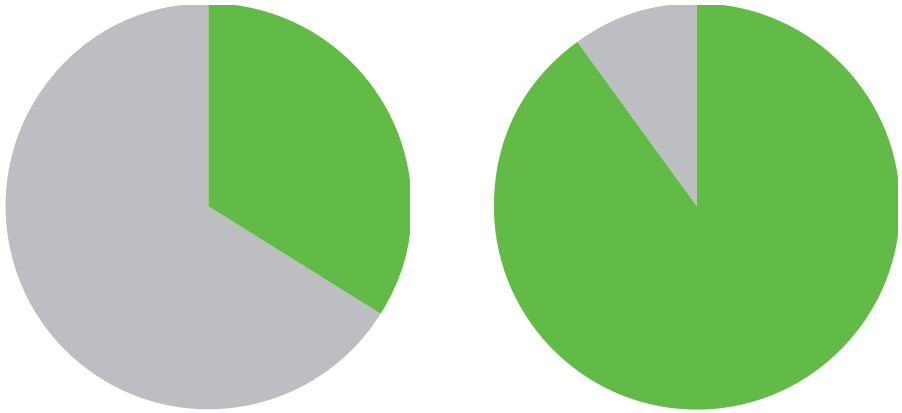
FedEx
LinkedIn
P&G
Worthington Industries
DHL
Cincinnati Zoo & Botanical Garden
Wrap Tite
Bristol Myers Squibb
NextEra Energy
Toyota
amazon
Northrop Grumman
Oasis Turf & Tree
Kent State University
SolSystems

Profitability Impact + Sustainability

Consumers are now willing to spend more for sustainable products.

- Forbes

Gen-X
willingness to spend an extra 10% or more for sustainable products



42%
2021

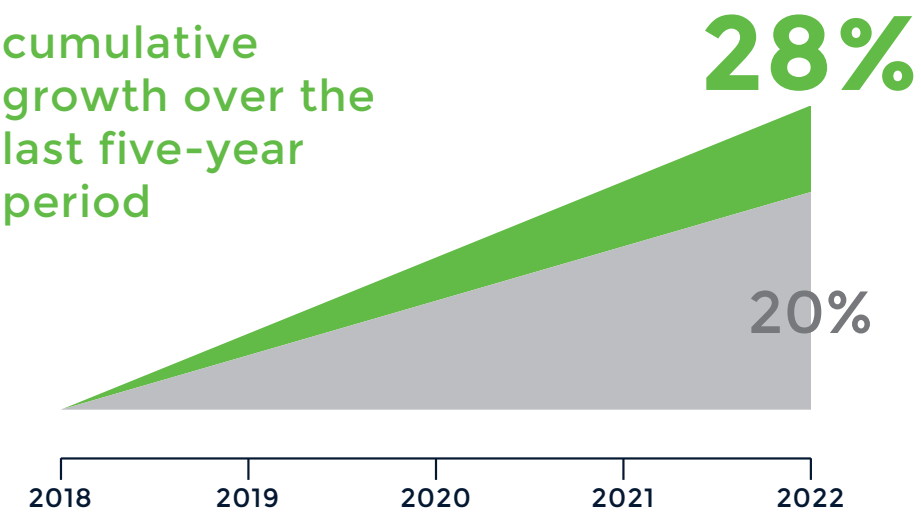
90%
2023

Profitability Impact + Sustainability

Products making sustainability claims are leading the market.

