

**1. Target Keyword:** Ways to use your Solar Savings  
**Page Title:** Ways to use your Solar Savings

In 2011, the average annual electricity consumption for homeowners in the U.S. was 11,280 kWh. The [EIA](#) predicts that by 2040, world energy consumption will increase by 56%. As energy prices spike, more people are relying on solar panel systems, which have a life span of 30-40 years. Designed for your particular needs, this ingenious invention requires minimal maintenance and because the power source of the sun is free, you can find many ways to use your solar savings.

Solar panels produce approximately 50% of the home's electricity, enabling you to cut your energy bills in half! This cost effective option will have a major impact on your life and you will soon find yourself with extra wads of cash in your purse. So what do you intend on doing with the extra money? Here are five great ways to use your solar savings and enhance your quality of life:

1. **College fund** - If you are a proud parent you should consider starting a college fund with the solar energy savings. This money can help your son or daughter to achieve the desired qualifications for the job of their dreams. College funds can be used to gain the highest form of tuition in public or private schools. With private schools costing as much as \$36,993 annually, it's safe to say that solar panels could change your life. Savings of just \$100 a month could harvest a significant sum by the time your child turns 18.
2. **Home improvements** - Want to increase the value of your home? Maybe you just want to make the living experience more enjoyable? If so, consider home improvements as one of the ways to use your solar savings. Types of home improvements include exterior landscaping, plumbing, repairs, brickwork, extensions and more. Upgrading your home with energy-efficient appliances and insulation could help you to save even more money!
3. **Vacation** - Have you always wanted to travel overseas to explore new surroundings and visit family? If so, use your savings to buy a flight and a hotel. Vacations are important for your physical and mental health. Additionally, vacations are proven to cultivate family/friend relationships. Exposure to new surroundings will relieve stress, stimulate your senses and help you to enjoy life. Taking a break from the tedium of your job will also give the body time to replenish and repair itself.
4. **New car** - Investing in a new car is one of the best ways to use your solar savings. Why, you ask? Well, the newer the vehicle, the more eco-friendly it will be. New automobiles tend to be more reliable, so you can show off your new wheels and feel confident that it won't need repairs or services for months, or years to come.
5. **Donate to charity** - Why not do a good deed and donate funds to the charity of your choice? This is a great way to give something back to the

local community and if you purchase items and donate, you could benefit from a tax deduction. Donations will promote well being and could change someone's life.

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**2. Target Keyword:** Celebrities using Solar energy

**Page Title:** Celebrities Gone Solar!

Are you eager to slash your energy bills in half? If so, consider solar panel installation! The renewable energy trend is quickly sweeping the globe and there's no wonder why. When you go solar you can benefit from cheaper bills, zero pollution and minimal maintenance. Rooftop power is an effective way of supplying energy to large communities and now there are many celebrities using solar energy!

Solar systems are not just about saving money, because they offer a plethora of environmental benefits. Reduced pollution, no effect on the landscape, no effect on climate and decreased battery needs are just a few reasons to jump on the bandwagon. The following five celebrities using solar energy are supporters of wind energy, alternative fuels and solar power:

1. **Sir Richard Branson** - He may be a billionaire, but Sir Richard Branson is a long-time eco activist. He has made many investments over the years to save the planet, many of which are targeted towards renewable energy and climate change. At the beginning of 2012 he was part of the Climate Reality Project in Antarctica. The entrepreneur is committed to performing deeper research in technology to reenergize world economies. His aim is to find lasting global solutions, and solar panels are just one of them.
2. **Jason Mraz** - This musician is a big enthusiast when it comes to caring for the planet. Not only does he maintain a vegan diet but he also makes environmentally conscious decisions. He spoke publicly about the reasons why people should be reducing their carbon footprint in 2010. His home runs entirely on solar energy, making him one of the most influential celebrities using solar energy.
3. **Pierce Brosnan** - Former Bond star Pierce Brosnan is very serious about protecting the planet we live on. Named as a "dedicated environmental activist" on the Environmental Hall of Fame, he is not shy about expressing his devotion to solar energy. Brosnan and his wife have made donations of over \$1 million to a number of environmental projects. What's more, his mansion nestled into the Malibu landscape is designed with a plethora of eco-friendly features. These include on-site water recycling, a

custom-built climate-controlled lighting system, insulated windows, recycled wood flooring and low-flow toilets.

4. **Ed Begley, Jr.** - This American actor and environmentalist lives a very green lifestyle in Hollywood. He drives an electric car and has even designed a line of eco-friendly cleaning products! Ed Begley, Jr. supports renewable energy and he urged Facebook to stop using coal energy, which is dangerous and harmful to the atmosphere. His efforts were also felt when he helped out with the “Beyond Oil” campaign.
5. **Woody Harrelson** - This man is famous for two reasons - he is a successful movie star and a dedicated environmentalist. Woody is a long-time vegan and he supports biodiesel, solar power and other types of alternative energy sources. His home is snuggled onto a working farm in Maui and in the past, he has donated money to the Sustainable Biodiesel Alliance. He also takes cloth bags with him each time he visits the supermarket!

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**3. Target Keyword:** residential solar installations fund

**Page Title:** The Paramount Equity Fund

You have probably heard the buzz about solar energy, right? If not, you should know that this type of renewable energy is contributing to saving the planet. The growth of solar panels in the U.S. is soaring and if you are considering jumping on the bandwagon, now is a good time. [Paramount Solar](#) has recently been awarded a residential solar installations fund. Although the exact amount has not been disclosed, it is understood that the money is sufficient to finance approximately 1,600 residential solar systems.

The residential solar installations fund is great news for Paramount Solar, because it will give local people the opportunity to select financing options directly from the Paramount Equity Fund. Also referred to as the Paramount Energy Fund, it was developed in association with U.S. Bancorp. The breakthrough pushes the company one step closer to independence and could increase their profits tenfold. While the business previously provided customers with financial products from a plethora of solar system suppliers, it will now take the reins to focus on deal closing and customer acquisitions.

Paramount Solar has installed solar systems for more than 6,000 families since 2009. The company also claims to introduce 500 residential solar systems per

month. Many of these systems and products were provided by Clean Power Finance (CPF), SunRun and Solar City. Based on company growth and the average cost of rooftop system installation, it is estimated that the residential solar installations fund may be in the region of \$18 million. It seems that the business is optimistic about the expenditure, because they envision their solar customer base will expand by 100% this year. Their plans also involve broadening their customer base to midwestern and east coast states in the U.S.

