National Summary Report on State Financial and Regulatory Incentives for Renewable Energy

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INTRODUCTION

Purpose and Organization of this Report

With the great variety and success of renewable energy programs being offered by local governments, utilities, and energy service providers, one might question the role of state governments and regulators in promoting renewables. The state level, however, continues to serve as a key source of initiatives and programs to advance the use of renewables around the country. Traditionally, state governments have served as the source of tax credit and loan programs but, over the past four years, many states have been taking the lead on advancing renewables through regulatory policies born out of electric utility restructuring. State level activity can be found in all fifty states and the District of Columbia—whether it's rebates for photovoltaics, tax credits for wind turbines, or interconnection rules and renewable portfolio standards for all renewables.

This report documents the variety of mechanisms that states are using to support renewable energy and is intended to serve as a comprehensive guide to this activity. Contained herein is a combination and update of the programs listed in two prior reports: *National Summary Report on State Financial Incentives for Renewable Energy* (1997) and *National Summary Report of Regulatory Policies and Programs for Renewable Energy* (1998). This report, therefore, serves as an updated snapshot of the state-by-state activity. It is intended to serve a variety of audiences: it can be used as an activity gauge for policy analysts; a collection of model programs for state and local policy makers; a contact resource for end users; and an incentives guide for renewable energy distributors and manufacturers.

This report is organized by state, with individual chapters for all fifty states. This is a departure from past reports whose chapters were organized by program type, e.g. sales tax incentives and portfolio standards. The new format is designed to give readers a more complete sense of what is going on in particular states and mimics the layout of *DSIRE on Line*. Within each state section, programs are organized into two major categories: financial incentives and regulatory policies and rules. To the right of each program name in the report, we have included a **$** to signify financial programs, and a ***§*** to signify regulatory policies and programs. These two categories are described below.

In addition to providing a summary of each state program, we have listed the applicable technologies as well as the applicable sectors, such as residential and commercial. Each summary contact information where available. For those programs where no individual contacts are listed, we have endeavored to find a website or agency to list, although this has not been possible in all cases. At the end of the report, there is a resource list with

organization names and websites that provide valuable information related to state incentive programs for renewables.

FINANCIAL INCENTIVES *$*

The financial incentives category is characterized by programs that offer direct cash incentives to end users, or in the case of industrial recruitment, manufacturers. This category includes:

- Rebates and Grants,
- Loan Programs,
- Tax Incentives, and
- Industrial Recruitment.

Visit www.dsireusa.org/financial.htm for the complete state-by-state table of financial incentives.

REGULATORY POLICIES AND PROGRAMS *§*

Regulatory policies and programs make up a broad category that captures many of the program types that are being implemented as part of state restructuring efforts, including:

- Public Benefits Funds,
- Renewable Portfolio Standards, and
- Disclosure & Certification.

Other regulatory policies and program types include:

- Net Metering,
- Solar & Wind Access,
- State Construction & Design Requirements,
- Contractor Licensing, and
- Equipment Certification.

Visit www.dsireusa.org/regulatory.htm for the complete state-by-state table of regulatory policies and programs.

DSIRE on Line

The limitation to this report lies in it being a snapshot in time. While many of the programs described in this report will continue for some years (indeed, many of these programs were originally described in the two previous reports), there is a great deal of state level activity affecting renewable energy programs and incentives. The current high tech age requires up to the minute information, which inherently places printed documents at a disadvantage.

Because of this, *DSIRE on Line* continues to serve as the primary vehicle for disseminating the information in the DSIRE database. The website (www.dsireusa.org) is updated daily with the latest program information on the state programs addressed in this report, as well as local government and utility programs – for a total of over 380 programs on the website. Additionally, *DSIRE on Line* allows the inclusion of links to dedicated program websites which might, for example, include tax credit or loan program guidelines, as well as links to our database of statutes, rulings, and other legal background.

There are two methods for searching the database—through one of the state-by-state tables or through the search form. Figure 1 shows the *DSIRE on Line* homepage which provides links to the tables for: (1) Financial Incentives; (2) Rules, Regulations & Policies; and (3) Community Investment & Awareness Programs.

Figure 1: DSIRE Homepage at http://www.dsireusa.org

Each table allows viewers to search by incentive type or by state (see Figure 2). In addition, within each table, color-coded buttons indicate the number of incentives or programs offered at the state, utility, and local levels, respectively. For example, in California, there are four state grant programs and four local grant programs. Clicking on one of the buttons brings the viewer to a complete list of the grant programs with links to program details and contact information. Selecting a state brings up a list of all of the state's incentives.

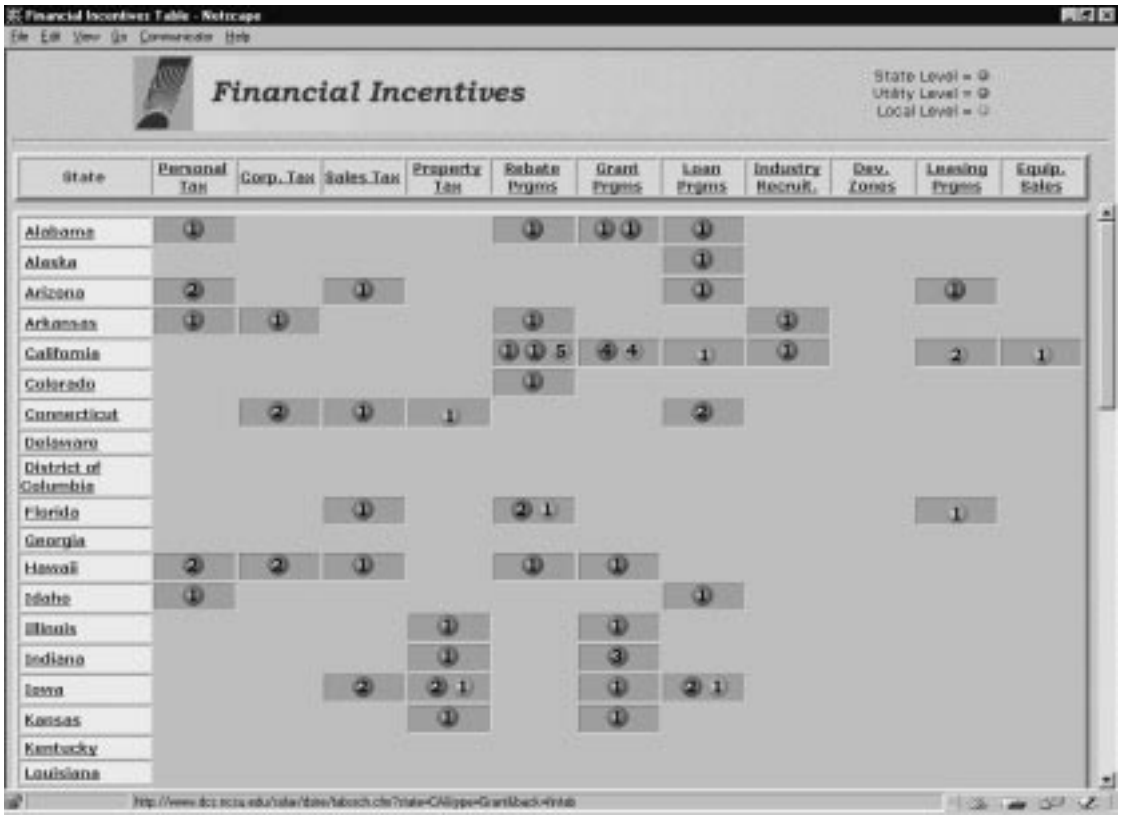

Figure 2: Screen Shot of Financial Incentives Table

DSIRE on Line also provides a form for searching the database. The form contains four pathways to view incentives and programs:

- By state,
- By incentive/program type,
- By renewable energy technology, and
- By eligible sector (e.g., commercial, industrial, residential, and/or public sector).

Other resources available from *DSIRE on Line* include:

- DSIRE Database of ***Schools Going Solar*** Programs developed and hosted for IREC's ***Schools Going Solar*** initiative;
- Online Bibliography of technical reports, papers, articles, books and journals related to state, utility & local level incentives, programs and policies for renewable energy; and
- DSIRE weblinks to other resources on the internet.

DSIRE Project Overview

The Database of State Incentives for Renewable Energy (DSIRE) serves as the nation's most comprehensive source of information on the status of programs and incentives for renewable energy. The database tracks these programs at the state, utility, local, and community level. Established in 1995, DSIRE is an ongoing project of the Interstate Renewable Energy Council (IREC) and is managed by the North Carolina Solar Center with funding from the U.S. Department of Energy's Office of Power Technologies.

The first three phases of the DSIRE project—surveys of state financial incentives, state regulatory policies, and utility programs and incentives—have been completed. Information from these databases has been published in three previous reports:

National Summary Report on State Financial Incentives for Renewable Energy (1997);
National Summary Report on State Programs and Regulatory Policies for Renewable Energy (1998); and
National Summary Report on Utility Programs and Incentives for Renewable Energy (1999).

These reports summarize incentives, programs, and policies that promote active and passive solar, photovoltaics, wind, biomass, alternative fuels, geothermal, hydropower, and waste energy sources. While reports serve as a snapshot of the status of incentives and programs, constant revisions and additions to the database maintain DSIRE's role as the most up-to-date, national clearinghouse of information on incentives and programs for renewable energy. Through *DSIRE on Line*, the DSIRE database is accessible via the web at: http://www.dsireusa.org.

IREC is a nonprofit consortium of state and local government renewable energy officials and is uniquely situated to oversee the effort to compile information on state, local, and utility incentives. IREC ensures that all information products produced are disseminated widely to federal, state and local agencies, federal laboratories, and other appropriate audiences.

The primary subcontractor to IREC for the DSIRE project is the North Carolina Solar Center. Established in 1988, the Solar Center is located in the College of Engineering at North Carolina State University in Raleigh, NC and is sponsored by the State Energy Office in the North Carolina Department of Administration. The Solar Center conducts programs in four areas: policy analysis, research and commercialization, technical assistance and training, and education and outreach.

STATE SUMMARIES

Alabama

Wood Burning Space Heating System Deduction $

This code allows resident taxpayers a deduction from the taxpayer's adjusted gross income for state income tax purposes of the total cost of installation for conversion from gas or electricity to wood as the primary energy source for heating their individual domestic homes for the taxable year during which such conversion was completed. Note that this incentive is for conversion from gas or electric, not for first time installation of a wood burning system.

Statute or Rule: ARS 40-18-15(a)(17)
Applicable Sectors: Residential
Applicable Technologies: Biomass

Contact Information:
Alabama Revenue Department
50 Ribley Street
Montgomery, AL 36132
(334) 242 1170

Renewable Fuels Program – Biomass $

Alabama's Science, Technology, and Energy Division located in the Department of Economic and Community Affairs offers interest subsidies on loans for the installation of qualifying biomass energy and waste fuel systems in commercial, industrial, agricultural, or institutional facilities. Qualifying projects include the installation of, or modifications to, equipment for the production of hot water, steam or hot air from biomass. Also eligible is equipment for biomass fuel storage, preparation, and transport, as well as equipment (such as pollution controls) incidental to the production of biomass fuels.

The maximum interest subsidy available to any one project is $75,000. A borrower obtains a loan from a commercial lending institution and applies to the Division for interest payment assistance. Assistance is given only for loans with interest rates no greater than prime +2%.

Applicable Sectors: Commercial, Industrial
Applicable Technologies: Biomass, Alternative Fuels

Contact Information:
Science, Technology & Energy Division
Alabama Department of Economic and Community Affairs
P.O. Box 5690
Montgomery, AL 36103-5690
http://www.adeca.state.al.us/adeca/pages/pages_stm/STE_ECP_Energy-Conservation-Programs.stm

Alaska

Power Project Revolving Loan Fund $

Created by Alaska State Legislature and administered by the Alaska Energy Authority, this fund provides loans to local utilities, local governments, regional and village corporations, village councils, nonprofit marketing cooperatives, and independent power producers. It is designed for the development or upgrade of small-scale power production facilities, conservation facilities, bulk fuel storage facilities. This includes energy production, transmission and distribution, and waste energy conservation facilities that depend on fossil fuel, wind power, tidal, geothermal, biomass, hydroelectric, solar, or other nonnuclear energy sources. The loan term is related to the life of the project. Interest rates are the lesser of the average weekly yield of municipal bonds for the 12 months preceding the date of loan, or a rate the Division determines will allow the project to be financially feasible.

Statute or Rule: AS 42.45.010
Applicable Sectors: Commercial, Industrial, Government, Utility
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Alternative Fuels, Waste

Contact Information:
Jim McMillan
Alaska Energy Authority, Alaska Industrial Development and Export Authority
(907) 269 3000
jmcmillan@aidea.org or www.aidea.org

Solar Easements §

Alaska's solar easement provisions are similar to those in most other states. Solar easements allow the voluntary creation of a legally binding agreement between two parties with adjacent land whereby the "burdened" party agrees to never build or place any impediment that might infringe significantly on the solar radiation needed for the solar equipment of the "benefiting" party. Solar easements are legally binding once approved by the locally governing body—usually the county court—and run with the land no matter if land ownership changes hands.

