

# Legacy Solar Co-op

## 9<sup>th</sup> Annual Membership Meeting

December 6th, 2023



# Agenda



- Opening Remarks and Vital Statistics of our Co-op
- PSC in 2023, a Summary: Michael Vickerman, RENEW Wisconsin
- 2023 Legacy Solar Co-op Solar Projects – Brief Highlights & Case Studies
  - Peter Fiala shares Troy Farm's Solar Story
  - Tony Hartmann shares Access Community Health Centers' Solar Story
  - Elise Couillard shares Dane County Humane Society's Solar Story
- Adjourn by 8pm, if possible

# Legacy Solar Co-op

**Improving Member Access to Investing in Solar  
while  
Optimizing Quality and Value for all Stakeholders**

*The Slice-of-Sun Logo denotes how anyone can get in on  
a piece of the solar action through the Co-op*





# Legacy Solar Co-op



## Improving Access and Affordability

### We help Solar Project Stakeholders through:

1. Educating about the costs and benefits of solar
2. Helping to “right-size” their project for optimal value
3. Providing Highly Qualified Solar Vendor Proposals
4. Helping with Grants, Tax Financing, and/or Loans to finance their project
5. Provide Project Management and Performance Monitoring Services





# Co-op Vital Statistics

- Members **290** a year ago **238**
- Bondholders **70** **65**
- **Profit & Loss (P&L) for 2023: \$4,655** 2022: **\$19,777**
- **Balance Sheet Totals, 2023: \$1,021,096** 2022: **\$1,076,565**
- **Balance Sheet Equity, 2023: \$ -27,687.68** 2022: **\$ -33,618.63** 2021: **\$ -58,290.18**
- Projects Developed (facilitated and/or financed) **62** to our credit, so far
- Projects Completed this year (or imminent in December) **17** non-residential
- Kilowatts (kW) so far this year **1,368**, or 1.36 MW
- Kilowatts so far since 2014 **8,250**, or 8.25 MW
- How many solar panels is that? Approximately **18,700** solar panels
- What does that even mean?

# The Value of 1 Solar Panel

- Let's assume it is 500 Watts, or 0.5 kiloWatts (kW)
- The Costs to put each solar panel into use (installed/wiring/inverter, etc)
  - Financial Cost, all in, is between \$850 to \$1,400 for each panel (module)
  - Environmental Cost, energy-in, energy-out is between 1.5 and 3 years carbon "payback" (see below)
- The Benefits include:
  - **Financial Benefit**, roughly double or triple your cost over 25 to 30 years, or 7-12% annual return
  - **Environmental Benefit**, if 1.5 years carbon payback and life expectancy is 25 years, then **16,670%** benefit

Quantified, we get... 500 Watts = .5 kW x 1,250 kWh/kW/year

**625 kWh** per year x **30** yrs x (1-.005 x 30) = .85 x 30 x 625 = **15,987 kWh** for 1 solar panel

De-rated for embedded energy for that one panel at 2.5 years, **14,654 kWh net benefit**

in Wisconsin, 14,654 x 1.39 pounds CO<sub>2</sub> / kWh = **20,370 pounds of CO<sub>2</sub> or 7 tons of coal**

EQUIVALENT TO:

