

# OPPORTUNITIES, INCENTIVES, AND CONSIDERATIONS

With more than 300 sunny days a year, Arizona has an abundant and stable natural energy resource.

Arizonans interest and use of solar and renewable energy is well known and evident – solar hot water systems throughout the State; photovoltaic systems going up daily; passive solar buildings constructed in the different climate zones; the existence of solar and environmental organizations, and a well defined and active solar industry. Solar applications and advocacy are found in state and local government - from Marana to Scottsdale, and there are financial incentives and consumer protections.

Government, education, industry, business, and individuals are implementing and incorporating living with the sun and other natural resources into the Arizona identity and character. The opportunities and considerations vary but the commitment to Arizona's renewable energy future is shared.



## ENVIRONMENTAL PORTFOLIO STANDARD

The Az. Corporation Commission has implemented an Environmental Portfolio Standard for Arizona utilities in order to assure solar and other renewables are a part of the state's energy mix, as well as to assist in providing a stable marketplace for the industry. The goal of the Arizona Environmental Portfolio Standard is to create a 75-115 Megawatt solar electric market by 2005. In order to achieve this goal, the Standard defines requirements of utilities:

- \* Any Az. electric service distribution company selling electricity or gaining customers to sell electricity must derive at least .2% peryear from solar resources or environmentally friendly renewable energy technologies. The percentage amount shall increase annually by .2% to a total of 1% by 2005.
- \* 50% of the portfolio standard makeup shall be solar electric, and no more than 50% shall be from other environmentally friendly renewable energy sources, including solar hot water, or from research and development on solar electric resources.

- \* The solar water heating component can be used to meet 20% of the Other portion of the EPS
- \* The research and development element shall not comprise more than 10% of the Other (50%) Portion of the EPS.
- \* By the year 2004, percentages shall change to 60% for solar electric and 40% for Other.
- \* Environmentally friendly technologies are defined as landfill gas generators, wind generators, and biomass generators.
- \* The energy can be purchased, or generated by the seller, and energy service providers that are not distribution companies can voluntarily participate.
- \* Solar kWh's can be saved or banked or traded.

## RESPONSES TO THE EPS

Arizona utilities are required to provide a certain percentage of solar generated electricity in their energy delivery. Under the EPS, a utility is allowed to purchase "solar credits" from customers who install new solar electric systems on their buildings.

In response to the Environmental Portfolio Standard, utilities have developed programs and initiated incentives for Arizonans in their service areas. The buy-down programs are geared to motivate Arizonans to integrate solar equipment into their energy use. In return, the utility will get credit toward meeting its responsibilities under the Az. Environmental Portfolio Standard requirements.

## EPS Energy Purchase Credit Purchase – Arizona Public Service

Qualified residential and commercial customers in APS service territory, both on and off the electricity grid, can receive a one-time credit of \$2.00 per rated watt of DC electricity for the purchase and installation of new photovoltaic systems capable of providing 5 kilowatts or less, installed by December 31, 2004. Program funding is currently limited to \$1.2 million dollars over 3 years

Program conditions include a grid connection agreement between APS and the applicant assigning the EPS tax credit for 12 years; use of Underwriter Laboratory approved solar products and components; meeting manufacturer requirements re: product and installation; meeting all National Electric Code, State and local code requirements; and installation by a licensed or APS approved contractor.

Grid Tied customers have the option of selling excess generation energy to APS. Off grid customer program requirements stipulate a complete solar electric system, with not only collectors and inverter, but also batteries for power storage.



## Solar Water Heating Program – Arizona Public Service

A one-time credit of \$350 on a new solar water heating system which replaces an electric water heater.

Conditions include an assignment agreement regarding APS use of associated EPS credits; proper installation of solar panels in an unshaded condition; applicable certification of the system from the Solar Rating & Certification Corporation; ASHRAE design standards compliance (for commercial systems); meeting applicable Universal Plumbing Code, state and local code requirements with local jurisdiction inspection and approval; and installation by a licensed, bonded and insured installer.

## SunShare Program – Tucson Electric Power (TEP)

The TEP incentive program for the installation of new photovoltaic systems in the TEP market area. is up to \$2000. for every kilowatt of proven solar electric generating capacity that is connected to TEP's grid system.

There are 2 options.

**SunShare option #1** requires the separate purchase of a new solar system that meets TEP criteria; proper installation with a new output of 1 k with appropriate State, and local code compliance and approval; notification of TEP and inspection

approval by TEP system engineers determining the amount of buy-down credit to be given..

**SunShare option #2** requires the purchase of solar equipment from TEP in a 1 kW peak AC output size intended for residential and commercial use; proper installation and code compliance and approval by local jurisdiction; and approval of TEP system engineers determining the buy-down credit to be given.

## STATE INCENTIVES

The State of Arizona, in support of developing energy independence and security, provides some financial incentives for Arizonans to purchase and install solar and renewable energy equipment.

## ARIZONA SOLAR INCOME TAX CREDIT

Homeowners can claim a 25% tax credit (up to \$1,000) on the cost of solar devices installed on a residence. This one time tax credit restricts the homeowner for additional credits for solar purchases made for the same residence in subsequent years.

