

# *SolarWorld Government Solutions*

Powering government and military for more than 37 years





## Welcome to SolarWorld

America's Authority on Solar™—for more than 38 years.

With roots in the United States back to 1975, SolarWorld continues to serve as a leading visionary for the modern solar industry. Creating and delivering clean, cost-effective solar power is our top priority—not a side project to other business interests.

### **Solar is what we do, and we do it better than anyone else.**

Today, at our manufacturing facility in Hillsboro, Oregon, we sustainably produce solar cells and assemble solar panels. Our state-of-the-art facility is fully automated, boasts 500 megawatts of cell capacity and 350 of panel capacity, and embodies decades of proven solar experience.

At the same time, our sales, marketing, customer service and engineering teams are dedicated to supporting the needs of our customers. Together, we innovate and champion solar to homes and business owners nationwide.

### **At SolarWorld, we believe.**

**We believe** that all solar is not created equal.

**We believe** in manufacturing in the markets we serve.

**We believe** in leading a sustainable future.

**We believe** that a solar world is a better world.







## America's solar manufacturer

For more than 38 years, SolarWorld has stood alone as the largest solar manufacturer in the U.S. Every day, we work to create American jobs, support the communities we serve, make the Earth a better place and provide relief from rising energy costs.

In 2013 alone, SolarWorld produced **more crystalline silicon solar cells than all other U.S. solar companies combined**. In fact, our factory in Oregon has the capacity to produce a solar panel every 23 seconds.

- » Since 2010, SolarWorld has purchased nearly **\$1 billion of goods and services**, including equipment, supplies, services, parts and raw materials from 47 states and DC.
- » We employ about **700 Americans** in our U.S. manufacturing headquarters in Hillsboro, Oregon.

- » We are **financially strong**, building on more than 38 years of proven industry leadership and success to ensure a strong future.
- » An **innovator and leader**, SolarWorld is responsible for many of the solar industry's most important firsts, as shown below:

### Industry Firsts



Founded in U.S. as Solar Technology International

1975



First to produce 1 MW in a year

1980



First 1 MW grid-tied system & first UL listing on solar panels

1982



First 25-year stepped warranty

1997



First plus-sorted solar modules

2008



First 25-year linear warranty

2009

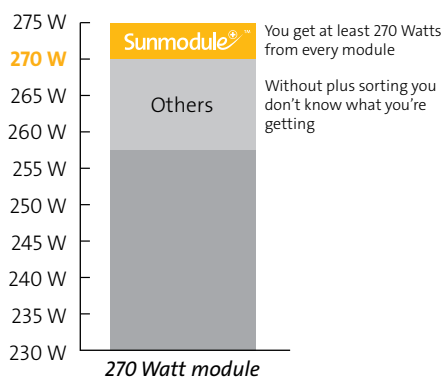


## Industry-leading quality

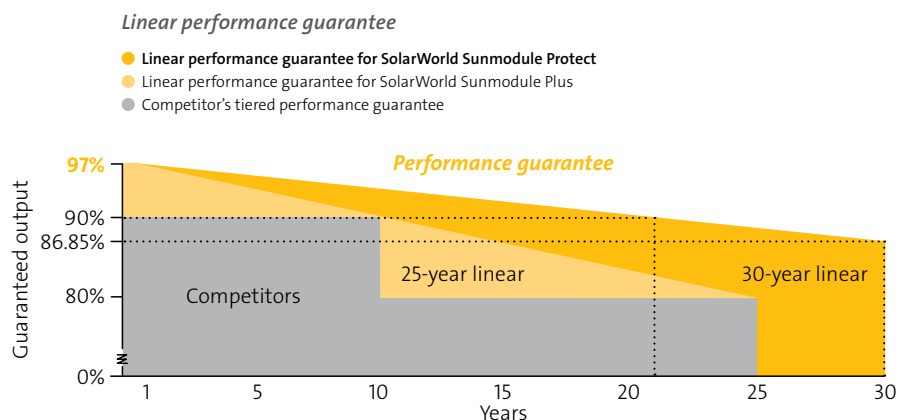
SolarWorld's Sunmodule solar panels are recognized as the industry standard in quality. We stringently control the entire manufacturing process, ensuring high performance in each and every panel.