**26,623** miles driven by an average gasoline-powered passenger vehicle ?



# For 2024 At least 3 new projects with loans

from the Co-op planned for the next 120 days, or approximately \$120k

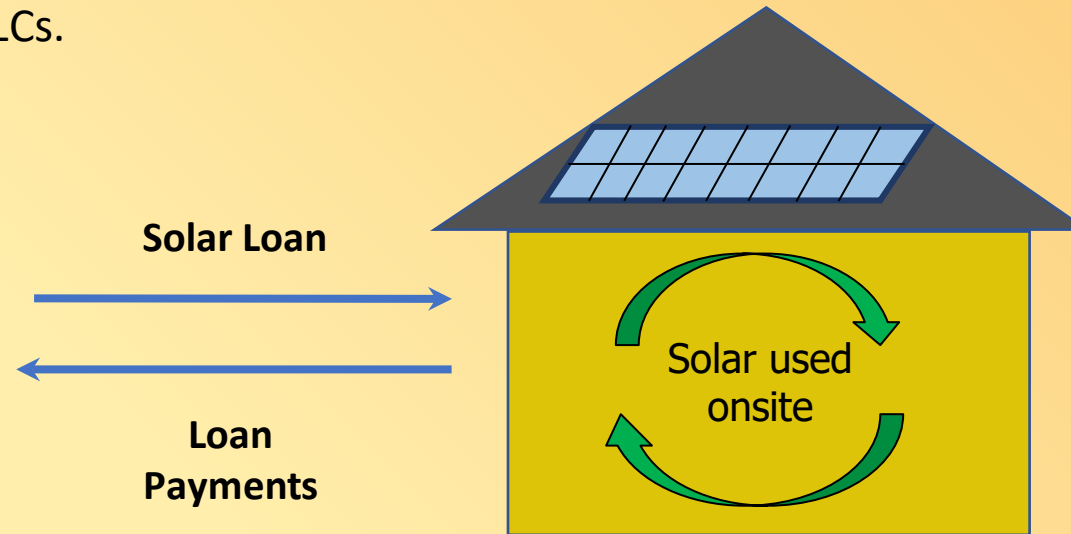


## Legacy Solar Co-op

Co-op sells Solar Bonds to Members.  
LSC makes Solar Loans to Project LLCs.



**Community Solar**  
Co-op Bondholders



**Host Site in Community**  
pays for Solar Services  
& Saves \$\$\$ on electric bills

[www.LegacySolarCoop.org](http://www.LegacySolarCoop.org)



# Our Board of Directors

- Kurt Reinhold, President/Treasurer
  - Peter Fiala, Vice President
  - John Bayley, Secretary
  - Celeste Anton, Director
  - Steve McArthur, Director
  - Jennifer Larson, Director
  - Tony Hartmann, Business Dev't
  - Joe Kremer, Solar Advisor
- 
- Average 9 meetings per year, roughly 75-90 minutes each
  - One 3-4 hour retreat sought for “deep dive” to improve our Co-op
  - Seeking more representation on our board  
[Info@Legacysolarcoop.org](mailto:Info@Legacysolarcoop.org)

# Solar Relevance to Humanity



- ☐ Climate Impact      1 Solar Panel over 30 years...
- ☐ Budgetary Impact      Lower electric bills amplifies good!
- ☐ Jobs Impact      Over 240,000 jobs in solar industry in the US (NREL, 2020)
- ☐ Social Justice Impact
  - ☐ Indirectly, through community institutions helping disadvantaged individuals and families
  - ☐ Directly, through special Community Solar programs aimed at Low to Moderate Income households to spread the benefits of solar to those who cannot afford to own solar by themselves

# Community Solar Accelerator Prize



- LSC won one of 25 Phase I Prizes (\$50,000)
- We invested time and \$ into competing for a Phase II Prize (\$200,000)
  - Were not selected after 1<sup>st</sup> attempt
  - Decided to conserve our resources and continue to do OUR version of Community Solar instead.
- Reasons we didn't win Phase II Prize?
  - In Wisconsin, our cost-benefit margins are very, very thin compared to out east, SW, or islands like Puerto Rico or Hawaii.
  - Even Illinois has better financial conditions to make a profitable margin on solar development
  - LMI benefits required to compete for this prize, >20% of benefits had to go to LMI households and reduce their electric bills by at least 40%
- Next: PSC in 2023, a Summary: Michael Vickerman, RENEW Wisconsin
- Then, 2023 Legacy Solar Co-op Solar Projects – Brief Highlights & Case Studies





# 2021 Projects Finished in 2023

- Sheboygan Senior Community
  - **199 kW dc + 125 kW/ 230 kWh Batteries (30% of annual kWh use)**
- St Robert Parish / School
  - **91.2 kW rooftop of school (25% of annual kWh use)**
- Curative Connections / Rehab Solutions
  - **280 kW ground mount near building (44% of annual kWh use)**

# Sheboygan Senior Community



- Stephanie Goetz / Paul Treffert
- Office of Energy Innovation (OEI) Grant
- 30% of annual use

**199 kW dc +  
125 kW/ 230 kWh  
Batteries**





# • St Robert Parish / School



91.2 kW rooftop of school  
(25% of annual kWh use)

Special Thanks to:  
**Dr David & Kathy Wyatt**  
and  
**EG Nadeau**



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# Curative Connections / ProSolutions in Green Bay



- 280 kW ground mount near building (44% of annual kWh use)
- Internal Champions: Jeanne Stangel / Kurt Raddant