Hayes Barnard, Paramount Solar CEO, spoke about the Paramount Equity Fund, saying "We focus on saving residential homeowners money on the largest bills in their lives. With solar, we can be in a partnership with them for 20 years." To achieve this goal, various factors will be considered when handling customer phone calls. These include the customer ZIP code, system type and utility involved. With this information, salespeople can carefully select between two platforms - SolarCity and CPF. This is the sixth fund made available to solar professionals through the CPF Market.

The Paramount team understands that different factors affect a person's situation; therefore they hope that their range of financial products will accommodate customers. Money and contractor clients are combined into the CPF platform. The strategically designed platform will encourage new customers to work with the business, simply because the software enables Paramount to control each step of the installation process.

System design, financing, sales discussions, monitoring and maintenance will be focused on to provide customers with convenience and flexibility. The business is not limited to solar products, because they also offer a range of insurance and mortgage products. Paramount is acknowledged as a "closing machine" for triumphantly selling residential systems and the funding is sure to propel the company into the limelight.

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**4. Target Keyword:** How Using Solar Power can Reduce your Carbon Footprint

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We hear it with increasing frequency: "Reduce your carbon footprint." Sometimes, though, the demands made by environmentalists seem outrageous -

days of research to determine which brands are the most sustainable, selling your car and walking or biking hours to work, or other huge sacrifices in the life you've worked hard for. Thankfully, there are simpler - and economically beneficial - ways to protect the environment and wear smaller carbon shoes.

Since the mid-1800s, intrepid [auto builders](#) and energy aficionados have been working with solar power. Now you can bring the technology of Bonneville Salt Flat racers to power your home or business, taking advantage of humanity's largest "renewable" resource: the sun. Here are five interesting facts about how using solar power can reduce your carbon footprint:

### **1. Solar energy reduces reliability on fossil fuels.**

Fossil fuels are dirty energy; there's no disputing that. It's bad enough that we're using up the limited supply at a breakneck pace, but the large amount of energy required to attain the oil, process it at refineries, and distribute it around the globe leave a massive, NBA-sized carbon footprint. Solar energy cuts down on our use of fossil fuels, and that's nothing to overlook.

### **2. Solar energy is essentially limitless.**

While fossil fuels are slowly being depleted through overuse, the sun's rays hit our planet daily whether we are taking advantage of them or not. Solar panels become our "catcher's mitt" of this powerful source of energy, and even the most pessimistic scientists suggest the sun will continue to do so for several billion years.

### **3. Solar energy is "greener" to set up.**

While the production of solar panels does leave a carbon footprint, it is [reported](#) that solar production can be over five hundred percent cleaner than coal production! It also has a smaller footprint than coal burning, hydroelectric dams, and possibly even wind energy.

### **4. Solar energy requires less transportation.**

Using solar energy to power your own home or business reduces your carbon footprint simply in the way you receive the power. Once your array is set up, you won't be paying to drive to the gas station, use the postal service's gas for mailing your electricity bills, or hiring expensive crews to repair your wind turbine. You receive solar energy from the sun, right where your solar panels sit.

### **5. Solar power will inspire others to make positive choices.**

This is where the big carbon footprint reduction takes place. By investing in this growing energy source, you inspire friends and family to set up their homes or

businesses with solar energy. You will be responsible for leading your generation into the next century. Through this, you not only reduce your own footprint, but the collective footprint of everyone you encounter.

Solar energy is here to stay, and it's time to realize how using solar power can reduce your carbon footprint and make the world a better (and less expensive!) place.

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**5. Target Keyword:** Solar Power v. Geothermal Energy  
**Page Title:** Solar Power v. Geothermal Energy

The age of fossil fuels is approaching extinction. With the support of the [United States government](#) and the leaders of countries worldwide, alternative energies are quickly coming to the forefront of energy production. Two contenders for top billing in the vanguard of "renewable energy" are solar power and geothermal energy.

But what's what in this tale of two utilities? Which will become the next fuel and which will become a fossil? In fact, it may be too early to tell; these two energies differ in function, setup, and cost-effectiveness. Let's take a look at the match-up between solar power vs. geothermal energy:

### **Background**

Geothermal energy uses the heat inside the earth as a means to generate electricity or take advantage of the high temperatures directly. It requires wells that go below the cooler upper level of the earth, but feed off extremely high temperatures, which means extreme amounts of energy are available as you journey to the center of the earth.

Solar power uses photovoltaic panels to absorb the sun's UV energy and generate electricity from the resulting reaction. It functions best in sunny places, but since clouds only filter certain forms of light, even overcast areas can benefit from solar power. An added benefit of solar power is that the sun is estimated to burn for the next few thousand generations at least, so it is unlikely this power source is going away any time soon.

## Start-Up Costs

Geothermal wells can be extremely expensive. Even the [National Geothermal Collaborative](#) admits drilling costs alone can be in the millions of dollars. These costs go up if initial exploratory drills turn up ineffective areas to create wells. In addition, most locations for prime geothermal energy are in remote areas or government land, creating transportation issues and legal costs, respectively.

Solar power uses relatively inexpensive photovoltaic panels that most individuals can invest in for their homes and small businesses. There are also many power companies that provide electric bill kickbacks for any excess solar power that your panels can feed back into the grid.

## Power Output and Cost

Geothermal energy is excellent for businesses because it generates predictable levels of energy, since the inside of the earth's temperature is consistently hot. This creates a kilowatt-per-hour cost that is comparable to common fossil fuels.

Solar power, unfortunately, can run significantly higher costs, due to the fact that the sun does not hit the same location of the earth twenty-four hours a day. However, there is hope on the horizon for government subsidies and tax incentives to reduce the cost per kilowatt hour of solar power.

## Conclusion

Currently, the solar power v. geothermal energy battle seems one-sided when it comes to home and small business use, but geothermal energy may find its home as a long-term, large-scale replacement for fossil fuels. For individuals looking to reduce their carbon footprint and their electric bill, however, solar power seems to have great expectations for the future.

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**6. Target Keyword:** The Importance of Renewable Energy to the US Economy  
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A renewable electricity standard or RES necessitates that electric utilities slowly increase the quantity of renewable energy in their power supplies. Renewable energy can include solar, wind, geothermal, and biopower. As of May 2013, 29

states and the District of Columbia have adopted an RES in order to generate dependable renewable energy markets and decrease fossil fuel use.

