

Thinking About Solar for Your Home or Business?

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2022 Nebraska Wind and Solar Conference

Thinking About Solar For Your Home or Business?

October 25, 2022

Presenters:

- Marc Shkolnick – LES
- Aaron Miller - NDEE
 - Ron Rose – NPPD
 - Kirk Estee - OPPD

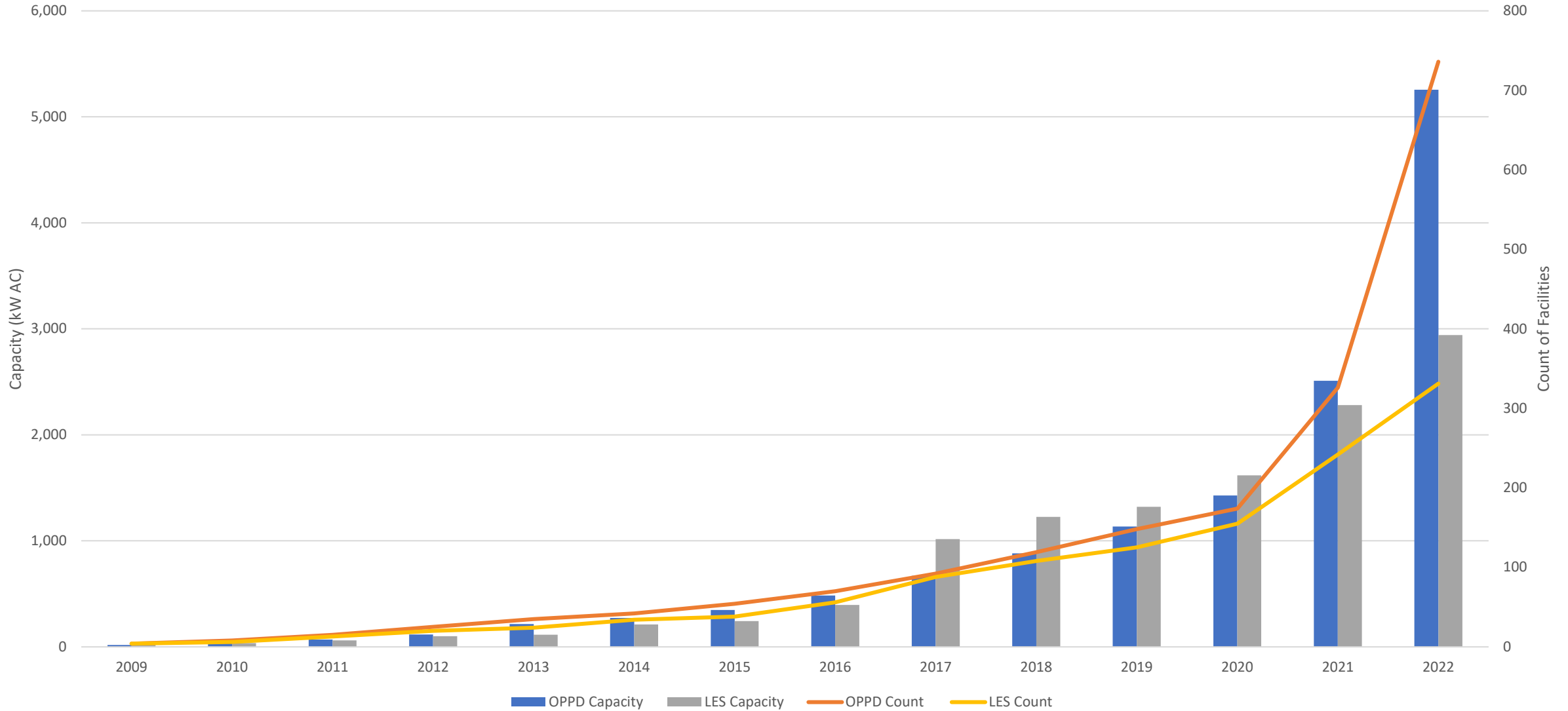


Net Metering State Statute 70-2002

- Enacted 2009, for projects less than or equal to 25kW
- *Credits a customer-generator at the applicable retail rate for each kilowatt-hour produced by a qualified facility during a billing period up to the total of the customer-generator's electricity requirements during that billing period.*
- *A local distribution utility shall not be required to provide net metering to additional customer-generators,...the total generating capacity of all customer-generators using net metering served by such local distribution utility is equal to or exceeds one percent of the capacity necessary to meet the local distribution utility's average aggregate customer monthly peak demand*
- The Nebraska Legislature decided that non-solar customers would subsidize the net-metering customer up to a 1% limit of the local utility's monthly demand to encourage customer-owned renewable energy resources.



