

Consider Solar Now!

A solar system is a great way to:

- ✓ Save money on power costs each month
- ✓ Reduce your environmental footprint
- ✓ Improves the resale value of your home
- ✓ A sound investment strategy often better than an annuity paying about 6%/year



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Some of the systems EcoLogical Energy Systems installed last year: www.yourecoenergy.com



10.2 kW system in Kingsport (some panels on house too)



7.1 kW system in Colonial Heights (black on black panels)



8.6 kW system in Kingsport



10.4 kW ground mount system in Abingdon



6.1 kW system in Abingdon

EcoLogical Energy Systems is locally owned and operated. They have been installing and supporting solar in the Tri-Cities and southwest VA since 2009. Over 155 systems installed, with over 8500 panels with system sizes ranging from 2.5kW to 200kW.

For a consultation contact Dave Hrivnak at dhrivnak@yourecoenergy.com or at 423-967-5278

There are several factors we take into consideration when deciding if solar will work for you, the size, the components and the cost.

Orientation: Ideal orientation is facing due south with a 30-degree slope. East and west can work, but with a 15% loss. North facing roofs while not ideal can work, but typically requires a good 25% more panels and is not as cost effective.
Space: How large the roof space or land space determines how many solar panels can be placed? Panels are large at 5 ½' to 6 ½' tall and about 40" wide.
Shade: Are there trees, steep hills or buildings that would shade the solar panels?
Kilowatt hours(kWh): Your current electric bill for the past year is used to determine how large of a system and much of your electric usage could be covered. We strongly encourage you to first lower your overall usage with insulation, energy star appliances, LED lights, heat pump water heaters, etc.
Roof condition: A solar system lasts over 30 years. So, if your current roof has less than 15 years of life left, we recommend you wait until you reroof. Also make sure you only have a single roofing layer on your roof.
Electric company: Different electric companies have different rules for solar. For example, AEP limits solar customers in TN to no more than 10kW of solar (14kW with batteries), in VA it is 25kW. TVA pays less than wholesale on exported power making batteries nearly a necessity.
Local Permits: Each locality has different rules, regulations, labeling and permitting fees we need to abide by and or work through.
Batteries: To be off the grid, you must have batteries to store the electricity you made. Installing batteries adds significantly to the cost, typically about \$13,000 for a starter home battery system of about 10kWh.
Other: A steep or high roof, rocky ground or long conduit runs adds to the costs.

Each system is custom engineered for your home, locality, utility and personal goals.

Most residential homes install between a 5KW to 12KW system for a cost that can run from \$16,500 to \$33,000 (\$12,200 - \$24,400 with tax credit), without batteries. Batteries add about \$13,000 or more to the cost. Solar systems, including batteries, are currently eligible for a federal tax refund of 26% in 2021 & 2022, then to 22% in 2023 and 0 in 2024, this can change.

Solar systems are measured as power on the roof. 1kW (kilowatt) of solar, about 3 panels, in good sun for an hour, makes a kWh (kilowatt hour). In this area we average 4 hours of good sun a day, thus 1kW of solar makes nearly 4kWh a day. A 5kW system produces about 7000 kWh/year and a 10kW system produces about 14,000kWh/year with good orientation.

A Berkley Lab Study - "Selling into the Sun: Price Premium Analysis of a Multi-State Dataset of Solar Homes" – found that buyers were willing to pay an average of about \$4 per watt of PV installed – across various eastern states, housing and PV markets, and home types. This equates to a premium of about \$16,000 for a 4 kW PV system.