SOLARIZE CHICAGOLAND

Save on a residential solar system through a group buy! Open to residents of Cook, Will, DuPage, & Kane Counties

The MREA and CUB are partnering for Solarize Chicagoland.

Citizens Utility Board (CUB)

- Represents Illinois utility ratepayers & advocates for cheaper & cleaner energy
- Has saved consumers more than \$20 billion by fighting proposed electricity, natural gas, and telephone rate hikes.



Midwest Renewable Energy Association (MREA)

- The Midwest Renewable Energy Association promotes renewable energy, energy efficiency, and sustainable living through education and demonstration.
- The MREA created the Solarize program, educational content, and is responsible for overall program administration.



Solar Power Hour - Agenda

- Benefits of Going Solar
- Solar basics

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- Incentives for going solar
- Going Solar: Your Options
 - · Leasing vs. owning
 - · Solar For All
 - Community Solar
- Solarize Chicagoland group buy
 - · WindFree Solar



Benefits of going solar

The right time to go solar

77.7 gigawatts of total installed capacity in the US, enough to power 14.5 million American homes.

Solar accounted for 40% of all new electric generating capacity additions in 2019, more than any other energy source!

Zillow found that **homes with solar panels sell for 4.1% more** than similar, non-solar homes. (Zillow Economic Research)

Going solar pays for itself!



A new solar array is installed every 84 seconds in the U.S.

The average solar system offsets 260,376 lbs of C02 in 25 years



287,672 miles driven by an average passenger vehicle



Carbon sequestered by 139 acres of forest



Switching 4,469 incandescent lamps to LED



CO2 emissions from burning 129,218 pounds of coal



Diverting 41 tons of waste from the landfill



CO2 emissions from 13,239 gallons of gasoline







Most inverters offer module-level monitoring



Image credit: mysunbank.com.au/energy-management/solaredge-monitoring/monitoring-screens/

Inverter classification: String, Micro, and Power Optimizers



Image credit: Midwest Renewable Energy Association (MREA)

Inverter classification: String, Micro, and Power Optimizers

Brand name: Enphase MICRO INVERTERS: • one microinverter per panel • function well on roofs with shade or multiple panel orientations

Brand name: SolarEdge



Image credit: Midwest Renewable Energy Association (MREA)

Unshaded, south-facing roofs are best for solar

Solar window: 9am-3pm.

- South-facing sun exposure is ideal.
- East or West-facing roofs also work for solar, but can require 20% more panels.
- Avoid shading: trees, buildings, poles.

Project Sunroof: Mapping Solar Potential.

- Search your home.
- Helpful to see your solar exposure, but pricing estimate may be inaccurate
- Talk to an installer for accurate pricing

Visit www.google.com/get/sunroof



Screenshot of Google's Project Sunroof.

Roof Mounted System: The most common type of installation.

Used for flat or pitched roofs:

- Typically attached via aluminum railing system.
- Roof penetrations require adequate sealing; installers assume responsibility for roof damage, leaks, mold.

Considerations for roof-mount systems:

- Snow / Hail / Wind Loading
- Roof Condition (age of shingles)
- Squirrels



Installers configuring a roof-mounted system.

Grid-Direct Systems shut down if utility is offline



Average residential solar install in Illinois is 6.5kW



27 Panel system - Image Credit: Windfree Solar

Estimated to produce **9,000 kWh** in the first year

Kilowatt (KW) = a measure of power

System size is measured in KW

Kilowatt hour (kWh) = a measure of electricity generated or used

Your system will produce kWhs of solar energy!

Net Metering: bill credits for electricity sent to the grid

- Any excess electricity produced by your solar system is exported to the utility grid and you receive bill credits, reducing your overall electricity costs.
- In ComEd you are credited at the same rate that you purchase electricity –1 to 1 net metering



Image credit: Midwest Renewable Energy Association (MREA)

Net Metering: bill credits for electricity sent to the grid

- Net metering will never completely \$0 out your bill, or eliminate it
- Credits roll over from month to month, excess credits expire in April.
- **NOTE:** ComEd customers can only install a system sized to produce up to 110% of their annual electricity demand based on the previous 12 months.



yearly energy consumption of the

household.