This initiative demonstrates the importance of renewable energy to the US economy. Utilities are reaching their renewable energy requirements with minimal, if any, cost to the consumers. At the same time, the consumers are also supporting the quickly expanding renewable energy industries that offer significant economic benefits. The list of benefits that support the importance of renewable energy to the US economy includes the following:

- **More American jobs.** In 2012, there were over 119,000 individuals working in solar-related industries. It is also interesting to note that there were 75,000 full-time wind energy development employees including 30,000 manufacturing employees.
- **Promoted investments.** In 2012, wind power consisted of 42 percent of the new additions to the capacity for electric in the United States. This percentage amounts a \$25 billion investment for the economy.
- **Higher performance and more local jobs than fossil fuels.** There are two primary ways that renewable energy development performs better than fossil fuels when it comes to job creation. The first way is that renewable energy development requires a high amount of labor, which means that for every dollar invested, more jobs are created than they would be for fossil fuels. The second way is that when a new renewable energy facility is built, the majority of the workers are hired locally, allowing investment dollars to stay close to home.
- **Payments for rural landowners.** Rural families who own land can benefit from renewable energy when they choose to have wind turbines installed on their properties. Generally these landowners take in royalty, lease, or right-of-way payments for this use of their land.
- **Pay for local property taxes and state income taxes.** For example, wind initiatives in Iowa produce over 20 percent of the electricity for the state. In 2011, this production provided over \$19.5 million in yearly property tax payments for local and state governments.

United States consumers also benefit directly from renewable energy in the following ways:

- Through 2010, states that had adopted RES policies were able to meet over 95 percent compliance with their renewable energy requirements. Most states were able to achieve this with very minimal impact on the electricity rates.
- During 2009 and 2010, 13 out of the 14 states with RES policies that were assessed estimated that they had cost impacts amounting to 1.6 percent or lower.
- Increasing renewable energy has proved to offer long-term savings and to help maintain stable electricity rates. While solar and wind facilities require

significant initial investments, the energy that they produce once the systems are in place is free. In comparison, fossil fuels prices can change suddenly, resulting in large swings in electricity rates.

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## **7. Target Keyword:** Solar Powered Appliances

**Page Title:** Solar Powered Appliances (fridge/ freezer/ cookers)

As the well-being of the planet becomes a concern for more individuals every year, many people are looking for new methods for conserving the environment. One of the most popular techniques is purchasing solar powered appliances. Households are able to play their part in protecting the world that they love without giving up the frequently used appliances that they depend on for daily tasks. The following list includes just a few of the prevalent solar powered appliances on the market today.

### **Refrigerators**

Have you ever hidden a refrigerator in a garbage can or other dark enclosed space to keep it cool on a warm summer day? With the use of a 400 amp / hr battery, a fridge can keep a steady temperature range of -20 to -5 degrees F without any wires. Whether you want the refrigerator out on the deck during a party or you want to take it with you on a boat for an all-day fishing trip, you'll be all set.

One of the most popular solar powered refrigerators available is the True Energy Vaccine Refrigerator. Its extremely efficient design allows it to maintain safely and properly cooled contents for a maximum of ten days without a charge.

### **Chargers**

There are a wide variety of solar powered chargers on the market. They range in price from \$30 to \$450. Price is dependent on power, speed, and weight. Many chargers are compatible with all USB devices from smartphones to GPS devices. Whether you are simply looking for ways to save a little energy around the house or you're preparing for a week long camping trip and want to bring as few batteries as possible, there is something for everyone.

It is important to consider your specific needs when you choose a charger. A person who wants to charge one device at home or work for a few hours during

the day may be just fine with a simple \$30 to \$60 device. A person who wants to charge multiple devices extensively day in and day out may want to invest in a couple higher end chargers with considerably more power and speed.

## Speakers

Are you frustrated by the fact that you can bring your iPhone or iPod with you anywhere but the sound quality isn't that great? The bottom line is that cheap headphones are no comparison to high quality speakers. Even if you're playing music by yourself most of the time, you may want to invest in speakers. For people who enjoy hosting social events, especially outdoor events, speakers are a must. Why not pick up a set of solar powered speakers?

Many solar powered speakers are equipped with a waterproof aluminum body for optimal use in a wide variety of environments from the backyard to the pool to the woods. Most speakers are compatible with any media player that has a headphone jack from CD players to iPods to smartphones.

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**8. Target Keyword:** the incredible benefits of Solar Panels

**Page Title:** The Many Talents of Solar Panels (they generate clean electricity/ save you money/ look great/ increase home value)

Many homeowners are seeking out alternative energy options to work alongside or even replace their standard energy sources. With a rough economy that continues to have increasing electricity costs, a lot of individuals and families are starting to explore the incredible benefits of solar panels. As you evaluate popular alternative energy solutions, consider the following advantages of solar.

- **Generate clean, free electricity.** One of the incredible benefits of solar panels that most people can never get over is how solar energy is free and virtually unlimited. As long as a catastrophic event does not wipe out the sun, there is reason to believe that solar energy will be an option for homeowners for many years to come. High quality solar systems that are installed and maintained properly ensure continual power with very few repairs and very little maintenance for 30 years or longer.
- **Save money.** Some people are wary about investing in solar panels because of the substantial upfront cost. While it is expensive to install a large system, solar panels are becoming cheaper and easier to install

- every year. Once the system is in place, you'll see savings on your electricity bills nearly, if not every month, because there is so little upkeep required. Solar PV systems also come with the potential for a number of state, utility, provincial, and federal tax rebates and additional incentives.
- **Be prepared for emergencies.** Some solar PV systems come with the capacity for energy storage. When you generate more solar energy than you need at any time, you can keep it stored in case of a potential emergency such as blackout. You never know when bad weather will crop up and leave you without electricity for a stretch of hours or even days.
  - **Potential to make money.** An additional desirable option for excess solar energy is selling it to the local utility company. Electricity rates are different for varying regions, but companies can offer up to three times the price for solar energy as they do for standard energy.
  - **Increase home value.** Another reason that the large initial cost of a solar system can pay off is through the value that it adds to a home. As so many people are interested in reducing their monthly household expenses these days, solar panels can be a desirable feature when they're in the market for a new home. If you do sell a home with a solar system, make sure that the realtor includes photos and information about it in the realty listing.
  - **Set a great example for the neighborhood.** Nothing says modern household like a shiny new set of solar panels. You'll get everyone in your neighborhood talking about the benefits of solar energy in no time after you install your system. Many people do not consider solar energy as an option for a home because they simply don't know much about it. Take a proactive role and share your insight with your neighbors.
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**9. Target Keyword:** How do Solar Panels Work?