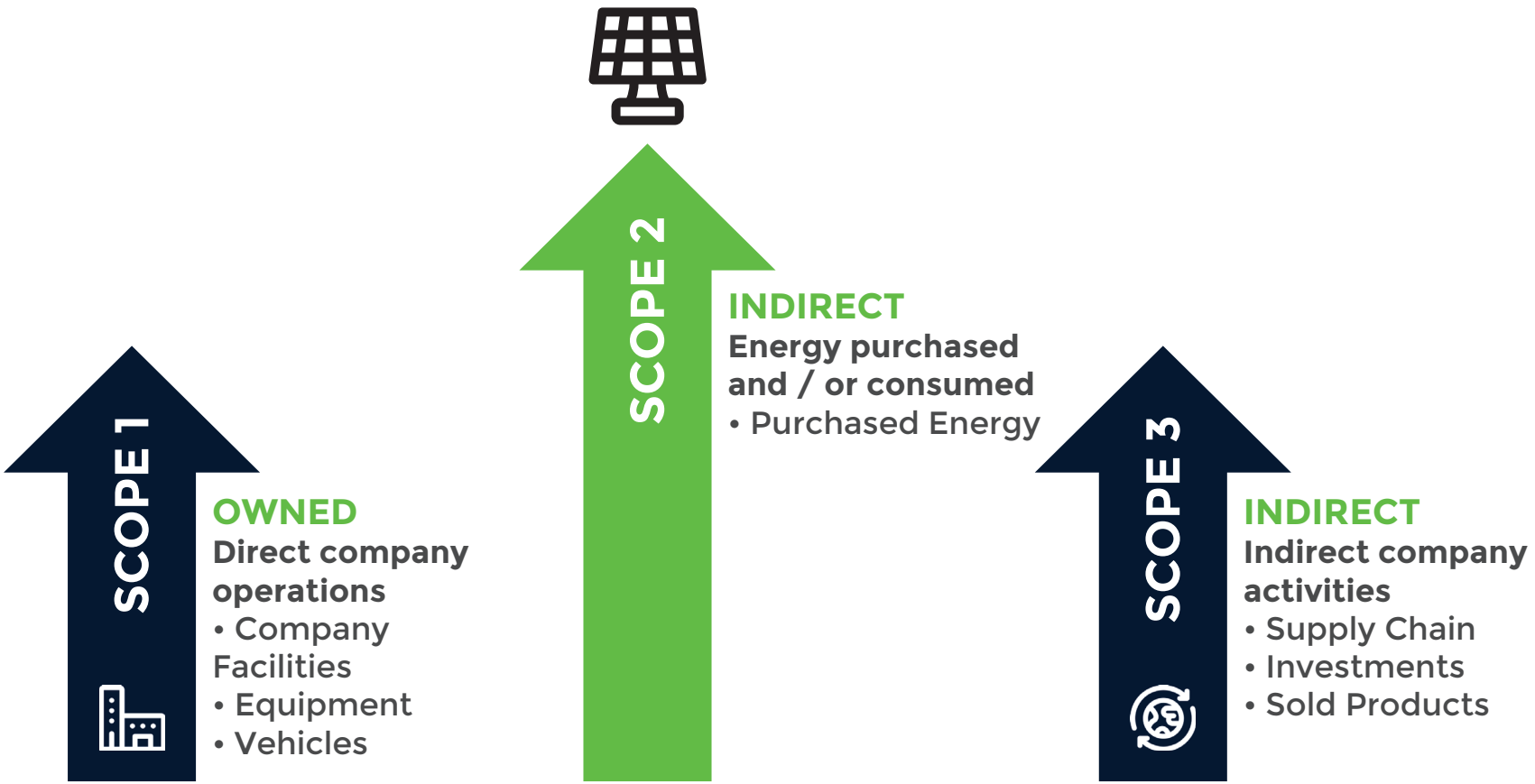
- McKinsey

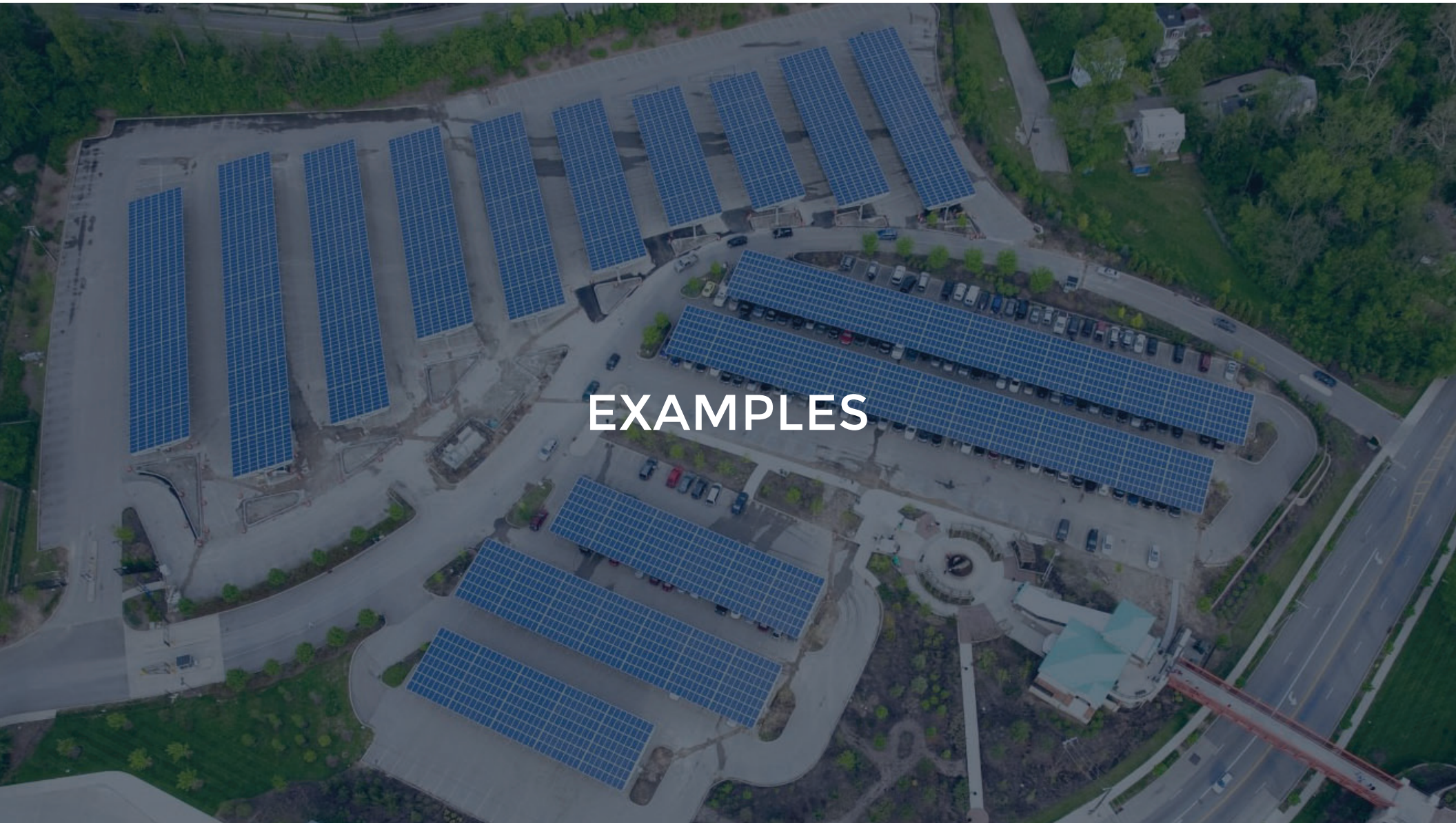
cumulative growth over the last five-year period



- McKinsey and NielsenIQ

Solar Addresses Scope 2 Emissions




EXAMPLES

STOP
STOP


FedEx

Villa Rose · Waialua Egg

Oahu, Hawaii

Fresh Air Chicken Canopies

1.4 MW DC

Completed 2018

COMMERCIAL SOLAR ENGINEERING, PROCUREMENT, AND CONSTRUCTION

Melink Solar™

COMMERCIAL SOLAR ENGINEERING,
PROCUREMENT, AND
CONSTRUCTION

Melink Solar™

Northern Ohio
Fixed Tilt Ground Mounts
2.25 MW DC
Completed 2021

Kent State University

LinkedIn

Omaha, Nebraska

Parking Lot Canopy

550 kW DC

Completed 2022

COMMERCIAL SOLAR ENGINEERING, PROCUREMENT, AND CONSTRUCTION

Melink Solar™

Electrify America: Westfield Valley Fair Mall

San Jose, California

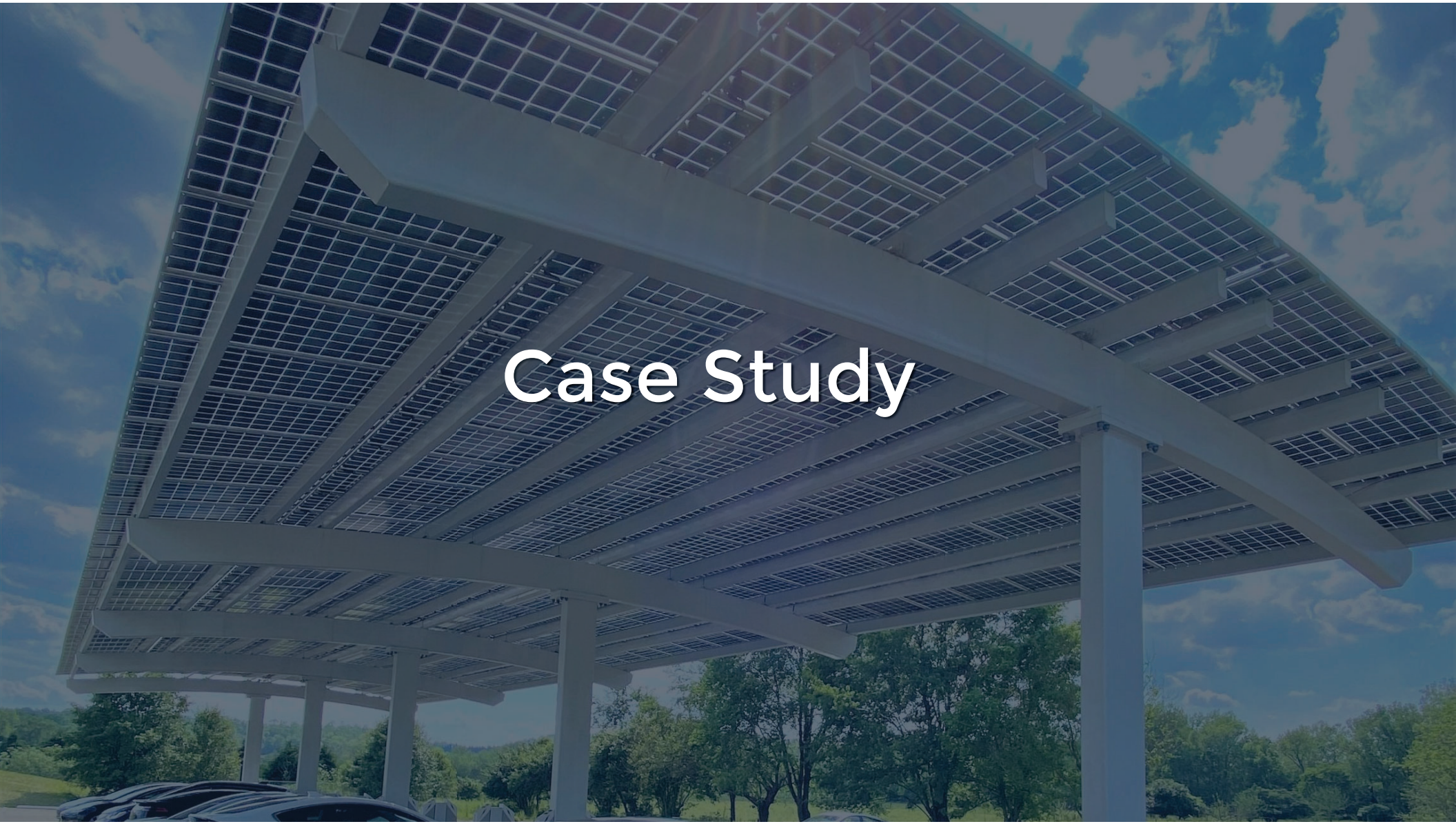
Parking Canopy

78 kW DC

Completed 2021

COMMERCIAL SOLAR ENGINEERING, PROCUREMENT, AND CONSTRUCTION

Melink Solar™


Case Study

Fort Mitchell, KY 41017

3,773 solar modules, covering approximately 85% of the building's roof surface.