"A Year in the Life" of a Grid-Tied / Net Metered Home

Image credit: Midwest Renewable Energy Association (MREA)

Sample ComEd bill with Net Metering

ryedu Dates mieter ryumber	Load Type / Readin	g Type `	Previous	Present	Difference	Multiplier	Usage
2/21-3/22	I/O w/ Flow Thru kWh Fr	om Grid	Actual	Actual			420
2/21-3/22	I/O w/ Flow Thru \ kWh T	o Grid	Actual	Actual			600
CHARGE DETAILS	2/18 (20 0		MISCELLA	NEOUS			\$0.0
Residential - Single 2/2 into - 5/2	2/10 (29 Daga)		Net Metering E	ss Gen - Rollover	180 k	Wh	
SUPPLY		-\$0.01	Thank you for yo	our payment of \$85.8	88 on March 12,	2018	
Electricity Supply Charge	420 kWh X 0.05844	\$24,54	Total Amount	Due			\$15.5
Transmission Services Charge	420 kWh X 0.01351	\$5.67	UDDATES				
Purchased Electricity Adjustment	100000000000000000000000000000000000000	-\$1.25	UPDATES			Contraction of the second	
Net Metering Credit - Supply	420 kWh X -0.06898	-\$28.97	ComEd				
T DELIVERY - ComEd		\$15.51	 IT'S A fingerprint 	SNAP - GET THE rint login, account	APP! ComEd alerts & notific	's free app not ations, and eas	ffers y pay
Customer Charge		\$10.87	options at Com	on smartphones a	and tablets. Do	whiload the new	v app today
Standard Metering Charge		\$4.64	ILLINO	IS COMMERCE (COMMISSION	CONSUMER	DIVISION-
Distribution Facilities Charge	420 kWh X 0.03181	\$13.36	(800-52	24-0795): The Con	sumer Service	s Division is a	ailable to
L Electricity Distribution Charge	420 kWh X 0.00121	\$0.51	help res	solve disputes with	ComEd. How	ever, customer	s should
Net Metering Credit - Delivery	420 kWh X -0.03302	-\$13.87	contact	ComEd before se	eking assistan	ce from the IC	С.
TAXES & FEES		\$0.08					
Environmental Cost Recovery Adj	420 kWh X 0.00048	\$0.20					
Renewable Portfolio Standard	420 kWh X 0.00189	\$0.79					
Zero Emission Standard	420 kWh X 0.00195	\$0.82					
Leto Emission Scaradio	the state of a second	\$0.08					
Energy Efficiency Programs	420 KWh X 0.00015	30,00					

Two line items, one for **electricity use** and one for **electricity output**

Sample ComEd bill with Net Metering



Invest in energy efficiency!

- Energy efficiency investments have a 3:1 return on investment
 - LED lighting
 - Energy Star appliances
 - Weatherization
 - Electricity usage habits
- See the virtual packet for more information



Questions to consider before speaking with an installer.

- Does your roof have good solar exposure?
- Which direction is my roof facing (North, South, East, West)?
- When do you anticipate re-roofing?
- □ Is your home energy efficient?



Image Credit: Windfree Solar

Incentives for Going Solar

Current incentives can reduce total costs up to 60%

- State Solar Renewable Energy Credits (SRECs) - can cover up to 35%
- 26% Federal Tax Credit
- Utility Net Metering credits help you pay back your system faster!
- Note: Your homeowners' association cannot block you from going solar in Illinois



Image Credit: Windfree Solar

SREC: Solar Renewable Energy Credit

- Payment for the green energy you put on the grid
- Your solar panels help Illinois meet our overall renewable energy goals!
- Note: SRECs are considered taxable income



Federal Tax Credit: Covers 26% of Qualified Expenditures.

- Includes labor costs, system installation, interconnection wiring.
- Does not include new roof unless your roof requires structural reinforcement
- The home must be owned by the taxpayer but does not have to serve as the principal residence.
- If percentage of project cost is greater than total taxes paid, you get the remainder the following year

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	Internal Revenue Service		► Attach to Form 1040 or Form 1040NR.						Attachment Sequence No. 158	
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Federal Tax Credit: Due to expire in 2022.



Image credit: https://www.seia.org/initiatives/solar-investment-tax-credit-itc

Going Solar: Your Options

Residential Solar: Leasing versus owning

Three ways to go solar:

- 1. Purchase the panels outright
- 2. Lease the system
- 3. Power Purchase Agreement (PPA)

Things to look out for:

- Many leases and PPAs include cost escalators
- Check the contract. What happens if you move?
- Never sign a solar lease without first exploring your ownership options



Image Credit: Windfree Solar

Community Solar

- A new option for people who can't install solar on their own property
- Most offers guarantee savings
- Subscription size based off your usage
- Each month your subscription generates solar energy
- You will now pay two bills
 - Your existing electric bill
 - A monthly bill to your community solar company

Visit <a>www.SolarInTheCommunity.com to learn more!



Solar for All

- Illinois new low income solar program
- Includes: Community solar, residential solar, solar for non-profits
- No money down, and greatest savings on electricity bills
- To qualify you must be below 80% Area Median Income:
 - \$63,200 for a family for 4 in the Chicago area varies by household size and region
- Visit: <u>www.illinoissfa.com</u> to learn more!



Solarize Chicagoland Group Buy

MREA has run 34 Group Buy programs throughout the Midwest

Wisconsin

Central Wisconsin, Jefferson County, and Sauk Counties added over 800 kW of solar capacity on 125 properties.