- » Every Sunmodule solar panel undergoes quality checks during every second of the manufacturing process, **guaranteeing exceptional power performance for at least the next 25 years.**
- » We have **never had a product recalled** in our entire history.
- » We flash-test then plus-sort our solar panels, which is a fancy way of saying we do everything we can to **ensure the greatest energy yield**, delivering more power to you.
- » SolarWorld has been **ISO 9001 certified** for more than 10 years, which means we've been officially recognized for our quality management for a long time now.

### Plus-Sorting



### 25-Year and 30-Year Linear Warranties







## *A passion for the environment, a commitment to community*

Our commitment to sustainability goes deeper than our products. It starts with how we manufacture our products, how we treat our employees and what materials we choose, then extends outward to the communities we serve.

We believe that sustainability begins on the inside. We are proud to perform award-winning, eco-friendly practices all the way through our production process, from raw material procurement to the packaging of our finished products.

- » SolarWorld is a **Green Brands certificate winner** for 2012/2013. The Green Brands certificate is presented exclusively to brands with a **proven track record of environmentally sustainable actions** both inside and outside the company.
- » We have been **certified for our environmental management** since 2010 (ISO 14001).
- » We participate in the Carbon Disclosure Project with our goal to **reduce our carbon emissions by 8% p.a.** in CO<sub>2</sub>e/Wp.
- » We have a commitment to the Global Reporting Initiative.

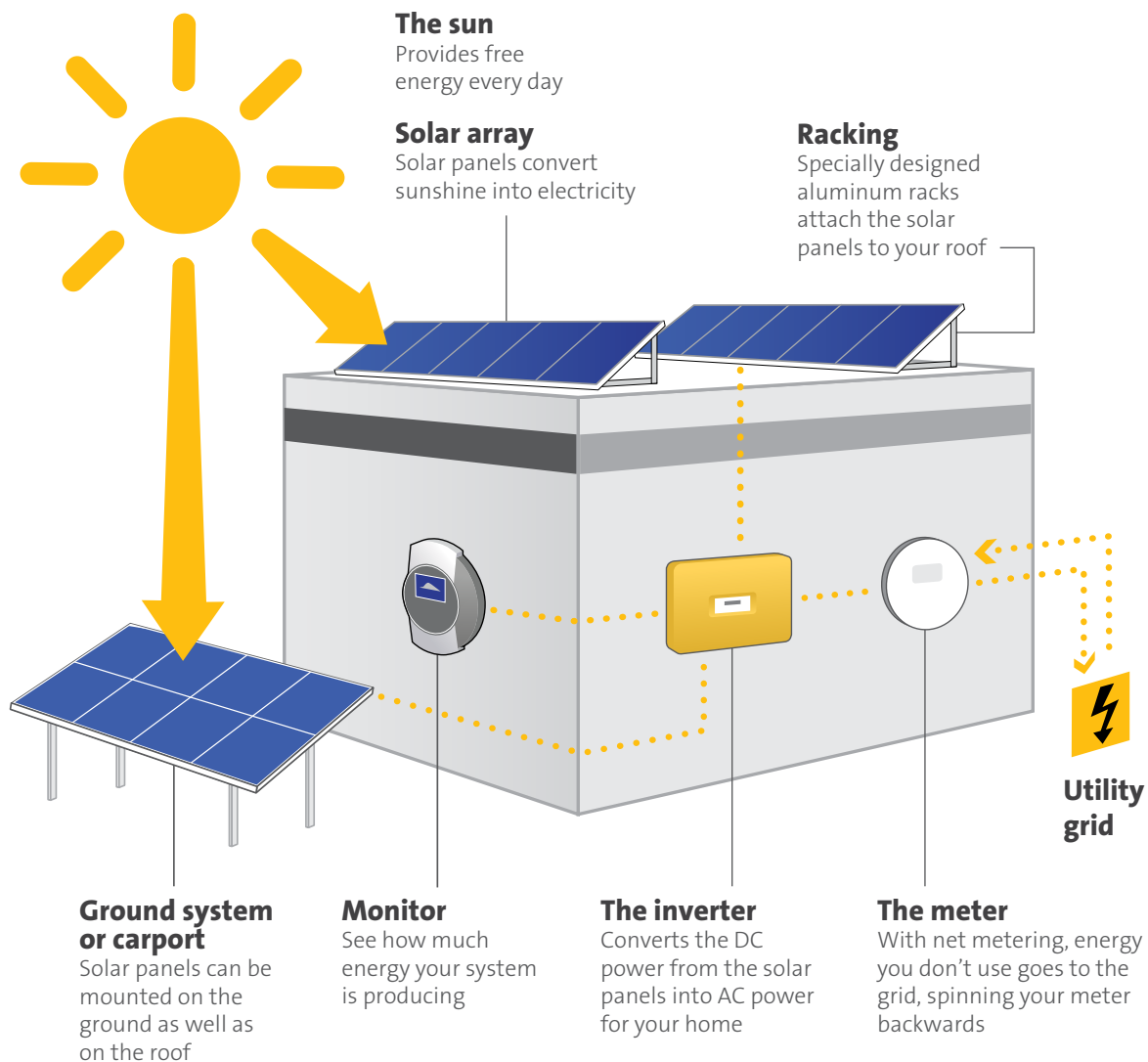
At the same time, we strive to give back to society through community programs, including Solar2Schools and Solar2World.