Statute or Rule: Alaska Statutes 34.15.145
Applicable Sectors: Residential, Commercial, Industrial, Government

Contact Information:
Andrea Antoine
Division of Energy, Department of Community and Economic Development
(907) 269 4628

Arizona

Qualifying Wood Stove Deduction $

This incentive allows Arizona taxpayers to deduct the cost of converting an existing wood fireplace to a qualifying wood stove. Qualifying wood stoves must meet the standards of performance for new wood heaters manufactured after July 1990, or sold after July 1992.

Statute or Rule: ARS 43-1027
Applicable Sectors: Residential
Applicable Technologies: Biomass

Contact Information:
Amanda Ormond
Energy Office, Arizona Department of Commerce
3800 North Central, Suite 1200
Phoenix, AZ 85012
(602) 280 1402
energy@ep.state.az.us
http://www.azcommerce.com/energy.htm

Revolving Energy Loans for Arizona (RELA) Program $

The Revolving Energy Loans for Arizona (RELA) Program is offered by the Department of Commerce for companies that either manufacture renewable energy, alternative energy, or energy conserving equipment or acquire such equipment for use in their own processes. Manufacturers can qualify for the loan only if they have at least two years operating experience in Arizona. Loan requests may range from $10,000 to $500,000, up to a maximum of 75% of total project costs. Fixed interest rates are 5% for conservation or retrofit projects and manufacturing. Projects must have seven years simple payback or less.

Statute or Rule: ARS 41-1509
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

Contact Information:
Patty Duff
Energy Office, Arizona Department of Commerce
3800 North Central, Suite 1200
Phoenix, AZ 85012
(602) 280-1340
energy@ep.state.az.us
http://www.azcommerce.com/datapages/special_business_opportunities.htm#Energy Loans

Solar and Wind Energy Systems Credit $

This statute provides a credit against the personal income tax in the amount of 25% of the cost of a solar or wind energy device. The credit can be claimed in the year of installation and has a maximum allowable limit of $1,000. If the amount of the credit exceeds a taxpayer's liability in a certain year, the unused portion of the credit may be carried forward for up to five years. Qualifying technologies include passive solar heating, active solar space heating, solar water heating, photovoltaics, and wind systems. Tax credit forms and guidelines can be found on the Arizona Solar Center "Benefits" webpage.

Statute or Rule: ARS 43-1083
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind

Contact Information:
Jim Arwood
Energy Office, Arizona Department of Commerce
3800 North Central, Suite 1200
Phoenix, AZ 85012
(602) 280 1409
http://www.azsolarcenter.com/benefits/solartaxcredit.html
http://www.revenue.state.az.us/brochure/solar.htm

Solar and Wind Equipment Sales Tax Exemption $

This retail sales tax exemption applies to solar and wind energy equipment. Solar includes passive solar heating, active solar space heating, solar water heating, and photovoltaics. Qualifying wind systems include wind electric generators and wind-powered water pumps. This exemption is allowed on equipment up to $5,000.

Statute or Rule: ARS 42-5061
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind

Contact Information:
Jim Arwood
Energy Office, Arizona Department of Commerce
3800 North Central, Suite 1200
Phoenix, AZ 85012
(602) 280 1409
energy@ep.state.az.us
http://www.azsolarcenter.com/benefits/solarsalestax.html

Fuel Mix and Emissions Disclosure *§*

The Arizona Corporation Commission rule for retail competition requires disclosure of fuel mixes and emissions.

Statute or Rule: 1996 Arizona Corporation Commission rule
Applicable Sectors: Utility

Contact Information:
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007
http://www.cc.state.az.us/

Solar Equipment Certification *§ §*

As of June 1, 1995, all solar water heating products and systems and their installations must conform to the guidelines and procedures of the current (at time of sale) Solar Rating and Certification Corporation (SRCC) OG-300. For all solar heating systems, the purchaser must be furnished with a written statement of certification, a statement of performance that includes the general thermal performance the purchaser can expect from the system under typical conditions, and a statement of warranty coverage. This is in addition to, not in lieu of, all information required to be given to the purchaser by the product and system test certification documents, which are SRCC OG-300 or equal.

For photovoltaic systems, Arizona requires that systems be installed according to the National Electrical Code (NEC) and that modules be listed to Underwriters Laboratories standard 1703.

Statute or Rule: ARS 44-1762
Applicable Sectors: Residential, Commercial, Industrial, Government, Construction
Applicable Technologies: Solar Water Heating, Photovoltaics, Daylighting

Contact Information:
Michael Neary
Arizona Solar Energy Industries Association
2034 North 13th Street
Phoenix, AZ 85006
(602) 258 3422
solar-guy@msn.com
http://www.azsolarcenter.com/benefits/guidelines1.html

Solar Design Standards for State Buildings *§*

Arizona law requires that new state building projects over six thousand square feet follow prescribed solar design standards and that solar improvements be evaluated on the basis of life cycle costing. Such new buildings include state office buildings, school districts, community college districts and universities. These projects must include evaluation of (a) proper site orientation, (b) active and passive solar energy systems for space heating, (c) solar water heating, and (d) use of solar daylighting devices. The life cycle costing requirements state that solar energy and energy conservation design, equipment and materials shall be used if the simple payback in energy savings is eight years or less.

Statute or Rule: ARS 34-452; 1997 AZ Senate Bill 1399
Applicable Sectors: Government, Schools, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV

Contact Information:
Jim Arwood
Energy Office
Arizona Department of Commerce
3800 North Central, Suite 1200
Phoenix, AZ 85012
(602) 280 1409
http://www.azcommerce.com/energy.htm

Net Metering §

The original Arizona Corporation Commission regulatory decision allowing net metering was made on July 27, 1981. This ruling allows net metering for qualifying facilities (QF) as defined by PURPA. No Arizona utility filed a net metering tariff until Arizona Public Service (APS) company filed in 1994 to allow net metering of all renewable energy generators under 10 kW. Net excess generation under the APS tariff is purchased at the utility's avoided cost. Tucson Electric Power Company (TEP) filed two net metering tariffs in 1996. The first is Tariff 101 applying to commercial customers, and Tariff 102 applies to all other customers. Under both tariffs, net metering is allowed for QFs 100 kW or smaller. Net excess generation is purchased at fixed seasonal rates. Commercial customers may receive 4.4¢/kWh May through October and 3.5¢/kWh for November through April. All other customers receive 4.84¢/kWh May through October and 3.85¢/kWh November through April.

Statute or Rule: ACC Decision No. 52345; APS tariff: EPR-4, TEP tariff: 101 and 102
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal

Contact Information:
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007
http://www.cc.state.az.us/

Solar Contractor Licensing §

Among Arizona's contractor licenses, there is a specific residential solar plumbing license. Like all other contractor licenses in Arizona, qualifications include four years experience, of which two years may be satisfied through technical training and passing an exam. All other solar installers (aside from residential solar plumbing) must be licensed contractors in an appropriate category. The following licensing exams include sections on solar applications: Air Conditioning and Refrigeration; Boilers, Steamfitting and Process Piping; Swimming Pools; and General Plumbing. For each of these categories there is a commercial and residential license.

Additionally, Arizona's Solar Energy Industries Association (ARISEIA), in cooperation with the Arizona Department of Commerce Energy Office, provides certification of solar domestic hot water technicians. Certification requirements include six months working experience, recertification every three years, and passing an exam administered by ARISEIA.

Statute or Rule: ARS 32-1170—32-1170.03
Applicable Sectors: Residential, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

Contact Information:
Jim Giordano
Registrar of Contractors
800 W. Washington Street, 6th Floor
Phoenix, AZ 85007
(602) 542 1525

Environmentally-Friendly Portfolio Standard *§*

Arizona's Environmental Portfolio Standard (EPS) was formally approved by the Arizona Corporation Commission (ACC) in May of 2000 (Docket No. E-00000A-99-0205) after it had been previously enacted and rescinded. The standard applies to all electric service providers in the state, beginning at 0.25% of retail sales in 2000 and ramping up according to the following schedule. Utilities must include this percentage of renewables in their power mix beginning January 1 of each year:

2001 0.25%
2002 0.4%
2003 0.55%
2004 0.7%
2005 0.85%
2006 1.0%
2007 – 2012 1.1%

Of these amounts, solar must make up 50%, increasing to 60% by 2007. Applicable technologies include photovoltaics, solar thermal electric, solar hot water, wind, biomass, hydropower, and landfill methane. (At one point, Arizona's portfolio standard proposal was applicable only to solar technologies.)

Funding for the EPS comes from a system benefits charge to be collected by the state's regulated utilities. These charges are capped at 35¢ per month for residential customers, $13/month for non-residential, and $39/month for customers with loads over 3 MW. Additionally, the Commission called for the utilities to provide their customers with the opportunity to voluntarily contribute even more to the technologies supported in the EPS. Of the amount that is collected from voluntary contributions, utilities are expected to match 10% annually or $100,000, whichever amount is greater. In total, at least $15 – $20 million is expected to be collected annually for the EPS.

It is estimated that the SPS will result in total statewide spending of roughly $100 million for solar power between 2000 and 2005 and produce nearly 20 MW of solar power by 2002. Interestingly though, the rules include the caveat that if the cost of solar technologies do not decrease to a Commission determined cost/benefit point by the end of

2003, the portfolio requirement will not continue to increase. If sustained, the standard will produce almost 100 MW of solar power by 2007.

No explicit renewable energy credit program is created, but all eligible kWh can be sold, traded or banked, effectively creating a credit-trading program. An electric provider that does not satisfy the RPS during a compliance period will be subject to a penalty of 30¢/kWh to fund further development of environmentally friendly technologies. However, penalties will not be collected before 2004

Statute or Rule: ACC Rules R14-2-1618; Decision 62506
Applicable Sectors: Industrial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal, Waste

Contact Information:
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007
http://www.cc.state.az.us/

Solar Energy Covenant Restrictions *§*

This state law, which was passed by the Arizona Legislature in 1979 in order to protect individual homeowners' private property rights to use solar, dissolves any local covenant, restriction, or condition attached to a property deed that restricts the use of solar energy.

Interestingly, this law was challenged in the courts in the spring of 2000. A Maricopa County Superior Court judge ruled in favor of homeowners in a lawsuit filed by their homeowners association seeking to force the homeowners to take down solar panels installed on the roof. After a four-day trial, the Judge found that the association's "guidelines combined with [its] conduct "effectively prohibited" the defendants from placing solar heating devices on their residence, contrary to the provisions of A.R.S.-33-439 (A)."

Statute or Rule: ARS 33-439
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV

Contact Information:
Amanda Ormond
Energy Office, Arizona Department of Commerce
3800 North Central, Suite 1200
Phoenix, AZ 85012
(602) 280 1402
energy@ep.state.az.us
http://www.azcommerce.com/energy.htm

Line Extension Analysis for PV *§*

The Arizona Corporation Commission requires that, for remote locations with electricity needs, electric utilities must conduct a cost/benefit analysis to compare the cost of line extension with the cost of installation of a stand alone photovoltaic system. The Arizona Corporation Commission has published a brochure titled "The Solar Electric Option: Instead of Power Line Extension" to help utilities and customers assess the options.

This ruling applies to Arizona Public Service, Tucson Electric Power, Arizona Electric Power Cooperative, and Navopache Electric Cooperative. The state's largest electric utility, Arizona Public Service (APS), offers a financing package for the installation of photovoltaic systems for remote customers.

Statute or Rule: Docket No. U-0000-93-052 Decision No. 58643 and Docket No. U-1345-94-363 Decision No. 58873
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility, Construction
Applicable Technologies: Photovoltaics

Contact Information:
Carl Dabelstein
Utilities Division
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007
(602) 542 0828
http://www.cc.state.az.us/

Arkansas

Alternative Fuel Vehicle Conversion Rebate Program $

This program, which is administered by the Arkansas Department of Economic Development, provides a 50% rebate for the cost of conversion of a vehicle to alternative fuels. Eligible renewable fuels include: liquefied petroleum gas (LPG), compressed natural gas (CNG), liquefied natural gas (LNG), electricity, ethanol or methanol. For CNG, LNG and electric conversions, the maximum rebate is $2,000 and, for LPG, ethanol and methanol, the maximum rebate is $1,000. The rebate is also available for the purchase of a new, factory-equipped alternative fuel vehicle. In this case, the rebate totals 50% of the added cost of the vehicle being adapted for alternative fuel use.

The original allocated fund for these rebates totaled $250,000. To date, 90 rebates have been made (28 for CNG and 62 for LPG) totaling $76,700. Rebates will be available on a first come, first serve basis until the funds are exhausted. It should be noted that those eligible for this program may be eligible for one of two federal tax deduction programs. The Federal government offers a deduction of up to $2,000 for the conversion of vehicles to qualified clean fuel burning vehicles, and a deduction of 10% of the purchase price up to $4,000 for electric vehicles.

Applicable Sectors: Transportation
Applicable Technologies: Alternative Fuels

Contact Information:
Fran Monk
Arkansas Energy Office
Arkansas Department of Economic Development
One State Capitol Mall, Suite 4B/215
Little Rock, AR 72201
(501) 682 6103

Emerging Energy Manufacturing Facilities Credit $

The Arkansas Emerging Energy Technology Development Act of 1999 provides for an economic incentive to attract manufacturers of high tech/high growth energy technologies which are on the verge of full entry into the world-wide market. The intent of this act is to provide an environment that creates a diversity of economic opportunities for Arkansas and expands the state's ability to attract higher paying jobs, as well as enhancing recruitment, training, and retention of a talented Arkansas workforce.