Title 44, chapter 11, article 11 of the Arizona revised statutes (44-1761-Definitions, & 44-1762 – Solar energy device warranties; installation standards; inspections) detail the requirements and identifies requirements on the seller of solar devices in order to qualify the equipment and application.

The Arizona Department of Commerce Energy Office issued guidelines for the required certificate a buyer should receive, certifying the solar energy device provided complies with the requirements of the tax credit law. The Arizona Registrar of Contractors later assumed this responsibility and has not issued additional requirements.

The Arizona Registrar of Contractors, responsible for licensing installers of solar devices, has in place, licensing of domestic solar hot water installers. It is also in the process of establishing solar electric standards for installers.

There is also an installer certification program, provided by a combination of the State Energy Office and the Arizona Solar Energy Industries Association for solar hot water system installers.

The actual tax credit is obtained by filing form 310, Credit for Solar Energy Devices, as an attachment to the regular annual income tax return (Arizona DOR form 140).

## ARIZONA SOLAR DEVICES SALES TAX EXEMPTION

In Arizona, "solar devices" (as defined either explicitly in the Arizona Revised Statutes or determined by the Arizona Department of Commerce Energy Office) can now be sold to Arizona customers without having state sales tax charge.

(legally called the transaction privilege tax). County and city sales taxes still apply for those tax authorities that collect their own sales taxes. This is a result of House Bill 2433 passed in 1991.

## Sales Tax Exemption

The process and requirements for the sales tax exemption are not simple to use and apply to the retail seller of the solar devices. The Arizona Department of Commerce Energy Office has compiled a guide to acceptable devices under the law. It is possible to petition the Arizona Department of Commerce for items not listed.

A maximum of \$5,000 of equipment per system may be exempted under this law. Please note that the sales tax exemption does not apply to batteries, controls, etc. that are not part of the system. For more information, contact the Arizona Dept. of Commerce Energy Office.

## Dealer Information

Arizona dealers must be registered with the Arizona Department of Revenue (ADOR) as a solar device dealer before utilizing the \$5,000 state sales tax exemption. Registration requires filing Arizona Department of Revenue Form 6015 "Solar Energy Devices - Application for Registration".

Another provision of Arizona sales tax exemption may apply without value limit to the basic power generating part of the system (consisting of at least PV modules, structure, array

wiring and controls; the limits have not been clearly defined). This further exemption requires the filling out of form ADOR 5000 (ADOR60-2010 11/97) titled "Transaction Privilege Tax Exemption Certificate" and checking reason #16, "Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution."

Most Arizona cities have a 0.5 to 2% sales tax that still must be collected and reported for either of these exemptions unless the cities specifically exempt solar devices. For example, in Tempe there is no necessity to charge the 1.7% Tempe city sales tax.

### FEDERAL BUSINESS ENERGY TAX CREDIT

The Federal Business Energy Tax Credit is a 10% tax credit available to commercial businesses that invest in, or purchase, energy property in the United States. Energy property is defined as either solar or geothermal energy. Solar energy property includes equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water) a structure, or to provide solar process heat. Geothermal energy property includes equipment used to produce, distribute, or use energy derived from a geothermal deposit. For electricity produced by geothermal power, equipment qualifies only up to, but not including, the electrical transmission stage.

The energy property must be operational in the year in which the credit is first taken. The property must also be constructed by the taxpayer and used by the taxpayer. Energy property does not include public utility property, passive solar systems, pool heating, or equipment used to generate steam for industrial or commercial processes.

Credit may not be taken if financing for the project is subsidized or from tax-exempt private activity bonds. The tax credit is limited to \$25,000 per year, plus 25% of the total tax remaining after the credit is taken. Remaining credit may be carried back to the three preceding years and then carried forward for 15 years.

The Energy Policy Act of 1992 ensures that this tax credit is ongoing and has no expiration date. Use Form 3468 to claim the investment credit. The IRS general web site listed below under "Contact" provides a "Forms and Publications Finder." Enter the form or publication name or number that you are interested in, and click on "GO" to receive the requested form or publication.

### UTILITY/CUSTOMER PARTNERSHIPS

Arizona utilities are encouraging their customers to become partners in developing a growing solar and renewable energy component of

utility energy provision. With a small voluntary addition to monthly energy bills, utility customers can have a role in assisting utilities in incorporating more "green" energy into the energy mix. The resultant green energy is added to the distribution mix, and as the partnership grows in participation and action commitment, so does the percentage of energy produced by solar and renewable energy sources.

### Solar Partners Program Arizona Public Service

Residents, businesses and communities have the opportunity to purchase solar energy and help develop the technology in the building of solar power plants that are emissions free; testing technologies at the Solar Test and Research (STAR) Center; and educating the public on the benefits of solar.

### Green Watts Program Tucson Electric Power

Part of Tucson Electric Power's renewable energy portfolio the program encourages the installation of solar power systems, and renewable electricity created from other resources such as wind and landfill gas. Customers can invest directly in the creation of "green" power with a \$2.00 addition to the monthly utility bill, creating 20 kilowatt hours of electricity per month from renewable energy resources. TEP's Green-Watts program gives a way to invest directly in the creation of "green" power by providing funding for renewable energy projects.

