

Ohio State University Office of Extension/Medina County

Solar Panels for Consumers – creating new and relevant programming to excite, inform and educate

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Solar Panels for Consumers Medina County

Initial launch: 2024

Where to start and what you need to know to make an informed decision.

This project explored solar energy from a consumer perspective with a focus on education and information.

Renewable energy is a topic of interest and uncertainty for consumers. Many are interested in Solar Panels for their homes and Electric vehicles for their transportation. This project was born from an interest in solar energy as a source of power if the electric grid was compromised. Further research uncovered many variables to consider when making a buy/don't by decision. A five (5) class series explored salient topics ranging from selecting a solar panel vendor to configuration, placement, setting expectations for energy generation, cost savings, and pay back period.

30% income Tax Incentive

Congress approved the residential clean energy credit (investment tax credit/residential clean energy credit) which establishes tax credits for energy efficiency. The solar tax credit reduces your income tax liability by up to 30% of a solar (including solar battery) project. This tax credit is currently effective until 2032.

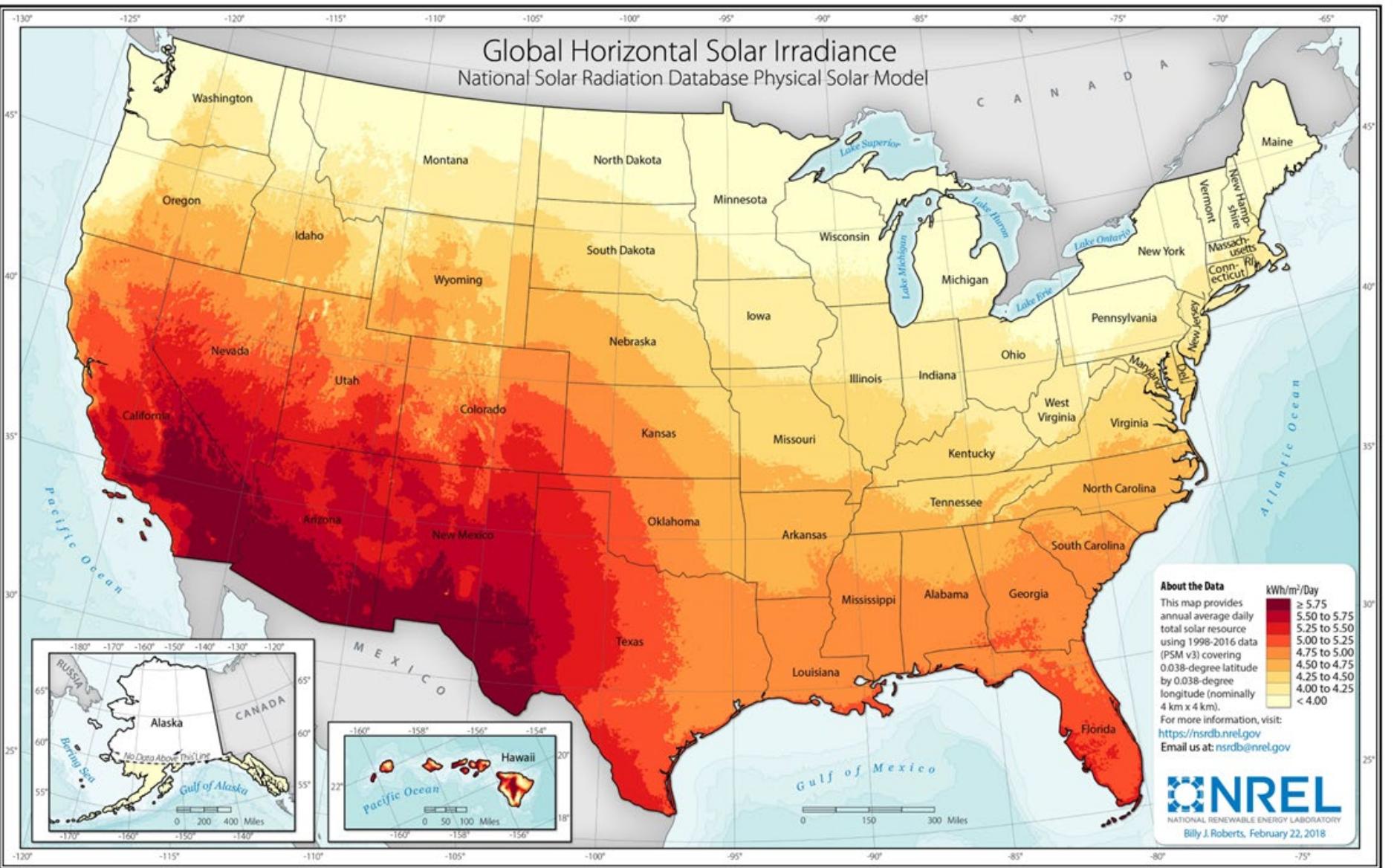
Office of Policy » Making Our Homes More Efficient: Clean Energy Tax Credits for Consumers