- » Our **Solar2Schools** initiative brings solar to our youth, giving them a firsthand opportunity to learn about renewable energies.
- » Our **Solar2World** initiative brings solar to those who otherwise may be without electricity
- » Our partnership with **Water Missions International** brings clean, safe water to remote villages throughout the world.

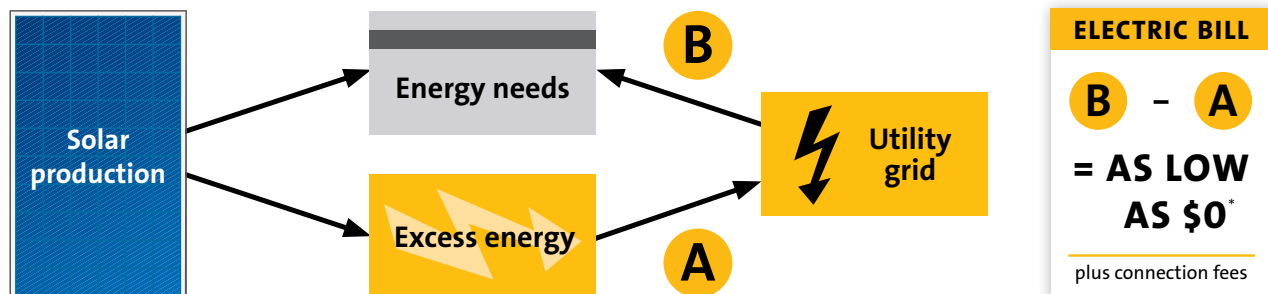


**Solar2Schools**  
**Solar2World**

## How solar works



## Net metering



\* Not all systems achieve 100% energy bill reduction.

City of Powell • Ohio • 42 kW

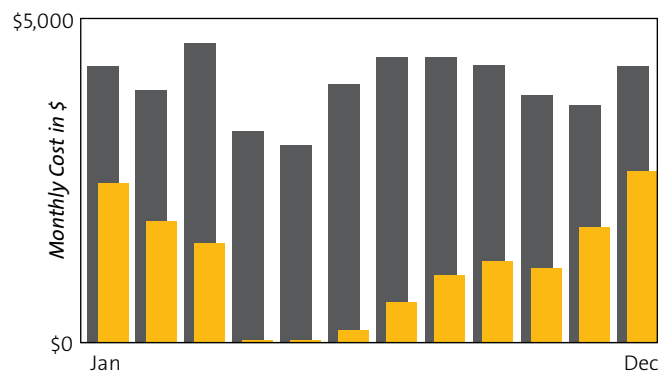
## Making tax dollars go further toward improving your community

It's time to spend less on operating expenses and more on programs that will better your community. It's also time we all contribute to American energy independence by reducing the need for foreign and nonrenewable energy resources.

- » Solar significantly reduces your energy costs.
- » A 25-year warranty means your investment is protected.
- » Solar protects your organization from escalating energy bills and costly peak demand rates.
- » Solar systems contain no moving parts and requires minimal operation and maintenance (O&M).
- » Solar helps your organization meet its mandated greenhouse gas emission and renewable energy targets.
- » Financing options are available to help avoid upfront costs.
- » Show taxpayers that you care about creating a sustainable future.
- » With optional battery backup, you can ensure continuous operation even when the grid is down.