# Troy Farm, Madison



- 5.2kW ground mount solar array + battery (9.55kW total w/existing 4.35kW)
- Electrical upgrades & connection to the grid
- Battery back-up
- 100% of anticipated electricity use
- 90% of cost covered by grants & incentives
- Powers coolers, well pump and a few appliances
- Reliable, sustainable power





# 2023 Projects

## Perennial Housing Co-op





# 2023 Projects

Thank you to **David & Kathy Wyatt** for donations that paid for a significant portion of the following projects in 2023:



**St Robert Parish School**



**Froedtert Hospital  
North Tower (in progress)**



Harry & Rose Samson Family  
Jewish Community Center

**Gan Ami Early Childhood Education at  
the Linda & Fred Wein Family Center**





# 2023 Projects

- Food Security Orgs



Dan Taivalkoski, Internal Champion

Sharon Lavin & Joe Neuman, Internal Champions



# 2023 Projects

- Homelessness Orgs



And, starting in  
December of 2023...

MACCANON BROWN  
HOMELESS SANCTUARY



# 2023 Projects

- Houses of Worship



Menominee Falls, WI

Doug Walters, Internal Champion





# 2023 Projects

- Houses of Worship





# 2023 Projects

- Houses of Worship



Fitchburg, WI



Pastors Jay & Suzie Genin, Internal Champions



# 2023 Projects

- Senior Care Orgs



Paul Treffert & Stephanie Goetz, Internal Champions



Tom Rislow, Internal Champion





# 2023 Projects

- Healthcare Facilities



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## Erdman Clinic

South Park St., Madison

- 73.4 kW
- Roof & Canopy PV
- Full Spectrum Solar

Assistance from

- Solar 4 Good
- MadiSun



Joanne Holland, Internal Champion

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## Evjue Clinic

E. Washington Ave, Madison

- 124 kW
- Rooftop PV
- Carport & Canopy
- Full Spectrum Solar
- S4G & MadiSun



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# 2023 Projects

- Other Commercial Solar Projects



# 2023 Projects



PSYCHIATRIC SERVICES, S.C.

*Mental Health Matters*

Mental health and wellness across the lifespan.



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# 2023 Projects



- Animal / Environmental Advocacy Orgs



Steve Oppeneer, Internal Champion



# Elise' Update

## Progress on the Dane County Humane Society's Solar Flight Pen

- Dane County Humane Society's Wildlife project started Aug 2023
- Innovative new solar flight enclosure going up now
- Wildlife Treatment Center's rooftop solar panels were completed Oct 2023



# Progress on the Dane County Humane Society's Solar Flight Pen



- Thanks to WES Engineering for his completion of the rooftop
- WES Engineering will also complete solar portion of Solar Flight Pen



WES Engineering

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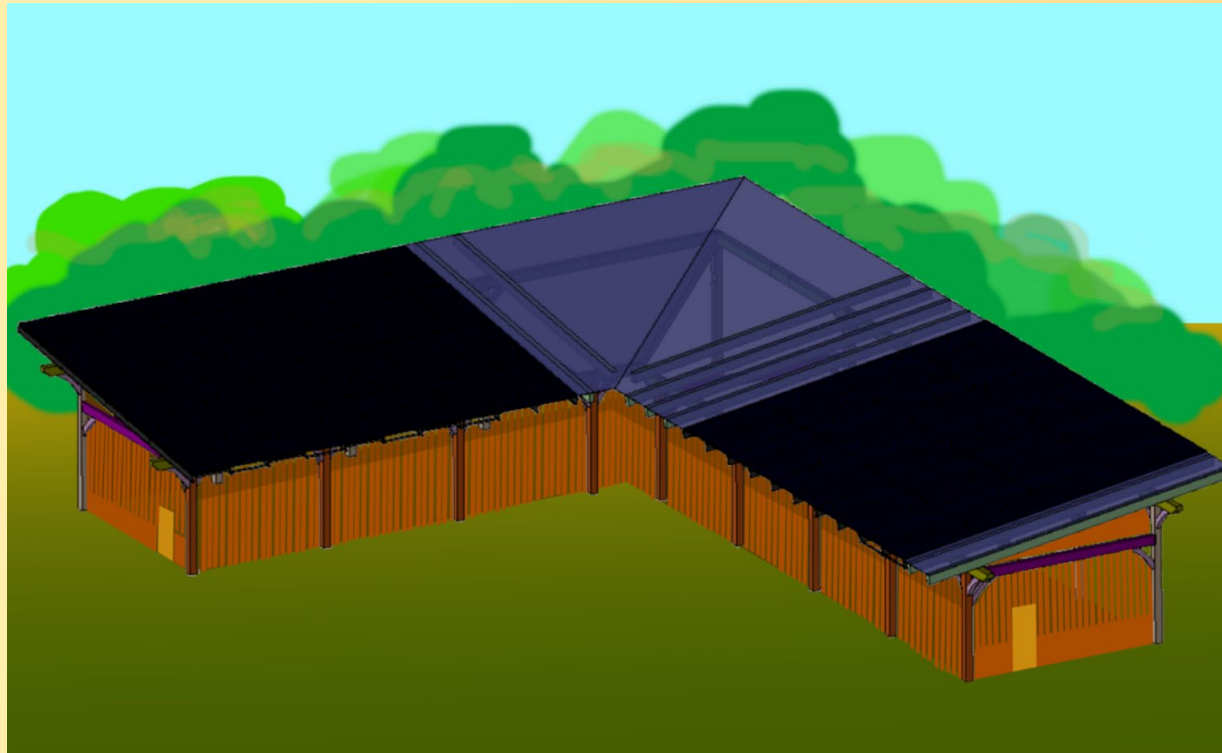
Dane County  
Humane Society  
Helping People Help Animals