The act established a state income tax credit of 50% of the amount to purchase or construct a facility that designs, develops or produces photovoltaics (solar cells), electric vehicle components

or fuel cells. The cost can include land, infrastucture, renovation, building improvements, and machinery. Any portion of the unclaimed tax credit may be carried forward for a maximum of six years.

Statute or Rule: AR Code 15-4-21; Acts 1999, No. 976
Applicable Sectors: Industrial, Transportation
Applicable Technologies: Photovoltaics, Fuel Cells, Electric Vehicles

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Energy Saving Equipment Deduction $

This deduction is for individual homeowners who install any energy saving equipment, including active and passive solar space and water heating equipment. The deduction is for 100% of the cost of the equipment, excluding tax and interest, and there is no maximum limit.

Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating

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Advanced Biofuels Tax Credit $

This industrial recruitment incentive provides a 30% credit for the cost of buildings, equipment and intellectual property necessary to produce advanced biofuels (ethanol or methanol and/or their derivatives, produced from biomass (waste materials)). The new legislation enacted in 1999 revises a previous biotechnology code enacted in 1997 that provided credits for employee training and higher education partnerships (30%) and biotechnology research (20%). According to the code, biotechnology means "the uses of biochemistry, molecular biology, genetics, and bioengineering to meet the needs of agriculture, aquaculture, forestry, energy, and environmental industries, . . ."

Statute or Rule: AR Code § 2-8-109; Acts 1999 No. 1367
Applicable Sectors: Commercial, Industrial, Transportation
Applicable Technologies: Alternative Fuels, Waste

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Solar Energy Equipment Certification *§*

Mandatory solar energy equipment certification is done by the Arkansas Department of Health. Relevant equipment includes active solar water and space heating, passive space heating, and photovoltaic systems. Current rules require equipment to meet OG-100 standards but these rules are in the process of being updated to require fulfillment of OG-300 standards.

Statute or Rule: Arkansas Plumbing Code Chapter 16
Applicable Sectors: Residential, Commercial, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Photovoltaics

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Solar Mechanic Licensing *§*

Arkansas requires that a person obtain a solar and hydronic heating mechanic's license in order to perform work on solar domestic hot water heating systems. The Arkansas Department of Health offers journeyman and master mechanics licenses which, like other mechanical licenses in the state, require an application demonstrating experience and an examination. Four years of experience are required to test for the journeyman's license and five years to test for the master mechanic licenses. Licenses are renewed annually with a fee of $200. Very few solar mechanic licenses have been issued since the rules were put into place in 1984 as part of Arkansas's plumbing code.

Statute or Rule: Arkansas Statutes Annotated @ 17-38-201
Applicable Sectors: Residential, Commercial, Industrial, Construction
Applicable Technologies: Active Space and Water Heating

Contact Information:
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Arkansas Department of Health
http://health.state.ar.us/phc/services.htm

California

Transportation Energy Technologies Advancement Program $

Sponsored by the California Energy Commission (CEC), the Transportation Energy Technologies Advancement Program (TETAP) was established in 1992 to provide grants in the form of co-financing for near term (3-5 years) research and demonstration of transportation technologies that will reduce that state's dependence on petroleum based fuels. Funds are provided through oil overcharge accounts. TETAP grants support up to 50% of the funding for a project and require that at least 20% of the matching funds be provided by the applicants themselves.

Applicable Sectors: Transportation
Applicable Technologies: Alternative Fuels

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Electric Vehicle Infrastructure Incentive Program $

In an effort to get more electric vehicles (EVs) on the road, the CEC has approved an incentive program with four automakers. The Energy Commission's Vehicle Infrastructure Assistance Program will allocate $100,000 each to automakers currently marketing electric vehicles. The funds will help EV buyers and lessors pay for charging equipment and installations. Under the program, the Energy Commission will provide a $500 incentive that must be matched dollar-for-dollar by the participating automobile companies for each EV they sell or lease. If the EV buyer or lessor is in the South Coast Air Quality Management District, the district adds another $250, for a total incentive of $1,250. The program is administered by the auto companies to enable customers to receive the incentive at the time of purchase. Automakers are reimbursed by the CEC.

Applicable Sectors: Transportation
Applicable Technologies: Alternative Fuels

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Public Interest Energy Research Grants (PIER) $

In 1996, Governor Pete Wilson signed into law Assembly Bill (AB) 1890 which provided authority for a fundamental restructuring of California's electric services industry. Among other things, AB 1890 requires that at least $62.5 million be collected annually from investor-owned utility ratepayers for public interest energy R&D efforts not adequately provided by competitive and regulated markets. The California Energy Commission is administering these R&D funds under the "Public Interest Energy Research" grant program (PIER).

In 1997, Senate Bill 90 established criteria for the PIER program. The legislation requires that the program portfolio include these five subject areas: (1) Renewable energy technologies; (2) Environmentally preferred advanced generation; (3) Energy-related environmental enhancements; (4) End-use energy efficiency; and (5) Strategic energy research.

Statute or Rule: Senate Bill 90; Assembly Bill 1890

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Energy Technology Export Program $

Begun in 1988, this program of the California Energy Commission provides assistance in developing overseas energy projects as well as overseas trade opportunities. The program offers many services for companies looking to invest in projects abroad or make sales abroad. Program offerings include an Energy Technology Export Directory of California companies, foreign market and trade analyses, trade missions, orientation visits (foreign officials are invited to California), and Commission counsel to foreign governments.

Though the program focuses on such promotional efforts, it also provides pre-investment seed funding. Examples of projects supported by this program include wind projects in Wales and Costa Rica, a hospital cogeneration plant in Australia, a geothermal powerplant in the Philippines, village power projects using solar photovoltaics in Kenya and Tanzania, and electronic controls for chillers in several Asian nations.

Applicable Sectors: Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Energy Innovations Small Grant (EISG) Program $

Small Grants Innovation Program is intended to determine the feasibility of energy technology and science innovations for new energy concepts whose feasibility are not yet established. Approximately $2 to $2.5 million per year of PIER funds will be available for two years. The program will be administered by the California State University Institute, in collaboration with the University of California, San Diego State University and Commission staff who assist in implementation and project selection.

The Energy Innovations Small Grant (EISG) Program provides up to $75,000 to small businesses, non-profits, individuals and academic institutions to conduct research that establishes the feasibility of new, innovative energy concepts. Research projects must target one of the six PIER program areas: (1) Industrial/Agriculture/Water End-use Efficiency; (2) Building End-use Efficiency; (3) Environmentally Preferred Advanced Generation; (4) Renewable Generation; (5) Energy-Related Environmental Research; and (6) Strategic Energy Research. The projects must address a California energy problem and provide a potential benefit to California electric ratepayers.

Up to four solicitations per year are planned. To encourage participation in the program the application and award process has been simplified and assistance is available in gaining access to technical experts and laboratory facilities. The Grant Application Manual and supporting documents can be downloaded from the web page containing the current solicitation notice.

Statute or Rule: Senate Bill 90; Assembly Bill 1890
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Passive Solar, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Fuel Cells

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California Energy Commission §

The California Energy Commission (CEC) is the state's primary energy policy and planning agency, charged with ensuring a reliable and affordable energy supply. Created by the California General Assembly in 1974, the Commission has five major responsibilities:

(1) Forecasting future energy needs and keeping historical data on energy
(2) Siting and licensing power plants
(3) Promoting energy efficiency through appliance and building standards
(4) Developing energy technologies and supporting renewable energy
(5) Planning for and directing state response to energy emergencies

Renewable energy and alternative transportation technology programs are handled by the Energy Technology Development Division which administers grants for research, demonstration and commercialization of advanced technologies. The CEC works with private partners to develop and commercialize technologies. Current program focuses include advanced renewable technologies such as solar, geothermal, biomass, wind, and cogeneration. Since the restructuring of the electric industry in California, the CEC's activities have expanded greatly.

Statute or Rule: Warren-Alquist Energy Resources Conservation and Development Act
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind, Biomass, Alternative Fuels, Geothermal, Waste

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Solar Access Laws and the Solar Shade Control Act §

California's solar access laws appear in the state's Civil, Government, and Natural Resources Codes. California's Civil Code ensures that solar easements may be created to ensure that proper sunlight is available to those who operate solar energy systems, including passive solar design. The Civil Code also states that no covenant or restriction contained in any document pertaining to the sale of property can contain language that explicitly prohibits or restricts the installation or use of a solar energy system.

California's Government Code provides that subdivisions may have included in their plans solar easements applicable to all plots within the subdivision. California's Natural Resources Code lays out the Solar Shade Control Act, which encourages the use of trees and other natural shading except in cases where the shading may interfere with the use of active and passive solar systems.

Statute or Rule: Civil Code @ 801.5, Government Code @ 66475.3, Public Resources Code @ 25980
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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California Energy Commission

Emerging Renewable Buy-Down Program Equipment Certification §

Solar hot water collectors installed on residential property must meet standards established by the Solar Rating Certification Corporation (SRCC). The entire solar energy system and installation must be certified. Eligible generating systems need to meet all of the following requirements:

1. They must use one of the designated emerging renewable technologies to produce electricity.
2. For certain technologies, specified components of the systems, or the entire systems, must meet national standards. The Energy Commission will maintain a list of components and systems that meet the required standards of the program.
3. The system must be installed by a licensed contractor, unless installed by the purchaser, and be installed in conformance with the system manufacturer's specifications and all applicable electrical codes and standards.
4. The system must come with a minimum parts and labor five year warranty for the purchaser against breakdown or unusual degradation.

Statute or Rule: California Civil Code 714
Applicable Sectors: Residential, Construction
Applicable Technologies: Solar Hot Water and Space Heating

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Solar Contractor Licensing §

The California Contractors State License Board administers the Solar Contractor license (C-46). Requirements include four years experience and the passing of both trade and law exams. Independent license schools offer courses to prepare for license exams. The license covers active solar energy systems including but not limited to: forced air systems, forced circulation water systems, thermosiphon systems, integral collector/storage systems, radiant systems, evaporative cooling systems with collectors, regenerative rockbed cooling systems, photovoltaic cells, and solar assisted absorption cooling systems.

Applicable Sectors: Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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Retail Electricity Disclosure Program and Green Labeling §

California's energy suppliers must disclose to all customers the energy resource mix used in generation. Providers must use a standard label created by the California Energy Commission (CEC), and this information must be provided to end-use customers at least four times per year.

On the certification side of the issue, the *Green-e* Renewable Branding Program is being used by suppliers in the state. Designed by the Center for Resource Solutions, this voluntary certification and verification program designates energy offerings whose renewable energy content is at least 50%. For the non-renewable portion of energy with the Green-e label, if fossil fuels are used, those resources must have their air emissions per/kWh for SOx and NOx less than or equal to California System Power. The program is governed by the Green Power Board, an independent oversight board.

Statute or Rule: 1997 Senate Bill 1305
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Net Metering §

California's net metering law requires that all California electric utilities, regulated and unregulated, allow net metering for residential and small commercial customers with solar electric and wind power systems under 10 kW. Utilities are required to bill net metered customers on an annual basis with any excess generation granted to the utility at the end of the year. In terms of overall limits to net metering capacity, it is determined for each individual utility as one tenth of one percent of its 1996 peak generation. Based on 1996 peak demand for all of California's utilities, total net metering capacity in the state can reach 53.3 MW.

Statute or Rule: California Public Utility Code 2827
Applicable Sectors: Residential, Commercial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind

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California initially set the bar for all other renewable energy funds with the creation of a $540 million fund for renewables with its electric industry restructuring legislation (AB 1890) 1996. The success of that program led to legislation to extend that funding—at the same annual levels—another ten years through 2012. This created an additional $1.35 billion in renewables funding. This extended funding was enabled through Assembly Bill 995, which passed in September 2000. The initial funding amount is being collected from1998 – 2001 from customers of the state's three investor-owned utilities—San Diego Gas and Electric, Southern California Edison, and Pacific Gas and Electric—which must pay specified amounts each year. The California Energy Commission (CEC) manages the renewables funds through these four accounts (amounts given for the initial $540 million):

(1) existing technologies account – 45% ($243 million)
(2) new technologies account – 30% ($162 million)
(3) emerging technologies account – 10% ($54 million)
(4) consumer side account – 15% (14% credit $75.6 million; 1% education $5.4 million)

The **existing technologies** account (45% or $243 million) is divided into three subaccounts: (a) biomass and solar thermal: 25% ($135 million), (b) wind: 13% ($70.2 million), and (c) geothermal, small hydro, digester gas, landfill gas, and municipal solid waste: 7% ($37.8 million). This account is intended to support the development and maintenance of existing renewable energy projects, i.e. renewable projects that are already built. This account uses a $/kWh production credit mechanism. The **new technologies** account (30% or $162 million) supports prospective new renewable electricity generation projects. These projects must be brought on line by the end of 2001 and, like the existing technologies account, money is awarded as a $/kWh credit.

The **emerging technologies** account (10% or $54 million) is being allocated through a rebate program. Eligible technologies under this account are photovoltaics, solar thermal electric, fuel cell technologies that use renewable fuels, and wind turbines up to 10 kW. Overall, sixty percent (60%) of the emerging technologies moneys will go toward rebates for systems of 10 kW or less with an additional 15% reserved for systems of 100 kW or less. The rebates are available on a declining scale to encourage early use of the program. The **consumer side** account provides rebates to consumers who choose to buy green power from power marketers (14% or $75.6 million) and marketing for renewables (1% or $5.4 million). Another source of funding for renewables is through a $248 million research and development fund, of which a portion goes toward renewable energy technologies.