### Monthly electricity bill savings

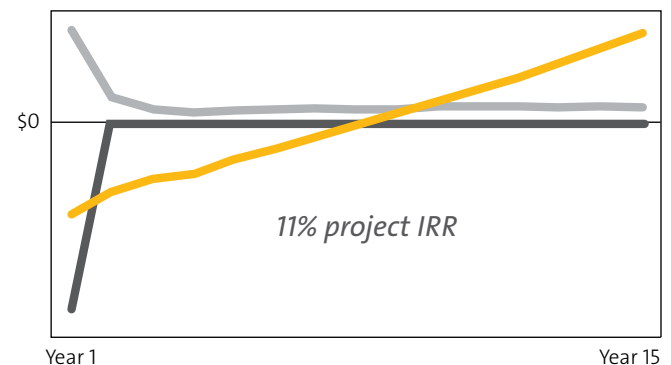
- Before solar
- With solar bill reduced by 72%



Charts are samples from real installations. Your results may vary.

### Internal rate of return (IRR)

- Cash outflow
- Cash inflow
- Cumulative cash flow







## *All solar panel manufacturers are not created equal*

At first glance, solar panels may all look the same, but they are not created equal. Maximize your return on investment by examining key factors to ensure worry-free performance for at least the next 25 years.

### *Choose yield over efficiency*

Many manufacturers are touting efficiency (rated power per square foot) as the most important feature of a solar panel. However, focusing only on efficiency can reduce its long-term performance, yielding less energy over the life of your system. These “efficient” panels often crowd the solar cells together and up against the frame. This can lead to shading from mounting components, excess accumulation of dirt over the cells, and reduced potential for light capture and energy production.

The goal is to pay for decades of energy produced in a natural environment. So be sure to judge your purchase decision on real-life performance—not how much power a panel can produce in optimal laboratory conditions.

### *Choose a proven technology*

Two main types of solar panels are currently available on the market: crystalline silicon, like SolarWorld panels, and thin-film. Crystalline silicon panels have a significantly higher energy yield than thin-film panels using the same area. Unlike thin-film, crystalline solar panels have demonstrated superior real-life performance over three decades, making them the preferred technology of choice for developers, utilities, government and business.

### *Choose an experienced manufacturer*

There are hundreds of young start-up solar companies today, and it's tough to know which to do business with. Given that a solar module can last for decades, be sure to select a manufacturer you are confident will be around to honor warranties as well as service commitments.





## Sunmodule<sup>+</sup>

SolarWorld's Sunmodule solar panels are designed, tested, and manufactured with attention to every detail so you benefit from maximum energy output.

### *Designed for the real world*

In the real world, it rains, it snows and the wind blows. Our panel design is scientifically configured through testing to **increase performance during decades of exposure to real-world conditions**. This is exactly why our solar panels are actively converting sunlight to energy for government organizations all over the world—local, state and federal governments as well as all branches of the military.

### *Made from the highest quality materials*

Solar cells are the engines that power solar panels, which is why we don't trust anyone else to make them for us. To guarantee peak performance and reliability, we begin by sourcing our own raw materials—and very few suppliers are able to meet our strict standards—then **we manufacture our own solar cells right here in the U.S.** This means our solar panels comply with all ARRA and Buy American Act requirements.

Call us control freaks, but our proprietary components and processes consistently exceed industry standards. And to be true to our belief in American manufacturing, we source as many of these components in the U.S. as we can.

### *A promise you can believe in*

Many companies claim to have higher power solar panels, yet they are rarely available to the average homeowner. With the capacity to produce more than 500 MWs of our high-powered cells and assemble more than 350 MWs of our high-quality panels, **you can trust that we will successfully deliver on your ARRA and BAA compliant projects.**





Semitropic Water District • Wasco, CA



Apra Harbor Naval Base • Guam



Naval Facilities Engineering Command • Pearl Harbor, HI



Cincinnati Zoo

## *Harnessing maximum power from the sun*

Choosing Sunmodule panels is a great first step to creating a powerful solar system. Now the system needs to be placed in the right location to unleash its full potential.

A thorough site assessment helps determine how to best utilize your available space—including empty roofs, open fields, parking lots or any combination.

### *Rooftop systems*

Transform your empty rooftop into a solar powerhouse. In addition to lowering your electrical bill, rooftop solar systems cool your buildings by blocking the sun's heat, reducing the need for air conditioning.

