



# CDFA-Bricker Webinar Series: Financing Green and Sustainable Assets

**THE BROADCAST WILL  
BEGIN AT 2PM EASTERN**

Submit your questions in  
advance using the chat box

Impacts of the Inflation Reduction Act on  
Energy Efficiency & Renewable Energy Projects

Wednesday, December 7, 2022

# Impacts of the Inflation Reduction Act on Energy Efficiency & Renewable Energy Projects



## Ariel Miller

Senior Director, Research & Technical Assistance  
Council of Development Finance Agencies





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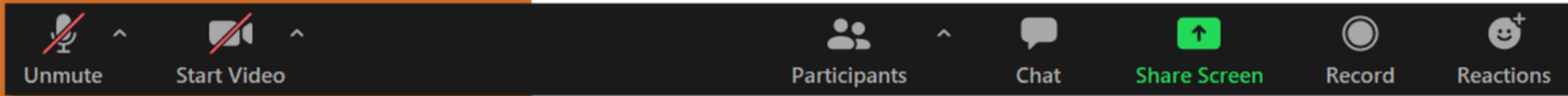
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**Submit your questions by  
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## Panelists



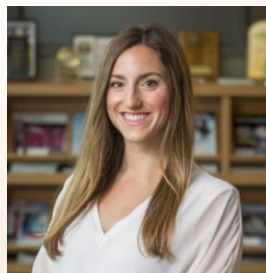
### **Christopher Jones**

PACE Financing Consultant  
Bricker & Eckler LLP



### **Justin Kale**

Director of Opportunity Development  
Energility, LLC



### **Monica Niehaus**

Solar Consultant  
Melink Solar

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# Impacts of the Inflation Reduction Act on Energy Efficiency & Renewable Energy Projects



## Chris Jones

PACE Financing Consultant  
Bricker & Eckler LLP



A nighttime aerial view of a city with a river and a bridge. The city lights are visible in the background, and the bridge is illuminated. The text is overlaid on a semi-transparent white box.

# CDFA – Bricker Webinar Series: Financing Green & Sustainable Assets

2022 Session #5: Impacts of the IRA on Energy Efficiency and  
Renewable Energy Projects

**Chris Jones**  
*PACE Consultant*  
Bricker & Eckler



# Bricker & Eckler's PACE Team



Unmatched experience guiding clients through PACE transactions

- Advise on PACE laws
- Advise on PACE program structure
- Advise on PACE projects
- Partner with C-PACE Alliance
- Partner with PACENation
- Selected as C-PACE Advisor by the US Dept. of Energy
- Regular speakers at national events



# Ohio C-PACE Investment 11/1/22

Total C-PACE Investment:

**\$679,145,311**

2021 C-PACE Investment:

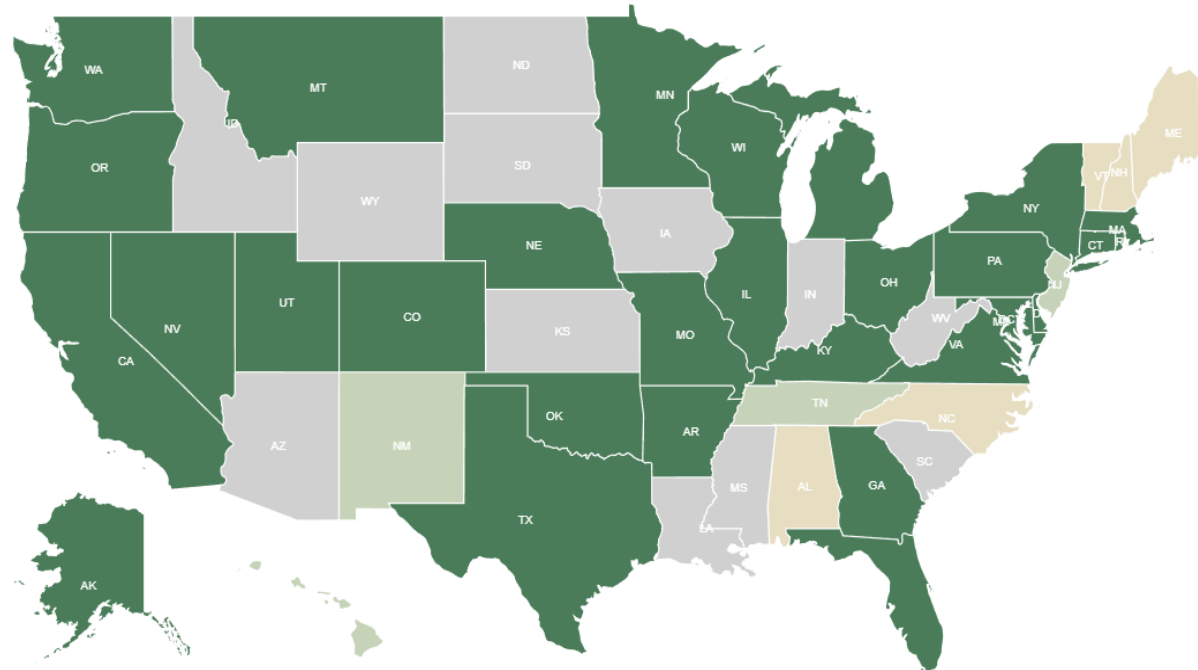
**\$135,020,387**

2022 C-PACE Investment:

**\$137,169,670**



# PACE - 2022



## Map key



Active program(s)



Program in development



PACE-enabled

## PACE Financing

Property  
Assessed  
Clean  
Energy

## Underwriting Trends

PACE Underwriting  
PACE LTV  
Rates and Terms



## IRA

- ITC
- PTC
- Direct Pay and Transferable Credits
- 179D Deductions
- Green Bank

# How Can C-PACE Be Used

---



1. Existing buildings for retrofits and upgrades
2. New construction and “gut rehabs”
3. “Retroactive PACE”: refinancing eligible improvements

# Special Assessments & PACE: “Old Concept, New Application”

1736

1st Assessment District created in Philadelphia

**Today** – 37,000 Assessment Districts nationwide

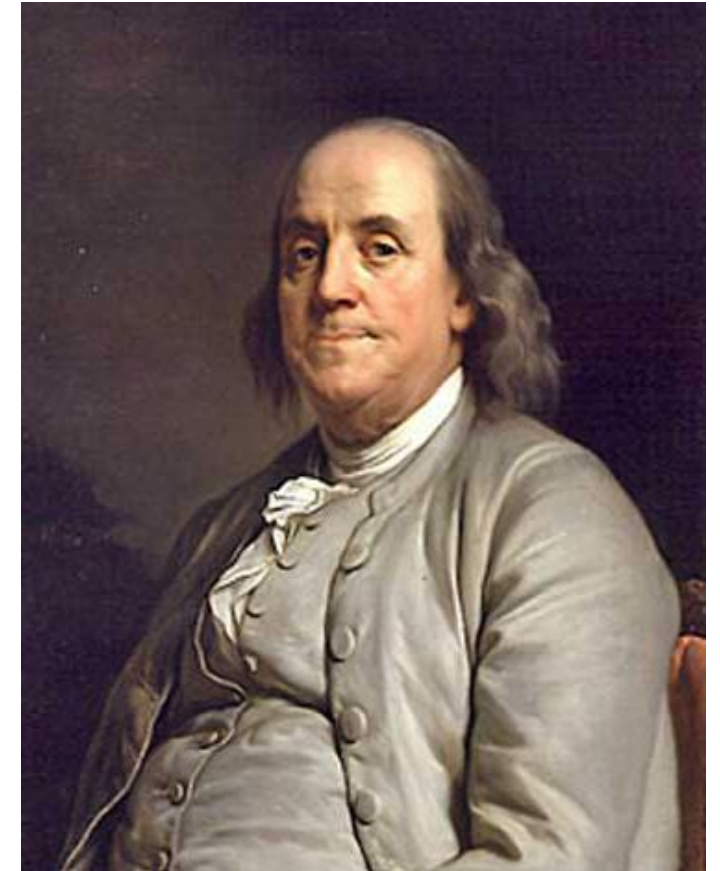
Water & Sewer Service

Parks

Sidewalks & Lighting

Downtown Renewal

**PACE - Single Property Owner request**



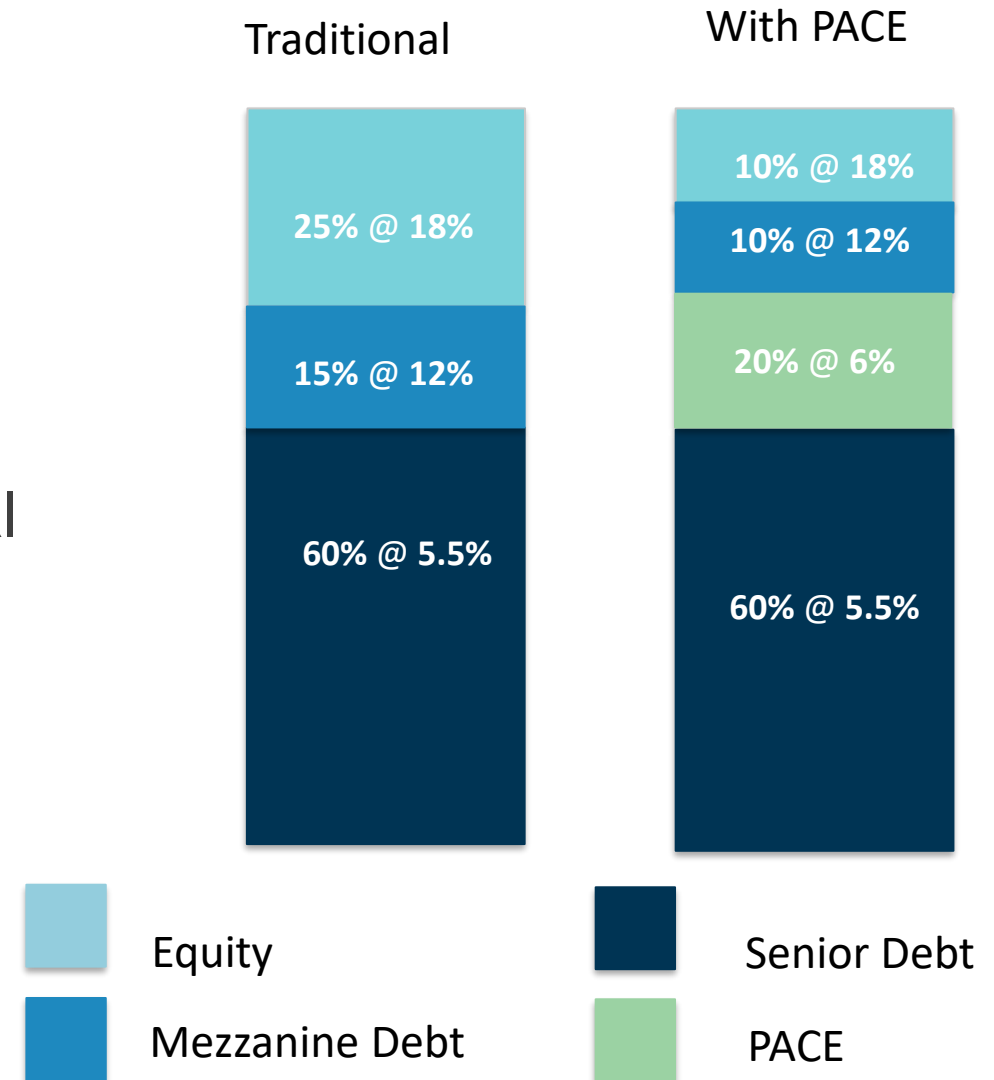
# Special Assessments for Energy Improvements = PACE

- Energy efficiency improvements (save energy)
  - HVAC
  - Lighting
  - Roofs, windows, insulation, elevators, etc.
- Alternative energy improvements (generate energy)
  - Solar photovoltaic (PV) and thermal
  - Wind
  - Geothermal
  - Biomass
  - Nationally: can include non-energy related items



# PACE and Capital Stacks

- From a developer viewpoint: Affordable Equity Alternative
- Long-term, fixed rate payback
- Pass Through Assessment Expense
- Cash Flow Positive
- Solution for projects experiencing capital issues (bridge the gap)
- Promotes Sustainable Development
- Prepayment Flexibility



# Layering Financing Tools



C-PACE can be combined with other types of financing and incentives

## Abatements

- Local property tax abatements
- State property tax abatements
- Sales tax abatements

## Credit enhanced financing

- Bond fund credit enhancement
- State loan loss reserve
- State energy loan program

## Other

- Tax increment financing (TIF)
- Historic tax credits (HTC)
- New market tax credits (NMTC)
- Alternative energy tax credits
- Utility rebate programs



# PACE – Lending Considerations

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- Financing secured via a non-accelerating property tax assessment (PACE assessment)
- Up to 35% of property value
- Fixed interest rate
- Capitalized interest
- Non-recourse except for development projects which require a completion guarantee
- Prepayment provisions
- Financial covenants (or lack thereof)
- Patient remedies, like tax foreclosure