Efficiency funds are being administered by the California Board for Energy Efficiency (CBEE), a new advisory board created by the Public Utilities Commission (http://www.cbee.org/). The Low-Income Governing Board (http://www.ligb.org/), an new advisory board to the CPUC, will manage the weatherization and rate assistance funds.

Statute or Rule: Assembly Bill 1090, Docket No. 96-REN-1890
Applicable Technologies: Solar Thermal Electric, PV, Wind, Hydro, Alternative Fuels, Geothermal, Waste

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Colorado

Alternative Fuel Vehicle Rebate Program $

The Governor's Office of Energy Management and Conservation (OEMC), in cooperation with the Colorado alternative fuels industry, offers rebates to vehicle owners who convert their vehicles to cleaner burning alternative fuels or for the purchase of an alternative fuel vehicle. Eligible fuels include propane, compressed natural gas, methanol, ethanol, and electricity. The base rebate is 15% of the cost of the vehicle, which may be increased up to a total of 50% depending on the type of vehicle and its use. For example, the rebate is increased by 10% for a new factory vehicle or engine installed by the Original Equipment Manufacturer (OEM). The maximum rebate amount is $1,500 for passenger vehicles, $2,500 for light-duty trucks (8,500 lbs. or less), $3,500 for medium-duty trucks (between 8,500 and 14,000 lbs.), and $6,000 for heavy-duty trucks (greater than 14,000 lbs.).

Statute or Rule: CRS 5. 39-33-105
Applicable Sectors: Transportation
Applicable Technologies: Alternative Fuels

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Executive Order for the Use of Renewable Energy by State Agencies §

In August, 1997, former Governor Roy Romer announced an executive order that requires the s Governor's Office of Energy Management and Conservation (OEMC) to determine standards for cost effective use of renewable energy resources by state agencies. The standards to be adopted are to be based on the life-cycle cost of each renewable application. The order specifically states that agencies that are building new buildings must utilize passive solar design and adopt solar technologies whenever cost effective. The OEMC is also ordered to develop a mechanism that will create an incentive for agencies to purchase electricity from renewable energy resources. In 1999 the OEMC purchased a year's worth of green power to fully power the Governor's residence. OEMC also recently released a RFP to demonstrate fuel cells.

Statute or Rule: Executive Order August 18, 1997
Applicable Sectors: Government, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Alternative Fuels, Geothermal, Waste

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Solar Access Laws §

Colorado's solar access laws prohibit any residential covenants that restrict solar access. And, as in Alaska, Colorado also has solar easement provisions, which allow property owners to voluntarily create solar easements for the purpose of protecting and maintaining proper access to sunlight.

Statute or Rule: CRS 38-32-168; 38-32.5-100; 30-28-133 & 31-23-214
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, PV

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Line Extension and Photovoltaic Cost Evaluation §

This ruling by the Colorado Public Utilities Commission requires utilities to provide a cost benefit analysis comparing the cost of line extension to remote customers and the cost of installation of a stand alone, on-site photovoltaic system. This analysis is required in cases where the ratio of monthly kWh consumption to distance in miles is less than or equal to 1,000. That is, if a customer lives a half mile (.5) from the nearest power line and they consume less than 500 kWh per month, then the utility is required to assess the relative costs of extending the power lines and installing a photovoltaic power system on-site. Because Colorado's only regulated utility, Public Service Company, is primarily urban, this ruling is rarely invoked.

Statute or Rule: C94-1567, Docket No. 94R-254E; Decision No. R94-1331
Applicable Sectors: Residential, Utility
Applicable Technologies: Photovoltaics

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Net Metering *§*

Public Service of Colorado's (PSCo) net metering tariff was approved by the Colorado Public Utility Commission in 1988. All customer sectors are eligible to participate, and there is no statewide limit to the amount of net metering generating capacity. Net excess generation by customers is not purchased by the utility—it is granted to the utility. Public Service of Colorado has contracted with Altair Energy for the installation of customer-owned grid tied systems. Beyond PSCo, a number of Colorado's municipal utilities, including the City of Aspen and Holy Cross Electric, have implemented net metering on their own.

Statute or Rule: C88-726, C88-1136, C96-901, PSCC Advice Letter 1265
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Fuel Cells

Contact Information:
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Connecticut

Connecticut Housing Investment Fund $

Energy conservation loans ranging from $400 to $6,000 are available through the Connecticut Housing Investment Fund to owners of 1 – 4 family homes who meet established income limits for family size and location. These loans may be used for a variety of conservation improvements including alternative energy heating systems. Loans for large residential properties are available through the Multifamily Energy Loan Program. Interest rates (currently 1%, 3 %, 6 % and 9.75 %) vary in accordance with the borrower's family size and income. The repayment period may be up to 10 years.

Statute or Rule: C.G.S. 32-315-7
Applicable Sectors: Residential

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Local Option Property Tax Exemption $

The state of Connecticut allows municipalities the option of offering property tax exemptions for certain renewable energy systems. Such systems include solar space and water heating, photovoltaics, wind, and micro-hydro systems. Adoption of this exeption varies from one municipality to another but, typically, the exemption applies to the total value of the qualifying renewable energy system and can be applied to residential, commercial, and industrial property.

Statute or Rule: C.G.S. 12-81-56,57,62,63
Applicable Sectors: Residential, Commercial, Industrial, Local
Applicable Technologies: Active Space and Water Heating, PV, Wind, Hydro

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Solar Contractor Licensing §

Connecticut statutes include three types of solar licenses, specifically a solar contractor's license, solar journeyman's license, and a solar apprentice's permit. The solar contractor must have installed at least six solar systems and have served as a solar journeyman for at least two years.

The journeyman must have completed an apprentice program that includes solar construction and must have been involved in solar work for at least two years. The journeyman must have all solar work supervised by a solar contractor. The apprentice's permit is issued to those in plumbing or piping work apprenticeships. Solar work by an apprentice must be supervised by either a solar journeyman or a solar contractor. Those licensed in a related area of expertise who have developed competency in solar work may apply for reciprocity in lieu of taking the solar licensing examination.

There is no state sponsored training program for solar contractors. Training and apprentice programs are available through independent trade schools and labor unions.

Statute or Rule: CGS 20-330—0-334b
Applicable Sectors: Construction
Applicable Technologies: Solar Water Heating, Solar Industrial Process Heat

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Net Metering §

As part of its 1998 Electric Restructuring Public Act 98-28, the Connecticut Legislature required all investor owned utilities to provide net metering to residential customers who own solar, wind, hydro, biogas, fuel cell, or sustainable biomass electrical generators. No individual system capacity limits were set, and there are no statewide limits on total net metered capacity. Electric suppliers must make required interconnections and install the necessary metering equipment.

Net metered customers are charged, however, for the competitive transition assessment and the systems benefits charge based on the amount of energy consumed by the customer from the electric distribution company without netting any electricity produced by the customer.

Statute or Rule: CGS 16-243h; CT Legislature, Public Act 98-28
Applicable Sectors: Residential
Applicable Technologies: Solar Thermal, PV, Wind, Biomass, Hydro, Fuel Cells

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Connecticut Clean Energy Fund §

The Connecticut public benefits program, "Connecticut Clean Energy Fund", was enacted in April, 1998, and programs began in earnest in January of 2000. The Fund will generate $118 million over five years via a surcharge that ramps up over time. In 2000-2001 the charge is 0.5 mills/kWh, rising to 0.75 mills/kWh in 2002-2003 and 1.0 mill/kWh from 2004 forward. The Fund is managed by Connecticut Innovations, Inc., a quasi-governmental investment organization. Connecticut Innovations receives guidance from a Renewable Energy Investments Advisory Committee, whose members are appointed by the House, Senate, Governor, and the chairman of Connecticut Innovations.

There are few restrictions on use of the funds. The law includes "grants, direct or equity investments, contracts or other actions which support research, development, manufacture, commercialization, deployment and installation of renewable energy technologies, and actions which expand the expertise of individuals, businesses and lending institutions with regard to renewable energy technologies." (CT Public Act No. 98-28, Section 44(c)) One of the most important criteria for investments is that there be a direct economic benefit to the state of Connecticut. Some funds will be made available for non-investment programs such as research, development, and demonstrations. In addition to investments, the fund will also be used as a repository for any new federal funds for renewable energy programs. Early contracts and investments have included funding to the Connecticut Electric Cooperative to develop a green power marketing program and residential solar program; seed funding for a joint venture to develop portable solar power systems; and funding for a wind energy study for Connecticut.

For efficiency, the state provides a 3.0 mills/kWh charge for energy conservation and load management programs. Electric distribution companies collect and disperse these funds with assistance from the Energy Conservation Management Board, which was appointed by the Connecticut Department of Public Utility Control (DPUC). The Board includes representatives from environmental groups; Office of Consumer Counsel; Office of Attorney General; Department of Environmental Protection; electric distribution companies; statewide business, retail, and manufacturing associations; and residential customers. Plans developed by the Board and electric distribution companies must be approved by the DPUC. Funds can be spent on direct funding of equipment, rebates, sale price and loan subsidies, leases, and promotional and educational activities.

The state's restructuring legislation also provides for a separate fund to continue weatherization and other already existing low-income programs. Distribution utilities will implement the efficiency programs with oversight by the DPUC through a Management Board. The DPUC will administer the other low-income programs (weatherization and bill assistance) and other elements such as public education.

Statute or Rule: CT Public Act No. 98-28, Section 44(c)
Applicable Sectors: Commercial, Industrial, Government
Applicable Technologies: PV, Wind, Biomass, Hydro, Alternative Fuels, Waste, Fuel Cells

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Fuel Mix Disclosure §

Fuel mix and air emissions disclosure are mandated under Connecticut's 1998 retail competition law.

Statute or Rule: 1998 Public Act 98-28
Applicable Sectors: Utility

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Renewable Portfolio Standard §

In addition to its public benefits fund, Connecticut's 1998 electric utility restructuring law (HB 5005) created a renewable portfolio standard, which was revised in 1999 (HB 6621). Resources that qualify as renewable energy sources are divided into two classes. Class I renewable energy sources include solar, wind, new sustainable biomass, landfill gas, and fuel cells. Class II sources include biomass facilities not included in Class I, and certain approved hydro facilities. Electric providers must supply the following percentages of their generation with renewables:

Class I Renewables	
07/01/2001	0.75%
07/01/2002	1.0%
07/01/2003	1.5%
07/01/2004	2.0%
07/01/2005	2.5%
07/01/2006	3.0%
07/01/2007	4.0%
07/01/2008	5.0%
07/01/2009	6.0%

Additional Output from Class I and II Renewables	
2000	5.5%
2005	6%
2009	7%

Electric providers must provide documentation on an annual basis of compliance with the RPS for the previous 12 months. If a provider does not satisfy the RPS during a compliance period, penalties may include license revocation or suspension, prohibition from accepting new customers, and/or civil penalties. An electric provider may be able to meet the RPS requirements by participating in a renewable energy trading program. The 1999 revisions to the RPS allows the Connecticut Department of Public Utility Control to delay the RPS targets by up to two years if it finds that requirements cannot reasonably be met.

Statute or Rule: CT Public Act No. 98-28
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Waste, Fuel Cells, Landfill Gas

Contact Information:
Kevin Guernier
Connecticut Office of Policy and Management

Delaware

Public Benefits Fund §

The Delaware public benefits program, enacted through the state's electric restructuring law in March 1999, provides $1.5 million annually for efficiency and renewable programs and $0.8 million for low-income programs. Funds for the public benefits programs are collected from Conectiv's customers, but no environmental or low-income public purpose funds are being collected from Delaware Electric Cooperative (DEC). Funds are administered by the Economic Development Office in consultation with the Energy Office and Division of Public Advocate.

In addition to renewables and efficiency funds, an average of 0.095 mills/kWh (approx. $800,000 annually) is collected to fund low-income fuel assistance and weatherization programs. These funds are administered by the Department of Health & Social Services' Division of State Service Centers. Additionally, Delaware's restructuring law calls for the Delaware Public Service Commission (DPSC) to establish a working group to implement a customer education program on green power and other options under retail competition. This working group is be composed of representatives of the DPSC, electric utilities, electric suppliers, and the Division of the Public Advocate. Education activities will be funded up to $250,000 (total) from Conectiv and DEC.

Applicable Sectors: Commercial, Industrial
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro

Contact Information:
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Dover, DE 19903
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Net Metering §

In 1999, the state legislature adopted net metering for residential and small commercial customers with renewable energy systems up to 25 kW. There is no statewide limit on net metered capacity. The state's utilities have worked with the Division of the Public Advocate to develop simplified interconnection standards and procedures.

Statute or Rule: DE Legislature, Senate Amend. 1 HB10
Applicable Sectors: Residential, Commercial
Applicable Technologies: Solar Electric, PV, Wind, Biomass, Hydro, Geothermal

Contact Information:
Charlie Smisson, Jr.
Delaware Energy Office

District of Columbia

Fuel Mix and Emissions Disclosure *§*

Congress passed a restructuring bill for the District of Columbia that requires disclosure of fuel mixes and emissions every six months.