#### *Ballasted rooftop*

Ideal for flat rooftops without significant weight-bearing issues, a ballasted solar system angles the panels for optimal solar production with no roof penetration required.

#### *Penetrated rooftop*

If your roof is sloped, a penetrated roof system is your best option. A properly installed penetrated rooftop system will maintain all of your roof's pre-solar integrity while optimizing solar performance.

### *Ground systems*

Convert open land and parking lots into power generators with a ground-mounted solar system.

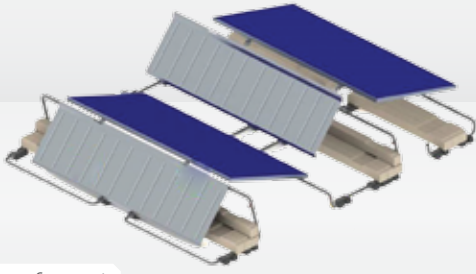
#### *Open land ground mount*

Utilize open square footage to generate power for nearby buildings and equipment. A ground mount with battery storage can bring power to areas that were previously "off the grid." Add a tracker that follows the sun throughout the day to increase production.

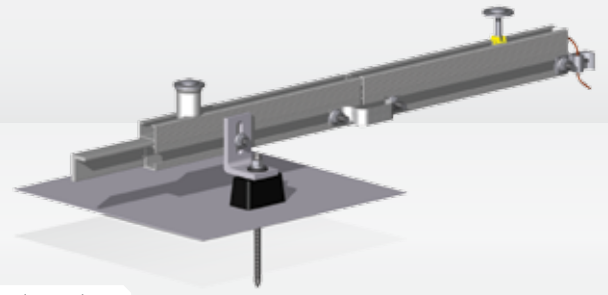
#### *Carports*

A solar shading structure provides a dual benefit of energy generation and vehicle-cooling shade. Add optional charging stations for a fleet of electric vehicles. The solar system will help offset new EV energy loads.





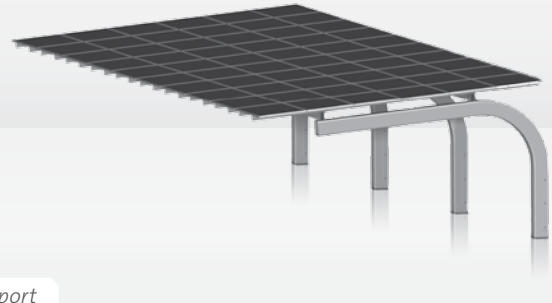
Low-slope roof mount



Sunfix plus racking



Sunfix ground mount



Carport

## Selecting the highest quality components

SolarWorld is more than just a solar panel manufacturer. Our in-house product engineers develop SolarWorld Sunfix mounting solutions to maximize power performance and meet your unique needs. We also partner with other solar-industry leaders – like SMA, Power-One, Enphase and PanelClaw – to provide our customers best-in-class solar components from racking to inverters and monitoring.

### *PanelClaw low-slope roof mount*

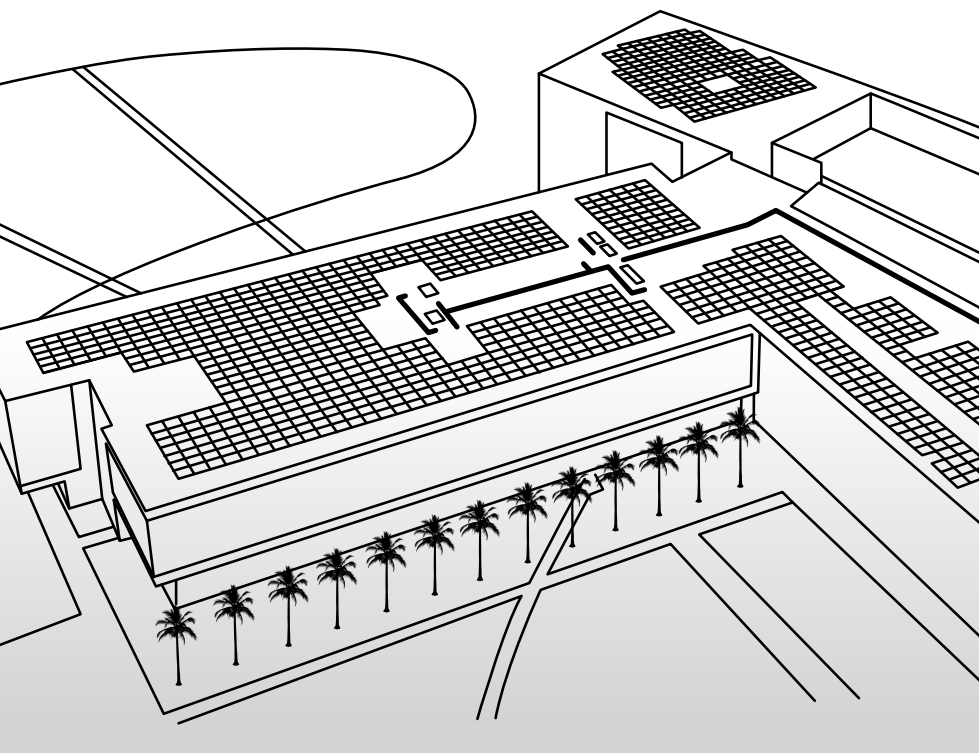
SolarWorld Sunmodule solar panels paired with American-made PanelClaw Kodiak Bear® ballasted mounting product create an ideal solution for installing solar on low-slope commercial rooftops. Extensive factory pre-assembly and only three major components lend to faster installation with fewer parts. An innovative ballast block simplifies design and reduces overall system cost.