## **What's Next? Inflation Reduction Act Highlights**

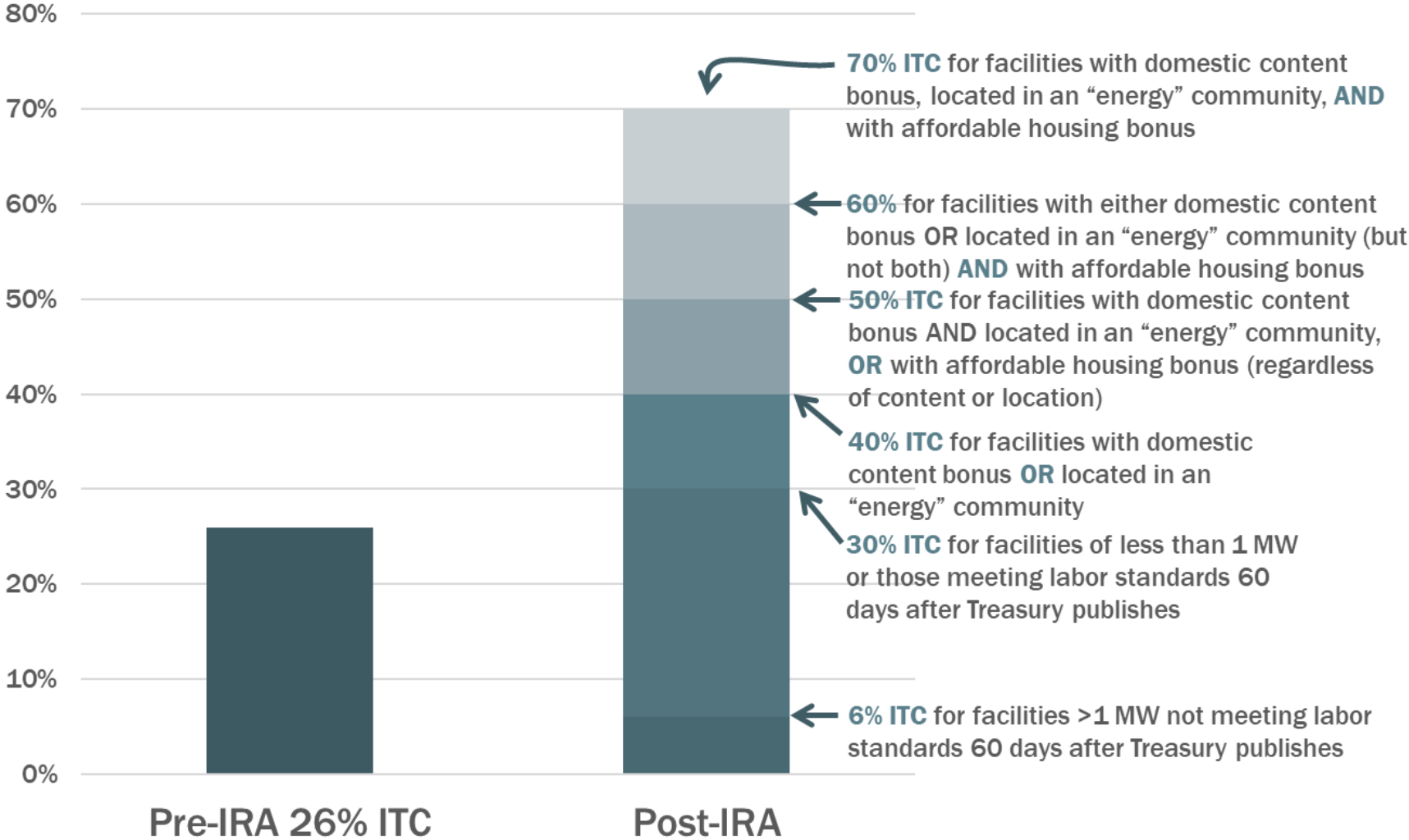
# Inflation Reduction Act - Highlights

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- Grants, loans, rebates, tax credits
- Tax credits for renewables and energy efficiency
  - Section 179D energy efficient commercial buildings credit
  - \$9 billion for state rebates for whole-home retrofits
  - Section 25D residential clean energy credit
  - Section 6417 and 6418 impact on tax-exempt entities
- \$800 million to HUD for direct loans and grants for affordable housing upgrades
- \$1 billion in funding to help upgrade building codes
- \$27 billion “green bank”

# Inflation Reduction Act – Noteworthy Provisions



# Inflation Reduction Act Focus

The IRA introduces two new tax-credit monetization mechanisms that could provide a partial alternative to tax equity financing structures:

Section 6417 Direct Pay Option  
Section 6418 Transfer of Credits



# Inflation Reduction Act – Noteworthy Provisions

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## Direct Pay:

- Allows owners of projects to apply for tax refunds in amounts equal to the value of the credit
- Not available to wind, solar, storage or other traditional renewable energy projects unless owned by municipal co-ops, state or local governments, or certain other tax-exempt owners

## Tax Credit Transfer:

- Allows certain non-tax-exempt project owners to sell credits on the open market to a non-related taxpayer for cash
- Applies to ITC, PTC and certain other tax credits beginning after 2022
- Payments received from sale of tax credits are not included in gross income, and buyer cannot deduct price paid for tax credit
- Treasury may require information or registration of the transfer for the purpose of preventing duplication, fraud, improper or excessive payments
- If Treasury determines a transfer is an excessive credit transfer, a 20% penalty may apply

# Inflation Reduction Act – Noteworthy Provisions



Greenhouse Gas  
Reduction Fund

- National “Greenhouse Gas Reduction Fund”
- To be administered by the U.S. Environmental Protection Agency (EPA)
- Includes grants to states, municipalities, Tribal governments, and non-profits to provide technical assistance and financial assistance in the form of grants or loans to deploy zero-emission and other technologies that reduce GHG emissions.
- \$27B available through September 2024, including \$15B targeted to low-income and disadvantaged communities

## Chris Jones

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# Impacts of the Inflation Reduction Act on Energy Efficiency & Renewable Energy Projects



## Justin Kale

Director of Opportunity Development  
Energility, LLC



# Energility



Justin Kale  
Director of Opportunity  
Development  
[justin@energility.com](mailto:justin@energility.com)  
614.746.9276

Energility



# Inflation Reduction Act Impact

**Energy + Sustainability = Energility**

100+ years building operations and energy experience

Since 2015:	202	commercial business energy assessments
	\$11.7M	energy use analyzed
	\$12.3M	project actions taken
	\$ 1.8M	project energy savings
	156	projects clients have invested in buildings
	41	clients (use our energy management services)
	<b>27.5</b>	<b>internal jobs created (currently 8 FTE)</b>

Annual Results:

\$3.7M energy savings  
8,000+ metric tons CO<sub>2</sub> equiv.

# Energility – our mission

We believe every business deserves access to an energy manager. Nonprofit organizations, small businesses, and commercial enterprises benefit from our proven energy intelligence.

## **Cornerstones of Our Mission:**

- Transfer our operations knowledge to owners of buildings
- Create action plans to improve equipment and operations
- Establish results which lower environmental disruption
- Support local economies by collaborating with resources in the community

# Partnerships | Relationships | Memberships





## A Reliable Energy Plan...

- Meets your requirements – need, budget, and schedule
- Uses skilled professionals
  - ✓ Professional Engineer (PE), or
  - ✓ Certified Energy Manager (CEM), or
  - ✓ Certified Energy Auditor (CEA)
- Adheres to Standard 211 by American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)

# Your Energy Manager

## Certified Energy Manager®

- optimizes the energy performance of a facility, building, or industrial plant
- systems integrator for electrical, mechanical, process, and building infrastructure
- analyze the optimum solutions to reduce energy consumption in a cost-effective approach

Your Needs

Your Budget

Your Schedule

*Energility's approach...*



# ASHRAE 90.1

*Energy Standard for Buildings Except Low-Rise Residential Buildings*

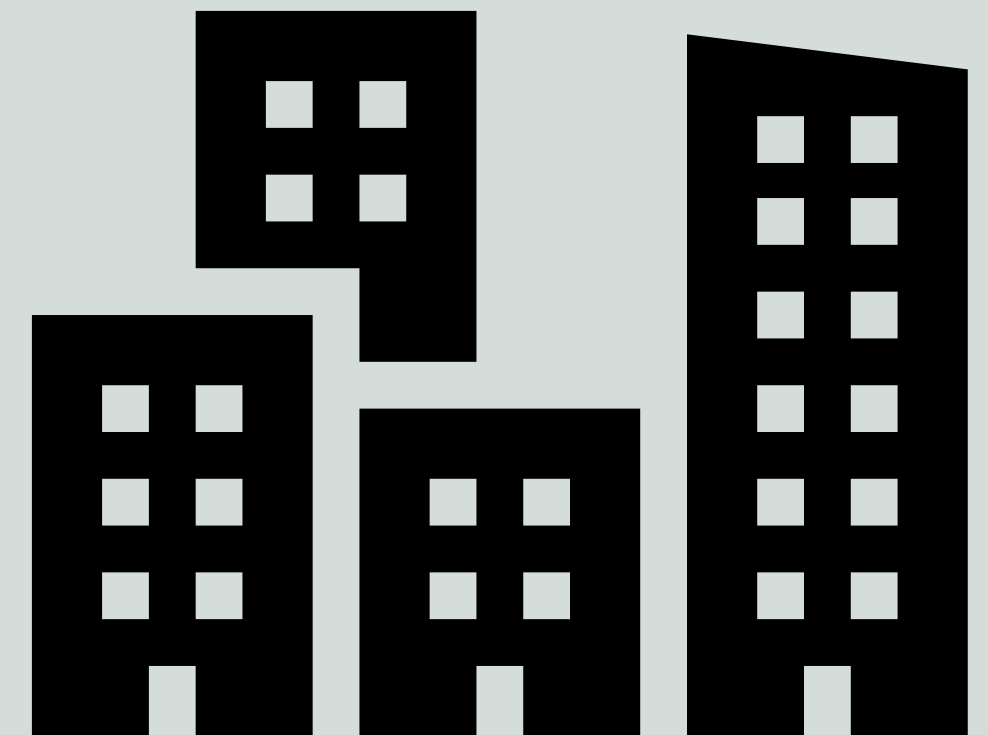
Energy code

Originally ASHRAE 90 (1970s)

Starting in 2001, updated every 3 years

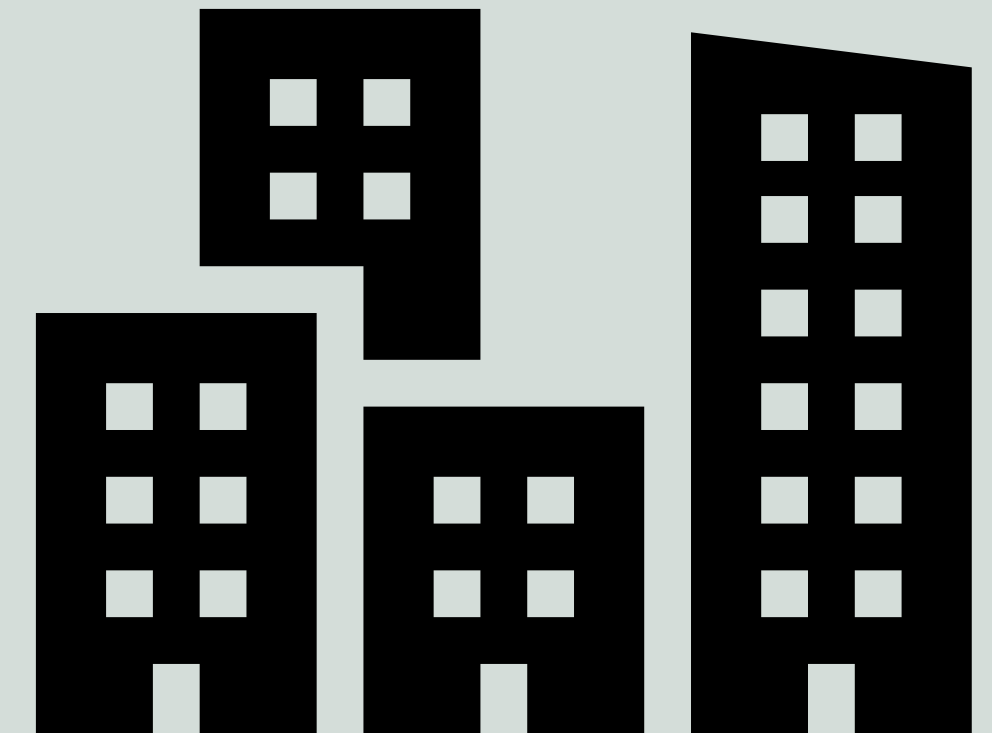
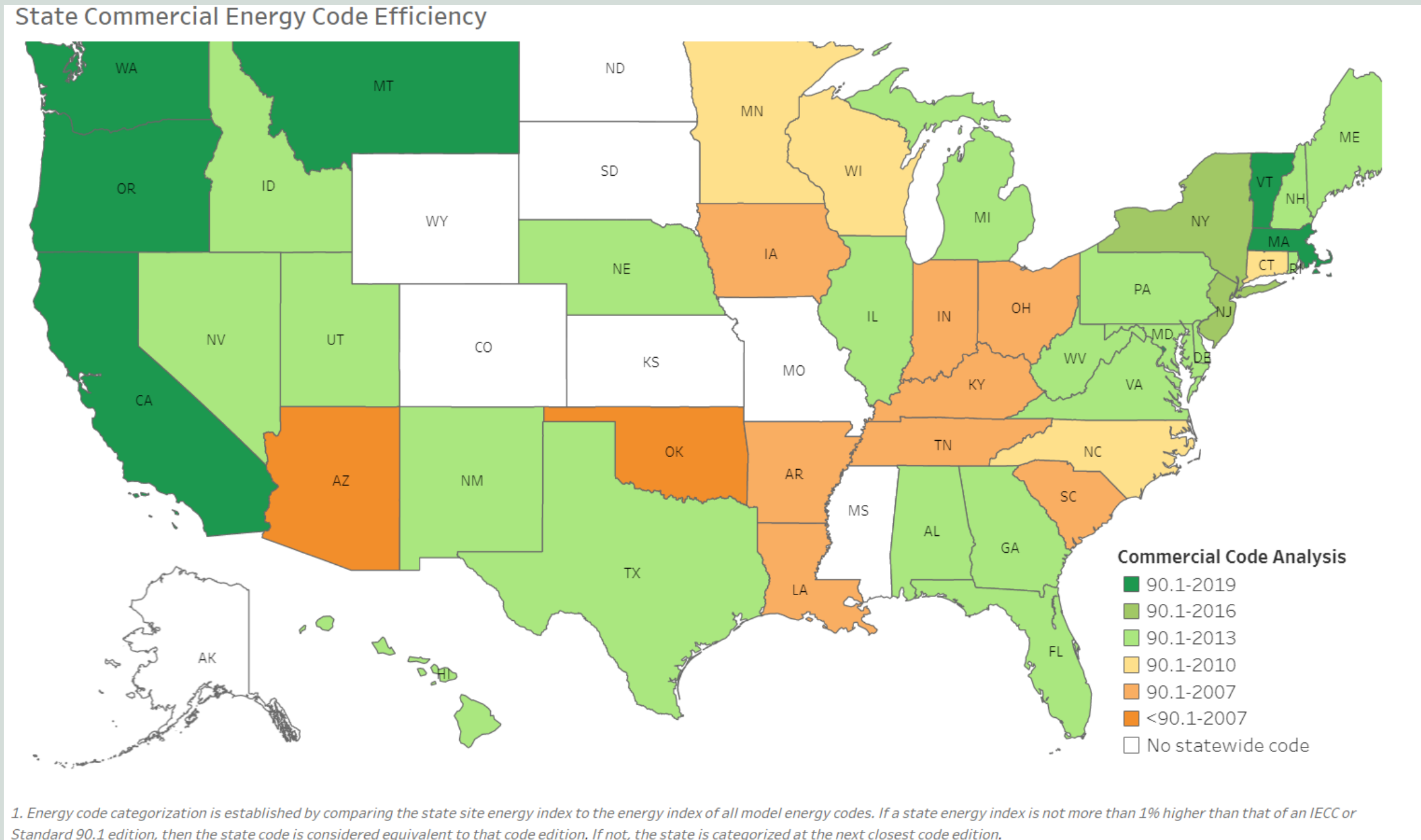
12 sections, 250+ pages