# Progress on the Dane County Humane Society's Solar Flight Pen



- DCHS received an OEI Innovation Grant (\$185,000), Solar For Good and MadiSUN grant
- Project costs were reduced from almost \$625,000 to \$201,000 after incentives



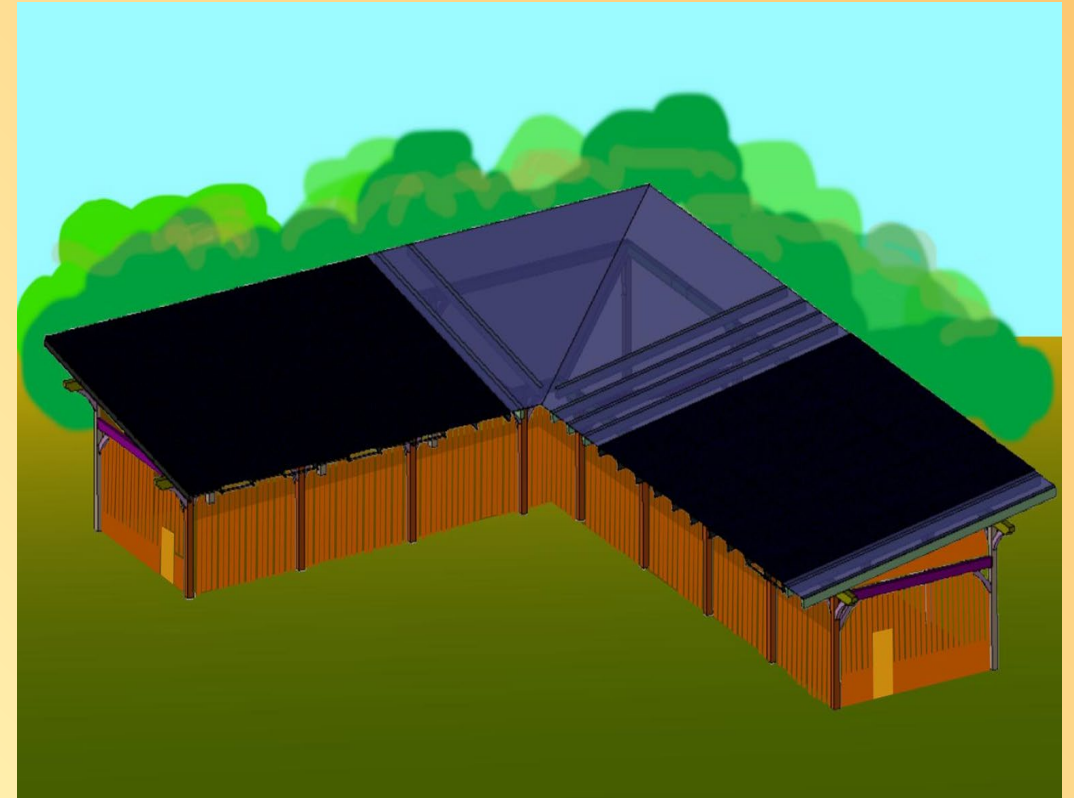
# Solar Flight Pen for DCHS Wildlife



Powers out/remote buildings, lighting,  
& surveillance cameras for behavioral  
monitoring