Statute or Rule: May 2000 Congressional restructuring bill
Applicable Sectors: Utility

Contact Information:
Charles Clinton
District of Columbia Energy Office
2000 14th Street, NW
Washington, DC 20009
(202) 673 6700

Florida

Commercial and Non-Commercial PV Rebate Program $

Florida residents, developers, government agencies, utilities, and other businesses installing photovoltaics may qualify for the Florida Solar Energy Center's (FSEC) PV rebate. The program is funded by the Florida Energy Office, Department of Community Affairs. Rebates are given based on the total system capacity: recipients are offered $2 per watt up to a maximum rebate of $8,000 for non-commercial systems. Additional rebates of $2,000 are available for systems on model homes, and $500 for those non-commercial systems having battery back-up. Therefore, the maximum possible rebate is $10,500 for a non-commercial system. Commercial rebates use the same $2 per installed dc watt rate, but are allowed up to a maximum of $25,000. The rebate application form must be completed by the solar system installer or supplier, who then passes the rebate to the customer.

Applicable Sectors: Commercial, Industrial, Government
Applicable Technologies: Photovoltaics

Contact Information:
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1679 Clearlake Road
Cocoa, FL 32922-5703
(321) 638 1427
jszaro@fsec.ucf.edu
http://www.fsec.ucf.edu/PVT/pvbldg/COMMERCIAL_PVREBATE_APPLICATION.PDF

Solar Energy Equipment Exemption $

Florida's sales tax exemption for solar energy equipment became effective July 1, 1997. This incentive is one of the few renewable energy tax incentives that has been reenacted having been previously repealed. The original exemption covered solar energy equipment from 1980 to 1985. However, in 1986, along with all other Florida sales tax exemptions, this one was repealed and efforts to reenact it at the time were unsuccessful. Led by the efforts of the Florida Solar Energy Industries Association and the Florida Solar Energy Association, the law was eventually reenacted in 1997.

The Florida Solar Energy Industries Association acknowledges that this exemption is of more philosophical and public relations import than economic significance. While the incentive shows the state's support for solar energy, it is expected that sales increases as a direct result of the incentive will be modest. The Florida sales tax rate is 6% with a local option to raise it to 7%.

It is worth noting that Florida does not have a state personal income tax. This is one of the reasons that the sales tax exemption was pursued; there were few other options for a tax incentive that would impact all consumers—businesses and individuals alike.

Statute or Rule: Chapter 212.08 (7)
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV

Contact Information:
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Florida Solar Energy Industries Association
6218 W. Corporate Oaks Drive
Crystal River, FL 34429
(352) 795 9095
kettles@gdi.net

Fuel Mix Information Disclosure §

On February 16, 1999 the Florida Public Service Commission finalized approval of a rule that will require the state's investor-owned electric utilities to information their customers four times a year, on a bill insert or on the bill itself, what fuels are used to generate their electricity. Florida's IOUs supply about 80-85% of customers in the state. Florida was the first state to enact fuel mix disclosure regulations in advance of electric utility restructuring.

Contact Information:
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Legal Environmental Assistance Foundation, Inc. (LEAF)
1114 Thomasville Road, Suite E
Tallahassee, FL 32303-6290

Florida Solar Energy Center (FSEC) §

Established in 1974, the Florida Solar Energy Center (FSEC) is a research institute of the University of Central Florida. The Center is funded through the State University System and research contracts with the federal government and is the largest state-supported renewable energy institute in the country. And in 2000, FSEC was honored by Governor Jeb Bush and the Florida Cabinet on the Silver Anniversary of the Center's founding.

FSEC's research efforts include solar water heating, photovoltaics, hydrogen fuels, building efficiency, indoor air quality, solar equipment for detoxification, and alternative fuel vehicles. The Center sponsors numerous educational programs and events including solar car races. FSEC also offers workshops for professionals and public education programs. The Center's solar contractor training materials are used throughout the country and are considered to be among the best and most up to date materials available.

Contact Information:
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Florida Solar Energy Center
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Cocoa, FL 32922-5703
(321) 638 1000
http://www.fsec.ucf.edu/

Solar Energy Standards Act of 1976 §

Solar energy equipment must be certified before it can be sold in the state. Certification is carried out by the Florida Solar Energy Center according to the Solar Energy Standards Act of 1976. The staff of the Florida Solar Energy Center also run the Solar Rating and Certification Corporation (SRCC), which establishes the national standards for solar equipment.

Statute or Rule: Florida Statutes 377.705/Solar Energy Standards Act of 1976
Applicable Sectors: Residential, Commercial, Industrial, Government, Construction
Applicable Technologies: Active Space and Water Heating, Photovoltaics

Contact Information:
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http://www.fsec.ucf.edu/

Solar Contractor Licensing §

Florida previously offered limited specialty licenses for residential solar hot water and pool heating and a general solar contractor's license. These specialty licenses have not been issued since 1994, although those that hold these licenses will be able to renew them.

The new solar contractor license defines a broader scope of work. With the new license, solar contractors have authority to install, maintain, and repair solar hot water systems, pool heating systems, and photovoltaic systems in residential, commercial, and industrial settings. Requirements for licensing include four years experience which may include both work and education. At least one year of experience must be in a supervisory role. Contractors licensed in a related area, such as plumbing or electrical work, are not required to obtain a solar license in order to install or perform maintenance on solar systems. Solar contractor training is offered by the Florida Solar Energy Center (FSEC).

Statute or Rule: Florida Statutes @ 489.105(3) (o)
Applicable Sectors: Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

Contact Information:
Florida Solar Energy Center
1679 Clearlake Road
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(321) 638 1000
http://www.fsec.ucf.edu/

Solar Energy Covenant Restrictions *§*

This regulatory policy dissolves any "covenant, restriction or condition" attached to any property deed that restricts the use of solar energy. This is one of the primary components of an effective solar access law. Other components include restrictions on blocking access to solar energy, clotheslines, or other energy devices based on renewable resources being erected on an adjacent property covered by deed restrictions, covenants, or binding agreements.

Statute or Rule: Florida Statutes 704.07
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro

Florida Energy Conservation in Buildings Act of 1974 *§*

Florida law encourages the use of solar technologies in state buildings when life cycle costs indicate they are economically feasible. The Florida Energy Conservation in Buildings Act of 1974, while focusing on energy efficiency, mandates the use of solar energy devices for heating and cooling state buildings where life cycle cost analysis determines the solar systems will be cost effective over the life of the building.

Florida statutes now also require that all new educational facilities include passive solar design. The law mandates that schools with hot water demands exceeding 1,000 gallons per day must include a solar hot water heating system to provide at least 65% of hot water needs whenever economically feasible.

Statute or Rule: Florida Statutes 255.251- 255.254 and 235.212
Applicable Sectors: Government, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

Contact Information:
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Energy Office
Florida Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(904) 488 8466

DSM Programs Incorporating Renewables §

The Florida Public Service Commission (FPSC) has set a goal of saving 1,300 MW of capacity and 1,800 GWh of energy by 2009 through the use of conservation and demand-side management measures. Florida's five investor-owned electric utilities and two largest municipal utilities, Jacksonville Electric Authority and Orlando Utilities Commission, are required to perform conservation measures pursuant to the requirements of the Florida Energy Efficiency and Conservation Act of 1980.

The FPSC is required to encourage the use of renewables as part of the demand side management programs. The FPSC requires that conservation programs be cost-effective, i.e., less costly than supply-side resources such as new plants or power purchases from other utilities.

Statute or Rule: Florida Energy Efficiency and Conservation Act of 1980
Applicable Sectors: Utility
Applicable Technologies: Active Space and Water Heating, Photovoltaics, Wind, Alternative Fuels

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Florida Public Service Commission
101 E. Gaines Street
Tallahassee, FL 32399-0850
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Jdean@psc.state.fl.us

Hawaii

Alcohol Fuels Exemption $

This short statute exempts from the state excise tax on retail sales all revenue from the sale of alcohol fuels used in final consumption. Alcohol fuel under this statute is defined as (1) any biomass derived liquid fuel or (2) mixtures of petroleum derived fuel and alcohol liquid fuel "consisting of at least 10% denatured biomass-derived alcohol commercially usable as a fuel to power aircraft, seacraft, or spacecraft."

Statute or Rule: HRS 237-21.1
Applicable Sectors: Transportation
Applicable Technologies: Alternative Fuels

Contact Information:
Taxpayer Services Branch
Hawaii Department of Taxation
P.O. Box 259
Honolulu, HI 96809
(808) 587 4242
http://www.state.hi.us/tax/tax.html

Residential Solar Energy System Credit $

This statute allows individuals an income tax credit of 35% of the cost of equipment and installation of a residential solar system for heating and electricity generation. The credit is to be applied in the year in which the system is purchased and placed into use. The maximum allowable credit is $1,750 for single family homes and $350 per unit in a multi-unit complex. Tax credits that exceed the taxpayer's income tax liability may be used as credit against the taxpayer's income tax liability in subsequent years until exhausted.

Statute or Rule: HRS 235-12(b)(2)-(3)
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics

Contact Information:
Taxpayer Services Branch
Hawaii Department of Taxation
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Wind Energy System Credit $

This income tax credit allows individuals and corporations a credit of 20% of the cost of equipment and installation of a residential or non-residential wind energy system. The credit is to be applied in the year in which the system is purchased and placed into use, and there is no limit to the total amount of the credit. Tax credits that exceed the taxpayer's income tax liability may be used as credit against the taxpayer's income tax liability in subsequent years until exhausted.

Statute or Rule: HRS 235-12(b)(1)
Applicable Sectors: Residential, Commercial
Applicable Technologies: Wind

Contact Information:
Taxpayer Services Branch
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http://www.state.hi.us/tax/tax.html

Solar Energy System Credit $

This corporate income tax credit allows a company a credit of 35% of the cost of equipment and installation of an active solar system. The credit is to be applied in the year in which the system is purchased and placed into use. This credit is available for systems installed for commercial or industrial use, and there is no maximum limit to the total amount of the credit. Tax credits that exceed the taxpayer's income tax liability may be used as credit against the taxpayer's income tax liability in subsequent years until exhausted.

Statute or Rule: HRS 235-12(b)(4)
Applicable Sectors: Commercial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics

Contact Information:
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P.O. Box 259
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http://www.state.hi.us/tax/tax.html

Solar Contractor Licensing §

Hawaii offers the following licenses for solar contractors through Hawaii's Department of Commerce and Consumer Affairs: Solar Energy Systems Contractor (C-61), Solar Hot Water Contractor (C-61a), and Solar Heating and Cooling Systems Contractor (C-61b). These licenses require business and trade exams plus four years of experience. Plumbers are also allowed to install solar domestic hot water heating systems.

Applicable Sectors: Construction
Applicable Technologies: Active Space and Water Heating, Process Heat, PV

Contact Information:
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Professional and Vocational Licensing Division
Hawaii Department of Commerce and Consumer Affairs
Kamamalu Building, 1010 Richards Street
Honolulu, HI 96801
(808) 586 3000

Solar Water Heating in State Housing Construction §

The state of Hawaii encourages, and in some cases requires, the use of solar technologies in its public housing facilities. Hawaii statutes require the Housing Finance and Development Corporation to install solar water heating systems in new state supported housing projects. The state hopes to increase the percentage of houses with such systems each year. This requirement is applied to all projects funded by or under the direction of the Housing Finance and Development Corporation, although projects carried out by private corporations on behalf of the housing authority are not subject to this mandate, nor are multi-unit buildings.

Statute or Rule: HRS 1-13-201-61
Applicable Sectors: Government, Construction
Applicable Technologies: Solar Water Heating

Contact Information:
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http://www.hawaii.gov/dvedt/ert/

Covenant Restrictions §

Hawaii statute prohibits the creation of any covenant or restriction contained in any document pertaining to the sale of property that contains language explicitly prohibiting or restricting the installation or use of a solar energy system.

Statute or Rule: HRS 196-7
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, PV

Contact Information:
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Energy, Resources, and Technology Division
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http://www.hawaii.gov/dvedt/ert/

Idaho

Low Interest Loans for Renewable Energy Resources Program $

This low interest loan program, administered by the Energy Division of the Idaho Department of Water Resources, makes funds available at a 4% interest rate for active solar, photovoltaic, wind, geothermal, hydropower and biomass energy projects. The program also makes loans for energy conservation projects. Residential loans are available from $1,000 to $10,000. In commercial and industrial sectors there is no minimum loan amount but there is a maximum cap of $100,000. Loans are repaid in five (5) years or less.

Certain restrictions apply to this program. From the Energy Division's web site: "For existing homes or businesses, the savings from reduced usage of conventional fuel must be sufficient to pay for the project's installation cost (e.g. simple payback of 10 years or less). For new projects, use of a renewable energy resource must be the least cost alternative. Renewable energy projects that are intended to sell the energy generated or the commodity produced are not eligible. " While the program's financing requires repayment within five years, this further stipulation for existing homes and businesses states that the project's cumulative energy savings over a ten year period must be great enough to offset the cost of the project.

Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal

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Idaho Department of Water Resources
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http://www.idwr.state.id.us/energy/Financial/

Solar, Wind, and Geothermal Deduction $

This statute allows taxpayers an income tax deduction of 40% of the cost of a solar, wind or geothermal device used for heating or electricity generation. Taxpayers can apply this 40% deduction in the year in which the system is installed and can also deduct 20% of the cost for three years thereafter. The maximum deduction in any one year is $5,000.