Melink Solar™

Electric Bill Analysis: 12 Month Usage and Costs

DUKE ENERGY.

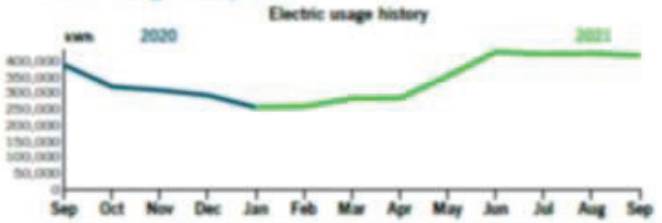
Duke Energy Return Mail
PO Box 1090
Charlotte, NC 28201-1090

RA JONES & CO
2701 CRESCENT SPRINGS PK
COVINGTON,KY 41017

Billing summary

Previous amount due	
Payment received Sep 20	
Current Electric Charges	
Taxes	
Total amount due Oct 20	

Your usage snapshot



	Current Month	Sep 2020	12-Month Usage	Avg Monthly Usage
Electric (kWh)	415,314	385,363	4,019,431	334,953

12-month usage based on most recent history

Your usage snapshot - continued

Current electric usage for meter number 108044473

Billing period Aug 26 - Sep 27

kWh Usage	116,052
On Peak	
Actual kW	752
Actual kVa	825
Power Factor	91.2%
Off Peak	
kWh Usage	299,262
Actual kW	720
Actual kVa	800
Power Factor	90.0%
Billed kWh	116,052

Billing details - Electric

Meter - 108044473	
Rate DT01 - Distribution Service-TOD	
Customer Charge	$127.00
Demand Chrg	
752.00 KW @ $14.85	11,167.20
Energy Chrg	
116,052 kWh @ $0.048389	5,615.64
Demand Side Management Cost Recovery Program Rider (DSM)	
415,314 kWh @ $-0.000868	-360.49
Off-System Sales Profit Sharing Mechanism Rider (PSM)	
415,314 kWh @ $-0.000774	-321.45
Elec Fuel Adjustment	
116,052 kWh @ $0.001763	204.60
Environmental Surcharge Mechanism Rider (ESM)	1,407.69
Rate DT01 - Distribution Service-TOD	
Energy Chrg	
299,262 kWh @ $0.039909	11,943.25
Elec Fuel Adjustment	
299,262 kWh @ $0.001763	527.60
Environmental Surcharge Mechanism Rider (ESM)	460.22
Total Charges	

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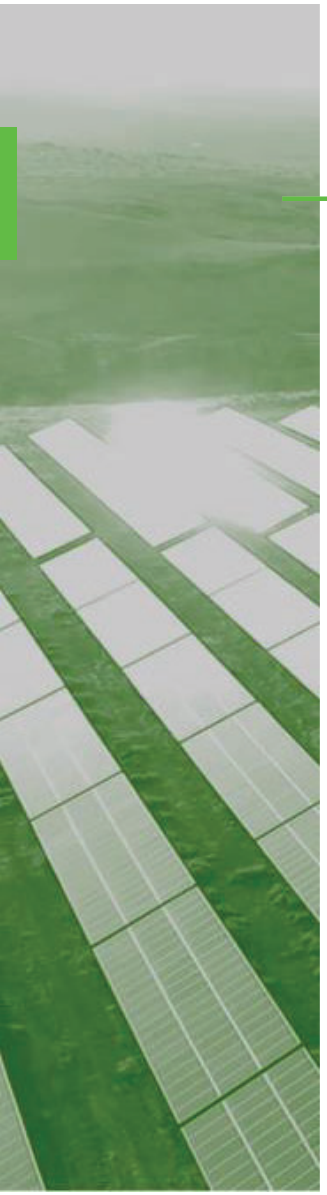
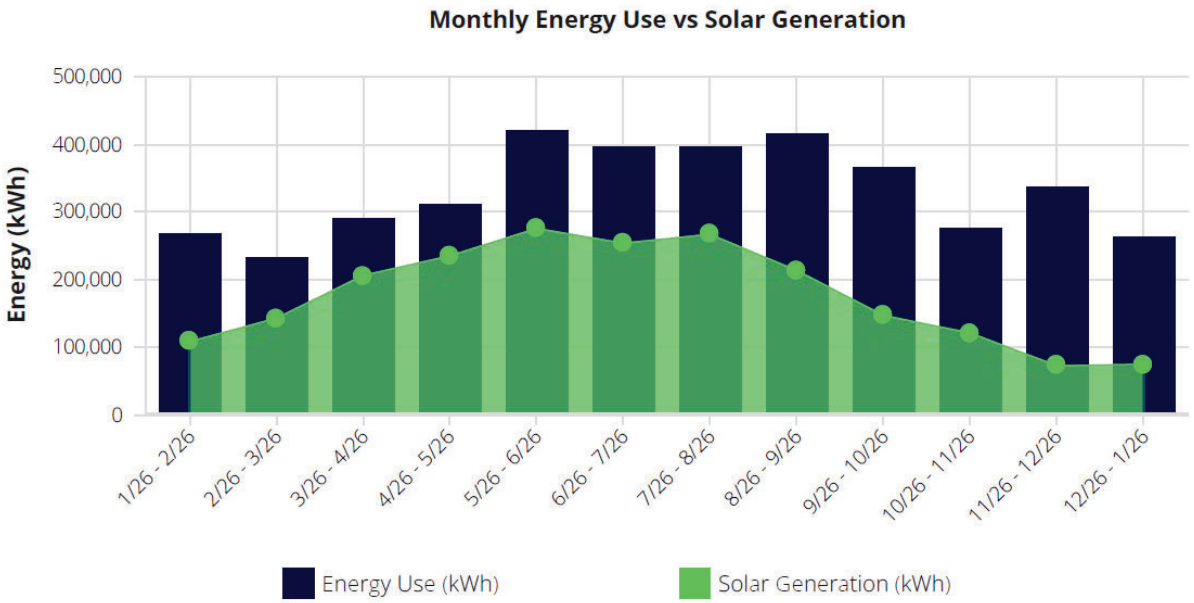
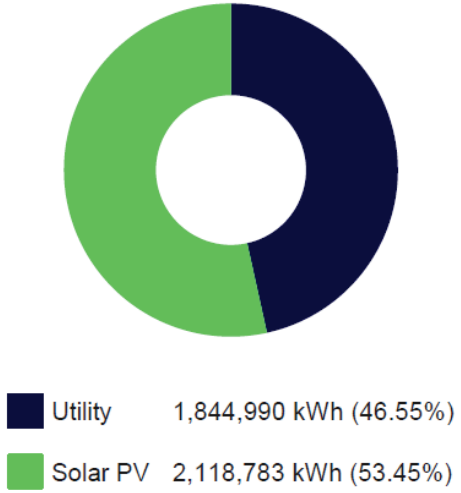
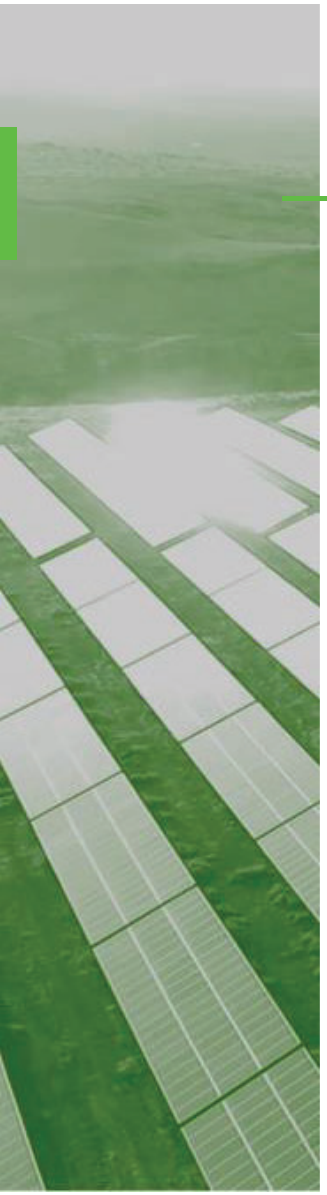


