



Rails mount on the roof and solar panels mount on the rails

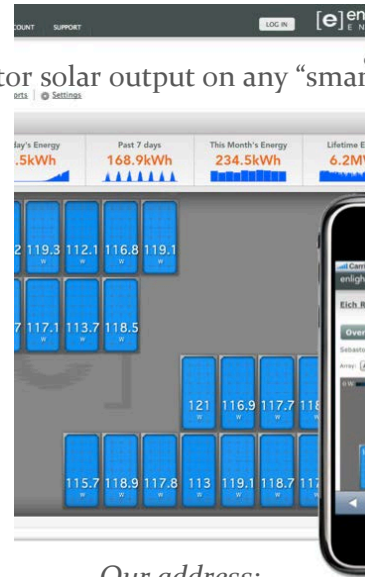


The Mircoinverter:
Only works when it “sees” the grid so it is safe! Converts the DC from the panel to household current.



Finished on the roof.
Zero maintenance.

Monitor solar output on any “smart” device



Our address:
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www.fhrec.org

Flint Hills Renewable Energy and Efficiency Co-op



FHREEC is a collective of volunteers who are dedicated to efficiency, and sustainable energy

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FAQ (& IAQ infrequently asked questions)

1. **What is PV?** PV is the abbreviation for Photovoltaic which refers to generating electricity with solar panels. Recent advancements in technology have made it possible for everybody to generate electricity.

2. **Could I put solar panels on my home?** The only obstacles are shade, local covenants, and money for the initial investment.

3. **How well do solar panels hold up to hail?** Golf ball size hail will bounce off. We know of a grapefruit size hail ball which destroyed a panel. Fortunately, it was insured with the house.

4. **How much does it cost?** An installation of 13 panels (325 watts) might cost approximately \$5300.00. There is currently a 30% tax credit which will slowly sunset starting Jan. 2020.

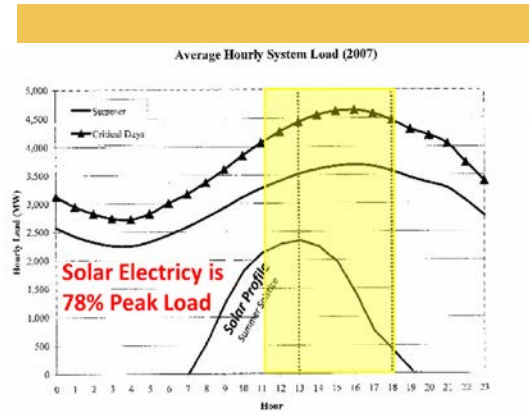
5. **How much electricity will be generated with 10 panels?** 10 panels might produce 1/2 of a typical household use. Energy efficiency is still the simplest way to cut electricity use.

6. **How big should I build my PV system?** Current net meter contracts encourage you to build a system no bigger than what you use.

7. **How heavy are the panels? Can my roof hold them?** Panels weigh about 48 lbs. each. Standard codes allow for panels without additional roof structure if there is only one layer of shingles.

8. **Can I get off the grid once I have solar panels?** No. The systems we install are tied to the grid. This makes them safe and easy.

9. **Will PV pay for itself?** Yes. How quickly depends on conditions and laws. The utility company could “tax” solar generators but that hasn’t happened yet. Currently the savings is equivalent to a 7% savings account.



Solar power helps in times of peak load (hot summer days) but currently 62% of Kansas power comes from fossil fuels

Solar panels produce clean energy and lasts for years!



GET INVOLVED: Are there like minded people near you? Can you start a co-op? We can help. We are all volunteers who want to promote renewable energy and reduce fossil fuel use.

FHREEC has installed over 50 systems and we hope we are just getting started.

10. **What does the FHREEC Co-Op do?** The Co-Op is comprised of volunteers who believe renewable energy is the way of the future. We promote energy efficiency in every way possible. We educate, guide, and help other members install PV systems by holding a “Sun Raising” which is modeled after a neighborhood “Barn Raising”. We buy in bulk, pass savings on, and markup the hardware 15%.

11. **What are the steps to getting PV?** This depends on where you live. Some places require the city code agency to approve your plan. Then you apply for a net meter with the utility company.

12. **How much will the utility company give me for the electricity which I sell back to them?** This depends on your arrangement with the utility company. Currently, with Westar Energy, they will give you the “avoided” costs which are the costs of coal. This amounts to 3 ½ cents per KH. You are billed about 10 ½ cents. Why such a difference? Write your congressman- arrangements like these can change.

13. **Will the utility company ever send me a check for the electricity which I sold them?** You must be dreaming. Westar’s current plan is that, every month, they credit your bill for what you sold them and subtract it from what you bought from them. If you overbuild your system, you are sending them electricity for free which they sell to your neighbor. But isn’t giving free power to the utility company preferred over burning fossil fuels?

14. **What is Peak Load and why is it so important in the big picture?** Peak load is the “rush hour” for electricity and all the infrastructure has to be sized to handle it. PV generators provide some help in this since hot sunny days usually translate to high solar output. Someday soon, batteries and solar will work together to put less strain on the utility grid.

15. **What is Tracking?** Fixed panels are 35% less efficient than panels which follow the sun. If space for panels is limited, tracking makes sense.