- Building envelop (section 5)
- Heating, ventilation, and air conditioning (section 6)
- Lighting (section 9)
- Energy modeling (Appendix G)





# ASHRAE 90.1



# ASHRAE 90.1

## Effectiveness

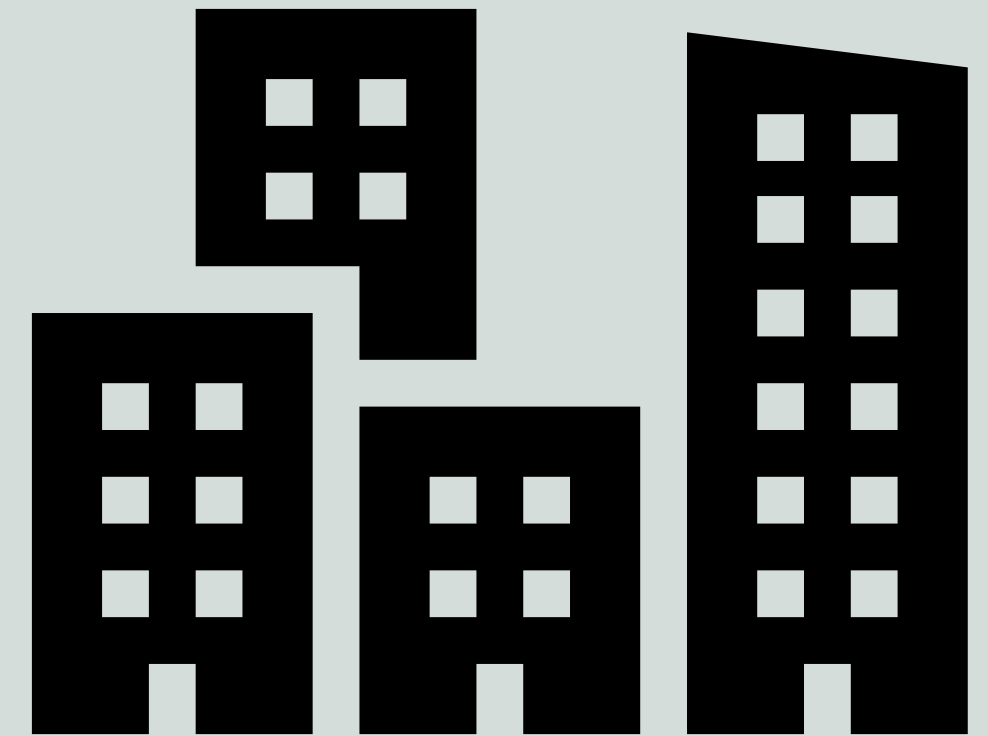
- Not punitive but tied to other agencies and programs
- “Industry standard”

## Referenced in local building codes

- As such adoption varies from location to location
- Ohio currently ASHRAE 90.1-2010

## Impact the minimal requirements

- Is this enough insulation?
- What is too much light?
- How efficient does my HVAC need to be?