Solar Production vs. Usage

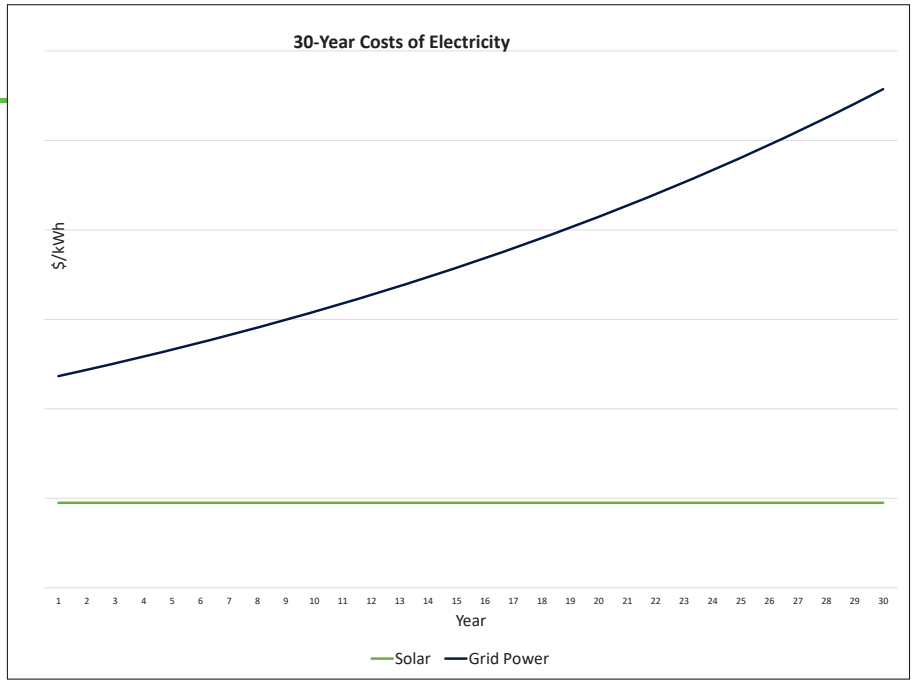




Melink Solar™



30-YEAR RESULTS



FINANCIALS:

- **Cut Energy Costs by MORE THAN HALF of current $/kWh rate**
- **$6.4 Million Electric Bill Savings**
- **Supply over 50% of energy needs**

ENVIRONMENTAL:

- **Offset 33,200 tons of atmospheric CO2**
- **Equivalent to taking 252 cars off the road or planting nearly a half a million trees.**

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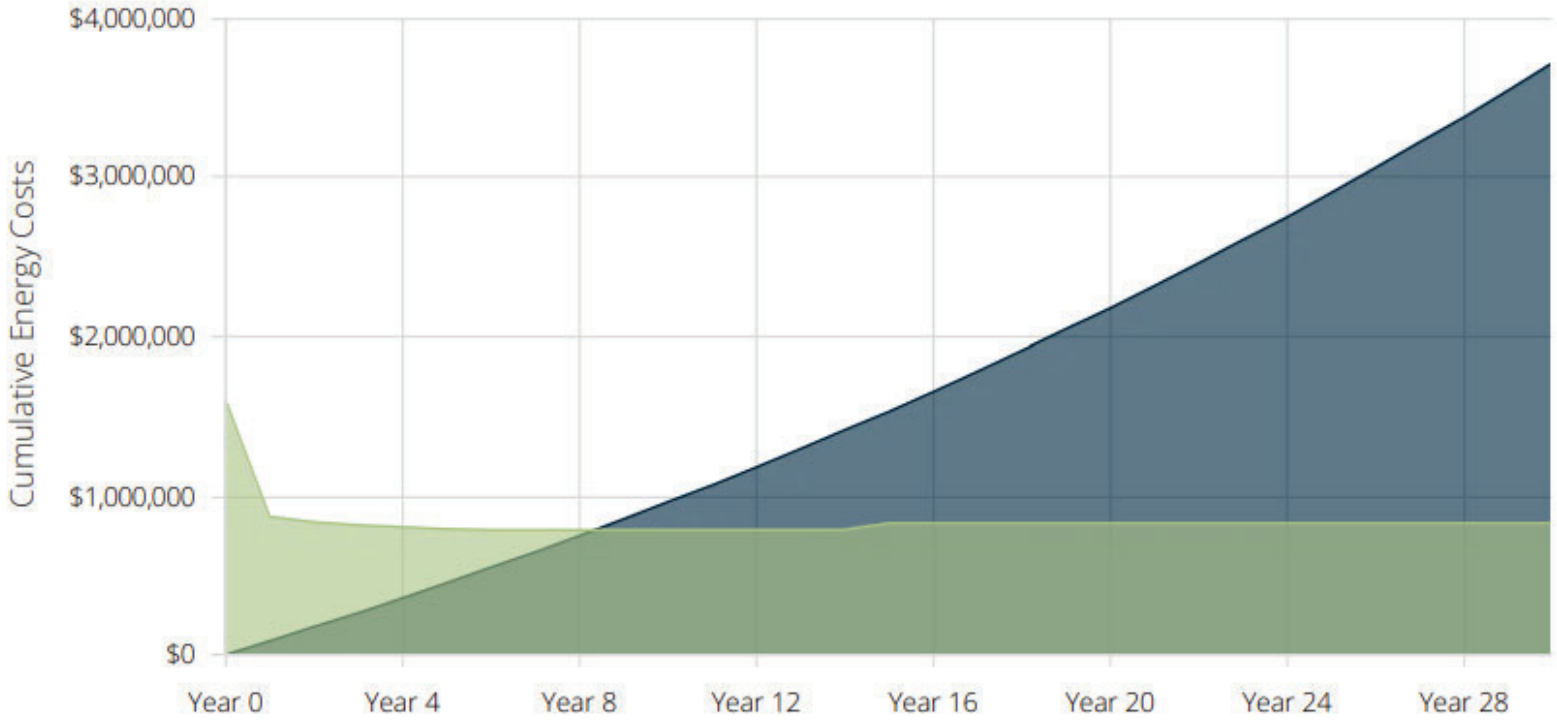
Cumulative Cost of Energy