Statute or Rule: Idaho Statutes 63-3022C
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Geothermal

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Gerry Galinato
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Boise, ID 83706
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Net Metering §

The Idaho Public Utilities Commission originally enabled net metering programs with an order passed in 1980; since then, only Idaho Power Company has filed a net metering tariff. Since 1986, Idaho Power Company has offered net metering for residential and small commercial customers. Idaho Power's program is open to all technologies under 100 kW—not just renewable energy technologies. The Idaho Public Utilities Commission upheld the provisions of the tariff in July 1997 with some modifications.

Statute or Rule: PUC Order 26750
Applicable Sectors: Residential, Commercial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

Contact Information:
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Idaho Public Utilities Commission
Statehouse Mail
Boise, ID 83720
(208) 334 0351
http://www.idwr.state.id.us/energy/

Illinois

Special Assessment for Renewable Energy Systems $

For property tax purposes, renewable equipment is valued at no more than a conventional energy system. Eligible equipment includes active and passive systems, as well as wind and geothermal systems.

Statute or Rule: 35 ILCS 200/10-10
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Geothermal

Contact Information:
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dloos@commerce.state.il.us

Net Metering §

Early in 2000 Commonwealth Edison established a special billing program that allowed for net metering of solar and wind energy systems up to 40 kW. The program is available to all customer classes with the total enrollment limited by an installed generating capacity not to exceed 0.1% of the utility's annual peak demand. ComEd installs a special dual register meter, and net excess generation is purchased at the utility's avoided cost.

Statute or Rule: ICC Title 83, Ch 1-c, Part 430
Applicable Sectors: Residential, Commercial, Industrial, Government, Com Ed Customers: all customer classes
Applicable Technologies: Solar Thermal Electric, PV, Wind

Contact Information:
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Citizens Utility Board
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Chicago, IL 60604
(312) 263 4282

Renewable Energy Resources Trust Fund

Through its 1997 electric utility restructuring law, the Illinois legislature created the Illinois Public benefits Program. The overall program funds low-income rate assistance and weatherization, the Renewable Energy Resources Trust Fund, and the Energy Efficiency Program. These programs are cited within the law under the short title, "Renewable Energy, Energy Efficiency, and Coal Resources Development Law of 1997." The Renewable Energy Resources Trust Fund supports renewables through grants, loans, and other incentives administered by the Department of Commerce and Community Affairs. The ten year program is slated to end in 2007. In addition to the Renewable Energy Resources Trust Fund, a $250 million Clean Energy Community Trust Fund was established through a settlement with Commonwealth Edison. (See Clean Energy Community Trust) The Renewable Energy Resources Trust Fund is collected at the following rates: $0.50 per month for residential and small commercial electric and gas customers; and $37.50 per month for large commercial electric customers.

Revenue from this fund is expected to amount to almost $100 million per year over ten years. Of this money, 50% goes into the Renewable Energy Resources Trust Fund, and the remaining 50% goes to the Coal Technology Development Assistance Fund. Moneys for the Coal Fund are distributed according to the Illinois Coal Technology Development Assistance Act.

For the Energy Efficiency Program, each electric utility and alternative retail electric supplier shall annually contribute a pro rata share of a total amount of $3,000,000 based on their kilowatt hour sales. Money from this program is distributed by the Department of Commerce and Community Affairs to residential electric customers.

Illinois Clean Energy Community Trust (CECT)

In May of 1999, the state of Illinois and Commonwealth Edison Corp. came to a settlement as part of the approval of ComEd's merger with PECO Energy of Pennsylvania. Through a one time payment by ComEd, the settlement created a $250 million fund for renewable energy and energy efficiency entitled the Illinois Clean Energy Community Trust (CECT). This new fund is administered by the Illinois Clean Energy Community Foundation that is comprised of six appointees of the Illinois House of Representatives, Senate, Governor, and ComEd, as well as three non-voting representatives of state agencies.

Of the $250 million, $200-225 million is being spent on programs for efficiency and renewables, and at least $25 million is earmarked for clean coal programs. The mechanisms the CECT is using include grants, loans, venture capital support, and other financial incentives. Funding is limited to projects in-state, but as with the funds in Connecticut, the CECT programs must demonstrate a benefit to Illinois's environment or economy.

Statute or Rule: 1997 House Bill 362
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal

Contact Information:
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Citizens Utility Board
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(312) 263 4282

Fuel Mix and Emissions Disclosure *§*

As part of its 1997 electric utility restructuring legislation, Illinois included provisions for the disclosure of fuel mixes and emissions by all retail suppliers of electricity in the state. Electric bills must list, by percentage, electricity supplied by the following sources: biomass power, coal-fired power, hydropower, natural gas-fired power, nuclear power, oil-fired power, solar power, wind power and other resources, respectively. These percentages must also be presented in the form of a pie chart on customer bills.

Emissions information must also be provided by electric suppliers on a quarterly basis listing of the following pollutants: carbon dioxide, nitrous oxides, sulfur dioxide emissions, and nuclear waste. The inclusion of nuclear waste is important as Illinois is one of the most nuclear dependent states in the country.

Statute or Rule: 1997 House Bill 362
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Waste

Contact Information:
Elise Caplan
Citizens Utility Board
208 S. LaSalle, Suite 1760
Chicago, IL 60604
(312) 263 4282

Indiana

Alternative Energy Systems Program Grant $

This program makes small scale grants available to businesses, universities, and other institutions for equipment and installation costs for alternative energy projects. Grants may support purchase of alternative fueled vehicles, installation costs for alternative energy refueling stations, agricultural applications involving alternative fuels, wood waste boilers, and renewable projects such as solar, wind, hydropower, alcohol fuels and waste to energy. Grants range in size from $2,000 to $10,000, and grantees are required to provide at least 20% of the equipment costs. Applications are evaluated on four criteria: economic development goals, practical and technical feasibility, project economics, and energy savings.

Applicable Sectors: Commercial, Industrial, Academic
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

Contact Information:
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Energy Policy Division
Indiana Department of Commerce
One North Capitol, #700
Indianapolis, IN 46204-2248
(317) 232 8970
http://www.state.in.us/doc/energy/transportation.html

Renewable Energy Systems Exemption $

Indiana's property tax code contains four individually listed statutes relating to exemptions for solar, wind, hydropower, and geothermal systems, respectively. "Solar" includes any solar system used for heating or cooling, while wind, hydropower, and geothermal are defined generally. It is worth noting that this code does include geothermal ground pump systems. This property tax exemption is allowed every year that a qualifying system exists on the property.

The code includes two provisions that make it more encompassing and effective than those we have identified in other states. First, the statutes exempt from property taxes the entire renewable energy device and affiliated equipment, including equipment for storage and distribution. This differs from the property tax exemptions for renewable energy systems provided in most other states which typically allow for the renewable energy system to be valued at no more than the value of a conventional system—not exempted altogether. Second, Indiana's code explicitly includes renewable energy systems attached to mobile homes. This is a significant inclusion, as solar power systems are becoming more and more common on recreational vehicles.

The property tax exemptions in Indiana were added one at a time beginning with the solar system exemption in 1975. Wind systems were added in 1979, and hydropower and geothermal were later added in 1981.

Statute or Rule: Indiana Code 6-1.1-12-26,29,33,34
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Hydro, Geothermal

Contact Information:
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Renewable Energy Demonstration Project Grants $

This program makes small-scale grants for projects that demonstrate applications of renewable energy technologies. To be eligible for consideration, a project must demonstrate a commercially available technology—research projects will not be funded. Each project must demonstrate either a novel technology or a novel application of an available technology. Each project must also have a high degree of public visibility.

Applicable Sectors: Commercial, Government
Applicable Technologies: Passive Solar, Solar Water Heating, Photovoltaics, Wind, Biomass, Hydro, Geothermal, Waste

Contact Information:
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Indianapolis, IN 46204-2248
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Indiana Biomass Grant Program $

This grant program was created to assist with research, development and production of biomass energy systems. Goals include increasing the role of biomass in Indiana's energy mix, deploying cost-effective biomass energy technologies and promoting private and public sector investment in biomass technology and resources. The program focuses on project partnerships among local and regional organizations, researchers, industries, utilities and government. Grants of up to $20,000 per project will be available to successful applicants. Projects should have near-term commercialization potential, should not duplicate the work of others and should capitalize on in-state expertise and resources.

Applicable Sectors: Industrial, Government, Utility
Applicable Technologies: Biomass, Alternative Fuels

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http://www.state.in.us/doc/energy/research.html

DSM Programs Incorporating Renewables §

The Indiana Utility Regulatory Commission's 1995 ruling on demand side management programs allows for the inclusion of renewable energy systems in such utility programs. Renewable energy programs are treated in a similar manner as efficiency in terms of utility cost recovery. This applies to all renewable energy technologies including passive solar design. Because this program is new, the impact of this regulation is it not yet known.

Statute or Rule: IC 8-1-2.4; Indiana Utility Regulatory Commission Regulation: 170 IAC 4-8
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility, Transportation
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Net Metering §

As part of the Indiana Utility Regulatory Commission's overall cogeneration and small power production rules, Indiana has adopted net billing rules for generators producing less than 1,000 kWh per month. Indiana is the only state with net metering rules that have set the individual system limit based on kilowatt hours (actual output) instead of kilowatts (rated capacity). Qualifying facilities must be renewable energy generators including waste methane recovery systems. There is no statewide limit on the total capacity that may be generated by qualifying facilities engaged in net metering. For generators producing less than 1,000 kWh per month, net excess generation is granted to the utilities. For systems producing more than 1,000 kWh per month, generators can request that the utility purchase the net generation, in which case two meters are installed. Thus far, this program has been used primarily by owners of small wind turbines.

Statute or Rule: Indiana Utility Regulatory Commission Regulation 170 IAC 4-4.1-7
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Solar Access Laws and Regulations §

Indiana statutes include both covenant restrictions and solar easement provisions. The state's covenant restrictions prevent planning and zoning authorities from prohibiting or unreasonably restricting the use of solar energy. Indiana's solar easement provisions are similar to those in many other states. They do not create an automatic right to sunlight. Rather, they allow parties to voluntarily enter into solar easement contracts which are enforceable by law. Passive solar structures are explicitly included in the type of solar collection equipment which may be protected by solar easements.

Statute or Rule: Indiana Code 36-7-2-2 and 32-5-2.5
Applicable Sectors: Residential, Commercial, Industrial, Government, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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Iowa

Grants for Energy Efficiency and Renewable Energy $

Through competitive solicitations, the Iowa Energy Center provides grants to eligible organizations for research and demonstration projects in the areas of energy efficiency, renewable energy and information transfer. The Center accepts pre-proposals for research projects annually in response to a published RFP. Eligible organizations are Iowa's educational institutions, foundations, and private non-profit organizations. Eligible organizations may partner with and subcontract effort to other types of organizations. Grant applications may address broad-reaching energy issues but must have clear relevance to Iowa. Grants have been issued for projects related to biomass conversion, renewable energy resource assessments, agriculture energy issues, industrial energy efficiency, commercial building HVAC systems and controls, and residential energy efficiency.

Conference, seminar and small demonstration proposals are accepted on a continuous basis. Funds are provided on a matching basis with a limit of $7,500 in Center funds.

The Center occasionally issues focused RFPs for specific projects and for research at the Center's Energy Resource Station and Biomass Energy Conversion (BECON) Facility. RFPs are posted on the Center's Web site.

Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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http://www.energy.iastate.edu/

Wind Energy Equipment Exemption $

This statute exempts from the state sales tax the total cost of wind energy equipment and all materials used to manufacture, install or construct wind energy systems. The exemption does not, however, go so far as to cover the sales taxes paid by a company in purchasing equipment to construct a plant to manufacture wind systems.

Statute or Rule: Iowa Code 422.45(48)
Applicable Sectors: Residential, Commercial
Applicable Technologies: Wind

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Property Tax Exemption for Solar Systems $

According to Iowa Code, Chapter 441.21, when assessing property for tax purposes, assessors shall disregard any market value added by a solar energy system to a building for the first five full assessment years. Solar energy systems are defined as follows: any system capable of collecting and converting solar radiation into thermal, mechanical, or electric energy; or a system that utilizes the basic building design to maximize solar heat gain in the cold season and minmize solar heat gain in the hot season.

Statute or Rule: Iowa Code, Chapter 441.21
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV

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Renewable Fuel Fund $

This program, administered by the Iowa Department of Economic Development, is a value-added grant/loan program. The Renewable Fuel Fund is one of two separate programs under the Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP). VAAPFAP funds $4 million in projects annually, with approximately half going toward the Renewable Fuel Fund. The maximum amount per project is $900,000. Approximately 20% of the money awarded to a project is in the form of a grant and the remaining 80% in the form of a low interest loan. The interest rate on the loan is typically the prime rate. Research and development projects are not eligible for this program. A sample of funded projects includes six ethanol plants, two soy process plants and a methane recapture program for hog farmers.

Applicable Sectors: Commercial, Industrial
Applicable Technologies: Biomass, Alternative Fuels

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Local Option Special Assessment of Wind Energy Devices $

This statute allows any city or county to assess wind energy conversion equipment at a special valuation for property tax purposes. Eligible sectors may include residential, commercial or industrial. Those local governments offering this special assessment must follow state guidelines. In the first assessment year, the wind energy conversion equipment is to be assessed at zero percent (0%) of its cost. For the second through sixth assessment years, the valuation of the property is to be a percent of its value which increases by five percentage points each assessment year. For the seventh and succeeding assessment years, the valuation of the property is to be at thirty percent of its cost.