**Page Title:** How do Solar Panels Work?

Sunlight can be converted right into useable electricity thanks to solar cells. Any time the sun is shining, light makes contact with solar panels either through sunlight particles or photons. The solar panels convert these particles or photons into direct current or DC electricity electrons. The solar panel then sends the electrons to an inverter or to other electrical safety devices. The inverter converts the DC power into alternating current or AC power. There are a wide variety of commonplace household and commercial appliances that use AC power via wall outlets from televisions to washing machines to vacuum cleaners.

A net energy meter records the quantity of power that a solar system generates. Solar energy that does not get used goes back to the electrical grid through the meter. When a solar PV system does not generate enough electricity to power a building without additional sources, a home can draw traditional electricity from the electrical grid. A utility company charges a customer for their total energy consumption in a billing cycle and gives a credit for excess energy. Many utility companies give customers the option of rolling these credits over for additional electricity bills for up to one year.

### **How do solar panels work? Solar cells material and function**

Solar cells or photovoltaic (PV) cells are small, square-shaped panel semiconductors. Solar cells are made from silicon and other conductive materials that are created in thin layers of film. Every time sunlight comes in contact with a solar cell, chemical reactions produce electrons, which in turn produce electric current.

### **How do solar panels work? Components of a PV system**

A solar system consists of the following components:

- One or more batteries
- Groups of PV cells, also called PV modules or PV panels
- A charger or controller regulator (for stand-alone systems)
- DC to AC power inverter for the utility grid-connected system
- Mounting for hardware or framework
- Wiring

A group of PV cells sets up the single cells. Then these models are arranged in an array. A percentage of the arrays are placed on specialized tracking devices to keep an eye on the sunlight at intervals throughout the day and tweak the efficiency of the system as needed.

### **How do solar panels work? Sunlight and size requirements**

There are a number of factors at play with the size of a given PV system including ideal amount of energy production, roof size, quantity of electricity used, and budget. Abundant year-round sunshine is optimal for solar systems, but they prove to be a worthwhile investment in a variety of climates.

### **How do solar panels work? Installation, maintenance, and duration**

One of the best methods for ensuring that a solar system is installed correctly the first time is to hire a reputable solar company. Proper installation guarantees that there will be little, if any, maintenance over the years. It is possible for high quality systems to run for 30 years or even longer. When problems do arise, hire

a professional.

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**10. Target Keyword:** How can a Solar Water Heater Help Me

**Page Title:** How can a Solar Water Heater Help Me? (save money on heating your water/ extending pool season)

Are you considering purchasing a solar water heater? Do you keep coming back to the question “how can a solar water heater help me”? Many people don't understand the difference between traditional and solar water heaters or don't believe that solar heaters are a solid investment. The good news is that there is a list of benefits for solar water heaters. If you still need a little more convincing, check out the following list of solar water heater advantages.

- **Enjoy free energy.** One of the biggest benefits of solar energy and one of the simplest ways that you will answer the question “how can a solar water heater help me?” is that solar is free. As long as the sun does not get wiped out in a catastrophic event, there is no reason to believe that solar energy will disappear any time in the near future.
- **Save on energy.** An average family of four with an electric water heater must generate approximately 6,400 kilowatt electricity hours annually in order to heat their water. Depending on your particular climate, a water heater can reduce your hot water energy consumption anywhere from 50 to 90 percent.
- **Save on water heating costs.** While solar water heaters require a much higher initial investment than gas and electric heaters, the money that you save on electricity or gas allows the solar heater to pay for itself in four to eight years time. Many of the high end solar heaters have a lifespan of 15 to 40 years, which is comparable to the lifespan of a traditional heater. Once you've recouped your initial expenses, you'll save money each month for many years.
- **Take advantage of government tax incentives and rebates.** There are Renewable Energy Certificates (RECs) available from the federal government as well as state rebates such as homeowner tax credits that can significantly offset the cost of a new solar water heater.
- **Protect the environment.** Most people are not aware of the fact that the amount of CO2 that residential water heaters in North America produce each year is about the same as the CO2 production of all of the light trucks and cars in operation throughout the world. The bottom line is that if half of the households in North America installed solar water heaters, the

effect would be the same as doubling the fuel efficiency in all of the cars and light trucks in the world.

- **Use in virtually any climate.** While solar energy is an ideal choice in climates with abundant year round sunshine, solar water heaters have proved beneficial in a wide variety of climates. The Environmental and Energy Study Institute (EESI) has estimated that 40 percent of the houses in the United States have ample access to sunlight for solar water heaters, which would allow for 29 million new solar heaters to be installed.

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**11. Target Keyword:** east coast vs. westcoast with solar energy

**Page Title:** Solar Showdown: East vs. West - Which coast is doing more for solar energy?

It's a battle of east coast vs. west coast with solar energy. Which side of the country is doing more to research, implement, and encourage the use of solar energy?

### **Which states are offering the best tax incentives?**

The state of California has adopted a rebate program for those who choose to install photovoltaic systems in their homes. The New Solar Homes Partnership began in 2007 with \$400 million in funding. San Francisco has implemented a similar program for both residential and commercial buildings. Many other cities in California offer rebates for those who choose to replace water and heating systems with solar powered systems. The Go Solar California initiative has encouraged these programs. In Oregon, a loan system has been set up for businesses to switch to solar energy. Washington has put a tax exemption on sales of solar power systems.

New York State has recently started working toward an incentive program for those who replace electricity with solar power. Other states, like New Jersey and Connecticut are offering tax exemptions for solar and geothermal systems. In some states, like Pennsylvania, the coal industry is so prominent that introducing solar energy is still a touchy subject.

*And the point goes to...the west coast.*

### **Which coast is making progress toward being more solar friendly?**

The west coast has many incentive programs in place. Individual cities are making community-wide efforts to encourage the use of solar energy. With the perfect climate to take advantage of solar energy, California cities are great places to build the renewable energy systems. The west coast also has the interest necessary to start programs and to keep existing programs going.

The east coast won't be outdone. Many east coast states have recognized the benefits of turning to solar power as a source of renewable energy. Massachusetts has designed a plan to offset the cost of using photovoltaic systems in schools and other buildings. Pennsylvania, which receives 160-180 sunny days each year, is making an effort to bring more solar technology businesses into the state. While the west is maintaining their solar power industry, the east is gaining momentum and making huge strides in the game of east coast vs. west coast with solar energy.

