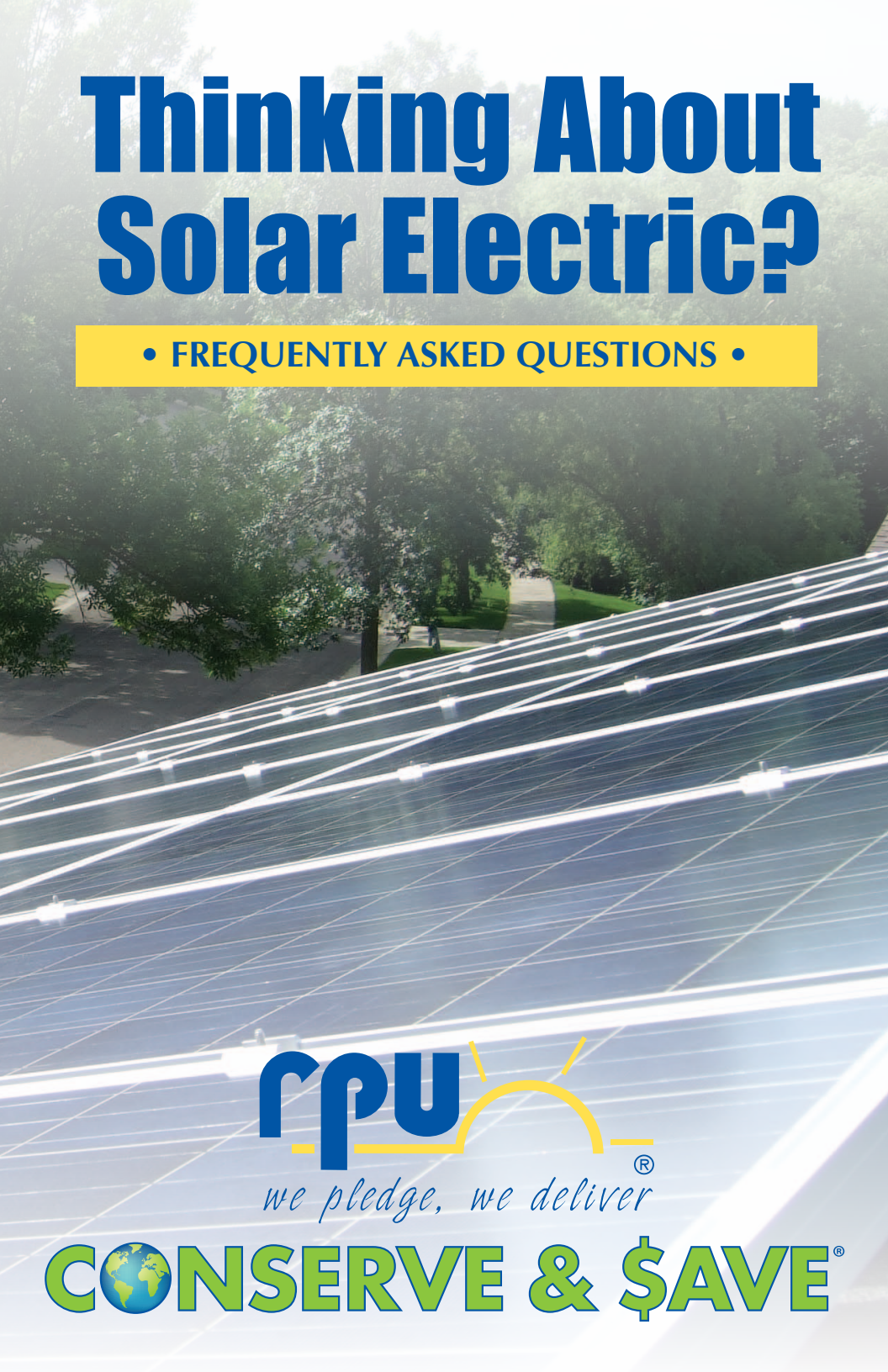
Thinking About Solar Electric?

• FREQUENTLY ASKED QUESTIONS •



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Solar Electric FAQ's

How does solar work?

When sunlight hits solar cells, they produce electric current. This is fed to an inverter, often in the basement or garage, to convert this current into AC current compatible with your house and the electric grid.

