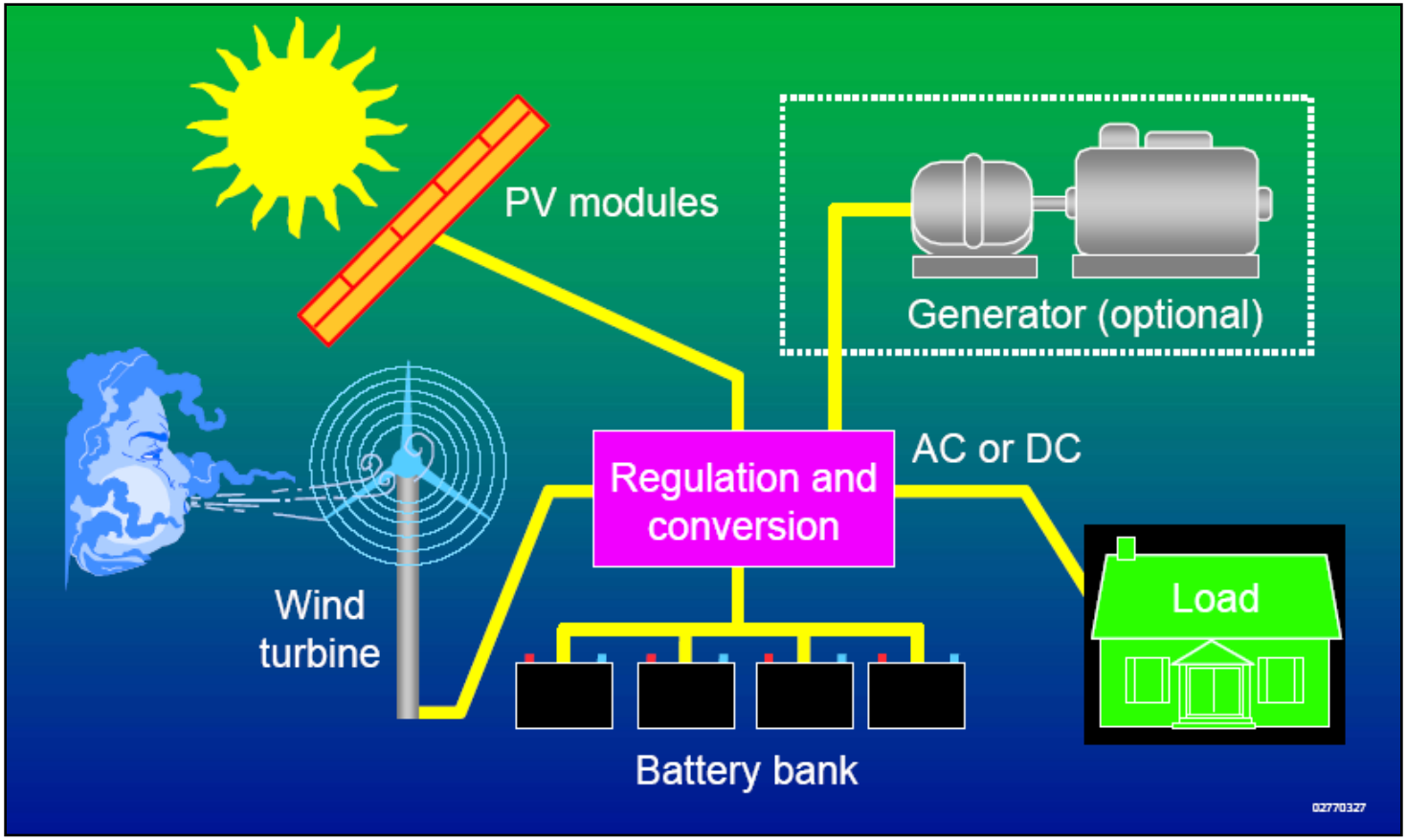
Solarize Meridian

Facilitated by

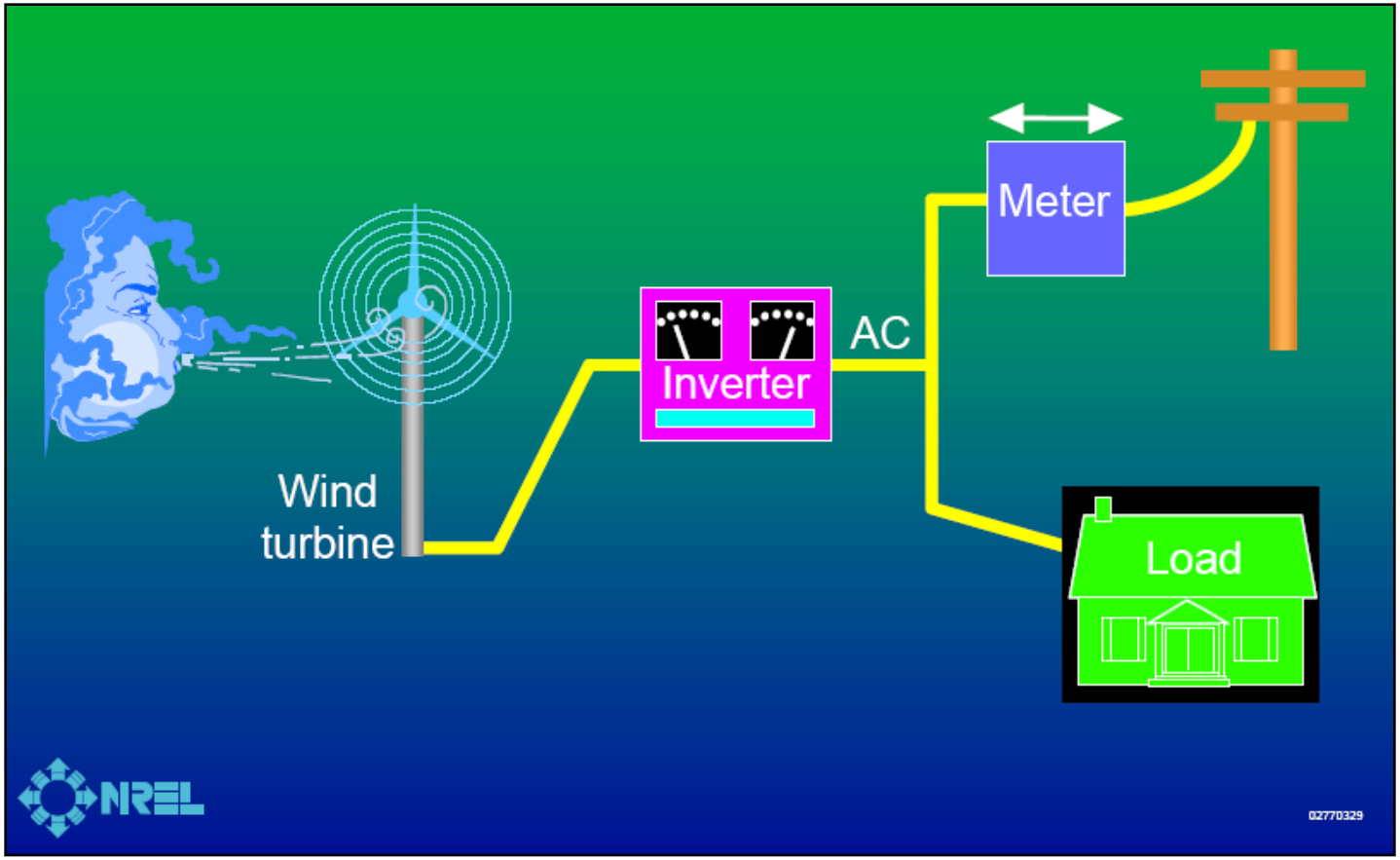
Meridian Energy Team

Lansing Area Solar Users Network

Off-Grid System



Grid-Tied System



Rooftop or Ground Mount

- Southern Orientation
- Minimum or No Shading

Net Metering

- Excess electricity to utility
- Bill credit, no payment
- System sized to customer
- 20 kW or less – “true net metering”
- Up to 150 kW – “modified net metering”
- New Distributed Generation Tariff in 2019
- Inflow at retail rate, outflow around 10 cents
- Until new tariff grandfathered for 10 yrs