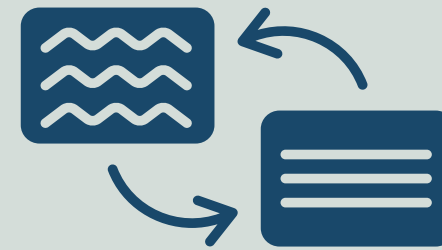
# Energy Management Program



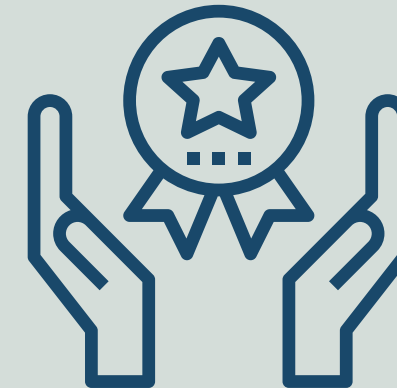
Dashboard



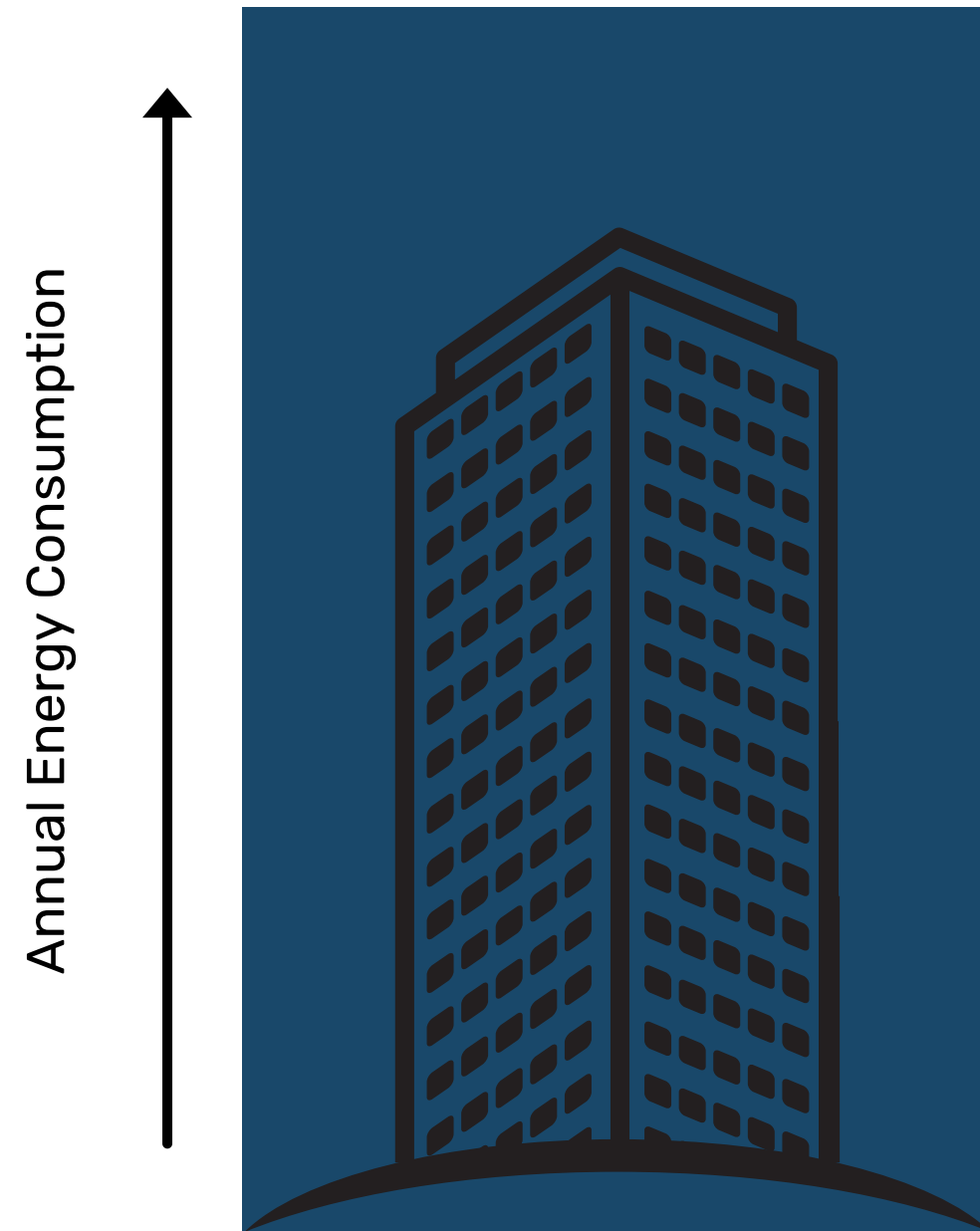
Benchmark



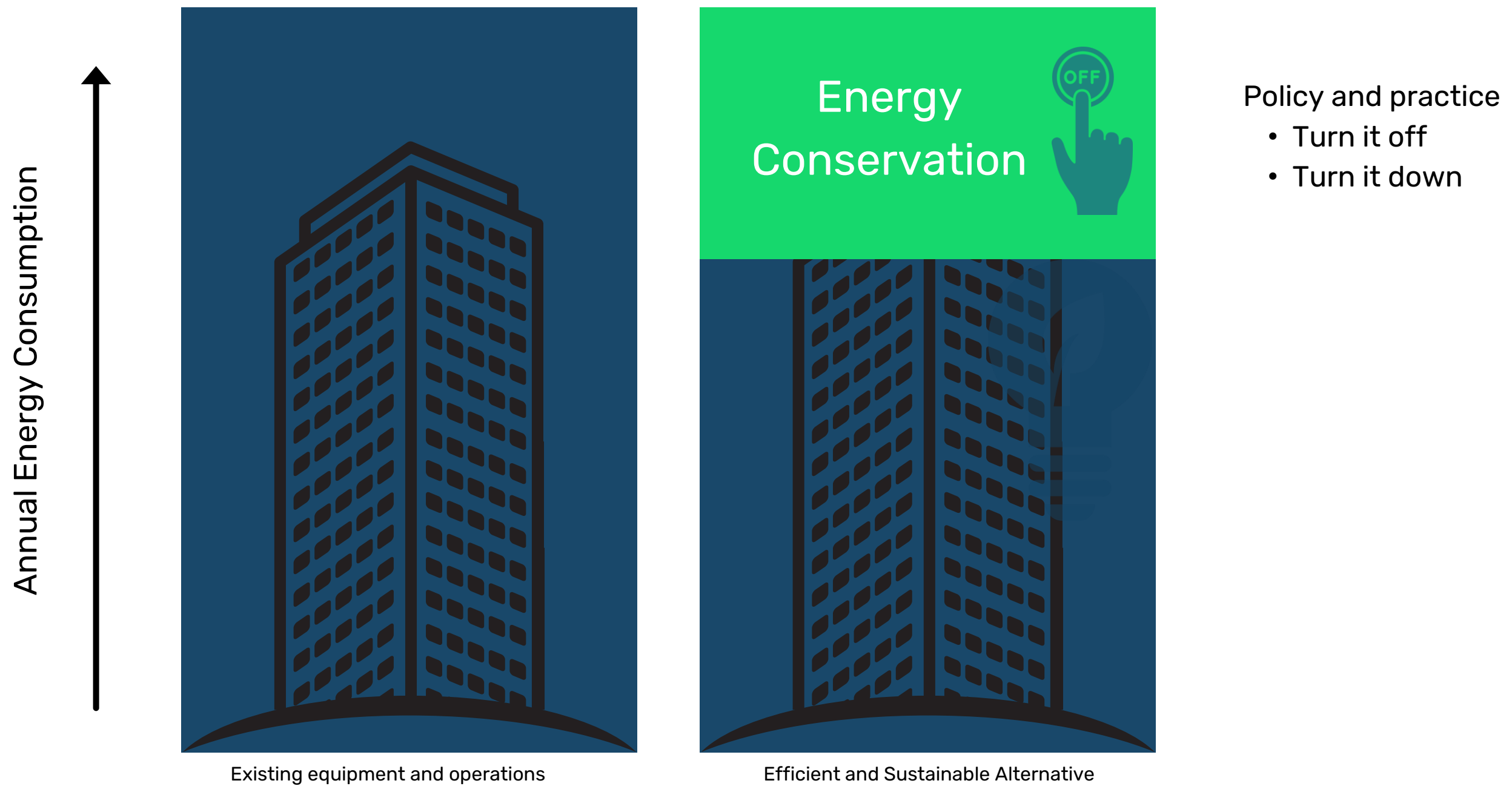
Translate



Benefits

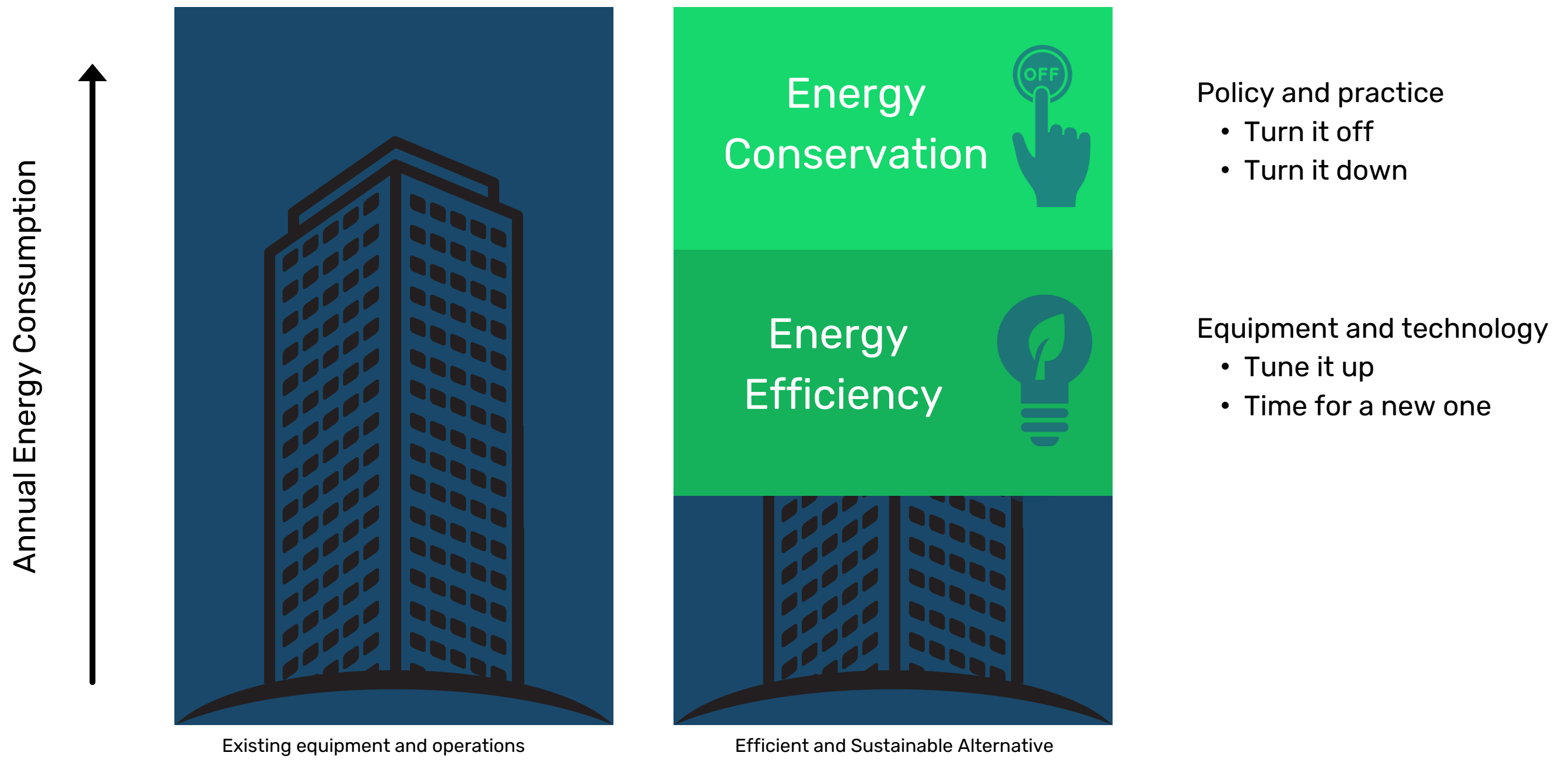


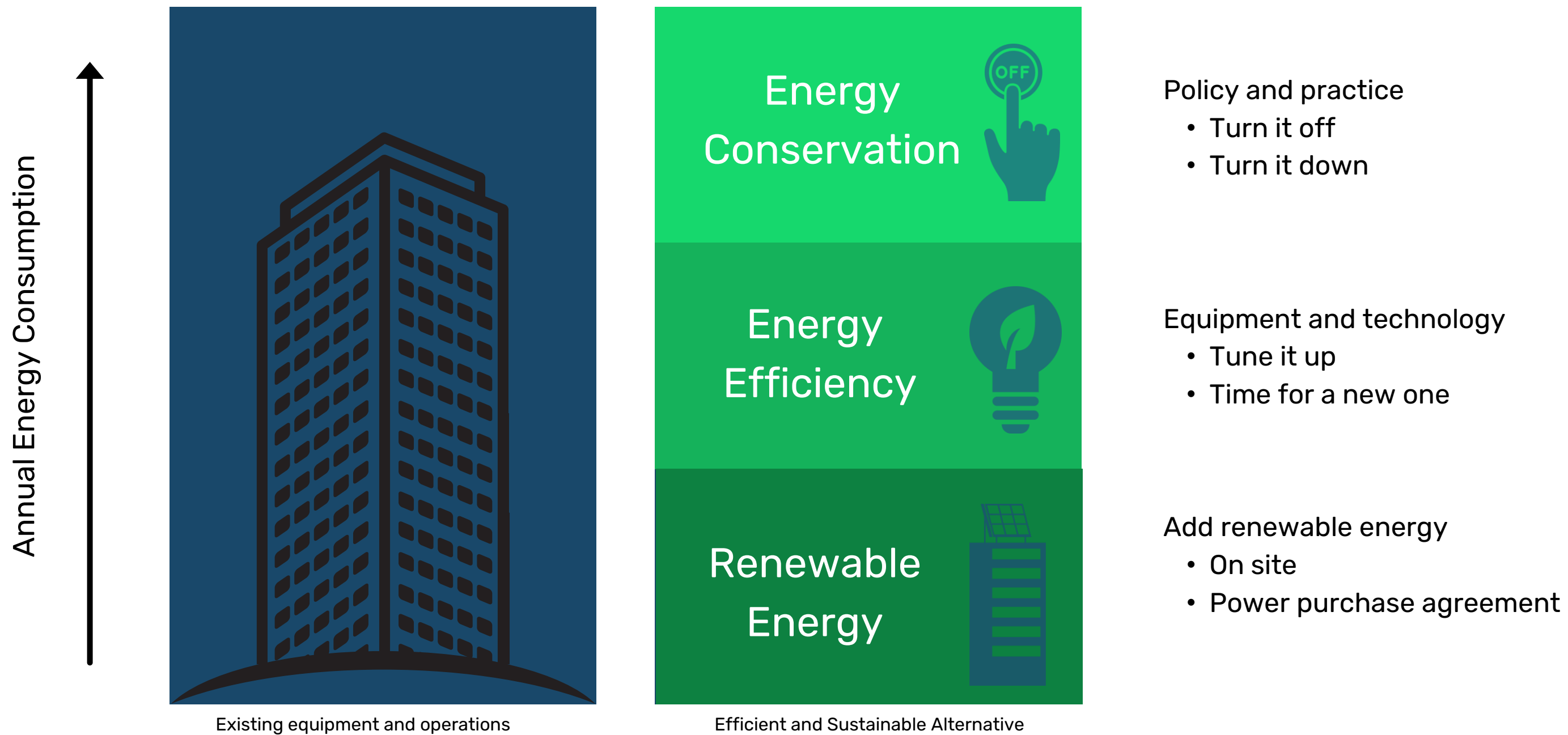
Baseline -  
Existing equipment  
and operations



Existing equipment and operations

Efficient and Sustainable Alternative







**1**  
Green Team

**2**  
Benchmark

**3**  
Energy Audit

**4**  
Take Action

**5**  
Review Results



# More than energy

## Non-utility cost savings

Health & well-being

Safety

Revenue

Quality

Productivity

## Utility cost savings

Energy Savings

## Non-financial benefits

Regulatory compliance

Environmental footprint

Employee recruitment & retention

Building certifications

# Funding Sources

C-PACE

Real Estate Tax Abatement

Utility Rebates

On Bill Financing

Investment Tax Credit (ITC)

Grants

Ohio Energy Loan Fund


179D

Bank Loan

Cost Segregation

# Inflation Reduction Act

## ⊖ Notices

- [Notice 2022-61](#)  provides guidance on the prevailing wage and apprenticeship requirements that generally apply to certain provisions of the Internal Revenue Code (Code), as amended by the Inflation Reduction Act of 2022.
- [Notice 2022-58](#) request for comments on Credits for Clean Hydrogen and Clean Fuel Production.
- [Notice 2022-57](#) request for comments on the Credit for Carbon Oxide Sequestration.
- [Notice 2022-56](#) request for comments on Section 45W Credit for Qualified Commercial Clean Vehicles and Section 30C Alternative Fuel Vehicle Refueling Property Credit.
- [Notice 2022-51](#) requests comments on prevailing wage, apprenticeship, domestic content and energy communities requirements.
- [Notice 2022-50](#) requests comments on elective payment of applicable credits and transfer of certain credits featured in IRA Provision 13801.
- [Notice 2022-49](#) requests for comments on certain energy generation incentives featured in IRA Provision 13202.
- [Notice 2022-48](#) requests comments on incentive provisions for improving the energy efficiency of residential and commercial buildings featured in IRA Provision 13302 & 13303.
- [Notice 2022-47](#) requests comments on energy security tax credits for manufacturing featured in IRA Provision 50265.
- [Notice 2022-46](#) requests comments on credits for clean vehicles featured in IRA Provision 13401.
- [Notice 2022-39](#) explains how to file a one-time claim for credit and payments for alternative fuels.

<https://www.irs.gov/inflation-reduction-act-of-2022>

*As of December 5, 2022*

# Deductions (179D)

Improvements: HVAC, Lighting, and Envelope

Deduction from \$2.50/sf up to \$5.00/sf

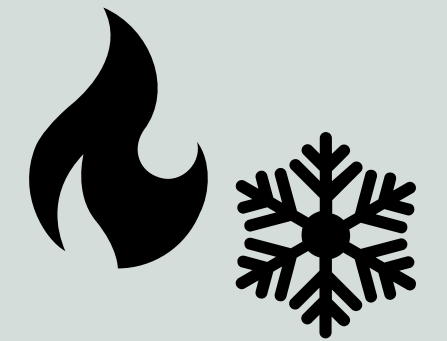
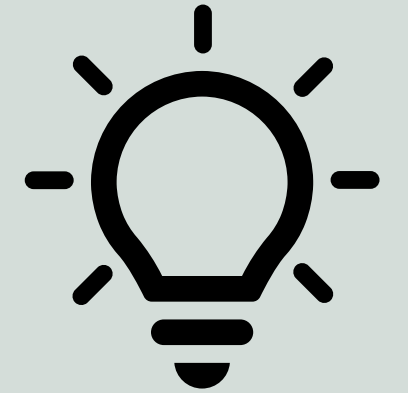
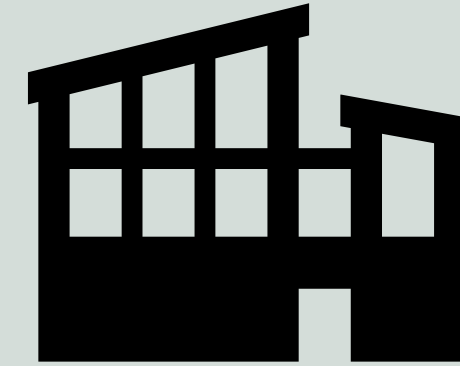
Wage and apprenticeship programs

- May reduce deduction to \$0.50/sf

May be taken every 3-4 years

Tax exempt organizations can claim this

- May assign to designated commercial business (designer)
- Architect, engineer, or design firm



# Deductions (179D)

Exceed ASHRAE 90.1 by minimum of 25%

Baseline is ASHRAE 90.1

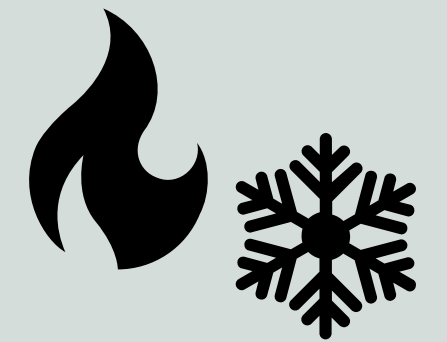
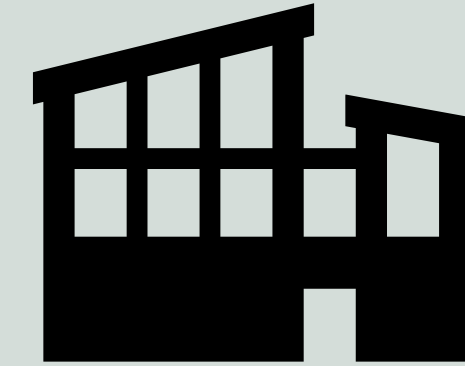
- 4 years prior to project completion