### *SolarWorld Sunfix<sup>®</sup> ground mount*

SolarWorld's American-made Sunfix ground mount is the ideal solution for installing Sunmodule panels on almost any landscape, and requires minimal grading and land preparation. Following the contours of the land, the Sunfix ground mount creates a beautiful and productive solar system. Multiple options for securing to the ground are available depending on the specific needs of your location.

### *SolarWorld Sunfix<sup>®</sup> plus racking*

Designed by SolarWorld for easy installation and maximum solar performance, American-made Sunfix plus ensures your system will remain securely in place during its entire life. Sunfix plus can be used on flat or angled rooftops, and is secured by bolting into structural beams while maintaining the integrity of your roof. A properly installed system is guaranteed to keep your roof as sound as it was prior to installation.



## *Designing and engineering your system*

Once you have determined the location of your system, we will create a design that best meets your financial and environmental objectives. The system design analysis will help crystallize your solar vision, including the many benefits your organization will soon enjoy.

## High-performance designs

By working closely with SolarWorld's design team, your system is guaranteed to be optimized for maximum performance and financial return. With decades of experience developing installations of all sizes throughout the Americas, you can trust that we will not only create a solution that fits your needs, but your system will be built with compatible high-quality components as well.

We also have the expert capabilities to handle all of the engineering, procurement and construction phases of a solar system. In fact, we have been succeeding in these areas longer than most solar companies have been in business. Along with our partners, we continue to be trusted by the nation's largest property owners, the nation's largest utilities, and even the headquarters of one of the world's largest institutions.



Kimco Realty



L.A. Dept. of Water & Power



The Vatican



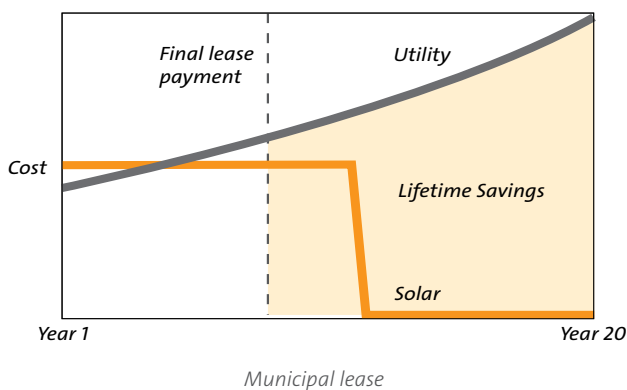
## Purchasing options

At SolarWorld, we believe in making solar affordable to maximize your returns. SolarWorld and our Commercial Installer Network offer a variety of easy and convenient options to procure solar. We offer multiple Financing Solutions that require no upfront capital investment. These financing structures usually provide immediate savings, and in some cases allow you to benefit from otherwise unavailable Federal tax incentives.

### Municipal Lease

Municipal Leases provide an opportunity for government agencies to avoid large lump-sum cash outlays and spread the cost of solar over many years, at very favorable terms.