Statute or Rule: Iowa Code 427B.26, 441-21
Applicable Sectors: Residential, Commercial, Industrial, Local
Applicable Technologies: Wind

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Alternate Energy Revolving Loan Fund $

Low-interest financing for alternate energy production facilities is available through the Iowa Energy Center's Alternate Energy Revolving Loan Program. About $5.9 million was made available through ratepayers in Iowa's investor-owned utility service territories. Project developers may receive Loan Program funds through their lending institution subject to technical and financial qualification reviews. The Loan Program funds bear zero percent (0%) interest and are available for half of the project's financed cost to a maximum of $250,000 per alternate energy production facility. The maximum loan term is 20 years. The funds may not be used to refinance existing facilities.

Any individual or organization is eligible for the program except for utilities that are not required to be rate regulated. The alternate energy production facility must be physically located in Iowa and the participating lending institution must have an office located in Iowa.

Interested parties must complete a technical application that is available through the Energy Center's Web site or by contacting the Energy Center directly. Detailed program guidelines are also available on the Web site. Application deadlines are quarterly for projects with financed costs greater than $50,000 and continuous for lower cost projects.

Statute or Rule: Iowa Code 476.46
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels

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Methane Gas Conversion Property Tax Exemption $

This statute exempts from the state property tax personal property, real property, and improvements to real property used to collect and convert methane gas to energy. If the property also burns another fuel, "the exemption shall apply to that portion of the value of such property, which equals the ratio that its use of methane gas bears to total fuel consumed."

Statute or Rule: Iowa Code 427.1(29)
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Alternative Fuels

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Ethanol Based Fuels Exemption $

This specific sales tax exemption allows those who blend conventional motor fuel with alcohol to produce ethanol to file for a refund for the "difference between [sales] taxes paid on the motor fuel purchased to produce ethanol blended gasoline and the tax due on the ethanol blended gasoline." In effect, ethanol-blended gasoline is taxed at 19¢ per gallon while non-ethanol blended gasoline is taxed at 20¢ per gallon.

Statute or Rule: Iowa Code 452A.21
Applicable Technologies: Alternative Fuels

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Iowa Building Energy Management Program $

Initiated in 1986, Iowa's Energy Bank Program provides financing for public and non-profit agencies for energy conservation programs. Eligible organizations include public and private K-12 schools, community colleges, area education agencies, hospitals, local government, private colleges, and state agencies. One of the primary goals of the program is to make energy improvements for participating agencies and organizations budget neutral. This is possible by making available loans that can be repaid by the energy savings that result from the project.

After signing a memorandum of agreement, the participating organization receives a six month interest-free loan for the energy analysis, which is performed by an auditing firm under contract with the Department of Natural Resources. Implementation plans include only those energy improvements which have an aggregate payback period of six years. Financing is done through a lease purchase agreement with the State of Iowa Facilities Improvement Corporation.

The Iowa Energy Bank program aims to implement more than $200 million in energy improvements. The program actively markets to each of the eligible sector. To date well over half of Iowa's school districts have participated as have dozens of hospitals and private colleges. Local governments and state agencies have also participated in large numbers.

Statute or Rule: Iowa Code 473.19
Applicable Sectors: Commercial, Government, Local, Schools
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels

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Iowa Energy Center *§*

Located at Iowa State University, the Iowa Energy Center (IEC) was created by the 1990 Iowa Energy Efficiency Act. Its mission is to help Iowans reduce their reliance on imported fuels and nonrenewable resources and to increase efficiency in all areas of energy use. Although formed by legislature, the IEC is not a state agency. The Center receives its funds from an annual assessment on the gross intrastate revenues of all gas and electric utilities in Iowa. This assessment is equal to 0.85% of these revenues (85/100 of 1%).

The Center's technical research and demonstarion program focuses on three areas: alternative energy, energy efficiency, and energy information technologies. Alternative energy activities have focused on biomass and wind. The Center is working to develop a biomass research facility to test biomass gasification and ethanol production. In conjunction, the IEC has been working with private sector organizations on research looking at the use of municipal waste as biomass feedstock. The IEC has also supported efforts to assess the use of indigenous switchgrass as feedstock. The Center is involved in assessing the state's wind resources and developing a model that can be used for siting of wind turbines. In 1995 the Center opened the Energy Resource Station (ERS) which serves as a testing facility for commercial HVAC systems.

Among other programs, the Center administers the Alternate Energy Revolving Loan Program, a competitive loan program available to residential, commercial and industrial applicants. The program offers zero (0%) interest loans for up to half of the project cost up to a maximum loan of $250,000. Funds are available for various technologies in the following percentages: solar: 5%, methane: 30%, biomass 20%, small wind (<10kW): 10%, big wind (>10kW): 20% and hydropower: 15%. The Center also administers a research grant program for renewable energy and energy efficiency. The Center's semi-monthly newsletter, *Perspectives*, covers the Center's research, demonstration and education initiatives.

Statute or Rule: Iowa Code 476.10A
Applicable Sectors: Government, Utility
Applicable Technologies: Passive Solar, Wind, Biomass

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Net Metering *§*

Created by the state's Public Utilities Board in 1993, Iowa's net metering ruling allows customers with alternative energy generation systems to sell electricity back to their utilities on a netted basis. The ruling applies to all customer classes and states the net excess generation be purchased by the utilities at their avoided cost. The statewide limit on net metering capacity is 100 MW. It is worth noting that Iowa Utilities Board has also required the state's investor owned utilities to purchase up to a total of 105 MW of renewable energy under a separate ruling.

Statute or Rule: Iowa Administrative Code Section 199-15.11(5)
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Kansas

Renewable Energy Grant Program $

This program, which is administered by the Kansas Corporation Commission, is part of the State Energy Program (SEP) and funded with petroleum violation escrow funds and DOE funds. Approximately $1 million is available per year and typical awards are $5,000--$50,000. All renewable technologies are eligible, and projects with commercial and public applications are favored. It should be noted that federal guidelines prohibit grants made through this program to go toward research/development or construction. Proposals are accepted on an ongoing basis; however, decisions on program awards are made once a year (fiscal year is July 1 through June 30).

Applicable Sectors: Commercial, Industrial, Government
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Energy Education

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Renewable Energy Property Tax Exemption $

This statute exempts property used for producing and generation of electricity from property taxes.

Statute or Rule: Kansas Statutes 79-201
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Kansas Electric Utilities Research Program (KEURP) *§*

Formed in 1981, the Kansas Electric Utilities Research Program (KEURP) is a cooperative venture among seven electric utilities performing applied research to proactively seek and deliver technologies enhancing the value of electric services to its members, utility customers, and the state of Kansas. KEURP membership includes: Kansas Gas and Electric, Kansas Power and Light, Kansas City Power & Light Company, Midwest Energy, Inc., Sunflower Electric Power Corporation, Empire District Electric Company, and WestPlains Energy, Inc.

The partners' voluntary contributions total roughly $1 million per year. Project areas include assessment of Kansas's renewable energy resources, demonstration of electric vehicles, and development of a geothermal heat pump manual. Renewable energy R&D has focused on the assesment of biomass, solar and wind. KEURP also received DOE funding to conduct a wind siting study and is assessing the use of the state's farm crops for electricity generation.

Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass

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Louisiana

Solar Energy Equipment Certification *§*

The state of Louisiana mandates that local building code departments conduct certification of solar thermal and electric collectors. The Solar Rating and Certification Corporation (SRCC) Certification Program is recommended.

Applicable Sectors: Residential, Commercial, Industrial, Government, Construction
Applicable Technologies: Active Space and Water Heating, Solar Industrial Process Heat, Photovoltaics

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Maine

Renewables Portfolio Standard *§*

The State of Maine Public Utility Commission adopted a Renewable Resource Portfolio Requirement rule on September 28, 1999, and it became effective November 4, 1999. The rule requires electric providers to supply at least 30% of their total retail electric sales in Maine with electricity from eligible renewable resources. Eligible resources must be a "small power production facility" that produces electricity using only a primary energy source of biomass, waste, renewable resources, or a combination of these resources and has a production capacity of 80 MW or less including any other facilities at the same site. A renewable resource may also be a generation facility of 100 MW or less that uses fuel cells, tidal power, solar arrays and installations, wind power installations, geothermal installations, hydroelectric generators, biomass generators, or generators fueled by municipal solid waste in conjunction with recycling. In addition to renewables, the portfolio standard can be met with "efficient resources," specifically, qualified cogeneration facilities.

Electric providers that fail to comply with the 30% RPS are subject to penalties including include license revocation, an optional payment into a renewable resource research and development fund, or other monetary penalties determined by the Maine Commission. Interesting, Maine allows electric provides to meet the RPS through averages over a period of two or more years. That is, a provider that does not satisfy the RPS during a certain annual period but meets at least 20% of the RPS, may make up for it over the next annual period so that over the two years the 30% RPS is met.

Maine presents an interesting case because the state already had the highest percentage of renewables use in the country at over 50% of total capacity, most of which is hydropower and biomass. Thus, while Maine's RPS is the highest in the country, the percentage is in fact lower than the existing level of renewables use. While this may be a threat to existing renewable power sources, it has been proposed that the New England region develop a collective portfolio standard with tradable credits. Under such a scenario, Maine could sell the credits it earns from its excess renewable energy generation to support the continued use of that renewable generation.

Statute or Rule: LD 1804 Public Law 316
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Waste

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Public Benefits Program §

The Maine public benefits program was enacted as part of the state's 1997 electric restructuring law, and the programs are being implemented through rulemakings by the Maine Public Utilities Commission (MPUC). In general, the law provides funding for energy efficiency and low-income assistance programs based on 1999 levels. Renewables receive funding only through voluntary customer contributions.

Despite there being no mandated funding level for renewables as part of the Maine public benefits program, the law directed the MPUC to develop a voluntary program allowing consumers to contribute to a renewable energy program. Funds from this program can go toward renewable energy R&D at the University of Maine System, the Maine Maritime Academy, or the Maine Technical College System. The MPUC has ruled that utilities must offer customers the option to check off a contribution of $1, $5, $10 or other amount each month on their electric bill. At least every six months, each utility must notify customers about the existence, purpose, means to contribute to the fund, and summaries of the projects that have been funded. In addition, Maine has established a renewable portfolio standard requiring that 30 percent of electricity supplies come from renewable resources.

The MPUC has ruled on the development of energy efficiency programs which is funded at $8.8 million/year (1.35 mills/kWh) since the inception of retail competition in March 2000. This funding level was determined to be comparable to the expected DSM funding levels in 1999, the last year before retail competition. Funds will be collected over three years for a total of $26.4 million. This program provides money to residential, small commercial, and small industrial customers.

The low-income program is anticipated to be funded at the current annual levels of $6.1 million (0.5 mills/kWh), with the MPUC to set the exact funding levels. The program will be administered by distribution utilities and will provide for rate assistance but not weatherization ,which may be covered by other energy efficiency programs.

Statute or Rule: LD 1804 Public Law 316
Applicable Sectors: Government, Utility
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Fuel Cells

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Solar Contractor Licensing and Training §

Maine's Energy Division under the Department of Economic and Community Development offers a voluntary solar contractor licensing program. The program involves fifteen hours of coursework and examination, a competency in installation course, and requires proof of at least one year of experience in solar installations with a minimum of five installations. Upon successful completion of the program, the Division issues a Solar Energy Installer Certificate. There has been little activity under this program recently and, at present, passing the test and paying the fee have been all that is required for the license.

Statute or Rule: MRS Title10, Ch. 32, Sec. 8001—8006
Applicable Sectors: Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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Fuel Mix and Emissions Disclosure §

Maine utilities must disclose fuel mix and emissions information pursuant to Maine's 1997 restructuring legislation. The legislative language requires that the Public Utilities Commission's disclosure rules include the disclosure of rates, terms and conditions information, but does not explicitly call for rules for the disclosure of resource or fuel mixes. So that fuel mix and emissions information cannot be precluded from inclusion on bills, the legislation states that the Commission cannot specifically exclude certain information from being included on customer bills. The Commission is also required to consider the use of standard billing practices and investigate using standards consistent with other New England states.

Statute or Rule: LD 1804 Public Law 316
Applicable Sectors: Utility

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Net Metering §

Since 1987, Maine's Public Utility Commission Code provided for net metering for the state's qualified facilities with a maximum capacity of 100 kW. With the passage of the state's retail competition law in 1997, the Commission has to revisit the net metering rules and issued new rules effective December 20, 1998.

Statute or Rule: Revised Code of Maine Chap. 36 @ 1(A)(18) & (19); @ 4(C)(4)
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Voluntary Solar Equipment Certification §

The state of Maine offers voluntary solar energy equipment certification. Maine also requires a five-year minimum warranty on materials and a one-year minimum warranty on installation.