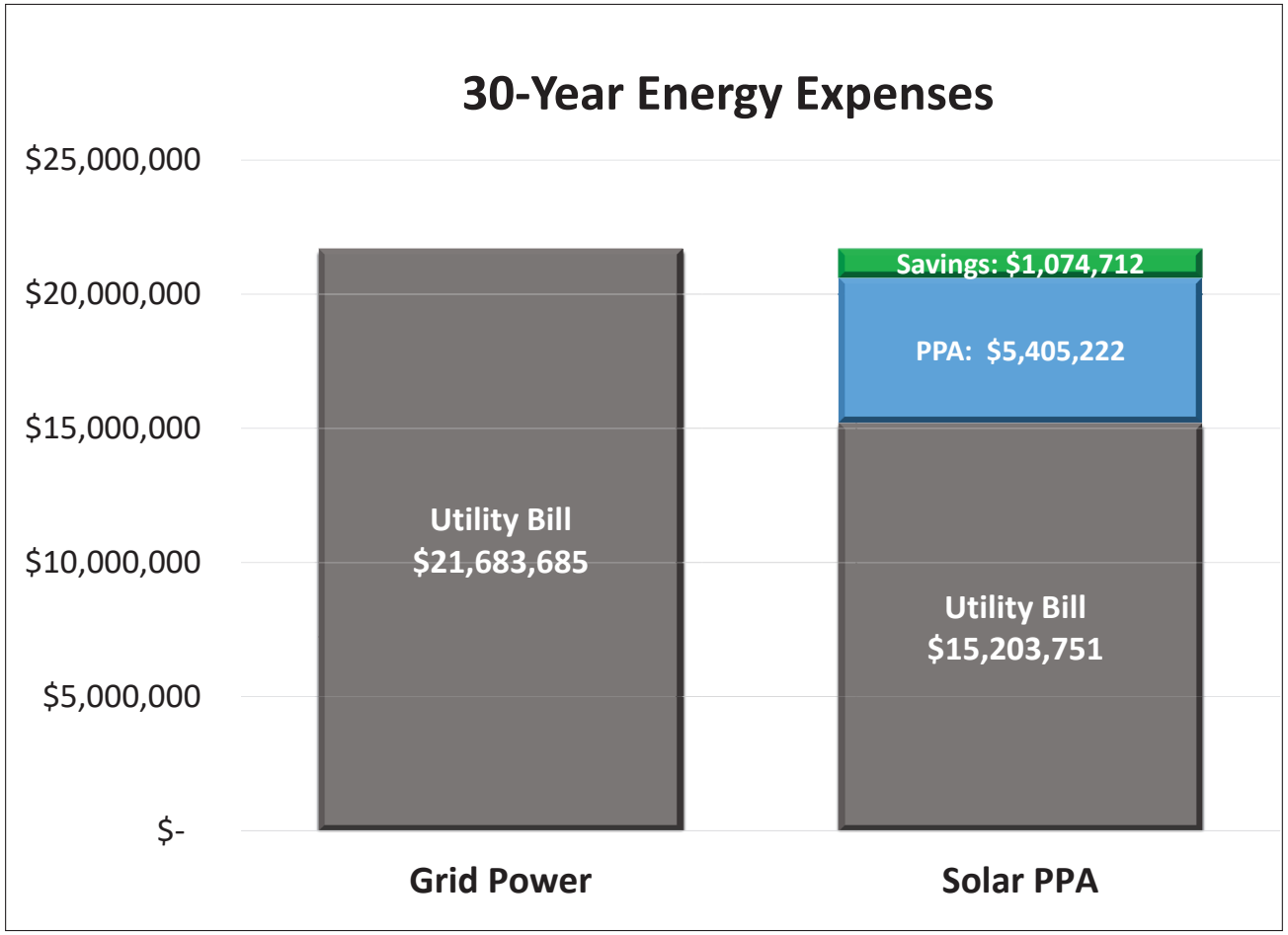
Cashflow

Years	Cash			PV	State Taxes	Federal Taxes		Total Cash Flow	Cumulative Cash Flow
	Project Costs	New Inverters	Electric Bill Savings	Generation (kWh)	Income Decrease (State (OH) Depreciation)	Income Decrease (Federal - MACRS Bonus Depreciation)	Federal Tax Credit		
Upfront	-$1,600,000	-	-	-	-	-	-	-$1,600,000	-$1,600,000
1	-	-	$86,079	1,137,172	$9,600	$239,904	$480,000	$815,583	-$784,417
2	-	-	$88,174	1,130,917	$15,360	$18,278	-	$121,812	-$662,605
3	-	-	$90,317	1,124,663	$9,216	$10,967	-	$110,500	-$552,105
4	-	-	$92,509	1,118,409	$5,530	$6,580	-	$104,619	-$447,486
5	-	-	$94,751	1,112,154	$5,530	$6,580	-	$106,861	-$340,625
6	-	-	$97,045	1,105,900	$2,765	$3,290	-	$103,100	-$237,525
7	-	-	$99,391	1,099,645	-	-	-	$99,391	-$138,134
8	-	-	$101,790	1,093,391	-	-	-	$101,790	-$36,344
9	-	-	$104,244	1,087,136	-	-	-	$104,244	$67,901
10	-	-	$106,754	1,080,882	-	-	-	$106,754	$174,655
11	-	-	$109,320	1,074,627	-	-	-	$109,320	$283,975
12	-	-	$111,945	1,068,373	-	-	-	$111,945	$395,920
13	-	-	$114,628	1,062,119	-	-	-	$114,628	$510,548
14	-	-	$117,372	1,055,864	-	-	-	$117,372	$627,919
15	-	-$42,705	$120,177	1,049,610	-	-	-	$77,472	$705,391
16	-	-	$123,044	1,043,355	-	-	-	$123,044	$828,435
17	-	-	$125,976	1,037,101	-	-	-	$125,976	$954,411
18	-	-	$128,973	1,030,846	-	-	-	$128,973	$1,083,384
19	-	-	$132,036	1,024,592	-	-	-	$132,036	$1,215,420
20	-	-	$135,167	1,018,337	-	-	-	$135,167	$1,350,587
21	-	-	$138,367	1,012,083	-	-	-	$138,367	$1,488,954
22	-	-	$141,637	1,005,829	-	-	-	$141,637	$1,630,591
23	-	-	$144,979	999,574	-	-	-	$144,979	$1,775,570
24	-	-	$148,394	993,320	-	-	-	$148,394	$1,923,964
25	-	-	$151,883	987,065	-	-	-	$151,883	$2,075,847
26	-	-	$155,449	980,811	-	-	-	$155,449	$2,231,296
27	-	-	$159,091	974,556	-	-	-	$159,091	$2,390,387
28	-	-	$162,812	968,302	-	-	-	$162,812	$2,553,199
29	-	-	$166,613	962,047	-	-	-	$166,613	$2,719,813
30	-	-	$170,496	955,793	-	-	-	$170,496	$2,890,309
Totals:	-$1,600,000	-$42,705	$3,719,414	31,394,473	$48,000	$285,600	$480,000	$2,890,309	-

RESULTS IN 20+ YEARS OF FREE ELECTRICITY

PLUS **ADDITIONAL CASHFLOW**

PPA Example


30-Year Energy Expenses
$25,000,000
$20,000,000
$15,000,000
$10,000,000
$5,000,000
$-
Utility Bill
$21,683,685
Savings: $1,074,712
PPA: $5,405,222
Utility Bill
$15,203,751
Grid Power
Solar PPA