*Who's making the most effort? That point goes to the east coast.*

### **Where can you find a career in solar energy?**

In 2011, a study by The Solar Foundation found that over 100,000 people in the US were employed by the solar industry. Where are the jobs located? California is in the lead, employing over 10,000 individuals. Oregon, Washington, Nevada, and Arizona are also major employers. Across the country, Pennsylvania, New York, and Massachusetts are making solar jobs available. However, states like Maine, Vermont, and Connecticut are at the bottom of the list, providing less than 500 solar related jobs.

*For career searching and resume building, the point goes to the west coast.*

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**12. Target Keyword:** how solar panels can cut down electric bills

**Page Title:** Energy Bills too High? Solar can Help!

Choosing solar energy is a great way to embrace a greener way of living. Solar energy is gaining momentum as individuals, businesses, and cities across the country find out more about how effective it can be. While we're all learning more

about the benefits of solar energy for the environment, you'll probably also want to know how it can benefit you personally. Find out how solar panels can cut down electric bills, saving you money as you go green!

### **Solar panels are becoming less expensive.**

One of the big reasons people give for not installing solar panels is the high price tag. Now that the panels are becoming more common and more businesses are manufacturing the product, the cost is dropping significantly. You'll also find that with no upfront costs, and flexible payment plans and rebates available, the cost of installing solar panels is much lower than you might think.

### **Choose a one-time cost vs. continual monthly payments.**

You know that disappointed sigh that you breathe when you open the mailbox and find an electric bill? Choosing solar panels for your home can make that involuntary sigh a thing of the past. People across the country have been noticing an increase in their electric bills. Installing solar panels means that you'll pay a one-time cost that will result in a huge reduction in your monthly bill. Many people are finding well over 50% savings on their bill. Many are even finding a bill in the single digits. Why settle for paying \$200 each month when you can invest in solar panels and watch your bill shrink instead of grow?

### **Benefit from government tax incentives.**

The federal government is getting on board with solar energy. In an effort to encourage others to take part, they are offering tax incentives and rebates to those who install solar panels to offset the cost. Individual states and cities are also getting involved. Many are offering rebates for individuals who add solar panels, as well as small loans to help cover the initial costs of installation. If you're considering solar panels, but you're not looking forward to the cost of installation, take those rebates and incentives into account when making your decision.

### **Bonus: improve the resale value of your home.**

In addition to how solar panels can cut down electric bills, they also have another benefit: improving the value of your home when you decide to move. Renovated kitchens and a large master bedroom might look great on a home sale posting, but solar panels will also make an enticing addition. The value of solar panels will continue to rise as more and more homebuyers begin to expect this feature when looking for a home.

**13. Target Keyword:** Portable Solar Power gadgets

**Page Title:** Portable Solar Power (what is out right now that uses portable solar power?)

Are you interested in portable solar power gadgets? There are many circumstances where stationary solar powered devices are sufficient, such as uses around residential homes and commercial offices. However, there are also numerous occasions where portable options are preferable such as long road trips and camping trips. If you're in the market for portable solar power gadgets, consider the following options.

### **Chargers**

One of the most important aspects of choosing a solar charger is understanding your power requirement. For example, someone interested in charging a single smartphone or camera battery for a couple hours a day needs significantly less power than someone planning to charge a refrigerator for days on end.<sup>1</sup> You do not want to end up with a charger that is not sufficient or that is way more powerful than you will ever use. Chargers do not all have the same run times and charging times. It is important to be realistic about your charger needs and research options extensively so you can make a well-informed decision.

### **Folding panels**

There are a range of folding solar panels available with differing weights, materials, power ratings, and efficiency percentages. Whether you are looking for an ultra lightweight unit with low efficiency or a heavy duty unit with high efficiency, there is something for everyone. Panels can be sold individually or as part of turn-key systems.<sup>2</sup>

### **Generators**

Solar generators are a great option for anyone with off-grid recreational, emergency, or back-up power needs. These needs may include natural disaster relief, search and rescue missions, medical operations in remote locations, on-site insurance work, and basic night lighting.<sup>3</sup> There are a number of reasons to purchase a generator including the following:

- Preparing for short-term grid and power outages during inclement weather conditions
- Preparing for extended disaster scenarios (i.e. hurricanes, tornadoes)
- Reducing carbon footprints

### **Water purifiers**

Solar water purifiers are another excellent solar powered device to have on hand during trips to remote locations and in the occurrence of any natural disaster. The last thing you want when you're out in the middle of nowhere during a trip or when you have limited resources following a crisis is to run low on water. A high quality solar water purifier can run on a wide range of portable solar power systems or any source of 12-volt DC power.

Water purifier systems have the capacity to purify fresh water from swimming pools, ponds, lakes, rivers, streams, large puddles, and containers. It is important to keep in mind that they cannot desalinate water.<sup>4</sup> Many units include both convenience and safety features that are ideal for field operations such as an independently operating UV lamp and switch for a water pump.

### **LED lights**

As LED lights draw such a tiny amount of power in comparison to incandescent light bulbs and even fluorescent bulbs, they are an ideal alternative, emergency, and off-grid energy source. Most LED lights are equipped with male DC plugs to fit standard 12-volt female cigarette lighters with the option for custom configurations at an additional cost.<sup>5</sup>

[1http://www.earthtechproducts.com/solar-panels-and-chargers.html](http://www.earthtechproducts.com/solar-panels-and-chargers.html)

[2http://www.powerenz.com/store/index.php?\\_a=viewCat&catId=35](http://www.powerenz.com/store/index.php?_a=viewCat&catId=35)

[3http://www.powerenz.com/store/index.php?\\_a=viewCat&catId=22](http://www.powerenz.com/store/index.php?_a=viewCat&catId=22)

[4http://www.powerenz.com/store/index.php?\\_a=viewCat&catId=42](http://www.powerenz.com/store/index.php?_a=viewCat&catId=42)

[5http://www.powerenz.com/store/index.php?\\_a=viewCat&catId=39](http://www.powerenz.com/store/index.php?_a=viewCat&catId=39)

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**14. Target Keyword:** Innovations to make solar energy cheaper and the panels easier to make

**Page Title:** New Solar Tech (innovations to make the energy cheaper and the panels easier to make)

2013 is a tough time for developing innovations to make the solar energy cheaper and the panels easier to make. During the last several years, overseas

global solar PV production has exploded, particularly in China. This phenomenon has brought about an ample supply of panels, significantly reducing the price.<sup>1</sup> Low prices are great news for solar energy distribution, but it makes it tough for solar companies to keep producing new clean energy products. The good news is that there still are new projects in the works right now, including the following initiatives.