All funds collected from the Green-Watts program are used to construct, maintain and operate renewable energy projects, including new solar electric generating facilities which will reduce the need to burn traditional fuels to generate electricity, providing benefit to Arizona's environment.

### Earthwise Energy Program Salt River Project

An opportunity for SRP customers to promote the use of solar and renewable energy in the Valley and support use of cleaner energy, and preserving precious natural resources. Earthwise Energy is a mix of locally produced renewable technologies that include solar electric generation plants of emission free electricity; landfill gas capture and use as fuel for power generation; and low impact hydroelectric generation using canal water flow.

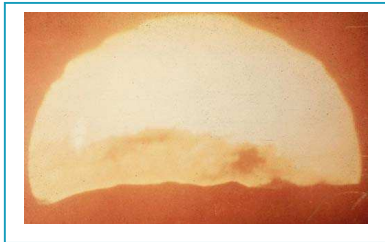
SRP customers can enroll to support continued SRP development and implementation of renewable energy in 100 kilowatt blocks at \$3 per month per block.



## **CONSUMER PROTECTION**

All commercially available and installed solar equipment in Arizona must meet State requirements. Hot water panels and systems commercially sold and installed in the State must have approved SRCC (Solar Rating and Certification Committee) identification, and be installed by a licensed solar contractor and certified installer. The Arizona Registrar of Contractors. Is responsible for contractor licensing.

Commercially available photovoltaic equipment in Arizona, to qualify for the State tax credits, should meet the following standards as applicable: IEEE Standard; U.L.listing, and installed in accord with manufacturer's instructions and the National Electric Code. A National Certification is under way and expected to impact Arizona within the next few years.



This information was prepared by the Arizona Solar Energy Association & the Arizona Solar Center Inc. for the Arizona Department of Commerce Energy Office under a contract from the U.S. Department of Energy Million Solar Roof Program

## **ARIZONA RESOURCES FOR SOLAR AND RENEWABLE ENERGY INFORMATION**

### **ARIZONA DEPARTMENT OF COMMERCE ENERGY OFFICE**

The agency is the primary resource for energy/renewable energy information; information of State requirements; legislation; and programs; information on Federal programs and activities; and information about state and local solar and renewable energy activities

Contract – 602-771-1194

### **ARIZONA CORPORATION COMMISSION**

The primary governmental resource regarding the Arizona Environmental Portfolio Standard; its rules and regulations; and its intent and application.

Contract –602-542-0828

### **ARIZONA SOLAR CENTER, INC.**

The mission of the AzSC is to enhance the utilization of renewable energy; educate Arizona residents on solar technology; support commerce and industry in the development and use of solar and other sustainable technologies; and coordinate these efforts throughout Arizona.

Contract – [www.azsolarcenter.com](http://www.azsolarcenter.com)

### **ARIZONA SOLAR ENERGY ASSOCIATION**

ASEA, a chapter of the American Solar Energy Society, has a mission to educate Arizonans about solar energy, its applications, and benefits of utilizing solar technologies. Regional subchapters in Northern, Central and Southern Arizona include local groups in Flagstaff, Prescott, Sedona, Phoenix and Tucson

Contact –[www.azsolarcenter.com](http://www.azsolarcenter.com)

### **ARIZONA SOLAR ENERGY INDUSTRIES ASSOCIATION**

ARISEIA, a trade association of Arizona solar companies, is dedicated to providing a viable and reliable solar industry in Arizona, is a chapter of the Solar Energy Industries Association (SEIA), headquartered in Washington.

Contact – 1-888-253-8180

### **CITY of SCOTTSDALE GREEN BUILDING PROGRAM**

Scottsdale builders and home buyers interested in environmentally compatible homes now have access to a comprehensive building initiative - the Green Building Program. The program advocates environmentally responsible building in the desert environment by incorporating Green Building practices.

Contact – 480-312-4202

### **GREATER TUCSON COALITION for SOLAR ENERGY**

The Greater Tucson Coalition for Solar Energy (GTCSE) is a public-private partnership dedicated to increasing the application of solar energy practices throughout the southeastern Arizona region. This mission is accomplished through a variety of programs and projects

Contact – [vajra@vecat.com](mailto:vajra@vecat.com)

### **CITIZENS for SOLAR**

Citizens for Solar is a public non-profit organization chartered to educate the public about the benefits of solar power, including solar cooking, photovoltaics, solar hot water, air heating, solar distillers and dehydrators, and solar cooling. Sponsors of the annual Tucson Solar Potluck

Contact – 520-885-7925

### **ASSOCIATION OF ENERGY ENGINEERS**

A professional organization promoting the wise use of energy.

Contact :- 520-760-0380

### **AMERICAN HYDROGEN ASSOCIATION**

Promotes the transition to the Solar/Hydrogen era through publications, workshops, and educational programs.

Contact – 480-827-7915

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