Product Details and Frequently Asked Questions

Ready Solar is changing the way Solar Electric (Photovoltaic) systems are installed. Ready Solar provides standardized residential solar electric systems that are pre-engineered and pre-assembled, making them the easiest and most cost-effective way to install solar. Ready Solar's Solar in a Box is available to General Contractors, Electrical Contractors, Homebuilders and other trades with basic electrical proficiency.

Product Details

Solar in a Box systems include:

- Fully modular solar units designed for rapid installation
- Patented pre-assembled frame and mounting brackets - no site built racking
- Solar modules pre-wired and grounded to NEC code
- Pre-installed micro-inverters - no string sizing, inverter installation, or DC wiring
- Complete systems arrive ready to install and connect to the load center
- Fast-track permit pack includes wiring diagram & simple checklist
- Installation guide and support
- Comprehensive warranty
- Module level, web based monitoring included

Frequently Asked Questions

How does a solar electric system work?
Solar electric, or photovoltaic (PV), systems generate electricity silently and without any moving parts. The systems consist of solar panels, which create direct current (DC) power from sunlight, and inverters, that convert direct current power to the alternating current (AC) power that matches the utility grid. A solar electric system sends power into a home by tying directly into its electrical system at the load center or a sub-panel, offsetting the amount of electricity purchased from the utility.

Is this for hot water?
No. A Solar in a Box system only produces electricity. Solar thermal systems heat water.

What is a grid-tied solar system?
A grid-tied solar system is connected to the utility grid via a home's electric system. With the approval of the electric utility, electricity will flow back and forth between the home and the grid.

What is net-metering?
Net-metering laws require utilities to credit homeowners for any excess power that is generated from solar on their homes. If the solar electric system is producing more power than the house is using (for example, on a sunny day when everyone is at work or school), the electric meter "spins backwards" and the excess power is sent into the grid for a credit on the next electric bill. At night, or whenever power is needed, the utility provides electricity. Net-metering laws vary by state.

Will a Solar in a Box system work if the utility grid power goes out?
If the grid power goes down, the utility requires that the system shut down. This is to protect line workers that may be attempting to repair the grid outage. The system will automatically shut down if power is lost, and it will automatically restart when grid power is restored.

Are batteries part of this system?
Batteries are not part of a Solar in a Box system. Grid-tied systems are tied to the utility and do not require battery storage. PV systems with batteries are very complicated and custom designed for each project. A seasoned PV professional is required to design, install, and maintain a battery based system. The batteries typically need to be replaced every 5-7 years. For emergency power backup, standard generators are typically a more environmentally friendly and cost effective option.

Do panels work in cloudy weather?
Yes, although they produce less electricity. Production estimates for solar electric systems typically take into account 30 year historic weather data from The National Renewable Energy Laboratory. This means that any losses due to weather are already factored in, usually within plus or minus 9% for any given year.

Do the panels need to face South?
Generally South produces optimal power. Systems facing Southeast and Southwest are also effective at generating power year round.

What is the effect of shade on a Solar in a Box system?
Ready Solar's unique design significantly reduces the impact that shade has on production. Traditional solar systems are dramatically impacted by shade on the panels - partial shade on one or two panels can bring down the production of those systems to almost zero. With a micro-inverter design, Solar in a Box allows all panels to function independently. This maximizes production under partially shaded conditions.

What will a Solar in a Box system look like on my home?
Ready Solar systems are designed to be aesthetically pleasing on a home. The patented framing system has a sleek beveled edge and is mounted nearly flush to the roof with a low profile. The systems resemble skylights on the roof.

How is Solar in a Box better than other solar systems?
For installers, the pre-assembled product makes design and installation simple and reduces the opportunities for errors that are inherent in traditional solar installations. For homeowners, Ready Solar systems provide increased production, are aesthetically superior due to the sleek framing system, and include a proactive web based monitoring system to ensure performance and satisfaction.

How much solar do I need?
The size of a solar electric system is determined by balancing the desired electric bill savings, available roof space, and homeowner's budget. All three factors help to determine the size of a system. The local weather patterns will also influence system production. Ready Solar provides an easy to use calculator to help determine the approximate system size based on geographic location and desired kWh savings.