### **Infrared solar**

Of the total light that reaches the earth's surface, approximately 60 percent of it is visible light. The remaining light is composed of ultraviolet and infrared spectrums. Traditional solar photovoltaics only have the capacity for converting visible light into energy, rendering the remaining light useless.<sup>2</sup> However, a new carbon-based solar panel from MIT researchers may mean that all of that is going to change.

The carbon-based panel is intended to harness infrared light. However, the carbon cells are transparent, which means that when they are arranged on top of silicon-based cells, they can harness both visible and infrared light. Even better, the cells are constructed of carbon nanotubes, which require a very small amount of material for a high level of functioning. As they do not need a lot of material, the production costs will be affordable.<sup>3</sup>

### **Building integrated photovoltaics**

Building integrated photovoltaics or BIPVs are thin-film solar panels that can be constructed seamlessly into building components including windows, roof shingles, facades, and curtain walls. While BIPVs are not a new product, they have been primarily used for research projects as opposed to commercial construction. Thanks to technological leadership from prominent solar producers and desirable European feed-in tariff programs, they may finally become a staple component for new solar construction in certain parts of the world.<sup>4</sup>

BIPVs are seen as a viable option because they are one of the innovations to make solar energy cheaper and the panels easier to make, particularly when it comes to new building costs. It is possible that BIPVs will become a close competitor with traditional solar installation that requires rack mounting. For those who do not like the prominent rack mounting, the aesthetic of BIPVs is another great selling point.

### **Manufacturing processes**

Manufacturing process innovations may not be the most talked about development in the world of solar power, but they may prove to be one of the biggest game changers. Some of the new manufacturing initiatives may bring

solar production costs down to a level that is competitive with fossil fuel production.

The traditional process for making the silicone for a solar panel consists of cutting a crystalline silicon block into extremely thin layers or “wafers.” One of the biggest disadvantages of this method is that it wastes approximately half of the block.<sup>5</sup> There is research in the works to reduce the quantity of waste, which would also reduce the cost while still producing high quality silicone efficiently.<sup>6</sup>

[1http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world](http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world)

[2http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=2](http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=2)

[3http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=2](http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=2)

[4http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=2](http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=2)

[5http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=3](http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=3)

[6http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=4](http://www.sustainableindustries.com/articles/2013/07/7-new-solar-innovations-could-change-world?page=4)

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**15. Target Keyword:** How Solar can Help you Pay for your Retirement

**Page Title:** How Solar can Help you Pay for your Retirement

As you plan for your retirement, you’re undoubtedly thinking about investments that will help provide an income after you no longer have regular income from your employment or business. You might have a retirement account where your annual contributions are quietly growing. You might have a 401(k) plan through your job. You might also own property that you either use for a residence or rent out for an additional income stream.

Another investment you can make towards your future prosperity will allow you to use solar energy to help pay for your retirement. Adding a solar-energy capability

to your home will cut down on your costs for electricity by replacing the expensive power you purchase from your local utility with free electricity generated by a natural, non-polluting resource.

The amount of money you save every month or year will, of course, vary depending on your local cost for electricity and how much you normally use, but estimates vary from several hundred dollars to even \$1000 dollars annually. Instead of spending those savings on a vacation or an upgraded car, you can add those savings to your retirement account. Putting them to work for your future is one way solar can help you pay for your retirement.

You may find additional savings on electricity costs if your solar energy system produces more electricity than you need to live comfortably. In most cases, your excess electricity is delivered to the local grid. Your power company can install a meter that measures exactly how much you contribute to the general electricity resource in your area. You may earn credits or rebates for this electricity that you can use during those periods when you use more power, such as during the summer when your air conditioning runs full tilt.

If you're concerned about the initial costs of purchasing and installing a solar-energy system, you may be relieved to know that most homeowners save enough in electric bills to pay for the system over a period of 10 years or so. Since most systems last 25 to 30 years, you'll have 15 to 20 years where every penny you save is available to invest for your retirement.

Additionally, federal tax credits are in effect at least through the end of 2016 that allow a 30-percent credit on solar energy system installations for homes and businesses. Thanks to the American Recovery and Reinvestment Act of 2009, there is no maximum limit imposed on the amount of the credit, and if the credit should exceed your tax liability during the year you install it, the credit will carry over to succeeding years.

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**16. Target Keyword:** Which Country is Leading the Solar Revolution?

**Page Title:** Which Country is Leading the Solar Revolution?

The solar energy industry is growing. There is no doubt that the number of solar energy systems worldwide keeps increasing as concerns about global warming, the depletion of non-renewable energy resources, and the expansion of efforts to access new petroleum sources also keep growing. But do you know where the biggest advances are being made?

Germany

Germany leads the world in the expansion of solar energy systems. Thanks to laws that not only allow small producers of solar-based electricity to sell it to the national grid but also give those producers priority access to the grid over big utility companies, small energy producers have sprung up all over the country. In 2010, Germany accounted for 43 percent of new solar energy installations worldwide. Although Germany's climate doesn't cooperate with abundant sunshine, the country is so saturated with solar installations it is still able to produce a significant portion of its electricity through these systems.

## Spain

In Spain, about 10 percent of the nation's electricity demands are filled by solar energy. This figure compares to a worldwide average of approximately 2 percent, putting Spain well ahead of other nations and in the second spot behind Germany. However, the industry's rate of growth has slowed from its peak in 2008, a reflection of the economic downturn of 2009.

## United States

The United States, while not at the top of the list, ranks about fifth in the world in use of solar energy. The number of homes with solar panels continues to increase, thanks in part to federal and, in some areas, state tax credits on the costs of solar energy system installations. Through the end of 2016, federal tax credits are set to remain at 30 percent, with no maximum limit. The credits can also carry over to following years if the amount of the credit exceeds the taxpayer's liability for the year of the installation. Yet, according to the Energy Information Administration, rooftop solar panels still account for less than one-fourth of one percent of all U.S. electricity production.

Within the U.S., California is the largest market for solar installations, with Arizona ranking number two. Both of these states offer climates with abundant sunshine year round and large populations, which account in part for the size of the markets. Additionally, California is a leader in net marketing, a system similar to Germany's that allows homeowners to sell excess renewable energy back to local utilities. Another 42 states and the District of Columbia also permit such sales to take place. However, many industry leaders claim that net marketing will ultimately increase costs of electricity to consumers who don't utilize any solar energy.

**17. Target Keyword:** History of Solar Panels

**Page Title:** History of Solar Panels

The history of solar panels dates all the way back to the most primitive human existence. The earliest humans were already making use of solar energy, such as solar cookers and the process of water desalination.<sup>1</sup> However, we have made significant strides in the last few hundred years with both our understanding and application of the sun's energy. Even though there is only a small percentage of radiation from the sun that makes it to the surface of the earth, there is ample energy for creating whole power plants that pull energy from the sun.