Melink® Solar

Seth Parker
CEO
sparker@melinksolar.com

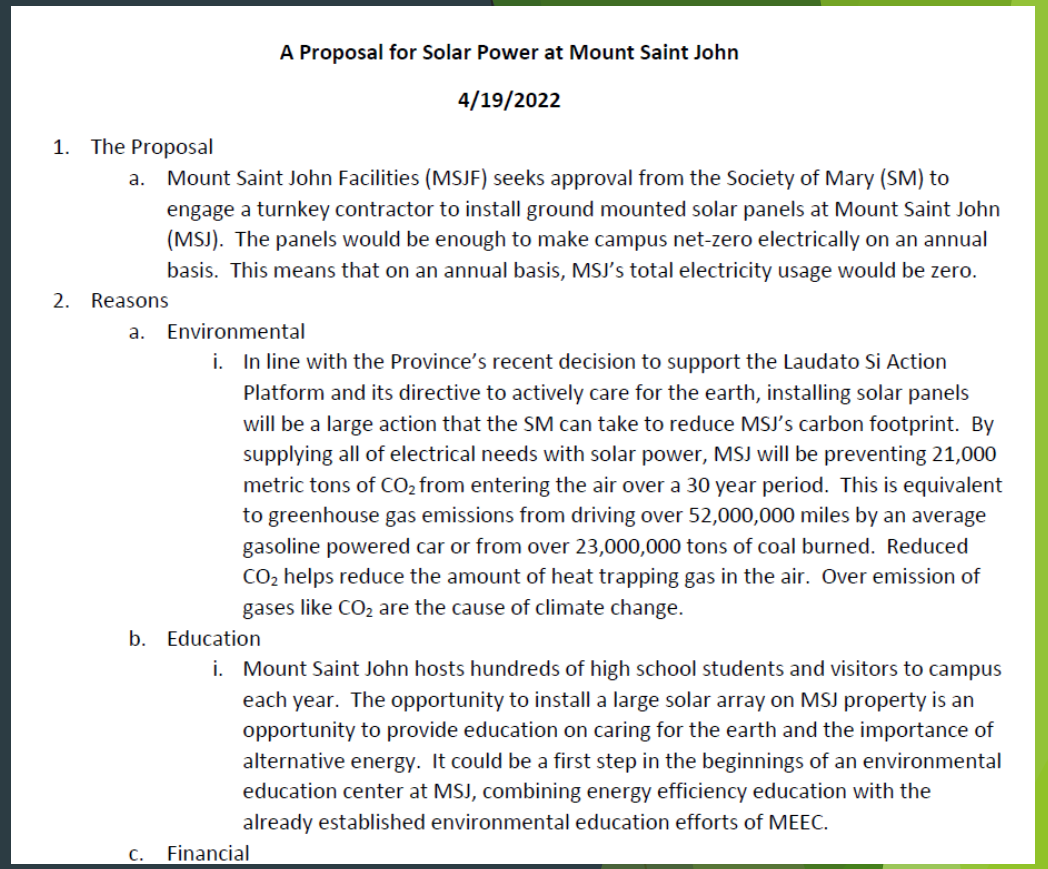
MOVING FORWARD WITH SOLAR

TIPS AND LESSONS LEARNED

Jeff Bohrer, M.S., P.E.
Director of Mount Saint John Facilities

SELLING IT

- Do your homework.
  - Assess building needs/understand facilities plan.
  - Understand current energy usage amounts.
  - Understand current financial situation.
  - Get an initial solar design done by a reputable firm showing potential layouts, costs, and savings.
  - Investigate available rebates/incentives/tax credits.
  - Make sure financials make sense.
    - Make calculations for payback, investment earnings, LCOE, etc.
  - Put together a persuasive report of all your findings.



A Proposal for Solar Power at Mount Saint John

4/19/2022

1. The Proposal
   a. Mount Saint John Facilities (MSJF) seeks approval from the Society of Mary (SM) to engage a turnkey contractor to install ground mounted solar panels at Mount Saint John (MSJ). The panels would be enough to make campus net-zero electrically on an annual basis. This means that on an annual basis, MSJ's total electricity usage would be zero.
2. Reasons
   a. Environmental
      i. In line with the Province's recent decision to support the Laudato Si Action Platform and its directive to actively care for the earth, installing solar panels will be a large action that the SM can take to reduce MSJ's carbon footprint. By supplying all of electrical needs with solar power, MSJ will be preventing 21,000 metric tons of CO_2 from entering the air over a 30 year period. This is equivalent to greenhouse gas emissions from driving over 52,000,000 miles by an average gasoline powered car or from over 23,000,000 tons of coal burned. Reduced CO_2 helps reduce the amount of heat trapping gas in the air. Over emission of gases like CO_2 are the cause of climate change.
   b. Education
      i. Mount Saint John hosts hundreds of high school students and visitors to campus each year. The opportunity to install a large solar array on MSJ property is an opportunity to provide education on caring for the earth and the importance of alternative energy. It could be a first step in the beginnings of an environmental education center at MSJ, combining energy efficiency education with the already established environmental education efforts of MEEC.
   c. Financial

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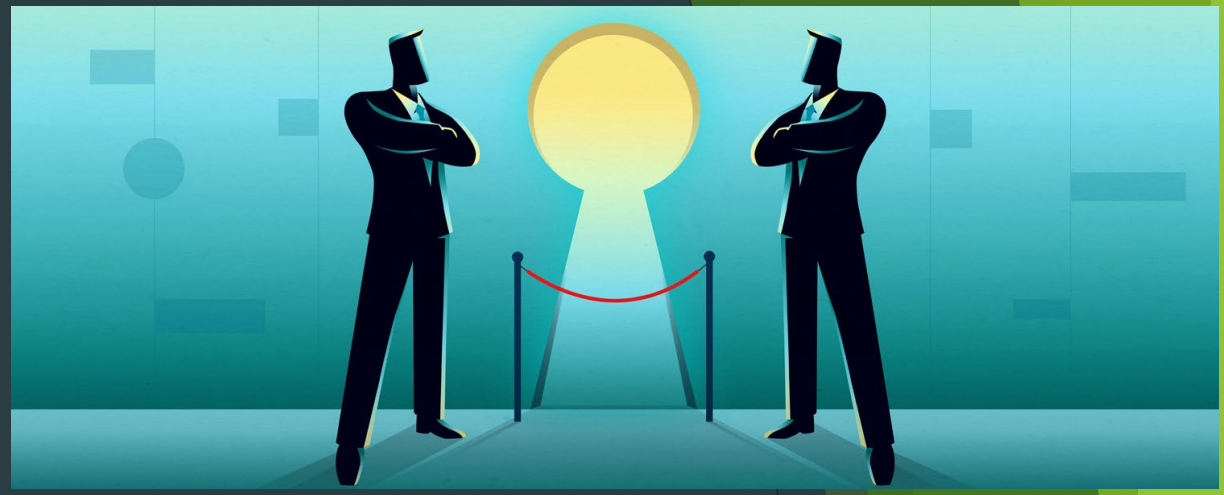
SELLING IT



- Gain support of decision makers.
  - Focus on what is important to them/what motivates them (investment returns? Image? Care for the earth? ROI? Lower operating budget?)
  - Also advocate by focusing on $ savings vs. project costs, investment diversification, image, and environmental/social justice issues.
  - Have discussions based on data but also on soft issues.
  - Provide a plan and personnel who will see project through without the need for much time from the decision makers.
  - Be gently persistent.
- Employ reputable companies that make solar central to their mission