Was extended in perpetuity (2020)

Previously

- Only commercial and public agencies
- Based on fixed ASHRAE code year (until recently 2007)
- Legislative changes required periodically

Use Dept of Energy required modeling software



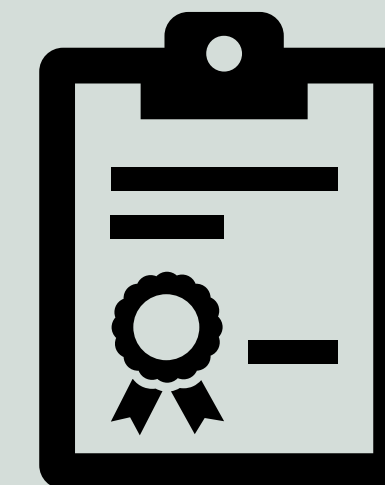
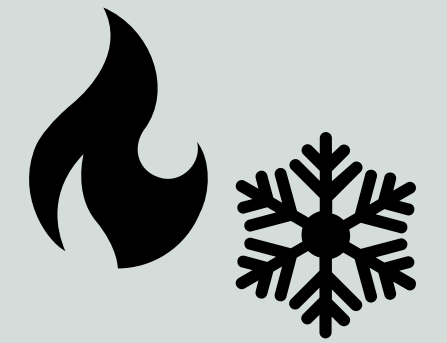
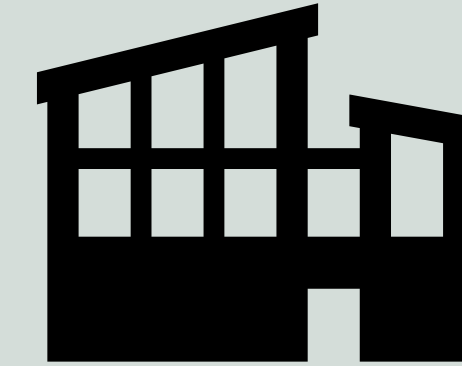
# Deductions (179D)

## MONTHLY ENERGY CONSUMPTION

By ENERGILITY

----- Monthly Energy Consumption -----

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Alternative: 3 ASHRAE 90-1 2010</b>													
<b>Electric</b>													
On-Pk Cons. (kWh)	239,435	215,897	244,512	241,558	277,554	303,590	339,135	313,231	278,168	250,169	237,003	241,081	3,181,332
On-Pk Demand (kW)	719	714	719	739	835	920	964	924	869	756	731	725	964
<b>Gas</b>													
On-Pk Cons. (therms)	4,709	4,819	1,716	161	51	8	7	9	27	324	741	4,064	16,637
On-Pk Demand (therms/hr)	13	15	11	4	0	0	0	0	0	1	7	12	15
<b>Water</b>													
Cons. (1000gal)	47	42	67	90	192	268	328	274	207	99	74	53	1,742
<b>Energy Consumption</b>						<b>Environmental Impact Analysis</b>							
Building	34,045 Btu/(ft2-year)					CO2	5,750,513 lbm/year						
Source	93,335 Btu/(ft2-year)					SO2	39,908 gm/year						
						NOX	9,972 gm/year						
Floor Area	367,794 ft2												



# Deductions (179D)

## MONTHLY ENERGY CONSUMPTION

By ENERGILITY

----- Monthly Energy Consumption -----

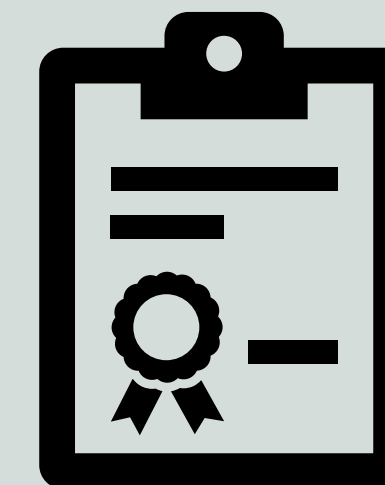
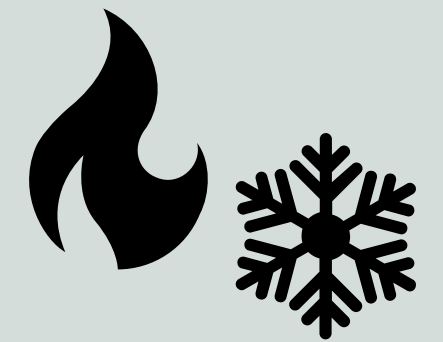
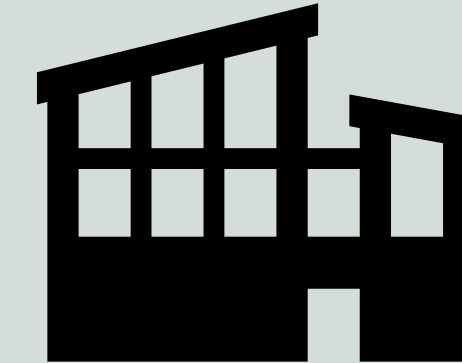
Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Alternative: 2 Proposed Building</b>													
<b>Electric</b>													
On-Pk Cons. (kWh)	172,060	155,330	170,861	164,867	199,347	237,626	268,787	242,905	207,762	170,335	164,049	172,044	2,325,974
On-Pk Demand (kW)	480	480	481	487	706	791	844	792	738	488	485	481	844
<b>Gas</b>													
On-Pk Cons. (therms)	3,595	3,625	991	27	2	0	0	0	0	29	196	3,009	11,475
On-Pk Demand (therms/hr)	11	13	9	3	0	0	0	0	0	0	4	10	13
<b>Water</b>													
Cons. (1000gal)	9	8	6	2	38	250	352	241	113	3	3	9	1,034

### Energy Consumption

Building	24,704 Btu/(ft2-year)
Source	68,043 Btu/(ft2-year)
Floor Area	367,794 ft2

### Environmental Impact Analysis

CO2	4,204,383 lbm/year
SO2	29,178 gm/year
NOX	7,291 gm/year

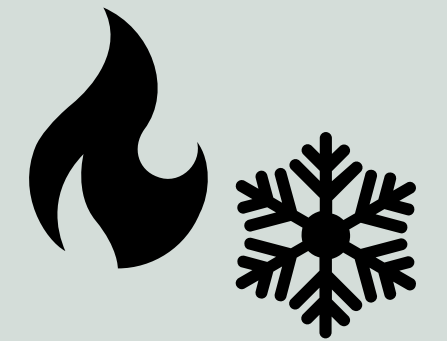
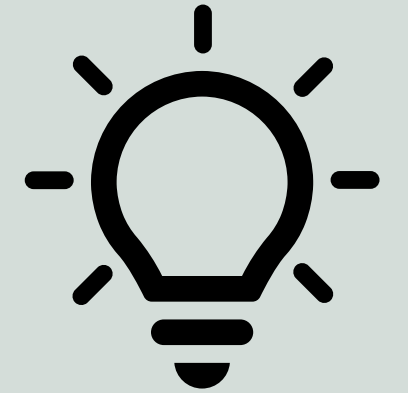
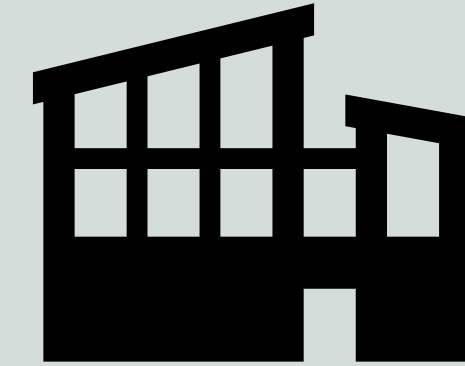


# Deductions (179D)

Table 1. Summary of Values

Measurement	Value	Unit
Electric	855,358	kWh
Natural Gas	5,162	Therms
Water	708	1000 gal
Site	9.3	kBtu
Source	25.3	kBtu
CO2	1,546,130	Lbs
SO2	10,730	gm
NOX	2,681	gm

The total savings for the project was verified to be approximately **29%** over the ASHRAE 90.1-2010 baseline building.



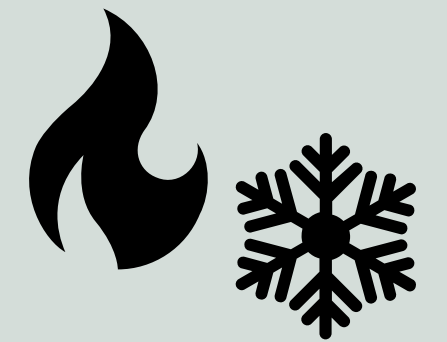
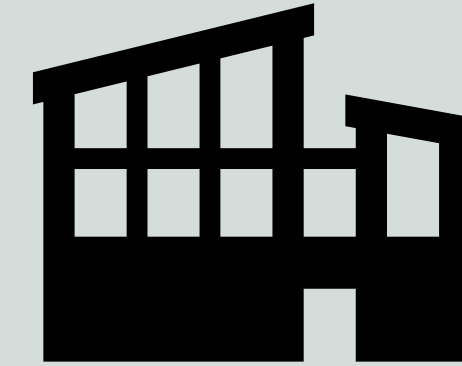


# Deductions (179D)

The total savings for the project was verified to be approximately **29%** over the ASHRAE 90.1-2010 baseline building.

<b>Client</b>	Hotel				
<b>Area (sf)</b>	367,792				
<b>System</b>	<b>Rate</b>	<b>Unit</b>	<b>Amount</b>	<b>Upgrade</b>	<b>Eligible Amount</b>
HVAC	\$ 2.50	per sf	\$ 919,480.00	75%	\$ 689,610.00
Lighting	\$ 2.50	per sf	\$ 919,480.00	0%	\$ -
Envelope	\$ 2.50	per sf	\$ 919,480.00	50%	\$ 459,740.00
<b>Total</b>					<b>\$1,149,350.00</b>

*at minimum 21% tax rate = \$241,363 cash value*



# Questions or Comments??

Energility



Justin Kale  
Director of Opportunity  
Development  
Energility, LLC  
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614.746.9276



Justin E. Kale, CRE, CEM  
Director of Opportunity Development  
at Energility





# Impacts of the Inflation Reduction Act on Energy Efficiency & Renewable Energy Projects



## Monica Niehaus

Solar Consultant  
Melink Solar



***Clean Energy  
Solutions for a  
Brighter Tomorrow***

---

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Manager  
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[mniehaus@melinkcorp.com](mailto:mniehaus@melinkcorp.com)



# AGENDA

---

- **Introduction and About Melink**
- **Solar Facts and IRA Impacts**
- **Increasing Electricity Rates**
- **Why Solar Now?**
- **Financing Options**

# SUSTAINABILITY IS OUR CORE

5 Businesses, 1 Energy Mission to change the world one building at a time.

## Melink® T&B

- National HVAC Test & Balance Contractor
- 100% Self Performing NEBB Certified Technicians



## Melink® Solar

- Developer & EPC Contractor
- Commercial Ground Mount, Roof Mount, & Parking Structures



## Positiv

- Facility Health System
- Service Monitoring
- Temperature, humidity, building pressure and CO2



## Intelli-Hood®

- Pioneer & DCKV Industry Standard
- Global Installation & Project Management



## Melink® GEO

- Geothermal Developer
- Pre-Engineered Pump Package
- GHX Design, CX





OUR NET-ZERO HEADQUARTERS

*Come tour Melink HQ in Cincinnati!*



# MELINK ELECTRIC BILLS

## Your usage snapshot - Continued

		Choice Service ID 990117000007211000000000
<u>Meter Number</u>	<u>Usage Type</u>	<u>Billing Period</u>
328933657	Actual	May 10 - Jun 8
<u>Usage Values</u>		
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

<b>Billing Period - May 10 to Jun 08</b>	
<b>Meter - 328933657</b>	
Net Metering - Credit	\$-208.82
<b>Duke Energy Delivery</b>	
Service Delivery	
Distribution-Customer Charge	45.95
Delivery Riders	12.08
Generation Riders	0.11
<b>Total Current Charges</b>	<b>\$-150.68</b>

## Your Energy Bill

Page 1 of 3

**Service address**  
MELINK PROPERTIES LLC  
5130 RIVER VALLEY RD  
MILFORD OH 45150

**Bill date** Jun 10, 2022  
**For service** May 10 - Jun 8  
30 days

**Mail your payment at least 7 days before the due date or pay instantly at [duke-energy.com/billing](https://duke-energy.com/billing). Late payments are subject to a 1.5% late charge.**