Reduces costs/expenses

Structure now has return on  
investment, rather than just  
depreciating



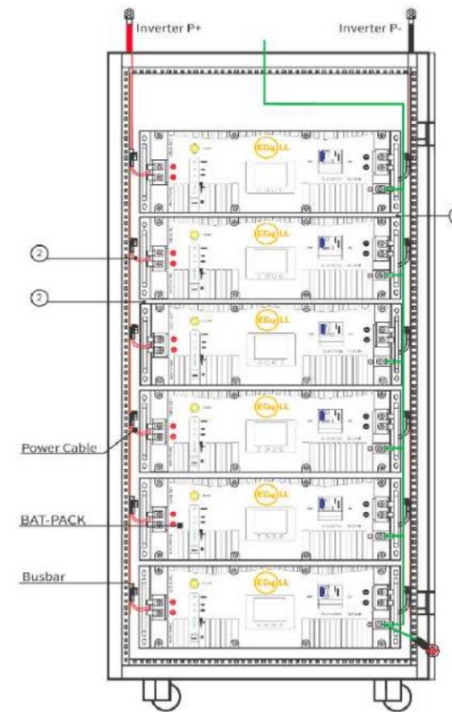
# Battery System for DCHS Wildlife



Keep Wildlife Center powered overnight and during short power outages

Extra 25 kWh of battery power to “peak shave” up to 14 kW of load for the main building load

Figure 5- EG battery storage items





# Progress photos





# Couillard Solar Canopies



- Bifacial Solar Canopy with Timber Framing
- Part of landscape/property design
- Outdoor living spaces
- Increased shelter from elements
- Increases Property Value without increasing Tax
- Offsets utility bill



# Couillard Solar Canopies





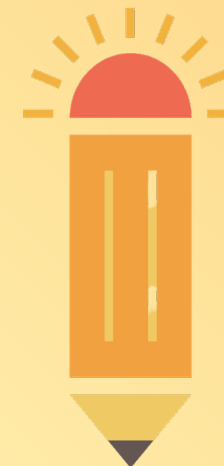
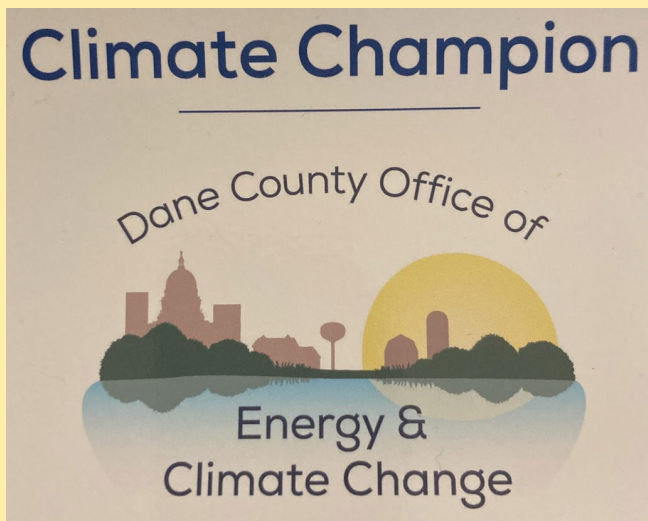


# 2024 Projects, very brief

- MacCanon Brown Homeless Sanctuary
- Oakwood Village, Prairie Ridge
- Das Kronenberg Condo Association
- City of Antigo Library and Wastewater Treatment Plant
- Willy Street Grocery Co-op, Willy West location
- Hill Farms Swim Club
- Chippewa Valley Growers
- Broadway Station Complex
- 3 School Districts
- 3 other Municipalities
- 3 Healthcare Facilities
- 2 other Condo Associations
- And more!



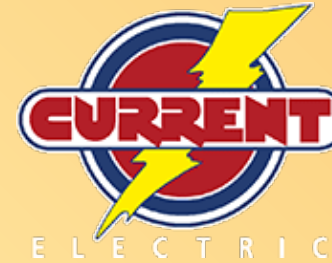
# Also Thanks to our Peer Organizations and Programs



**SOLAR  
ON  
SCHOOLS**



# Also Thanks to our Professional Members





Please enjoy your holidays and stay tuned for more solar opportunities in the next several months