The first rudimentary solar cells and the discovery of photovoltaic processes took place in the late 1800s. A prominent scientist and electricity expert, William Adams, and one of his students, Richard Day, discovered that selenium produced electricity when it received light exposure.<sup>2</sup> While the selenium cells were not efficient, this discovery confirmed that light could be turned into electricity without the need for any heat or moving parts.

Albert Einstein, one of the most famous scientists to have ever lived, received a physics Noble Prize for his photoelectric initiatives in 1921. The first genuine solar panels were up and running by late 1950s, thanks to Daryl Chapin, Calvin Fuller, and Gerald Pearson who made the initial silicon solar cell discovery in 1953.<sup>3</sup> This cell produced an ample quantity of efficient electricity to power small electrical devices, such as calculators. This discovery was the beginning of a whole new world of possibilities for solar energy.

The first commercially available solar cells ran \$300 for a one watt solar cell. As such, the early history of solar panels yielded equipment that was much too expensive and inefficient to be used for large-scale residential or commercial applications. Solar use was limited to toys and radios.

Widespread environmental passion that started during the 1970s brought about significant solar energy research and industry expansion, much of which was initiated by the Exxon corporation. In less than two decades, the price of solar cells came down from \$100 per watt to approximately \$20 per watt, allowing solar energy equipment to become readily available in many different forms.<sup>4</sup> With everything from portable panels to lighting fixtures to full home or commercial installations, there was something for everyone.

Solar panels are considered to be any kind of equipment that can turn sunlight into energy. Solar panel technology has varied greatly during the past 50 years. Solar panels get their roots from solar cells, although new alternatives are in the works today.

Modern solar enthusiasts can purchase silicon semiconductor solar cells that are designed to trap and convert energy from the sun. These cells have an anti-reflective coating and are housed under a glass plate to offer production from the

natural elements. Typically this entire structure is mounted within a strong frame that must be positioned and angled appropriately for maximum solar absorption.<sup>5</sup>

There are a wide variety of uses for both residential and commercial solar application today including heating, electrical supply, lighting, and landscaping features.

[1http://www.prlog.org/10184388-history-of-solar-panels.html](http://www.prlog.org/10184388-history-of-solar-panels.html)

[2https://www.experience.com/alumnus/article?channel\\_id=energy\\_utilities&source\\_page=additional\\_articles&article\\_id=article\\_1130427780670](https://www.experience.com/alumnus/article?channel_id=energy_utilities&source_page=additional_articles&article_id=article_1130427780670)

[3https://www.experience.com/alumnus/article?channel\\_id=energy\\_utilities&source\\_page=additional\\_articles&article\\_id=article\\_1130427780670](https://www.experience.com/alumnus/article?channel_id=energy_utilities&source_page=additional_articles&article_id=article_1130427780670)

[4https://www.experience.com/alumnus/article?channel\\_id=energy\\_utilities&source\\_page=additional\\_articles&article\\_id=article\\_1130427780670](https://www.experience.com/alumnus/article?channel_id=energy_utilities&source_page=additional_articles&article_id=article_1130427780670)

[5http://www.prlog.org/10184388-history-of-solar-panels.html](http://www.prlog.org/10184388-history-of-solar-panels.html)

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**18. Target Keyword:** the solar revolution

**Page Title:** The Solar Revolution

Humans have been using solar power since their earliest existence. Mankind discovered photovoltaic processes and solar sells in the late 1800s, took on photoelectric initiatives in the early 1920s, and got the first true solar panels up and running in the late 1950s. As such, solar power and even solar cells are not anything new. However, it wasn't until the 1970s that the solar revolution really took hold, bringing about substantial solar energy research and industry initiatives, which eventually made solar energy equipment more available and affordable for both residential and commercial purposes.

With a tough economy the past five years and continually increasing energy costs, more and more people are joining the solar revolution and considering alternative energy solutions, including solar. The bottom line is that people want to save money while they do their part to protect the environment.

The substantial initial investment required for solar PV systems is the biggest stumbling block for many people interested in solar. The good news is that while these costs are high, solar panels become more affordable and easier to install each year. Once residential and commercial properties do have these systems in place, they are guaranteed monthly savings as long as the system is operational, which can be anywhere from 15 to 40 years. This lifespan allows people to recoup their initial costs and still save on monthly electricity costs for many years.

Depending on the type and size of the solar system, most residential installations are somewhere in the range of \$15,000 to \$50,000 before tax credits.<sup>1</sup> It is important to view the system as a long-term investment that will add value to a home or office as well as the surrounding area. The price range is comparable to many popular home renovations, such as kitchen or bathroom renovations, and it often saves a lot more money. When people start to view the installation in this light, they are quickly convinced.

Currently there are a number of initiatives in many countries that also motivate homeowners and business owners to consider solar installations. In many areas, desirable feed-in tariff programs, tax incentives, and additional rebate programs are available. You can check with local, state, and federal governments to get information about specific available offers. There are quite a few utility companies that also offer incentives.

The first quarter of 2013 saw a record performance for new solar capacity in the United States. There were 723 megawatts (MW) installed during this period, which was a 33 percent increase from the first quarter of 2012 and the best first quarter to date for the solar industry.<sup>2</sup> This figure is considerably lower than the impressive 1,300 MW installed during the fourth quarter of 2012, but this trend is typical for the solar industry.

Currently the United States has more than 8.5 gigawatts of comprehensive solar electric capacity, approximately 7.9 of which is from PV systems.<sup>3</sup> During the first quarter of 2013, almost half of the new electric capacity in the United States came from solar installations.

<sup>1</sup>[http://www.sltrib.com/green/ci\\_12184300](http://www.sltrib.com/green/ci_12184300)

<sup>2</sup><http://www.renewableenergyworld.com/rea/news/article/2013/06/residential-demand-spurs-us-solar-installations-in-1q13>

<sup>3</sup><http://www.renewableenergyworld.com/rea/news/article/2013/06/residential-demand-spurs-us-solar-installations-in-1q13>

**19. Target Keyword:** Where in the US is Solar Energy Hot

**Page Title:** Where in the US is Solar Energy Hot? (ie California/ Texas/ Massachusetts/ New York)

Wondering where in the US solar energy is hot? Many people know that the tough economy and rising fuel prices have spurred significant solar development in a number of areas of the country. With steadily dropping prices for both solar photovoltaic (PV) systems and installations, this alternative energy option becomes more desirable every year. Are there states that are way ahead of the pack? What are they doing to obtain and keep those ranks? Here are just a few insights about where solar energy is hot in 2013.