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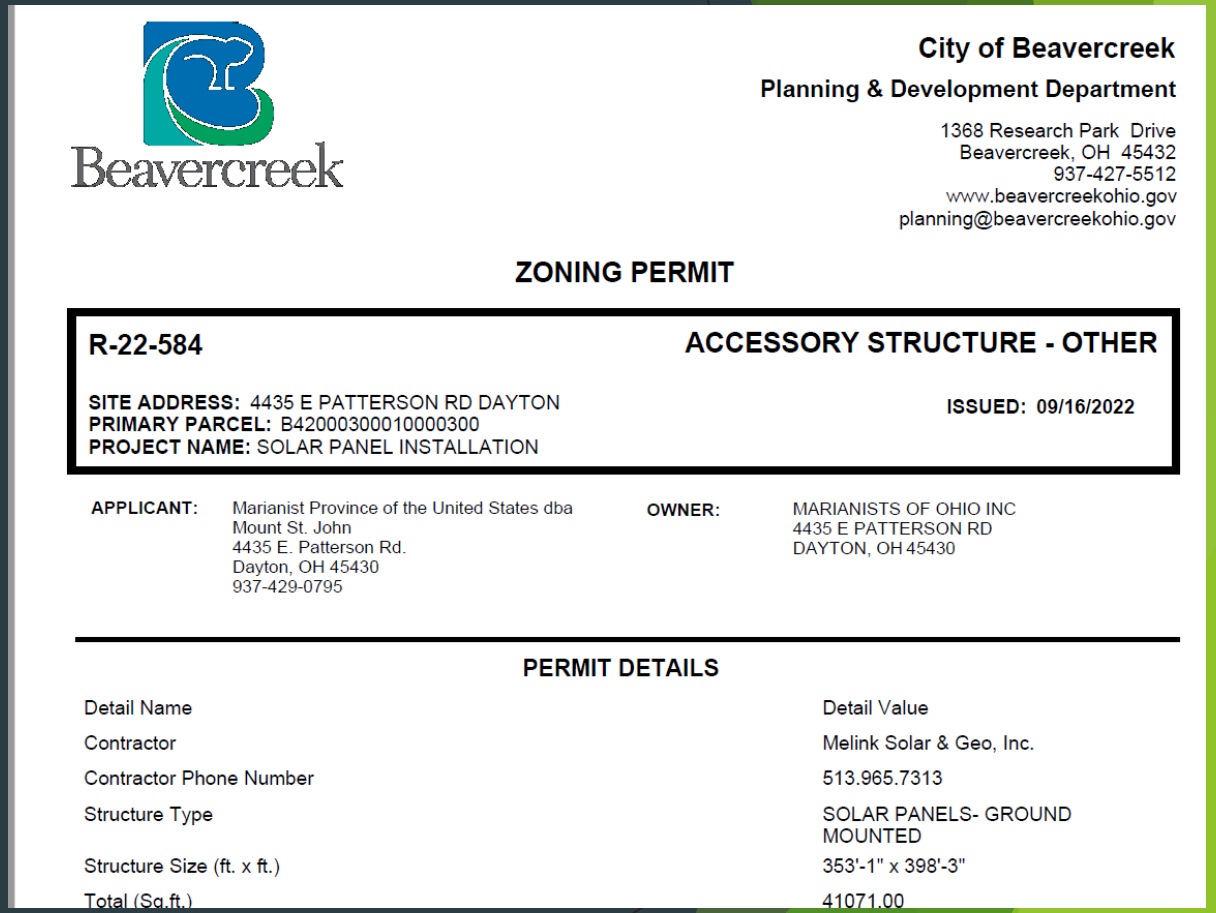
FINANCING IT

- IRA
  - 30%-70% Tax Credit
- PPA/PACE/Other Creative Financing Options
  - Always get the equivalent annual interest rate
- Loan
- Selling Investments

LESSONS LEARNED-ZONING

- Thoroughly know and investigate your local zoning code.
  - e.g. Location, visual curtains, height restrictions
- Initiate open/honest/cooperative communications with zoning officials.
- Be open to creative ideas.
  - e.g. changing parcel boundary locations
- Be willing to pursue a variance through the Board of Zoning Appeals (BZA).
  - Duncan Factors need to be satisfied.
    - The 7 factors to be considered and weighed by the BZA in determining whether a property owner seeking an area variance has encountered practical difficulties in the use of the property.



Beavercreek

City of Beavercreek
Planning & Development Department
1368 Research Park Drive
Beavercreek, OH 45432
937-427-5512
www.beavercreekohio.gov
planning@beavercreekohio.gov

ZONING PERMIT

R-22-584 — **ACCESSORY STRUCTURE - OTHER**

SITE ADDRESS: 4435 E PATTERSON RD DAYTON
PRIMARY PARCEL: B42000300010000300
PROJECT NAME: SOLAR PANEL INSTALLATION
ISSUED: 09/16/2022

APPLICANT: Marianist Province of the United States dba Mount St. John, 4435 E. Patterson Rd., Dayton, OH 45430, 937-429-0795

OWNER: MARIANISTS OF OHIO INC, 4435 E PATTERSON RD, DAYTON, OH 45430

PERMIT DETAILS

Detail Name	Detail Value
Contractor	Melink Solar & Geo, Inc.
Contractor Phone Number	513.965.7313
Structure Type	SOLAR PANELS- GROUND MOUNTED
Structure Size (ft. x ft.)	353'-1" x 398'-3"
Total (Sq.ft.)	41071.00

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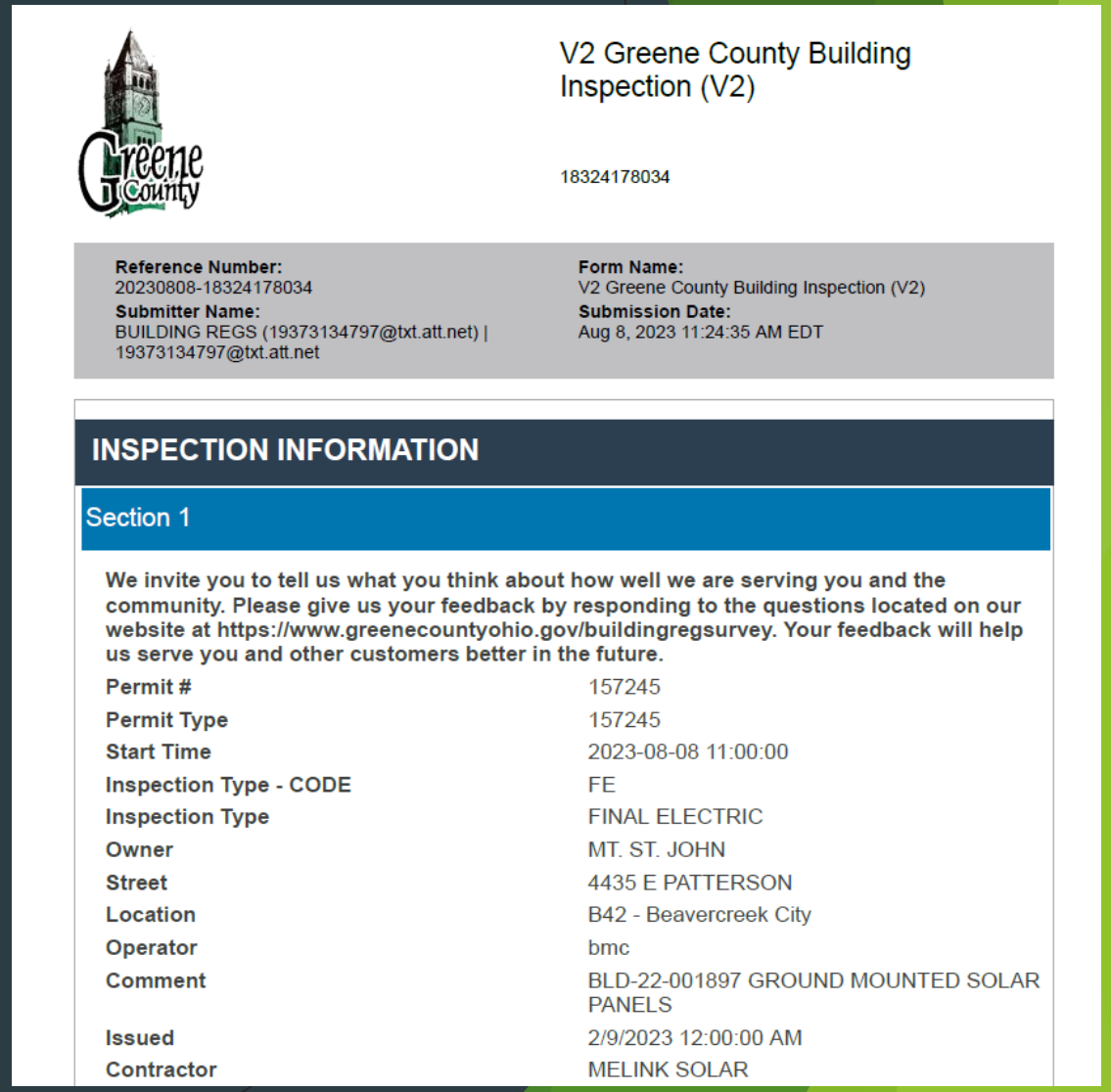
LESSONS LEARNED-AUTHORITY HAVING JURISDICTION (AHJ)