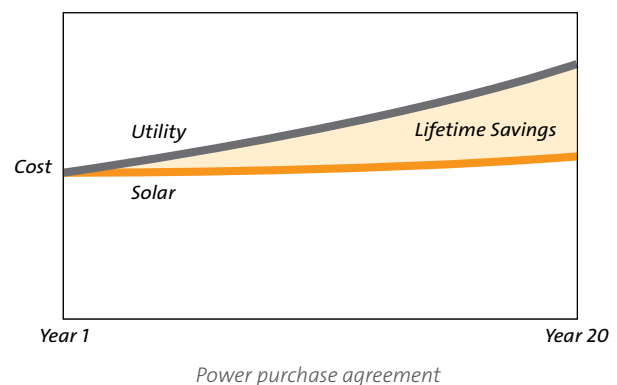
- » No initial investment required.
- » Minimize payments with low interest rates and long terms.



### Power Purchase Agreements

Power Purchase Agreements allow your organization to benefit from federal tax incentives, go solar with no capital outlay, and potentially realize immediate savings.

- » Typically save money from Day 1.
- » Pay only for the power generated by your system.



SolarWorld and its Commercial Installer Network are committed to providing the government exactly what it needs through convenient and easy-to-use Cooperative Agreement(s) and GSA Federal Supply Schedules.



SolarWorld is an approved vendor under HGACBuy, a 35-year-old cooperative-purchasing program. HGACBuy selects highly technical products that require detailed technical specifications and procurement through a competitive process and provides a pre-negotiated contract for its 8,000 members across 47 states. HGACBuy makes it easier and faster for state, county and municipal governments to go solar.

### SolarWorld is listed on the U.S. government's roster of preapproved solar suppliers

Now Federal entities can access SolarWorld solar systems and services and take advantage of the prenegotiated terms and pricing contracted through the General Services Administration (GSA).

Access SolarWorld contract information on [gsaadvantage.gov](https://gsaadvantage.gov) in the GSA Schedules List:

Contract Number: GS-21F-131AA





## *Installing your system*

SolarWorld solar systems have an expected lifespan of at least 25 years, which means proper installation is critical. When you choose a SolarWorld-backed installer, you know they've been properly vetted to complete a quality installation.

## **National Installer Network**

SolarWorld partners with the best and most experienced installers to ensure the highest quality installations. Our network spans the Americas to ensure a worry-free install wherever you need it.

### *Experience*

Our installation partners are among the most professional and experienced in the industry. Combined with our extensive history of proven solar success, rest assured your system will be optimally installed to last.

### *Factory trained & audited*

Choosing an installation partner is a job we take seriously. The SolarWorld Authorized Installer program involves a thorough review of each contractor's business and

installation practices. Partners are factory-trained in safety and best installation practices, as well as routinely audited, to ensure they meet and exceed our high standards.

### *Professional business practices*

SolarWorld Authorized Installers also exercise professional business practices, and are required to undergo background checks and maintain positive customer reviews.







*Denver Federal Center • Denver, Colorado • 3.0 MW*

## Government facilities

Among the most notable government facilities powered by SolarWorld systems are:

- » The first solar system on a state capitol
- » The first municipal & largest solar installation of any type in the state of West Virginia
- » The largest federal installation in the Virgin Islands