What is a kiloWatt (kW) and what is a kiloWatt hour (kWh)?
A kiloWatt, or kW, is a power rating equal to 1000 Watts. Ten 100 Watt light bulbs have the same rating (10 x 100 = 1000). A kiloWatt hour, kWh, is the amount of power used when 1 kW of appliances are turned on for 1 hour. Ten 100 W light bulbs left on for 1 hour would consume 1 kWh of electricity. The electric utility charges per kWh used.

How much bill savings will a Solar in Box system provide?
The electric bill savings provided by a Ready Solar system will depend on the rate that the homeowner is currently paying for electricity. (This is the total electric bill divided by the number of kWh used in a month.) The approximate number of annual kWh that a Ready Solar system will provide multiplied by the electricity billing rate is about how much savings will be provided in the first year. Here is an example:

Total current monthly electric bill:	$100
KiloWatt hours for month:	700 kWh
Electric billing rate:	$100 ÷ 700 kWh = 14¢ per kWh
On an average month, a 2 kW system can produce:	300 kWh
Monthly electric bill savings:	300 x 14¢ = $42 per month

Electric bill savings will increase every year as electric rates go up!

How much value will a solar electric system add to a home?
According to The Home Appraisal Journal, an energy efficiency improvement like solar will add 20x the first year savings to the value of the home. A solar equipped home will have lower operating costs than a non-solar home.

When will the system "pay back"?
The electric bill savings provided by a system will typically pay for the system in 8-12 years, depending on local rebates, incentives, and electric rates. When factoring in even a modest increase in the price of electricity, systems typically pay back 2-3 times over their 25 plus year lifetime.

What rebates and incentives are available?
The federal government has a new tax credit that will run from January 1, 2009 to December 31, 2017 and will give a tax rebate of 30% of the net system price. Many electric utilities have rebate or buy down programs to reduce the upfront costs of solar. Some state governments pay out rebates directly or give personal tax credits for solar purchases. Rebates and incentives vary by state and utility. Visit www.dsireusa.org for a complete listing of all incentives and rebates by state.

What types of roofs can Solar in a Box be installed on?
Options include waterproof systems for composition shingle, tile, and metal roofs. A ground mount option is also available.

Is there a warranty on the system?
Solar in a Box comes with a comprehensive warranty: 25 year power production warranty on solar modules, 15 year warranty on Ready Solar frame components, and an industry leading 15 year warranty on the micro-inverters.

What is the lifespan of the system?
The solar modules, which make up 50% of the system cost will likely produce power for more than 30 years.

What about extreme weather conditions, like wind and hail?
Solar in a Box systems are built and tested to UL-standards to withstand 125-mph winds and 1" diameter hail at 50 mph.

How long will it take for snow to clear off the panels?
The glass surface of the panels is slick and dark in color. When the sun comes out, the panels will heat up and snow should shed off of the panels quickly. In very high snowfall conditions, it may be necessary to manually clear the snow.

Will the modules require cleaning periodically?
Panels do not typically require cleaning in areas with periodic rainfall. If necessary, a hose stream is usually sufficient to clean the panels. (The panels should be cleaned early in the day, before they get hot.)

What are the environmental benefits of solar energy?
Traditional electric grid electricity is primarily generated by burning coal (49%) or natural gas (22%), or at nuclear facilities (19%). The clean power from a 2 kW Ready Solar system will prevent the following pollutants from being released into the atmosphere:

- 89,000 lbs. of CO_2, the leading global warming gas.
- 1,000 lbs. of NO_x and SO_2 which cause smog and acid rain.
- 18 lbs. of fine particulates, which are linked to respiratory illness.

These benefits are the equivalent of:

- Planting .8 acres of trees.
- Offsetting 114,000 miles driven by the average car.

What are the other "big picture" benefits of solar energy?

- Solar generated electricity is completely renewable. The only fuel source is sunlight. Fossil fuels like coal and natural gas are finite.
- By producing electricity where it is needed (called distributed generation), solar reduces the strain on the existing electrical grid.
- As electric and plug-in hybrid vehicles become more available, solar electricity is a local source of energy that reduces the dependence on foreign sources of oil.

Who do I call if I have questions?
Call your local installer or Ready Solar customer support at 1-877-81-READY (1-877-817-3239).