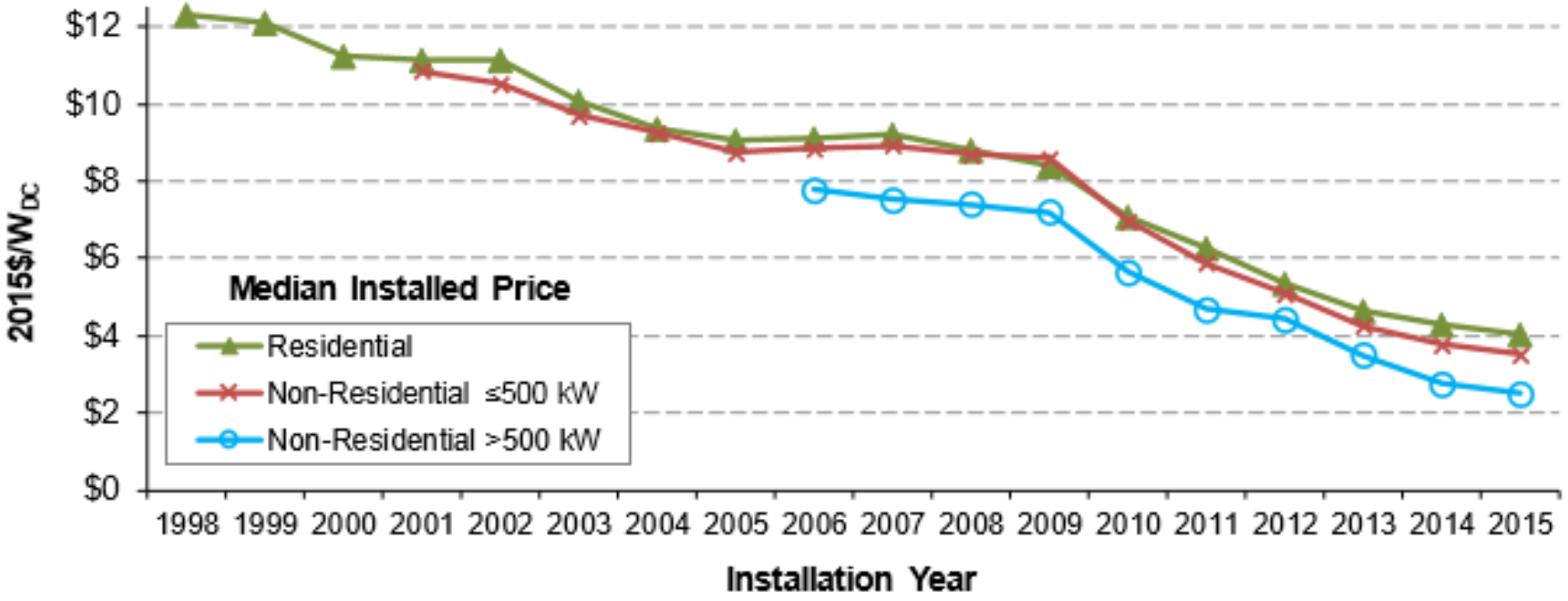
30% Federal Tax Credit

- 2017 to 2019 – 30%
- 2020 – 26%
- 2021 – 22%
- Beginning in 2022
- 10% for commercial and third party-owned residential
- 0% for host-owned residential

PV is Good Investment

- Lawrence Berkeley National Lab report shows PV adds value
- 22,822 homes in 8 states studied
- Average PV sales premiums is $4/watt
- If you move, get your money back at sale