*Oregon State Capitol • Salem, Oregon • 8 kW*



*Morgan County Courthouse • Berkeley Springs, West Virginia • 25 kW*



*St. Thomas Courthouse • St. Thomas, U.S. Virgin Islands • 7.6 kW*



*American Samoa Public Works • American Samoa • 56 kW*



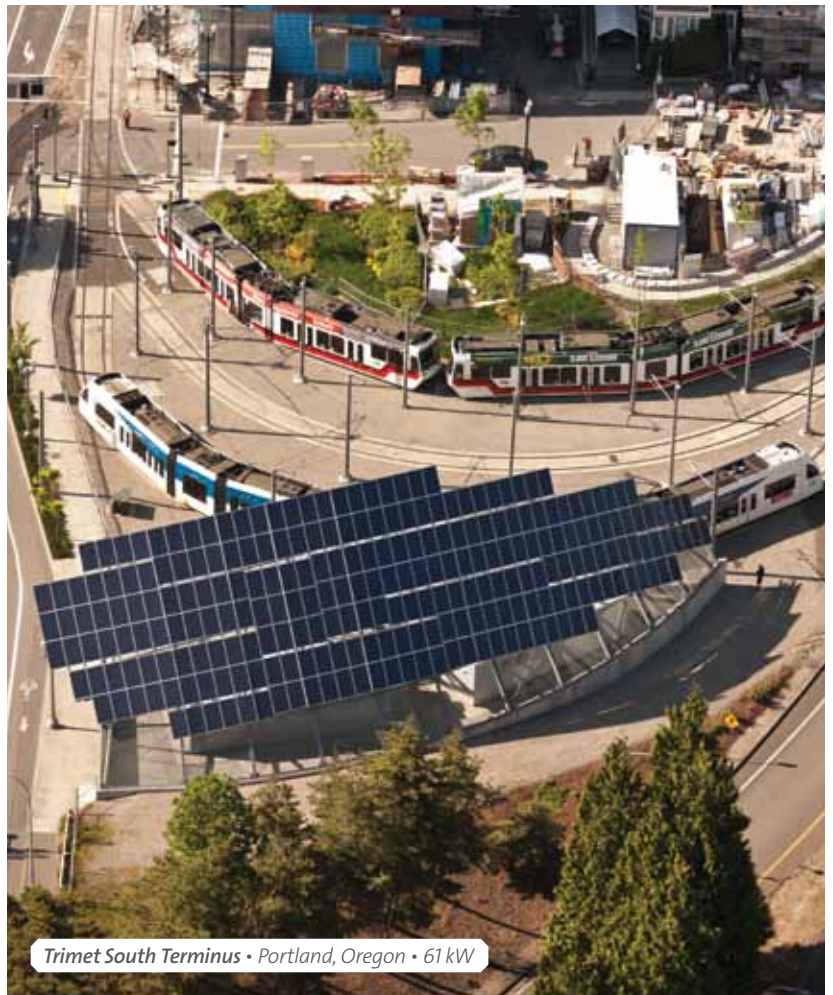
## Public sector services

A solar system can save thousands that can be better utilized protecting and serving your community. A few government services that are currently saving with SolarWorld panels are:

- » The greenest firehouse in the world
- » The largest solar system in a national park
- » The largest solar highway project in the U.S.



LA Metro Transit Authority • Los Angeles, California • 1.0 MW



Trimet South Terminus • Portland, Oregon • 61 kW



Eastside Fire & Rescue • Issaquah, Washington • 30 kW



Oregon DOT Solar Highway • Aurora, Oregon • 1.8 MW



El Portal Administrative Complex • Yosemite, California • 672 kW





*Middleton High School • Tampa, Florida • 51 kW*

## *Education*

In addition to saving thousands on operating costs, solar installations on schools serve as great educational tools, giving students firsthand experience with a functioning renewable energy system. That's why everyone from a small-town school in the state with the lowest electricity rates (Genesee School) to the second-largest university in the U.S. (UCF) have chosen SolarWorld.



*Genesee School • Genesee, Idaho • 48 kW*



*University of Illinois • Chicago, Illinois • 51 kW*



*University of Central Florida • Orlando, Florida • 108 kW*



## Military

To ensure our nation's safety, we need to secure our military's energy supply. With SolarWorld, military facilities everywhere can remain powered even when the grid is down. As the solar manufacturer that offers the largest selection of ARRA & BAA compliant modules, there's no better choice for all branches of the military than SolarWorld.







*Buckley Air Force Base • Aurora, Colorado • 2.1 MW*



*Marine Camp Lejeune • North Carolina • 5.4 MW*



*29 Palms Marine Camp • California • 470 kW*



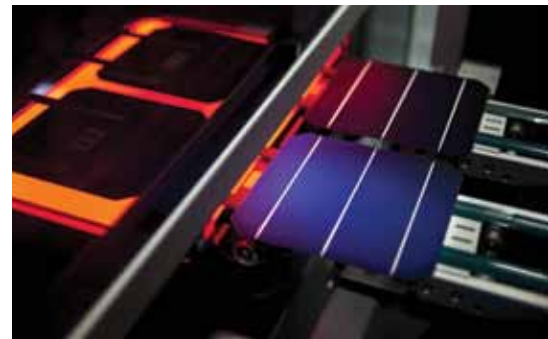
*Fort Carson • Colorado • 300 kW*



## America's Authority on Solar™



SolarWorld factory – Hillsboro, Oregon



Yosemite National Park • 672 kW



Pearl Harbor • 2.4 MW



Cincinnati Zoo • 1.6 MW



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