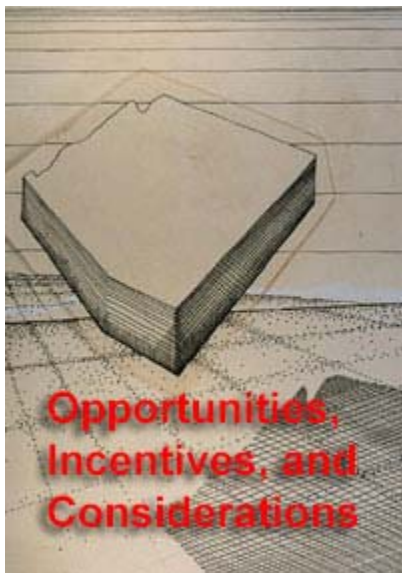


Arizona Solar Center - your source for solar energy information in Arizona.

AZSC



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. Thousands of hot water systems, scores of solar buildings throughout the State, Arizona solar organizations, and a well defined solar industry. Solar advocacy and promotion is found in state and local government, 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

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

- Any Az. electric service/distribution company selling electricity or gaining customers to sell electricity must derive at least .2% per year from solar resources or environmentally friendly renewable energy technologies. The percentage amount shall increase annually by 0.2% to a total of 1.0% 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 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.



The EPS requires Arizona utilities to produce a certain amount of solar generated electricity and under the EPS guidelines a utility is allowed to purchase "solar credits" from residential and commercial customers who install new solar electric systems on their buildings. In response to the Environmental Portfolio Standard requirements Tucson electric Power and Arizona Public Service have initiated incentive programs for Arizonans in their service areas. The programs are geared to motivate Arizonans to integrate solar equipment into their energy lives, and to this end the utility companies are offering buy-down programs. In return, the utility will get credit toward meeting their obligations and responsibilities under the Environmental Portfolio Standard requirements.

- **EPS Energy Purchase Credit Purchase - Arizona Public Service**



For residential and commercial customers in APS service territory, both on and off the electricity grid. A one-time credit (rebate) of \$2 per rated watt of DC electricity to qualified applicants for the purchase and installation of new photovoltaic systems capable of providing 5 kilowatts or less, installed by December 31, 2004. Program funding is limited to \$1.2 million dollars over 3 years. Program conditions include a grid connection agreement between APS and the applicant assigning the EPS credit for 12 years; use of Underwriter Laboratory approved solar products and components; meeting manufacturer requirements re: product and installation; meeting a National Electric Code, State and local code requirements; and installation by a licensed APS approved contractor. Grid Tied customers have the option of selling excess generated 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 new solar water heating system which replaces an electric water heater. Conditions include an assignment agreement with APS re: associated EPS credits; proper installation of solar panels in an unshaded condition; applicable certification of the system from Solar Rating and 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**



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

Those who are interested in investing in solar power have 2 options: SunShare option #1 requires the separate purchase a new solar system that meets TEP criteria; proper installation with a new output of 1 k with appropriate State, and local code compliance a approval; notification of TEP and inspection approval by TEP system engineers determi 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 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 amount of buy-down credit to be given.

STATE and FEDERAL INCENTIVES ([top](#))



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 equipment.

Arizona Solar Income Tax Credit - Homeowners can claim a 25% tax credit on up to \$4,000 of solar devices installed on a residence. This is a one time tax credit and restricts the homeowner for additional credits for solar purchases made for the same residence in subsequent years.

The law establishing the tax credit imposed several requirements on the seller of solar devices in order to qualify the equipment and application. Title 44, chapter 11, article 11 of the Arizona revised statutes (44-1761- Definitions, and 44-1762 - Solar energy device warranties; installation standards; inspections) detail the requirements. The Arizona Department of Commerce has issued guidelines (in 1993) for the required certificate to the buyer that the solar energy device complies with the requirements of the tax credit. the Arizona Registrar of Contractors later assumed this responsibility but has not yet issued any further requirements.

The Arizona Registrar of Contractors is responsible for licensing installers of solar devices and in the process of establishing appropriate solar electric standards for installers. Licensing of domestic solar hot water installers has been in place for several years. There is also an installer certification program 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 to be solar devices by the Arizona Department of Commerce) can now be sold to Arizona customers without having to charge state sales tax. (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 Energy Office (Arizona Department of Commerce) has compiled a guide to acceptable devices under the law. It is possible to petition the Arizona Department of Commerce to add additional items. 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 Energy Office at 602-280-1402.

- **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 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 it will not be necessary 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 for use in) 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 ([top](#))



Arizona utilities are encouraging their customer bases 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 as an alternative energy source.

- **GreenWatt 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 GreenWatts program gives a way to invest directly in the creation of "green" power by providing funding for renewable energy project. All funds collected from the GreenWatts program is 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.

ARIZONA RESOURCE GROUPS FOR SOLAR AND RENEWABLE ENERGY ([top](#))

Arizona Solar Center, Inc.



The mission of the Arizona Solar Center (AzSC) is to enhance the utilization of renewable energy, educate Arizona's residents on solar technology developments, support commerce and industry in the development of solar and other sustainable technologies and coordinate these efforts throughout the state of Arizona. The AzSC has a virtual center website, providing a one stop shop for Arizonans to gain solar and renewable energy information, link to other resources, and to answer questions regarding solar and renewable energy.

Arizona Department of Commerce - Energy Office

This state agency is the primary governmental recourse for energy and renewable energy information, for information, state requirements, legislation, and programs; for information on federal programs and activities, and for information about statewide and local energy groups and activities.

Arizona Corporation Commission

Arizona Corporation Commission is the primary government resource regarding the Arizona Environmental Portfolio Standard, its rules and regulations, and its intent and application.

Arizona Solar Energy Association



The Arizona Solar Energy Association (ASEA), founded in the mid-70's as a state chapter of the American Solar Energy Society (ASES), the largest solar energy organization in the United States. ASEA's mission is to educate the people of Arizona about solar energy, its applications, and the benefits of utilizing solar technologies. ASEA has Chapters throughout the State, including Flagstaff, Sedona/Verde Valley, Phoenix metropolitan area, Tucson, Taylor and Yuma.

Arizona Solar Energy Industries Association



ARISEIA is the Arizona chapter of the Solar Energy Industries Association (SEIA). SEIA is the national solar industry trade association and is headquartered in Washington, D.C. Our chapter is one of many state and regional chapters. Through SEIA, we are able to participate nationally in the solar industry.

City of Scottsdale Green Building Program



Home builders and prospective home buyers in Scottsdale interested in environmentally compatible homes now have access to a comprehensive building initiative called the Green Building Program. The program encourages the use of environmentally responsible building in our precious desert environment by incorporating Green Building practices.

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.

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.

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