Solar Prices Down



Source: National Renewable Energy Lab

PVWatts

- Software to estimate kW's and kWh's
- Monthly kWh's
- Cost savings

RESULTS **23,048 kWh per Year**

Month	Solar Radiation (kWh / m² / day)	AC Energy (kWh)	Energy Value ($)
January	2.56	1,312	125
February	3.48	1,636	156
March	4.35	2,149	205
April	4.79	2,188	209
May	5.41	2,473	236
June	5.57	2,368	226
July	5.48	2,408	230
August	5.19	2,320	221
September	5.12	2,261	216
October	3.59	1,695	162
November	2.62	1,229	117
December	2.02	1,011	96
Annual	4.18	23,048	$ 2,198

Solarize Meridian

- Meridian Energy Team has developed Climate Sustainability Plan that has been adopted by Township Board & includes renewable energy commitments:
- Obtain 50% of Township government electricity from renewable energy by 2025 and 100% by 2035.
- Obtain 25% of total community electric use from renewable energy by 2025.
- Encourage homeowners, businesses, & churches to install a solar electric system

Solar Installer List

- Interested in participating in project
- Provide standard, grid-tied, rooftop PV system at competitive price - $3/watt or less, e.g. $12,000 or less for 4,000 watt system, $8,400 or less after 30% federal credit
- Authorized Michigan Saves contractor
- List indicates if particular interest – residential, commercial, rooftop, ground mount

Solarize Steps

- Attend workshop and/or open house
- Contact one or more solar installers on list
- Receive proposals from solar installers & select installer
- Installer obtains permits from township
- Homeowner may apply for Michigan Saves financing
- Homeowner with installer help applies to utility for interconnection & net metering
- Solar installation completed
- Homeowner takes 30% federal tax credit

Solar Panels at 2173 Belding Court Okemos, Michigan

Jim and Connie Detjen
April 11, 2018

My goals and background:

I have been interested in solar energy for a long time. I am a former science and environmental writer at the Philadelphia Inquirer and the Founding Director of the Knight Center for Environmental Journalism at Michigan State University.

Our goals include:

Reducing our carbon footprint by reducing our home's emissions of carbon dioxide

Demonstrating that it is possible to do this in a cost-effective way in Michigan. We have a south-facing roof that is ideal for generating solar energy.

We are the first home that has installed a solar system in the Briarwood subdivision in Okemos.

I chair the Green Team at Edgewood United Church and led the campaign to raise $70,000 to install a 20-kilowatt system at the church in 2016.-2017.

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The Timeline on our solar panels:

Early 2015 – Talked to several possible installers

April 2015 – Applied for the EARP incentive program with Consumers Energy

Aug. 2015 – EARP application approved. We signed a contract with Peninsula Solar

Nov. 2015 – Solar system is installed

Feb. 2016 – We begin generating electricity that is sold to Consumers Energy

Details about the System:

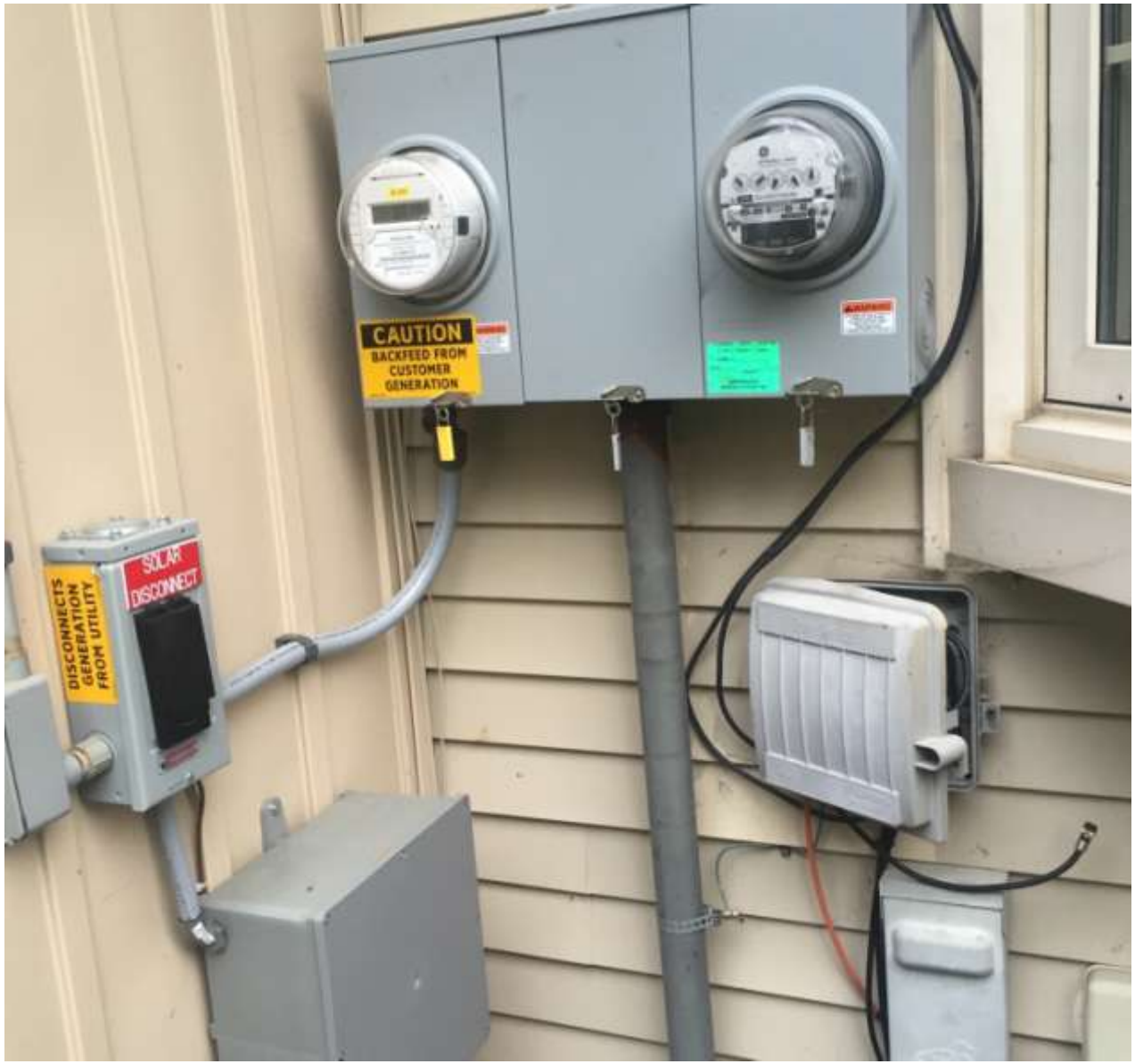
-- 14 solar panels made by Sonali Solar in Michigan
-- 3.5 Kilowatt DC system. Each panel generates 250 watts. Installed by Ian Olmsted of Peninsula Solar
-- 14 Enphase inverters to convert DC to AC; Iron Ridge Racking System; Enphase Enlighten production monitor
-- Total cost of $12,925. We received a 30% tax credit of $3,878. Net cost: $9,047.
-- We have received from Consumers Energy $1,912 for 7,848 kWh of electricity produced from Feb. 1, 2016 to Mar. 19, 2018. In first 2 years we have recovered 21% of the cost; expect system to pay off in about 9 years.
-- Has increased the value of our house.
-- This is the equivalent of planting 127 trees or producing enough energy for 2,309,190 AA batteries

The Solar Panels

Workers at Peninsula Solar Carry the Modules to The Roof

Lifting the Panels Onto the Roof

Success! Fourteen solar panels are installed.



Electric Meters:

The left circular meter records how much electricity we have generated.

The right one records how much electricity we have used.

We estimate that our solar system will have the effect of planting 7 acres of trees or taking 15 cars off the road.

Thank You!

Are there any questions?

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