Amount due

**\$0.00**

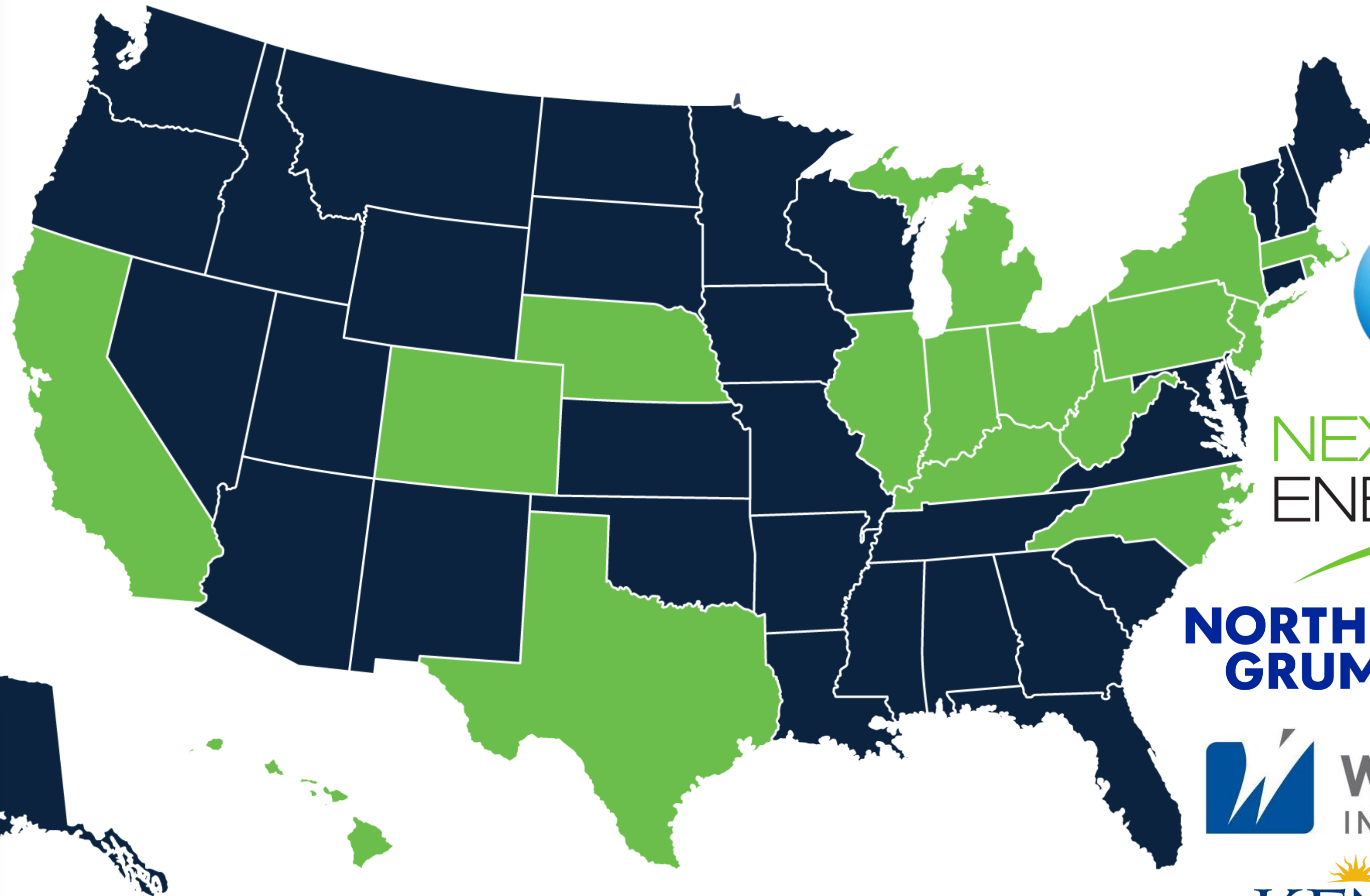
*No payment is required at this time.*



# COMMERICAL SOLAR FOOTPRINT



Design and build solar PV parking canopies, roof mounts, and ground mounts

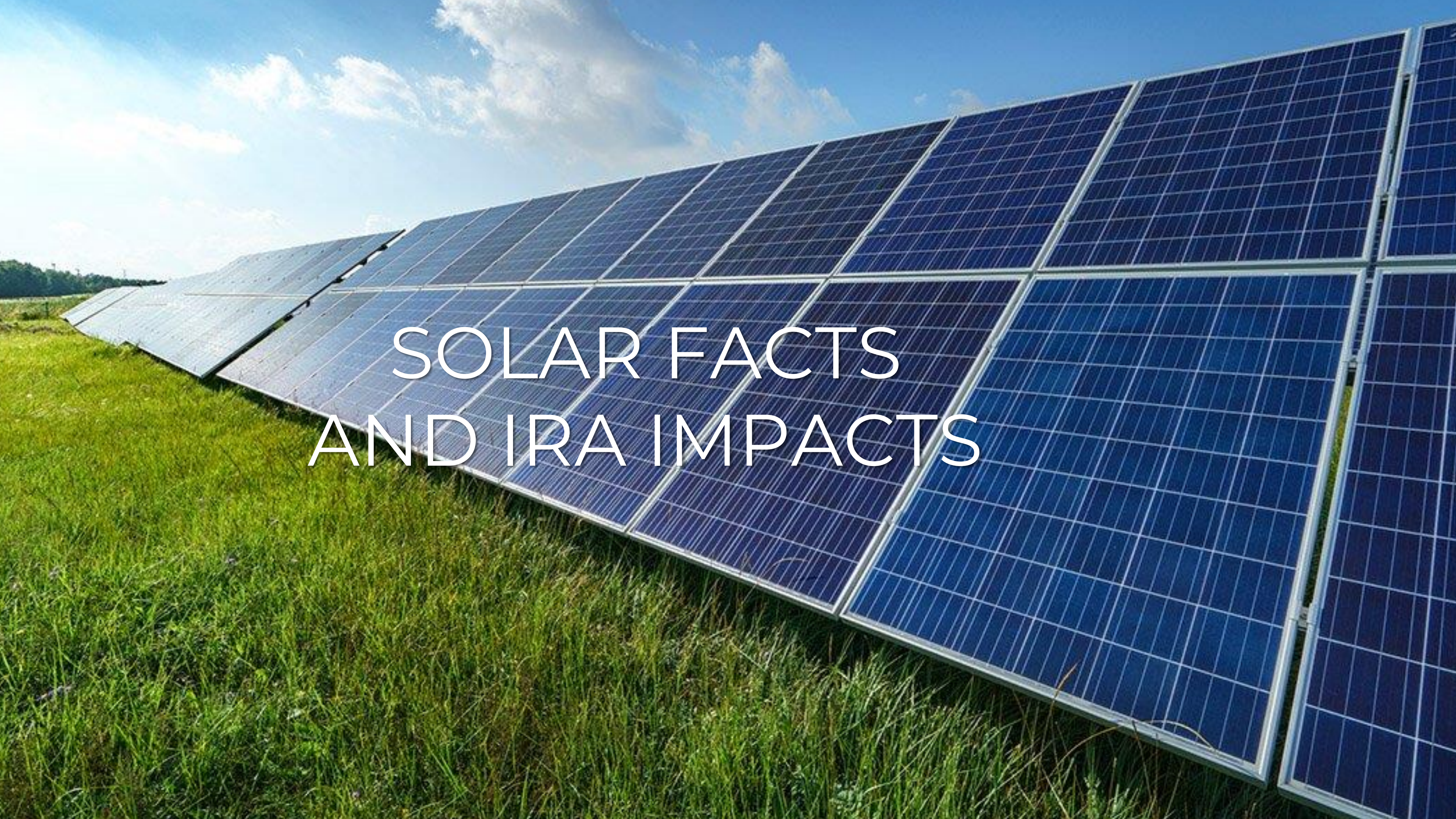


Over 115 MWs of Installed Capacity Nationwide



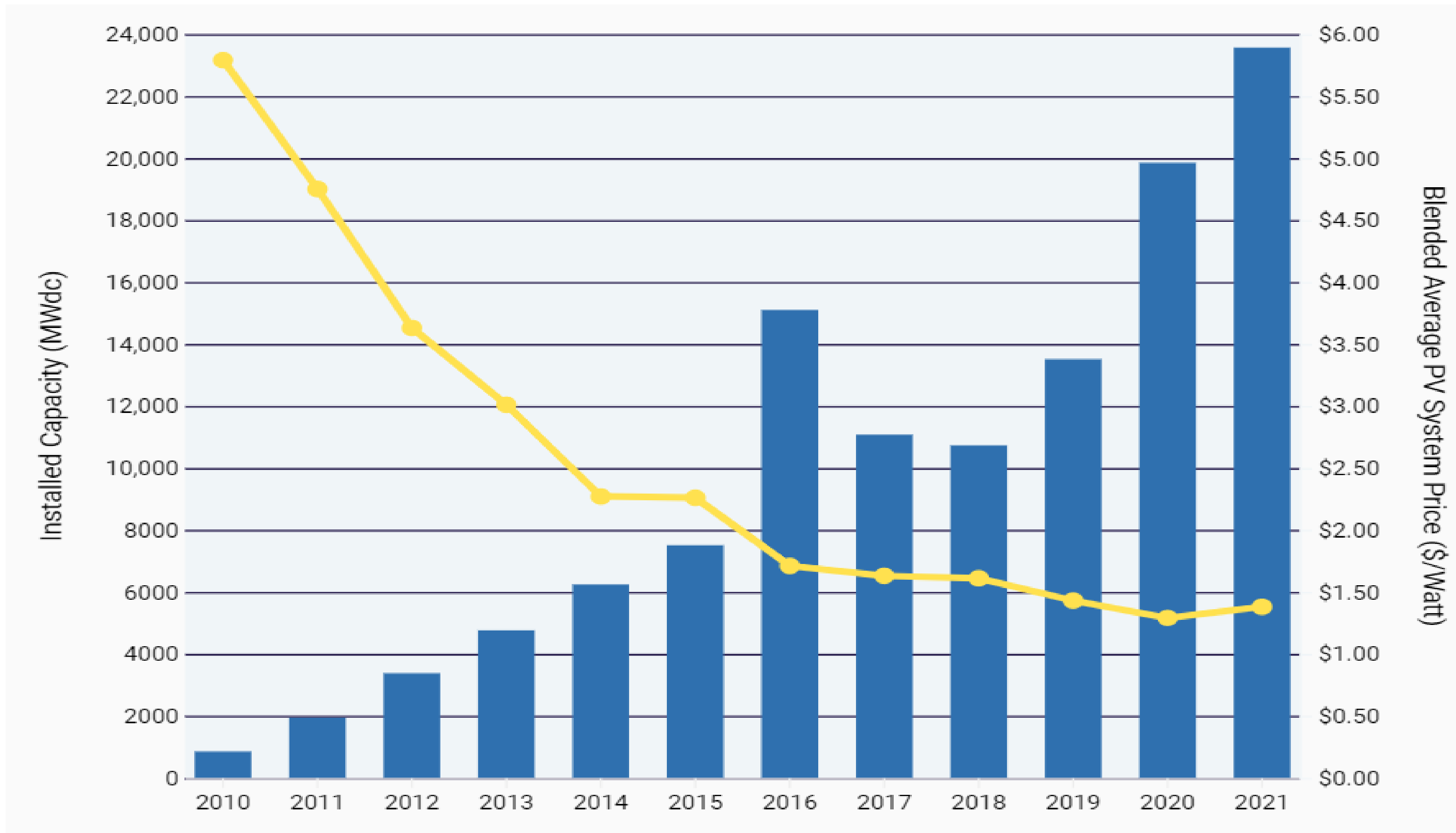
TOYOTA



A large array of solar panels is shown in a grassy field under a blue sky with scattered white clouds. The panels are arranged in rows and are tilted towards the sun. The text "SOLAR FACTS AND IRA IMPACTS" is overlaid in the center of the image.

# SOLAR FACTS AND IRA IMPACTS

# Historic Price Trends



Source: [SEIA/Wood Mackenzie Power & Renewables U.S. Solar Market Insight 2020 Q2](#)

# BEFORE and AFTER IRA...

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Credit Prior to IRA	26%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Credit Under IRA	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	26%	22%	0%

**NOW, the IRS will now directly pay non-profit entities the amount of tax credit earned by solar electricity projects, starting at the base amount of 30%.**

# Inflation Reduction Act and Project Impacts

- IRA provisions for full 30% ITC:
  - ① <1 MWac system size OR
  - ② Start construction less than 60 days after Treasury guidance OR
  - ③ Meet prevailing wage AND apprenticeship requirements
  - ✓ Projects ideally qualify under #2 above if we start construction/safe harbor soon
- IRA provisions for bonus 10% ITC for domestic content:
  - ① 100% US steel in project and
  - ② Minimum 40% of equipment cost from US manufacturers
  - ✓ Project meets #1 via current suppliers of racking
  - ✓ Need to evaluate options on equipment to meet #2; *unlikely* given limited US suppliers
- IRA “bonus” language includes additional 10% tax credits for:
  - ① Qualified energy communities OR
  - ② Low income areas
  - ✓ Dependent on project location
- Direct pay option: Non-profits now qualify for a “direct pay” option of the ITC (e.g., instead of credit against taxes owed, non-profits can be paid by the US Treasury for the value of the ITC); however, the accelerated depreciation and other tax benefits would be stranded. Additionally, under the direct pay option, projects cannot obtain the additional 10% bonus ITC for domestic content (direct pay will require meeting domestic content minimums in 2024 and later).

# PROJECTS OVER 1 MW

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- IRA requires projects over 1 MWac to utilize prevailing wage and meet apprenticeship requirements to qualify for the full 30% ITC.
- There is a grace period for projects that start construction/safe harbor less than 60 days after definitive guidance is issued on prevailing wage and apprenticeship –
- **Which means projects over 1 MWac could obtain the full 30% ITC without prevailing wage/apprenticeship if the project is started soon enough.**

# PROJECTS OVER 1 MW & PREVAILING WAGE

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- **The clock has officially started on that grace period!**
- Treasury published guidance effective 11/30/2022.
- Projects have until 1/29/2023 to start construction / safe harbor under the grace period for projects >1 MWac.