Minnesota

Solarize Twin Cities generated 261 kW of new solar capacity on 34 properties owned by homeowners and businesses in 2019.

Illinois

Programs across Bloomington, Urbana-Champaign and Metro East have resulted in over 1.5 MW of new solar.

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Solarize Johnson County, MREA's sole effort in Iowa in 2018, resulted in 1,125 kW on 180 properties.



https://www.solarpowerworldonline.com/2019/01/ midwest-solarize-programs-helped-482-property-o wners-add-3-8-mw-of-solar-in-2018/

Solar Group Buy programs bring buyers together to lower costs

How does a Solar Group Buy work?

- Host a series of free "Solar Power Hours" to educate communities about the benefits and affordability of Solar PV.
- The MREA manages an RFP process to competitively select a single solar installer.
- Interested participants sign up to further evaluate Solar PV for their home or business.
- Participants pool their buying power to secure significant discounts that make installing solar more affordable.



Sheila went solar through a Group Buy in Metro East.

Windfree Solar

- Established in 2009; Based in Chicago, IL
- completed over 400 installations in the Chicagoland area (16-MW)

Our Services:

- Solar PV
- Electric Vehicle Charging Stations
- Sustainability Consultation and Energy Audits
- LED Retrofits

Notable Projects Include: Depaul University, Habitat for

Humanity (1st solar installation in Illinois), Oak Park Conservatory





Base price for the Group Buy

Includes:

-Permitting & engineering-All incentive application & processing

Warranties

- 25 year power warranty on solar panels
- 12 year warranty on inverter
- 25 year warranty on power optimizers
- 15 year workmanship warranty

All installations are tailor-fit to the needs of our clients.

All materials use cutting-edge technology, including the best inverter and solar equipment available on the market **WINDFREE**



SOLAR

Certain features, constraints, and upgrades can impact costs

Every Home Is Different



Pricing Varies by Site and Needs:

- System Design and Size
- Age and Type of Roof
- Panel Type

- Inverter Type
- Slope and Height of Roof
- Complexity of Electrical
 Interconnection

- Multiple PV Arrays
- Energy Storage

Group Buy participants save on cost per watt plus an add'l rebate.

Pricing for the recommended option: Q. Cell panels with Solar Edge inverter

Base price: **\$2.63 / watt = \$17,095** for the average system size (pre-incentive)

	~ 23 homes /		~ 77 ho	mes
Rebate total (example)	\$325.00	\$650.00	\$975.00	\$1,300.00
Rebate per watt	\$0.05	\$0.10	\$0.15	\$0.20
Flogran Status	50 kW +	150 kW +	Goal 3 250 kW + \$0.15 \$975.00	500 kW +
Drogram Status	Goal 1	Goal 2	Goal 3	Goal 4

Rebate estimate based on a 6.5 kW system. Rebate depends on your system size.

Group Buy participants save on cost per watt plus an add'l rebate.

	6.5 kW Residential Roof Pricing with Group	System Buy	6.5 kW Residential Roof System			
EXA	Installed Cost (\$2.63/Watt)	\$17,095	EXAInstalled Cost (\$3.00/Watt)	\$19,500		
	Illinois SREC	(\$8,028)	Illinois SREC	(\$8,028)		
	Tax Credit	(\$4,445)	Tax Credit	(\$5,070)		
	Add'l Group Buy Discount(\$1,300)Net Cost\$3,322		Add'l Group Buy Discount	\$0		
			Net Cost	<mark>\$6,402</mark>		

Note: Additional group buy discount assumes program reaches the 500 kW benchmark (approx 77 homes)

Next steps: You're on our list & will receive program updates!

- Fill out the follow up form we send out to get a free solar quote
- Be ready to share electric bills that show 12 months of usage
- Think about ways to become more energy efficient.
- Tell your friends to attend a Power Hour!

SAVE MONEY. MAKE A DIFFERENCE. GO SOLAR!



Learn more about the Citizens Utility Board

To join or learn more visit: <u>CitizensUtilityBoard.org</u>

- Resources for energy efficiency & savings
- Information about new clean energy legislation in Springfield

Virtual Utility Bill Clinic

Send your bills to
 <u>ubc@citizensutilityboard.org</u>





Promoting renewable energy, energy efficiency, and sustainable living through education and demonstration.

Everyone who goes solar through the program gets a FREE Basic Family Membership!

- \$20 Off All Courses
- Invite to Virtual Membership Meeting
- Access to Clean Energy
 Credit Union
- Subscription to Newsletter
- Free Online Tutorials
- Free Rise Up! Publication Mailed to You

Thank you! Please spread the word!



Request a solar estimate, sign up for updates, and learn more: <u>www.SolarizeChicagoland.com</u>

Questions: Contact Christina Uzzo @ CUB solarize@citizensutilityboard.org - (312) 292-5871 (direct)