Growth in Customer-Owned Generation (25 kW or Less)



Concerns in the Marketplace

- Sales Process Issues:
 - Contractor stating...they are present on behalf of the utility
 - Contractor stating...they are partnering with the utility to install solar
 - Contractor stating...the customer will no longer have an electric bill
 - Contractor stating...the utility *needs* them to do this for the grid
 - Contractor stating...solar system will provide power during outages
 - Contractor utilizing gross electric rate rather than energy charge
 - Contractor falsely stating utility plans for electric rate increases
 - Extremely high sense of urgency...won't leave
 - Contractor misrepresenting tax credits
 - Contractor putting lien on customer's home
- Performance Issues:
 - Missed witness test appointments
 - Poor workmanship presenting safety concerns



OPPD Resources to Help Customer-Owners

- Quick Start Guide with Video
- How Net Metering Works
- Solar Calculator (Try it!!!)
- FAQ's
- Online Application System
- Trade Ally Program to Protect Consumers



www.OPPD.com/COG

Customer-Owned Generation Trade Ally Program

Periodic utility-led training sessions for solar contractors and developers, electricians, City/State electrical inspectors and stakeholders

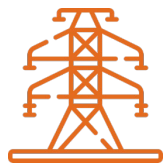
Benefits of the new program:



- Ability to offer utility solar rebates (when available)
- Referral source - Listing on OPPD website



- More knowledgeable contractors
- Improved satisfaction from proper expectations and faster startups



- Higher application approval rates
- Higher witness test pass rates
- Higher overall customer satisfaction



Customer-Owned Generation Trade Ally Program

Contractor Requirements (partial):

- Attend training at least once every 3 years...next one Nov 1
- Accurately represent utility programs, energy costs and escalation rates
- Agree to code of conduct
- Maintain NABCEP certification
- Physical address in OPPD territory
- Been in business at least 12 months under current name
- Installed at least two systems in OPPD footprint in previous 12 months



Solar Trade Ally Network



Objectives:

- Ensure accurate information is consistently provided to customers regarding rates, incentives and other utility-related information
- Direct customers to a list of trade allies who have learned about, acknowledged and demonstrate an understanding of utility-related facts and information
- Enhance communications between LES and existing and new solar trade allies

Solar Trade Ally Network



Key Features:

- Capacity payment only available for projects completed by a member of the Network
- Network participation requires attendance at periodic informational meetings and submittal of a signed participation agreement
- Network list will be made publicly available
- Each project will require a customer-signed Customer-Owned Solar Buyer's Checklist



Solar Resources for Customers & Contractors

Thinking about installing solar?

Not all solar companies in the market are looking out for the customer's best interest, so it's essential to get accurate information. See LES' Solar Trade Ally Network and Solar Buyer's Checklist below to help you explore solar for your home.

You will find trusted information and best practices when considering an investment in solar. The network of solar installers has formally acknowledged they will accurately represent LES rates, incentives and other utility-related information. While LES doesn't endorse or guarantee any installers' work, we have established a baseline for solar firms wanting to offer customers LES incentives.



- ▶ **WEBINAR REPLAY: SHEDDING THE LIGHT ON SOLAR**
- ▶ **CONSIDER YOUR INVESTMENT BY REVIEWING THIS SOLAR BUYER'S CHECKLIST**
- ▶ **CONTRACTORS ELIGIBLE TO PROVIDE LES SOLAR INCENTIVES (LES' SOLAR TRADE ALLY NETWORK)**
- ▶ **MORE ABOUT CUSTOMER-OWNED GENERATION (SEE NET METERING)**

Which solar power is right for you?

Get an idea of the energy potential installing your own solar has for you with this [solar calculator](#). Check out [this video](#) for a walkthrough on using the PVWatts@ tool to calculate solar potential, or [download this how-to guide](#).

Solar contractors/installers

Are you a solar contractor/installer interested in participating in LES' Solar Trade Ally Network? Participation is required to offer projects that qualify for LES' one-time capacity payment incentive.

Participants will be included on a publicly available Solar Trade Ally Network list signifying they have been educated about the utility's rates, incentives and other related information and have acknowledged that such information will be shared with customers in an accurate manner.

Inclusion as a participant does not constitute an endorsement by LES.