# WHAT DOES THIS MEAN?

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- Start “physical work of a significant nature” at the project site for the project, or else “incur” **at least 5% of the total project cost before the deadline.**
- Costs are not considered incurred until equipment or services are delivered, with one exception...
- A payment before the deadline counts if the equipment or services are delivered within 3.5 months after the payment.



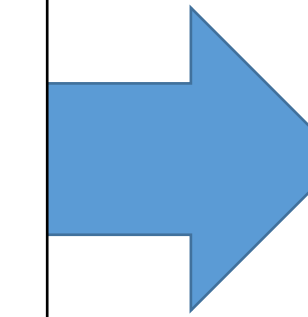
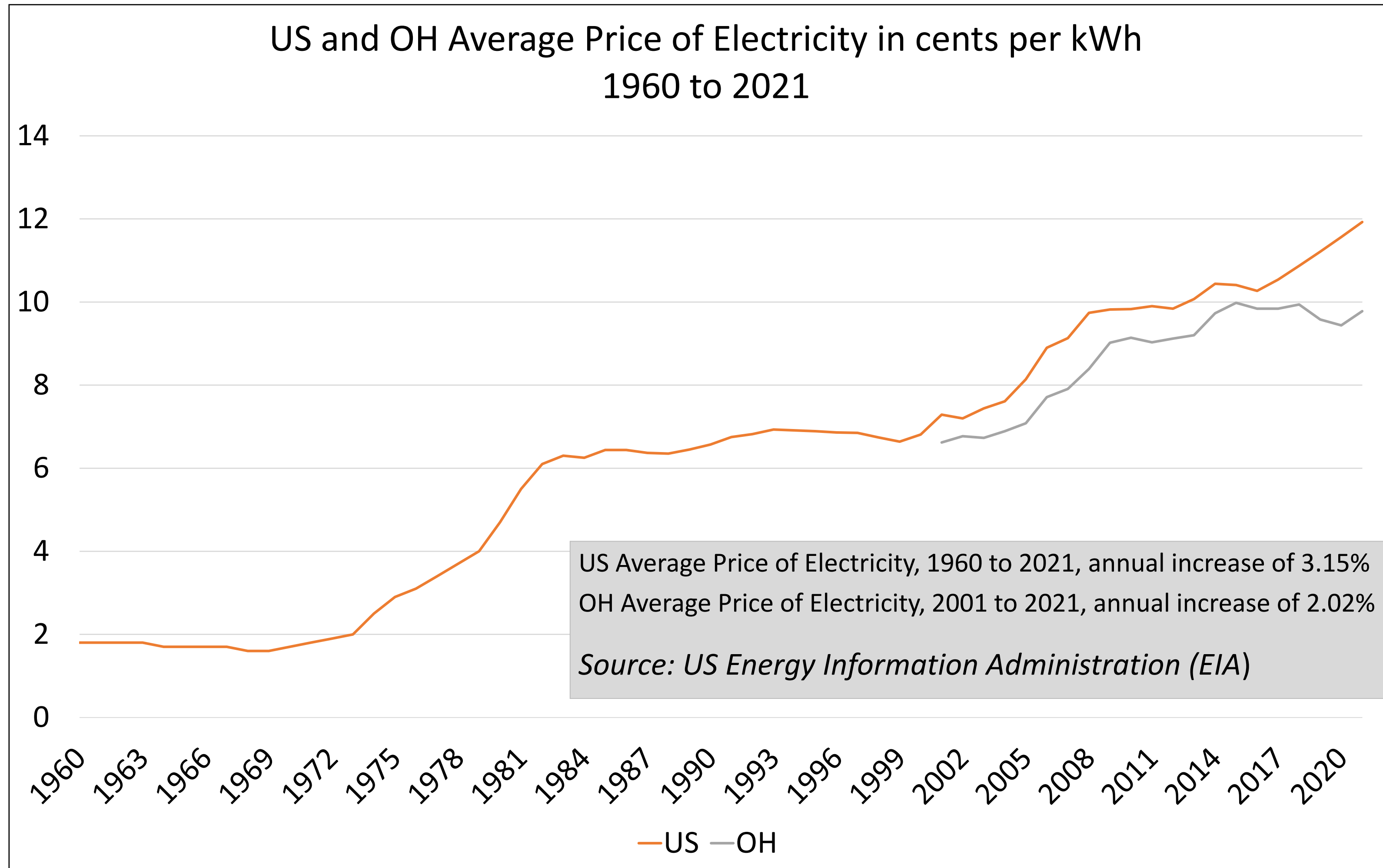


# YOUR COST OF ELECTRICITY

CONFIDENTIAL

# Increasing Electricity Price Trends

National average increase of 3.15% per year between 1960 and 2021



***YOU CAN PREVENT THIS FROM HAPPENING!***

***Hedge Against Skyrocketing Electricity Costs***

***Now Is the Time to Lock in a Lower Energy Rate!***

# COST IMPLICATIONS OF WAITING

Utility prices skyrocketing = Missed Savings Now

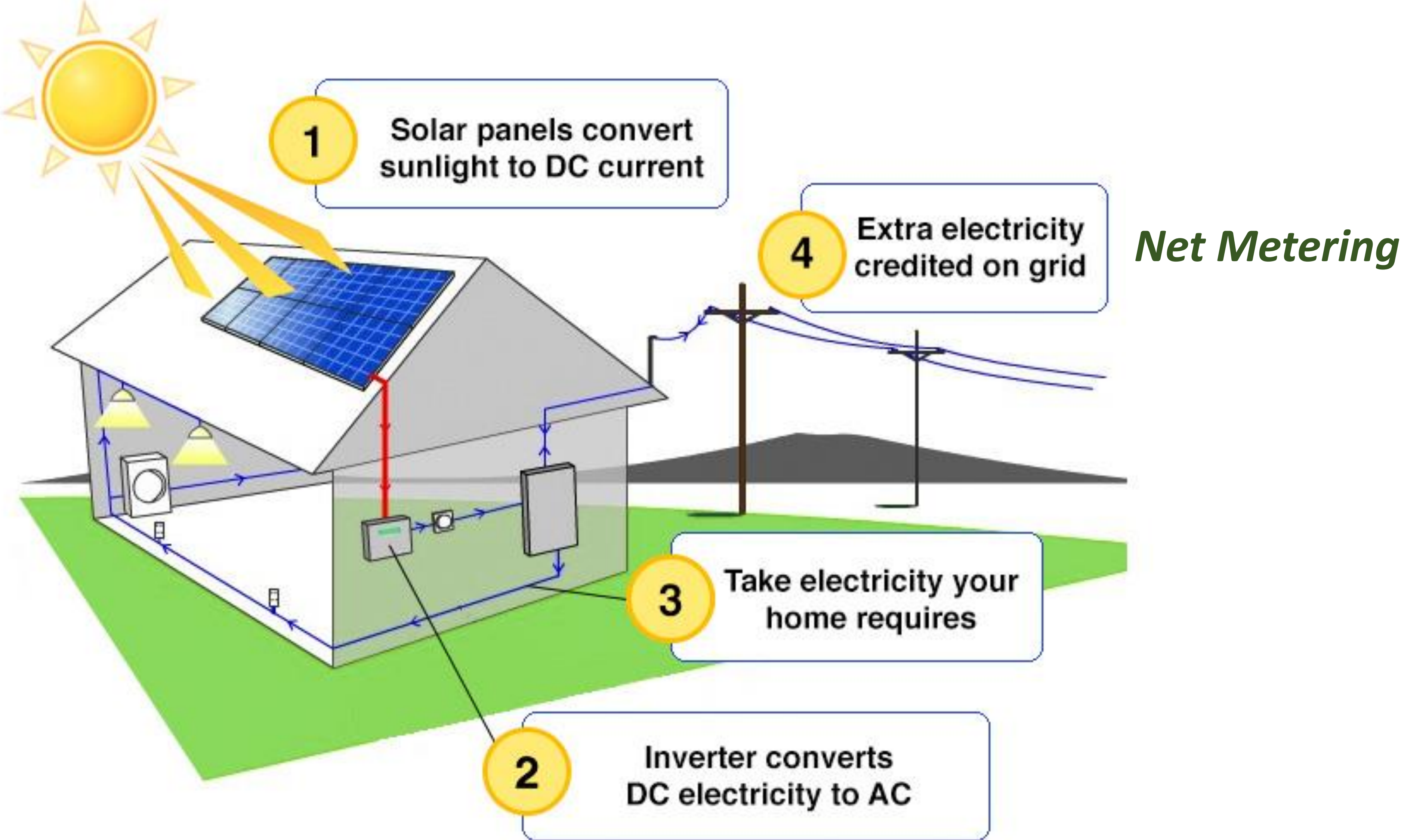
Supplier	2021-2022 rate (per kWh)	2022-2023 rate (per kWh)	Percent Increase	Monthly Increase to Electric Bill (if using 1,000 kWh/month)
AES Ohio	\$0.04805	\$0.1091	127.1%	\$61.05
AEP Ohio	\$0.0515	\$0.0693	34.6%	\$17.80
Duke Energy	\$0.0507	\$0.0648	27.8%	\$14.15
FirstEnergy – Ohio Edison	\$0.0521	\$0.0651	24.9%	\$13.03
FirstEnergy – Cleveland Electric Illuminating	\$0.0537	\$0.0656	22.2%	\$11.85
FirstEnergy – Toledo Edison	\$0.0544	\$0.0658	20.9%	\$11.43

Source: <https://fox8.com/news/higher-energy-bills-are-coming-to-ohio-what-you-can-do-to-save/>

A large array of solar panels is installed in a grassy field. The panels are arranged in rows and are tilted towards the sky. The sky is a clear, bright blue with a few wispy white clouds. The grass in the foreground is green and appears to be blowing in the wind. The overall scene is bright and sunny, suggesting a clear day.