UPDATED JULY 2024

EQUIPMENT TYPE	TAX CREDIT AVAILABLE FOR 2023-2032 TAX YEARS
Home Clean Electricity Products	
Solar (electricity)	30% of cost
Fuel Cells	
Wind Turbine	
Battery Storage	

National Renewable Energy Solar Irradiance Map

This map measures the volume of solar energy (sunlight) across the United States. The darker the red shading, the more intense the sunlight. Conversely, pale areas receive less sunlight.



National Renewable Energy Solar Irradiance Map demonstrating highest levels of sunshine across the United States: <https://www.nrel.gov/gis/assets/images/solar-annual-ghi-2018-usa-scale-01.jpg>

Purchasing Solar Panels – more complicated than you might think:

Defining the expectations and motivation of the buyer
Reduce carbon footprint?
Lower energy costs?
Energy Independence?

Class members were challenged to identify their primary decision drivers. Primary interest for this cohort: Cost savings.
Many in the class wanted to know how long it would take to recoup their investment.

Class Format: Originally four (4) one-hour Lunch and Learn presentations. 5th class was added.

An expert panel finished the series in Class 4. We replicated the panel a month later via zoom so the class could finish asking their questions. This class allowed those with interest to learn in an environment where they were not solicited and no questions were off the table.

Installation of Solar Panels includes cables and mount.



Photo courtesy of Kyle White

Partners: Subject Matter Experts

Identify Subject Matter Experts (start with CFAES and OSU Ask for input from local experts and invite them to co-teach on their topics)

- Energy Consultants
- Energy Companies
- Solar Panel Customers

Addressing assumptions and frequently asked Questions about Solar Panels:

– Where do you start, how does weather impact solar panels, are they easily damaged, what is required to maintain solar panels, how do you dispose of solar panels, what if I live in a cloudy area or one that is highly shaded, will I have any electric bill, and so many more questions from consumers.

Class Data including Demographics

Registration Information	
# of Registrants	39
First time attending an Extension Program	20 (50%)
Demographics	
Race:	
Male	22
Female	11
Age:	
30-39	2
40-49	5
50-59	3
60 or older	24
Prefer not to answer	5

Image of Office of Extension Medina County with solar panels fully installed



Pictures courtesy of Kyle White

Creating relevant, thought provoking curriculum

Know your county.
Research the Topic

- Approach the presentation as if you are the customer
- Anticipate questions
- Interview and recruit subject matter experts

LESSON #1: Address Audience interest

Inform – In this Scenario main areas of interest: Expected payback, use of solar panels during a power outage.

Why? Consumer Solar panels supply energy for their owners and excess energy is shared back on the grid. A power outage indicates a problem with the lines which will prompt the energy company to olar panels usually are blocked from generating an electric current into the system, including the home, in the event of an electric outage. REASON: The current would back-feed into the grid and could injure or kill lines-people while they are repairing the lines.

- KEY TAKEAWAYS
- Going off-grid means you no longer receive electricity from your utility company.
 - Residential solar panel systems are almost always more cost-effective and reliable when connected to the grid.
 - Off-grid living works best for people with low electricity consumption or homes in remote locations with limited access to an electricity grid.
 - Renogy, WindyNation, and ECO-WORTHY all produce high-quality off-grid solar panel kits for generating your own off-grid power.
 - Installing an off-grid solar plus storage system can cost up to \$150,000 or more.

Reaching the target audience -- homeowners

How to reach an audience –
If not a zoom or on-line platform, consider what resources your target audience is most likely to frequent, such as:

- Libraries?
- Local Newspapers
- Locally generated newsletters
- Local Radio programs

Walker, E., & Marsh, J. (2024, June 4). *Off-grid solar: Costs, process, and best products in 2024*. EnergySage.
<https://www.energysage.com/solar/what-does-it-mean-to-go-off-the-grid/>

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