Does solar work in Minnesota?

Yes! Minnesota receives as much sunlight as parts of Texas and Florida and gets more sunlight than Germany, which has more solar panels installed than the United States.

What about snow?

Solar modules are dark and typically melt off quickly. Some people get plastic roof rakes to pull snow off their modules, but most just let nature take its course.

Where can I put solar?

You'll need some roof or ground space that ideally has full sun from 9 a.m. to 3 p.m. year round, even during the low winter sun. South facing is best, though southeast and southwest can work well too.

What if I have some trees or shading?

The rule of thumb is to have full sun from 9 a.m. to 3 p.m. year round. Even though trees don't have leaves on them in the winter, the shade from the branches will drastically reduce the amount of power the panels produce. *(Note: RPU's solar rebate requires 90% shade free or 85% with shade mitigation technology.)*

What should be done to my home before I install solar panels?

A great place to start is with an energy audit; one is required if you wish to get a solar rebate from RPU. RPU's Neighborhood Energy Challenge offers energy audits for only $50 after you attend a free energy efficiency workshop. (visit www.rpu.org for more information) The audit will identify the areas in your home where energy loss occurs. RPU can help you determine which efficiency improvements are recommended before installing solar panels.

What does it cost?

In the past few years, typical residential grid-tied systems have ranged from $10,000-$40,000 for system sizes 2-10 kW, before credits or rebates.

What kind of incentives are there for solar?

RPU has a solar electric rebate of $0.50 per watt, up to a cap of $5,000, for qualifying systems (visit www.rpu.org for more information). The federal tax credit is 30% in 2019, 26% in 2020, 22% in 2021, then it will be discontinued for residential but will remain 10% for commercial situations. Businesses and non-profits can get 100% non-debt financing through the PACE program and businesses may also use the Modified Accelerated Cost Recovery System (MACRS) accelerated depreciation. In rural areas, many projects have benefited from Rural Energy for America Program grants from the US Department of Agriculture (USDA).

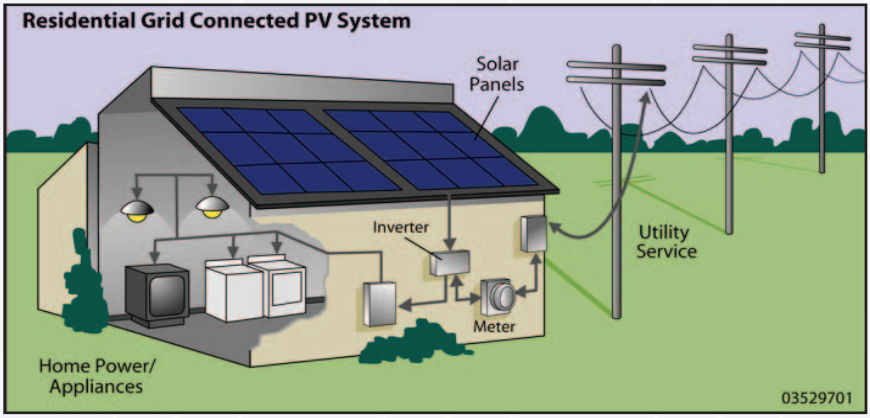
What is projected payback?

It's very dependent on size, type of system, complexities of your home's electrical system, and how quickly electric rates inflate. For most residential customers, the projected payback is in the 8-12 year range with an ROI in the 6-9% range, with a projected system lifetime of 30 years or more. Business and farm payback times are typically less due to MACRS depreciation available to businesses and economies of scale.

What is net metering?

Net Metering is a simple and intuitive option that allows customers to send excess energy from their solar energy system back to the grid during the day, and receive a 1:1 kilowatt-hour credit for that energy. When the sun goes down, they simply buy energy back from the grid. Net metering eliminates the expense and maintenance of electricity storage devices such as batteries.

Planning to install solar electric panels?
Contact RPU at 507.280.1500.



This diagram is for illustration purposes only.
See RPU's Interconnection Process & Requirements document for proper configuration.
Diagram courtesy of www.imaginehomessa.com

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FAQ Sources:
http://energy.gov/energysaver/articles/grid-connected-renewable-energy-systems
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