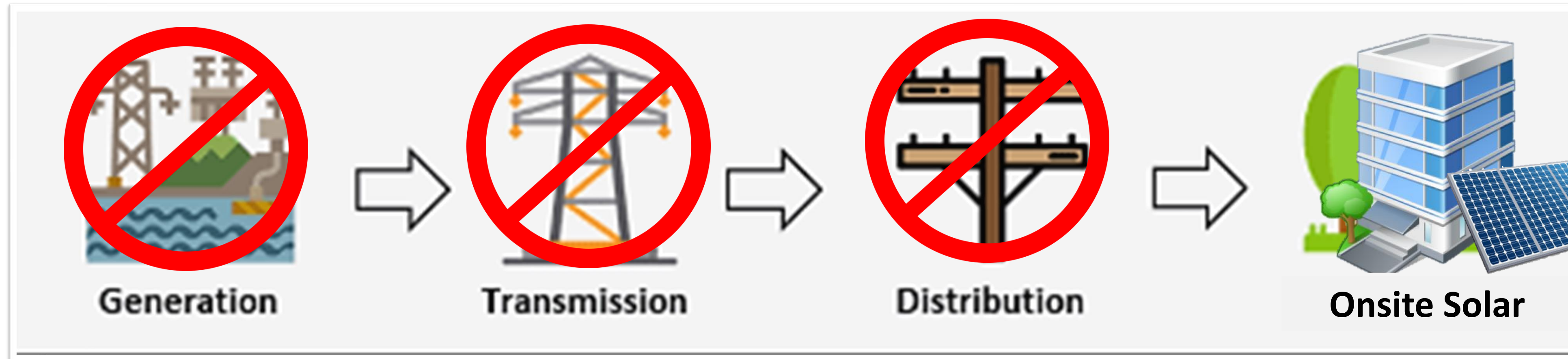
# Onsite Solar

# PV: WHAT IS IT AND HOW DOES IT WORK?



# ONSITE vs OFFSITE SOLAR

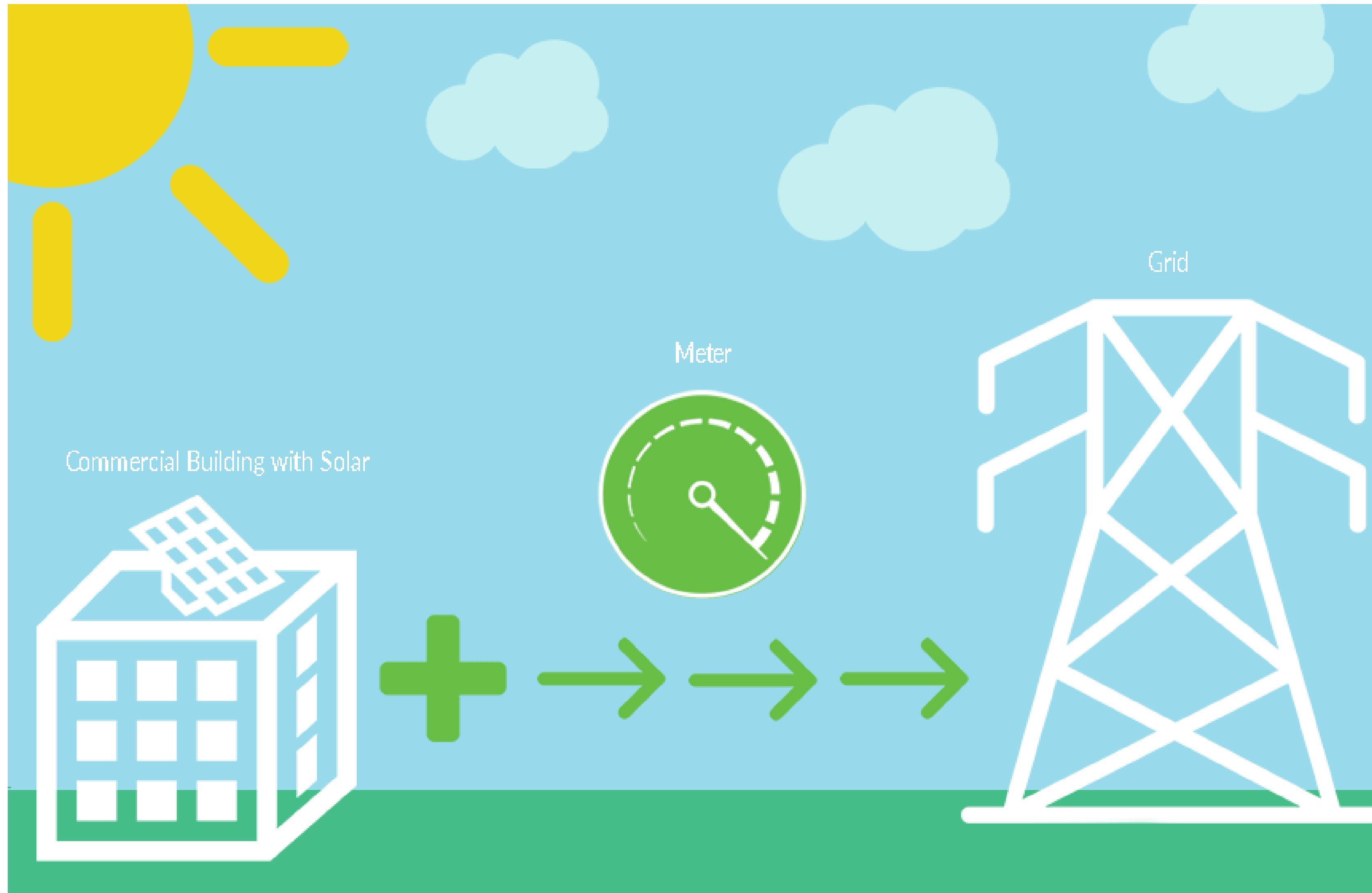
## Onsite Solar: Avoidance of generation costs, transmission and distribution charges



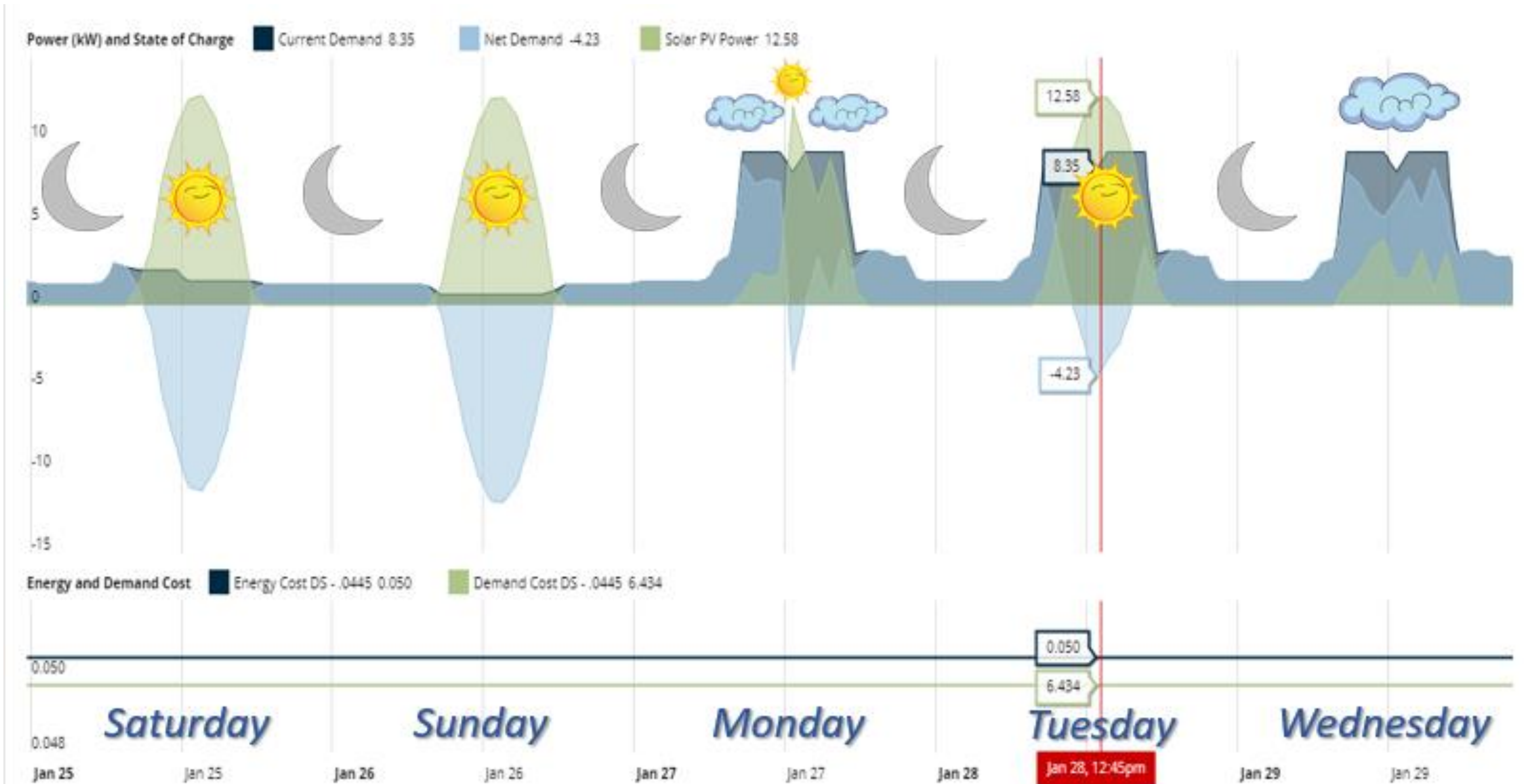
## Offsite Solar: ONLY avoiding generation costs – Swap supplier – Less savings



# ONSITE SOLAR: BEHIND THE METER



# Net Metering Graph – Office Building Example





A large array of solar panels is shown in a grassy field under a blue sky with light clouds. The panels are arranged in rows and are tilted towards the sun. The text "Financing Options" is overlaid in the center of the image.

# Financing Options

# Cash Purchase

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

# Cash Purchase vs. PACE

	<b>Purchase</b>	<b>Property Assessed Clean Energy (PACE)</b>
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

# Cash Purchase vs. PACE vs. PPA

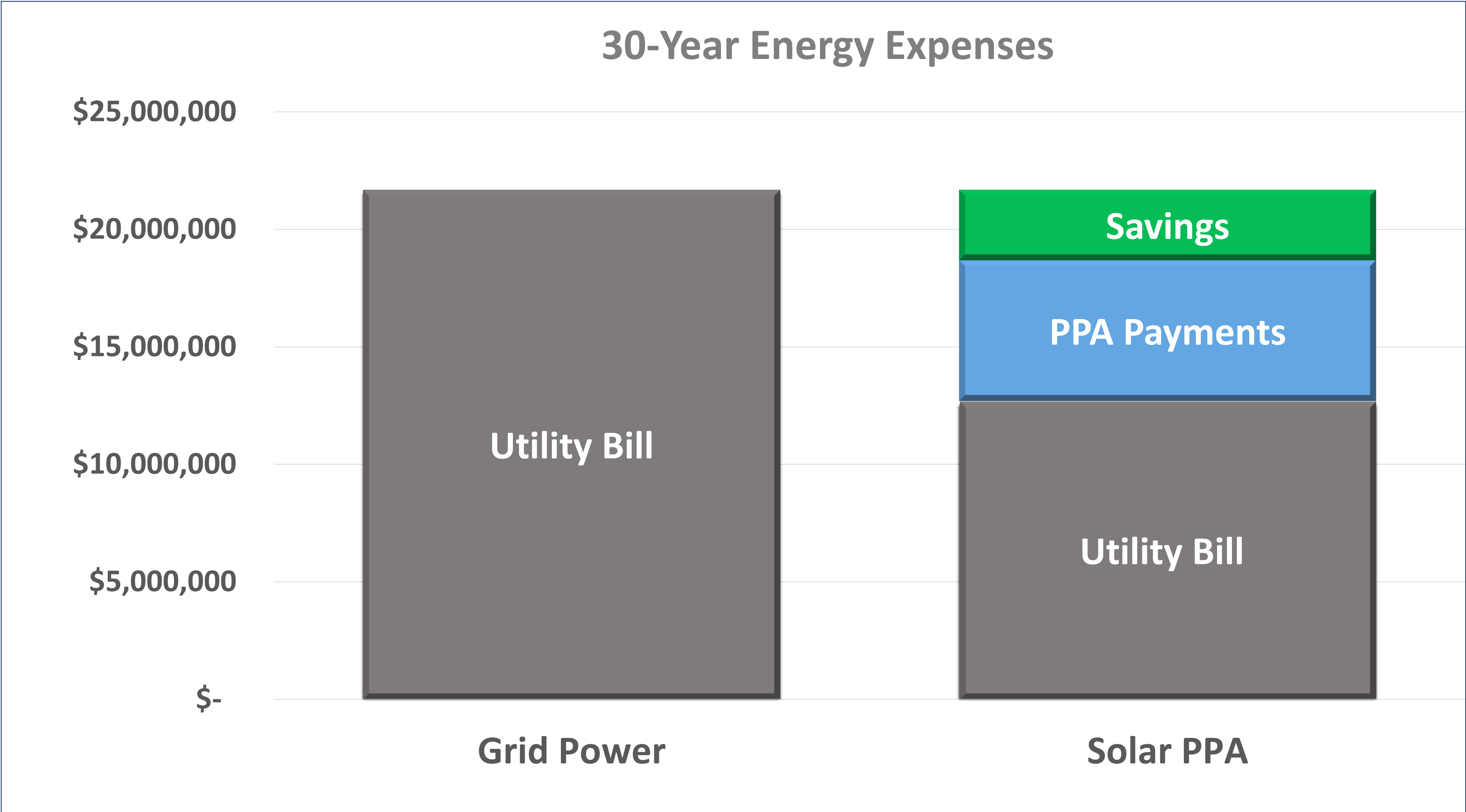
	Purchase	Property Assessed Clean Energy (PACE)	Power Purchase Agreement (PPA)
Upfront Cost	\$\$\$	Zero	Zero
Tax Benefits:	Owner	Owner	Third party investor
Payments	100% Upfront	Tax bill	Monthly
Typical Term	N/A	20-30 years	20-30 years
Long Term Benefits	Best ROI	Cash flow neutral	Fixed rate for 30-years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

# SOLAR PPA = NO UPFRONT COST

- The PPA approach is designed to be treated as an energy contract vs. a traditional lease

	<b>Power Purchase Agreement (PPA)</b>
<b>Upfront Cost</b>	None - PPA is a zero out of pocket cost option used by schools
<b>Monthly Payments</b>	Payment for solar energy produced in that month at the PPA rate. Fixed \$ per kWh rate with annual escalator – usually 1.5%
<b>Typical Term</b>	25 or 30 years. Longer terms typically have lower initial rate
<b>Tax Benefits:</b> 26% Federal Investment Tax Credit + Accelerated Depreciation	For tax exempt municipalities, this enables investor to utilize tax credits to lower the cost of delivered electricity
<b>Long Term Benefits</b>	Lock in your electricity rate for the energy generated by solar (for a portion of your overall energy usage).
<b>O&amp;M Responsibility</b>	Responsibility of PPA owner. No liability for the school. Options for buyout or system removal

# Do Nothing vs. Solar PPA Example





***ANY QUESTIONS?***

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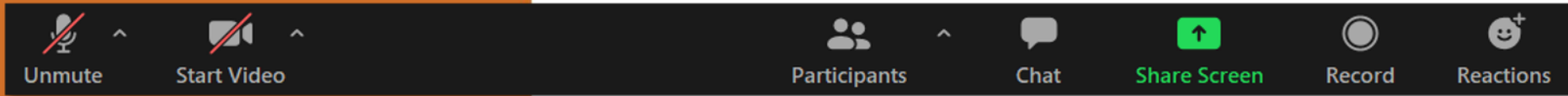
**Monica Niehaus**

*Business Development Manager*

*513-965-1853*

*[mniehaus@melinkcorp.com](mailto:mniehaus@melinkcorp.com)*

# Audience Questions



**Submit your questions by  
using the chat function!**





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### **CDFA Federal Financing Webinar Series: Tools for Economic Growth with Treasury and SBA**

Tuesday, December 13, 2022 / 2:00 PM - 3:30 PM Eastern

### **CDFA // BNY Mellon Development Finance Webcast Series: Financing Approaches to Meet Affordable Housing Needs**

Tuesday, December 20, 2022 / 2:00 PM - 3:00 PM Eastern

### **Fundamentals of Economic Development Finance Course**

January 25-26, 2023 / 12:00 - 5:00 PM Eastern

# Contact Us



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**Council of Development Finance Agencies**

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amiller@cdfa.net