## **California**

Currently, California dominates the United States solar industry. With 3,322 megawatts (MW) of solar energy installed, which is enough to power over 717,000 homes, it isn't a surprise that CA ranks number one. The state invested \$2.6 billion during 2012 for both residential and business solar installations, which was a 31 percent increase from 2011.<sup>1</sup> It is anticipated that they will have a similar increase for 2013.

The first quarter of 2013 saw an explosive number of residential solar installations across the country. 66 percent of the home PV installations in California and 86 percent in Arizona were solar residential systems owned by third parties.<sup>2</sup> This is the first time that this number has surpassed the non-residential figure.

Some of the most notable recent solar developments in California were the California Valley Solar Ranch, Ivanpah, and the Alpine Solar Project. Each project is able to power a significant number of residential properties in the state with the solar ranch at 28,100, Ivanpah at 140,000, and Alpine at 14,300.<sup>3</sup>

## **New Jersey**

New Jersey has one of the most rapidly expanding solar markets in the United States. This phenomenon is largely thanks to the New Jersey Energy Master plan that governor Chris Christie instituted in late 2011. During the first quarter of 2013, they surpassed Arizona to obtain the number two rank. Currently California is the only state that has more solar installations. New Jersey put in more solar PV systems than any other state during the first quarter of 2012, becoming the first state besides California to get the number one rank for total quarterly installations.

New Jersey has enough solar energy installed to power over 150,000 homes. With an investment of \$1.3 billion, they added 419 MW of this capacity during

2012.<sup>4</sup> This investment is an 8 percent increase from 2011, and it is anticipated to grow again in 2013.

Two of the most notable recent solar developments in New Jersey were the Gloucester Marine Terminal rooftop solar array and the McGraw-Hill solar PV system. The rooftop array consists of more than 27,000 panels that span 1.1 million square feet. It provides over 80 percent of the energy needs for the facility. This energy capacity displaces a quantity of carbon dioxide that equals the emissions from 1,200 cars. The Mc-Graw Hill system projected created almost 300 jobs and will decrease the carbon emissions of the company by 10 percent.<sup>5</sup>

[1http://www.seia.org/state-solar-policy/california](http://www.seia.org/state-solar-policy/california)

[2http://www.renewableenergyworld.com/rea/news/article/2013/06/residential-demand-spurs-us-solar-installations-in-1q13](http://www.renewableenergyworld.com/rea/news/article/2013/06/residential-demand-spurs-us-solar-installations-in-1q13)

[3http://www.seia.org/state-solar-policy/california](http://www.seia.org/state-solar-policy/california)

[4http://www.seia.org/state-solar-policy/New-Jersey](http://www.seia.org/state-solar-policy/New-Jersey)

[5http://www.seia.org/state-solar-policy/New-Jersey](http://www.seia.org/state-solar-policy/New-Jersey)

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**20. Target Keyword:** New Legislative Actions for Solar Energy

**Page Title:** New Legislative Actions for Solar Energy (state wide and nationally)

With a tough economy, and rising fuel prices, many individuals, corporations, and governments are seeking alternative energy options. As such, there are a number of new legislative actions for solar energy going into effect every year at both the national and state-wide levels. The following includes just a few of the new legislative actions for solar energy in the United States.

### **New Jersey**

Governor Chris Christie signed a solar legislation bill in July 2012 to speed up the solar requirements for the state. This bill accelerates the renewable portfolio standard or RPS solar requirement by nearly four years, enabling constant solar market growth over the next few years.<sup>1</sup>

The New Jersey Board of Public Utilities gave the okay for a new three year, 180 megawatts (MW) Electricity Distribution Company SREC finance initiative in the spring of 2012.<sup>2</sup> This initiative is intended to lessen the unpredictable nature of SREC prices in New Jersey in order to motivate homeowners and business owners to add solar PV systems to their properties.

## California

In May 2013, California legislators voted to advance two different bills that provide access to solar energy for 75 percent of the state's energy customers who cannot afford to install it themselves. The bills are as follows:

- *Senate Bill 43*. This 500 MW pilot program would allow Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E) customers to sign up for shared renewable energy facilities.<sup>3</sup> These customers would also receive a credit on their utility bills for the energy that was produced with their portion of the initiative.
- *Assembly Bill 1014*. There is a current settlement agreement before the California Public Utilities Commission (CPUC) to develop a “Green Option” tariff program. PG&E, environmental advocates, ratepayer advocates, and unions negotiated this agreement in the spring of 2013. The assembly bill would bring this program to the two other major utility companies in California: SCE and SDG&E.<sup>4</sup>

Both of these bills allow the market to innovate and ensure that California's energy customers are getting a fair deal.

## Hawaii

Governor Neil Abercrombie signed Senate Bill 1087 in June 2013 with the expectation that the program will launch sometime in 2014. This bill is intended to assist Hawaii homeowners with solar PV system installations. The installations will be made possible either through utility bill payments known as “on-bill financing” or through \$100 million in state bond financing.<sup>5</sup>

One of the biggest stumbling blocks for most homeowners interested in solar PV systems is the substantial initial investment, particularly residents with low-income status or individuals who can't get bank loans. This bill will would allow many people to get over this financial hurdle by allowing them to make the big purchase and then pay it back over a given period of time.<sup>6</sup> Additionally, the Hawaii Energy Office plans to work with existing solar PV companies to install PV in regions that are currently under-served for solar energy. They would also like to do more solar installations for non-profit organizations.

<sup>1</sup><http://www.seia.org/state-solar-policy/New-Jersey>

[2http://www.seia.org/state-solar-policy/New-Jersey](http://www.seia.org/state-solar-policy/New-Jersey)

[3http://votesolar.org/2013/05/shared-solar-bills-pass-california-senate-assembly/](http://votesolar.org/2013/05/shared-solar-bills-pass-california-senate-assembly/)

[4http://votesolar.org/2013/05/shared-solar-bills-pass-california-senate-assembly/](http://votesolar.org/2013/05/shared-solar-bills-pass-california-senate-assembly/)

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[6http://www.bizjournals.com/pacific/blog/morning\\_call/2013/06/new-hawaii-law-could-spur-more.html?page=all](http://www.bizjournals.com/pacific/blog/morning_call/2013/06/new-hawaii-law-could-spur-more.html?page=all)