- Solar is still new to may AHJ's.
- There can be as much education of the AHJ as there is of the AHJ correcting the contractor.
- Initiate open/honest/cooperative communications with AHJ officials.
- Special Inspections requiring you to hire an inspector may be needed.
- Expect delays and repeated failures of inspections.



V2 Greene County Building Inspection (V2)

18324178034

Reference Number: 20230808-18324178034
Submitter Name: BUILDING REGS (19373134797@txt.att.net) | 19373134797@txt.att.net
Form Name: V2 Greene County Building Inspection (V2)
Submission Date: Aug 8, 2023 11:24:35 AM EDT

INSPECTION INFORMATION

Section 1

We invite you to tell us what you think about how well we are serving you and the community. Please give us your feedback by responding to the questions located on our website at https://www.greenecountyohio.gov/buildingregsurvey. Your feedback will help us serve you and other customers better in the future.

Permit #	157245
Permit Type	157245
Start Time	2023-08-08 11:00:00
Inspection Type - CODE	FE
Inspection Type	FINAL ELECTRIC
Owner	MT. ST. JOHN
Street	4435 E PATTERSON
Location	B42 - Beavercreek City
Operator	bmc
Comment	BLD-22-001897 GROUND MOUNTED SOLAR PANELS
Issued	2/9/2023 12:00:00 AM
Contractor	MELINK SOLAR

LESSONS LEARNED-INTERCONNECTION

- While the interconnection agreement cannot by denied by the utility, they can make getting it challenging.
  - Communication can be difficult.
  - Utility requirements may not make sense, but the utility is in control.
  - Extensive extra fees are possible, which won't be known upfront.
    - Recloser

LESSONS LEARNED-SUPPLY CHAIN

- Supply chain issues are still in play.
- Can affect timeline
- May need to consider more expensive options if it helps timeline/cost.
  - i.e. losing money over lost time vs. more expensive equipment
  - Transformer example

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LESSONS LEARNED-VEGETATION

- Original field was goldenrod, pokeweed, violet, and other vegetation.
- The plan is to grow native grasses that stay shorter and choke out other vegetation.
- We sprayed the field twice before sowing.
- Establishing native grasses takes time and maintenance.
  - Periodic mowing and weed whacking to allow grasses to compete with other vegetation
    - Mowing mishap
  - Spot spraying mainly at posts to prevent vegetation from growing up into panels
  - 2-3 years before the grasses will be fully established

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LESSONS LEARNED-YOUR ELECTRIC CHOICE PROVIDER

- Electric Choice providers are now able to be used with net metering in the AES service territory in Ohio.
  - Residentially at home
  - Commercially at MSJ
- This was not always the case, and may not be available in different utility territories.
- Contract Cautions:
  - (b) If Buyer's Contract Quantities exceed 25,000,000 kWh in any consecutive twelve-month period, then a "Material Usage Change" shall be deemed to have occurred if Buyer's actual monthly aggregated Usage is greater than 125% or less than 75% of the corresponding Contract Quantities for three consecutive months.

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Energy Choice Ohio
powered by choice.

LESSONS LEARNED-SELECTING YOUR CONTRACTOR

- Some Questions to ask/Considerations to Contemplate
  - Responsiveness
  - Knowledge of product, code, laws, and incentives
  - Experience
    - What types of systems do they install?
    - Years of experience and in what? (Portfolio)
  - Personnel qualifications and experience

- What does their package include?
  - Is this a turnkey product?
  - Do they provide structural analysis, permitting, net metering setup?
  - Guaranteed energy production?
  - What are warranty inclusions and length of warranty?
  - Type of monitoring system that will be installed.
  - Commissioning and Support afterwards?
- Financing resources

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CONCLUSION

- From a business standpoint, the cost of waiting to implement solar could not be greater.
- There are many challenges in the process of installing solar, but the end result is well worth working through the challenges.
- Choosing an experienced, quality contractor to help work through the twists and turns of the project is imperative.

Mount Saint John
The Marianists

THANK YOU!

- Jeff Bohrer, M.S., P.E.
- Director of Mount Saint John Facilities
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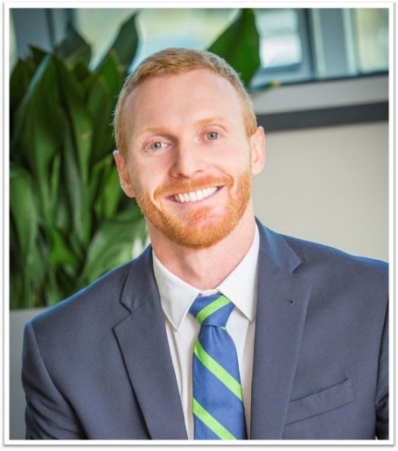
- jbohrer@sm-usa.org
- 937-429-0795
- www.mountsaintjohn.org



Seth W. Parker, CEO, Melink Solar
5130 River Valley Rd., Milford, OH 45150
513-965-7348 sparker@melinkcorp.com

Seth Parker holds a B.A. in Economics from Wittenberg University and a M.S. in Renewable and Clean Energy from the University of Dayton. In his professional career, Seth spent years performing energy audits and working with the states largest energy users to implement energy efficiency programs. Seth has spent the last 8-years working at Melink Solar, helping customers become energy independent and achieve net-zero energy by implementing cost effective solar PV systems.

Melink Solar is a national design/build Solar PV company serving commercial building owners and utilities. Melink strives to help clients reduce their energy consumption and produce clean, renewable energy, in order to achieve net-zero energy status, lower operating cost, and discover the HR/PR benefits of going green.

Jeff Bohrer
Director of Facilities
Mount Saint John
Beavercreek, OH
jbohrer@sm-usa.org

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. He 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.