If you're interested in participating in LES' 2022 Solar Trade Ally Network:

- ▶ **VIEW THIS ORIENTATION VIDEO FOR GENERAL INFORMATION AND TERMS AND CONDITIONS**
- ▶ **REVIEW AND SUBMIT THIS PARTICIPANT AGREEMENT**

Questions? Email energyservices@les.com or call [402.475.4211](tel:402.475.4211).



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Solar Resources

CUSTOMER-OWNED SOLAR BUYER'S CHECKLIST



Investing in solar is a big decision. Whether your motivation for solar is environmental, economic, or other reasons, LES makes the process as simple as possible. Consider these facts and best practices to make an informed decision about your solar investment.

Property Assessment

- Ensure your home/business is operating at maximum energy efficiency. Inspect the space to determine that windows and doors are adequately sealed, walls and attic have proper insulation and that all appliances are running efficiently. Making these improvements first may reduce the size, and often cost, of the solar array you need to install. If your property has no wall insulation and/or minimal attic insulation, or you are planning to replace air conditioning, a heat pump or electric water heater, you may qualify for an LES Sustainable Energy Program incentive and Federal Income Tax Credits.
- Evaluate your property for solar. Solar systems maximize energy production when unshaded, oriented to the south and tilted 20 to 40 degrees. Production is reduced by 20-30% when faced east or west. North facing panels are not recommended.
- Inspect your roof. Make sure it is in good condition with ample southerly, westerly and/or easterly space to support solar panels and racking system.
- I acknowledge that northerly and easterly oriented solar systems and systems mounted on a flat roof that aren't tilted do **NOT** qualify for an LES Capacity Payment incentive.

Key Facts

Nominal (not adjusted for inflation) retail electric rates are projected to increase up to 1.5% annually over the next 30 years for the west north central region. (Energy Information Administration's Annual Energy Outlook)

One kilowatt of optimally oriented and tilted solar (southerly facing, unshaded) should produce 1,400 to 1,500 kWh annually. (PV Watts)

An owner should budget at least \$20/KW annually for ongoing maintenance, inverter replacement, insurance and other expenses. (NREL)

For the safety of utility crews, PV solar systems are generally not designed to operate during power outages unless a utility-approved transition switch has been installed to prevent any parallel operations.

Financial Considerations

Financial savings through solar is primarily achieved by reducing the amount of energy you will need to purchase from LES. The value of that energy is determined by the energy rate component of your bill. **Note that customer and facility charges will continue to be assessed no matter how much energy your system produces.** The fixed customer and facility charges recover costs to build and maintain infrastructure and customer account support to provide you with highly reliable service.

- Start by reviewing your annual electric energy history to understand how much you would like to reduce through onsite generation. You can request a copy of your property's energy history report by contacting LES at 402.475.4211 or EnergyServices@LES.com.
- Consider getting multiple bids. A list of contractors eligible to provide LES solar incentives is available at LES.com/solar.
- When reviewing solar proposals, verify the correct energy rate, fixed customer and facility charges and a reasonable annual rate adjustment factor is being used to make value calculations. Verify current residential and business rates here. Contact LES at EnergyServices@LES.com or 402.475.4211 if you need any assistance.
- Projected financial savings should be calculated based on the current energy rate and any potential reduction in your fixed customer and facility charges.

Next Steps

- Contact LES with any questions at EnergyServices@LES.com or 402-475-4211.
- Check participating contractor list at les.com.
- Consider LES' Virtual Net Metering if rooftop solar isn't right for you.

Name _____

Date _____

My signature acknowledges that I have read and understand the best practices and considerations listed above.

Helpful Tips

Familiarize yourself with the Federal Investment Tax Credit, LES Capacity Payment and low interest financing offered by the Nebraska Department of Environment and Energy's Dollar and Savings Loan Program.

Check out the National Renewable Energy Laboratory's PV Watts solar calculator to model energy production and associated savings with different size solar systems. Be sure to use the current residential or commercial energy rate to accurately reflect savings that will accrue from the solar system's annual production.

Learn about how net-metering works by reviewing LES' Customer-Owned Renewable Generation brochure.

Only sign a contract if you understand and are comfortable with the terms and conditions.



Solar Resources

CUSTOMER-OWNED SOLAR BUYER'S CHECKLIST



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Helpful Tips

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- Ensure home is adequately sealed and weatherized
- Ensure home is ideally suited for solar
- Understand local utility rates, fixed charges and reasonable projected increases
- Solar without battery storage won't provide back up power

with simple sootering, weathery and/or cavity space to support solar panels and racking system.

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NDEE's Dollar & Energy Savings Loan Program

Residential and Business Solar



- Low interest loans to individuals, business, local governments
 - High Efficiency Furnaces, A/C, Heat Pumps
 - Insulation
 - Windows and Doors
 - Lighting
 - Solar & Wind Projects
- Project requirements are based on top rated Energy Star® equipment.

- DESL program loans have been used for hundreds of residential and business solar projects across the state.
- Low rates reduce cost of borrowing for renewable energy projects.

- Global Organics, LLC, Brunswick
- Dundee Bank, Omaha
- B.E. Beattie Family Farms, Sumner
- Maseberg Ranch Ltd, Thedford
- 4 Seasons Farms, LLC, Ashland
- Hamlot Inc, Sumner
- Rattlesnake Hills Country Club, LLC, Kearney
- Maple Creek Seeds, LLC, Howells
- Kaps Inc, Holdrege





- Over 200 Local Nebraska Lenders with 900 branches across the state
- 1% - 5% Simple Interest Rates
- NDEE purchases 65%-90% of the loan.
- Lender collects interest on full loan amount, effective rate around 10%.
- Eligible Loan Fees are set by the program.





Beattie Farms & Hamlot



Chancellor Farms



Ag & Rural Solar Projects



For more information or to find eligible lenders visit:

NDEE Website

<https://neo.ne.gov> Programs/Energy Loans

Or Call

402-471-2186



Photo by Vivint Solar on Unsplash

UNL Solar Workshops

The workshops will review the function, feasibility, and economic return of solar electric systems for farms, homes, and businesses. Each solar installation is unique, and individuals have their own reasons for exploring solar installations.

- Learn about how systems work, safety, the value of electricity, value of incentives, and how to evaluate quotes from installers.
- Speaker will be Nebraska Extension Educator, F. John Hay, who has 10 years' experience doing solar economic analysis and installed solar at his home in 2017.
- Workshops are supported by Lincoln Electric Systems, Nebraska Public Power District, Omaha Public Power District and University of Nebraska – Extension
- To register visit: go.unl.edu/solarworkshops2022

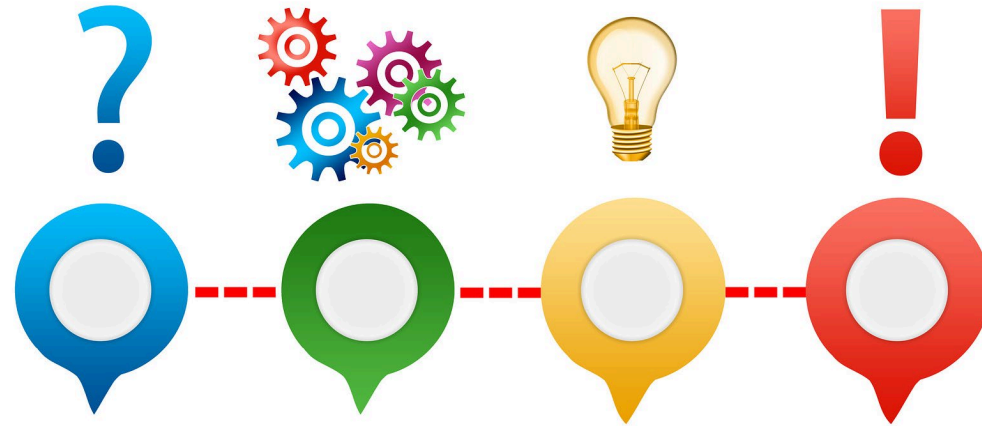
Lincoln, NE	Dec. 1 st 2022	6:00 – 8:00 PM	Lancaster Co Extension Office 444 Cherrycreek Rd. Suite A
Tekamah, NE	Dec. 5 th 2022	3:00 – 5:00 PM	Tekamah City Auditorium 1315 K St.
Auburn, NE	Dec. 6 th 2022	6:00 – 8:00 PM	Nemaha Co 4-H Building 816 I St.
Chadron, NE	Dec. 7 th 2022	3:00 – 5:00 PM MT	Dawes County 4-H Building 2009 E Norfolk, Ave.
Ogallala, NE	Dec. 8 th 2022	4:00 – 6:00 PM MT	Keith County Fairgrounds 1000 E 4 th St.
Concord, NE	Dec. 13 th 2022	6:00 – 8:00 PM	Haskell Ag Lab 57905 866 Rd.
Central City, NE	Dec. 15 th 2022	6:00 – 8:00 PM	Merrick Co. 4-H Building 1784 Fairgrounds Rd.

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Questions?



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