Statute or Rule: MRS Title 10-3-221
Applicable Sectors: Residential, Commercial, Industrial, Government, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Photovoltaics

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Maryland

Local Option Property Tax Exclusion for Renewable $

Title 9 of Maryland's property tax code creates an optional property tax credit for corporations. This code allows counties to provide a credit against the corporate property tax for buildings equipped with a solar, geothermal or qualifying energy conservation device used to heat or cool a structure. Under this provision, counties determine the amount of the credit and are given the freedom to define solar, geothermal, and energy conservation devices. Counties also determine the length of time that the credit may be available up to a maximum of three years. (It should be noted that the statute includes the city of Baltimore in this provision because Baltimore, the city, has its own jurisdiction as a county.) Maryland's local option tax incentive is unique because it is applied in the form of a credit—not an exemption or exclusion as is the case for property tax programs in other states.

Title 8 of Maryland's tax code formerly included a state-wide special assessment provision for solar heating and cooling systems. Under that provision, such systems were to be assessed at not more than the value of a conventional system for property tax purposes. This statute has recently expired.

Statute or Rule: Property Tax@ 9-203
Applicable Sectors: Commercial, Industrial, Local
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Geothermal

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Clean Energy Incentive Act – Fuel Cell Exemption $

The Maryland Clean Energy Incentives Act provides for a sales tax exemption for fuel cells that: (i) generates electricity and heat using an electrochemical process; (ii) has an electricity-only generation efficiency greater than 35%; and (iii) has a generating capacity of at least 2 kW.

Statute or Rule: MC Tax-General@11-226
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Fuel Cells

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Clean Energy Incentive Act – Solar Credits $

Maryland offers a state income tax credit of 15% on the installed cost of solar energy systems up to a maximum of $2,000 for photovoltaic (PV) systems and $1,000 for solar hot water systems. Eligible systems must meet performance, quality standards, and certification requirements specified by the Maryland Energy Administration.

Statute or Rule: MC Tax-General@10-719
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV

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Wood Heating Fuel Exemption $

This statute exempts from the state sales tax all wood or "refuse-derived" fuel used for heating purposes. This exemption applies to residential use only. Maryland is the only state with a sales tax exemption specifically targeting wood for heating purposes.

Statute or Rule: 11-207
Applicable Sectors: Residential
Applicable Technologies: Biomass

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Clean Energy Incentive Act – Production Credits **$**

The Maryland Clean Energy Incentive Act provides for a personal or corporate income tax credit for the production of electricity from wind energy, commercial and industrial waste, forestry (excluding old growth residue) and agricultural by-products, and landfill and anaerobic digestion biogas. The credit is 0.85¢/kWh or 0.5¢/kWh for electricity generated in a co-fired plant. The electricity must be sold to an unrelated party to take advantage of the credit.

Statute or Rule: Code of Maryland-Transportation-§ 10-720
Applicable Sectors: Commercial, Industrial, Utility
Applicable Technologies: Wind, Biomass, Alternative Fuels, Waste

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State Energy Loan Program **$**

The State Agency Loan Program was established in 1991, using funds from the Energy Overcharge Restitution Fund (EORF). Through this revolving loan program, the Maryland Energy Administration provides loans to state agencies for cost-effective energy efficiency improvements in state facilities. Approximately $1,000,000 in new loans are awarded each fiscal year. State agencies pay zero interest with a one percent administration fee. Since its inception, SALP has funded over $6 million to upgrade lighting and other components in almost 2.5 million square feet of state building space.

Applicable Technologies: Solar Thermal Electric, PV, Wind

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Maryland Energy Administration

Community Energy Loan Assistance Program $

The Maryland Energy Administration administers the Community Energy Loan Program (CELP). This program makes loans available from a revolving loan fund for community based solar energy projects. Such projects must involve either a county or municipality as the principal stakeholder or in cooperation with a private sector partner. The interest rate on these loans may range from zero percent (0%) to just below the market rate.

Statute or Rule: MC Article 83B, @ 2-204 (1996)
Applicable Sectors: Commercial, Industrial, Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV

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Fuel Mix and Emissions Disclosure §

As part of its restructuring legislation, Maryland mandates the disclosure of fuel mix and emissions information.

Statute or Rule: April 1999 restructuring law
Applicable Sectors: Utility

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Life Cycle Costs in State Building Projects §

The state of Maryland passed a law in 1990 requiring the Department of General Services to evaluate the use of active and passive solar energy systems in its standards for determining building life-cycle costs. This statute has not had a large impact on the use of solar energy in Maryland according to the Maryland Energy Administration.

Statute or Rule: 1990 House Bill 1405
Applicable Sectors: Government, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, PV

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www.energy.state.md.us

Net Metering *§*

Maryland's net metering law allows residential customers with PV systems up to 80 kW to net meter. The statute requires that the utilities install the net meters and offer this program at no additional charge or increased electricity rate. Net excess generation is calculated on a monthly basis (in sync with the normal billing cycle). In the case where customer generation during a monthly period exceeds the electricity used from the grid, the utility does not pay for the extra power. The statewide limit to net metering capacity is 34.7 MW which is equivalent to 0.2% of projected statewide peak load demand for 1998.

Statute or Rule: House Bill 869 (1997); Article 78 PSC Law, Section 54M
Applicable Sectors: Residential, Utility
Applicable Technologies: Solar Thermal Electric, PV

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Massachusetts

Solar and Wind Energy System Deduction $

This statute allows corporations to deduct solar or wind system expenditures for space or water heating from their taxable income. Solar or wind powered devices are also exempt from the corporate excise tax for the length of their depreciation period. The qualifier is allowed to deduct from net income, for state tax purposes, any costs incurred from installing the unit, provided the installation is located in Massachusetts and is used exclusively in the trade or business of the corporation.

Statute or Rule: M.G.L. c.63, sec.38H
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind

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Local Property Tax Exemption for Hydropower Equipment $

This statute exempts hydropower facilities from local property taxes. Eligible hydropower facilities include all real property relating to hydroelectric power generation (land and buildings) and tangible property (turbines and other equipment). The exemption is good for 20 years from the date of installation. One limitation to the hydropower exemption is that in lieu of property taxes, the facility owner must pay to the city or town an amount equal to at least five percent (5%) of the owner's gross income in the previous year.

Statute or Rule: G.L.M. Chap. 59-5(45,45A)
Applicable Sectors: Residential, Commercial, Industrial, Utility, Local
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Hydro

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Renewable Energy State Income Tax Credit $

This statute, which was first enacted in 1979, provides a 15% credit against the state income tax for the cost of a renewable energy system (including installation) installed on an individual's primary residence. The maximum limit to the credit is $1,000 and can be carried over in the case that the credit is greater than one's income tax liability in one year. Eligible technologies include solar thermal, solar water and space heat, photovoltaics, wind, and hydro systems.

Statute or Rule: G.L.M. Chap. 62-6(d)
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Hydro

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Solar and Wind Power Systems Excise Tax Exemption $

This statute exempts solar and wind energy systems from the corporate excise tax for the length of the system's depreciation period. Specifically "If the energy system is the kind of business property considered to be personal property and subject to the state excise, it is then exempt." The state excise tax in Massachusetts is applied at a rate of $7.00 per $1,000 of assessed valuation.

Statute or Rule: G.L.M. Chap. 63-38H(f)
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind

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Alternative Energy Patent Exemption $

Massachusetts offers both corporate and personal income tax deductions for any income received from the sale of or royalty income from a patent that is deemed beneficial for energy conservation or alternative energy development. The Commissioner of Energy Resources determines if a patent is eligible, and part of the criteria is that the patent be ". . . of economic value, practicable, and necessary." This deduction, if granted, may be used for five years after it is granted. This deduction is unique among all incentives identified in that it targets patents and not simply property that may be deducted from taxes.

Statute or Rule: G.L.M. Chap. 62-2(G), Chap. 63-30
Applicable Sectors: Commercial, Industrial

Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Renewable Energy Equipment Sales Tax Exemption $

This statute exempts from the state sales tax solar, wind, and heat pump systems and all related equipment. This exemption is limited to systems which will be used in an individual's principal residence and is not available to commercial users. The Massachusetts sales tax rate is 5%.

Statute or Rule: G.L.M. Chap. 64H-6(dd)
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, heat pumps

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Renewable Energy Trust Fund §

As part of its November 1997 electric utility restructuring legislation, Massachusetts has created public benefits funds for renewables, energy efficiency programs, and low-income assistance programs. The Massachusetts Renewable Energy Trust Fund will be supported through a system benefits charge with total funding of roughly $150 million over a five year period. Approximately $20 million per year, for an undefined period beyond 2002, will be available The charge levels are as follows: 1.0 mill/kWh in 2001 and 0.75 mills/kWh in 2002. Qualifying renewables include: solar; wind; ocean thermal, wave, or tidal energy; fuel cells; landfill gas; waste-to-energy; hydroelectric; advanced biomass; and storage technologies connected to qualifying projects.

The Massachusetts Technology Park Corp, a quasi-public research and development entity, is administering the fund with oversight and planning assistance from the State Division of Energy Resources (DOER) and an advisory board. Funding will focus on five initiatives: (1) distributed generation; (2) the green power market; (3) development of a renewable energy sector in the state; (4) helping educational facilities develop renewable energy programs; and (5) pursuing special opportunities.

The renewables fund's launch was delayed by a lawsuit filed on behalf of some municipal utilities over details on how the fund would collect revenues. In May of 2000, the Massachusetts Supreme Judicial Court ruled that the fund could commence with its funding projects.

The Massachusetts restructuring law also mandates five year funding totaling roughly $500 million for energy efficiency investments. The law created an energy efficiency surcharge of 3.3 mills/kWh in 1998, declining to 2.5 mills/kWh by 2002 and 0.25 mills in subsequent years. The DOER is administering energy efficiency funds through the utilities. Of the energy efficiency funds, 20% of the amount spent in any year is for low-income weatherization and education programs. A low-income weatherization and fuel assistance network will implement these programs. In addition, the restructuring law requires utilities to continue low-income financial assistance at current levels with the funds collected via a separate systems benefit charge.

Total spending for efficiency and renewable programs has increased from pre-restructuring levels of about $84 million to about $200 million. Massachusetts has also established a renewable portfolio standard through restructuring and was the first state to have enacted both a portfolio standard and renewables fund.

Statute or Rule: House Bill 5117, Chapter 164 of the Acts of 1997
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Fuel Cells

Contact Information:
http://www.mtpc.org/massrenew/massrenew.htm#

Solar Access Laws *§*

Like the solar access laws in Indiana, Massachusetts both allows creation of voluntary solar easements to protect solar exposure and creates zoning rules which prohibit unreasonable infringement on solar access. Massachusetts's solar easement provisions are like those in many other states. They allow for the voluntary creation of solar access contracts but do not make solar access an automatic right. Massachusetts's zoning laws prohibit zoning regulations from unreasonably denying solar access. Additionally, the statutes allow for zoning boards to issue permits creating solar rights.

Statute or Rule: Massachusetts Laws ch. 40A @ 1A, @ 3, @ 9B; ch. 41 @ 81Q;
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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Net Metering §

Qualifying facilities with generation capacity of 60 kW or less can qualify for net metering in Massachusetts. The state's Department of Public Utilities, which mandated net metering be available to all customer classes in the state, defines qualifying facilities according to PURPA and FERC rules which includes more than just renewable energy systems. As with most other net metering programs, net excess generation is purchased at the utility's avoided cost. The original cap of 40 kW was expanded to 60 kW as part of the state's restructuring law in 1997.

Statute or Rule: 220 Code of Massachusetts Revised @ 8.04(2)(C)
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Fuel Source and Emissions Disclosure §

As part of its electric utility restructuring legislation, Massachusetts mandates the disclosure of fuel mixes and emissions to end use customers. The legislation lists the following emissions that must be listed: sulfur dioxide, nitrogen dioxides, carbon dioxide, and heavy metals. The bill also requires disclosure of whether the generation company operates under a collective bargaining agreement and uses replacement workers.

Additionally, the law authorizes the state's environmental agency to establish generation performance standards (GPS) for air emissions for at least one pollutant by 2003. However, if three or more New England states (Connecticut, Maine, New Hampshire, Rhode Island, and Vermont) enact similar standards before 2003, such standards may be adopted sooner in Massachusetts.

Statute or Rule: House Bill 5117, Chapter 164 of the Acts of 1997
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Renewable Portfolio Standard *§*

As part of its electric utility restructuring legislation, Massachusetts created the outlines for a renewable portfolio standard, with the details of the program are being developed by the Division of Energy Resources (DOER). DOER convened a series of twelve meetings of the RPS Advisory Group between October 1999 and November 2000, with the final regulations currently being drafted. Eligible new renewables include solar; wind; ocean thermal, wave, and tidal; fuel cells using renewable fuels; landfill gas; and low emission biomass. To qualify as a new renewable resource, systems must have been installed after December 31, 1997.

New Renewables	Compliance Date	Annual GWh from renewables
1.0%	2003	450
1.5%	2004	685
2.0%	2005	927
2.5%	2006	1,176
3.0%	2007	1,433
3.5%	2008	1,698
4.0%	2009	1,968
Additional 1.0%	Each year after until ended by DOER	

No credit program, method of compliance, or penalties for failing to comply is in place at this time. It is worth noting that, as part of its restructuring legislation, Massachusetts also established a public benefits fund for renewables.

Statute or Rule: Chapter 164 of the Acts of 1997
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Fuel Cells, Ocean Thermal, Wave, Tidal

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Michigan

Solar Contractor Licensing §

Michigan has a specialty license for solar work. Qualifications include three years experience in the solar field and passing an exam. Both Wayne County and Detroit have their own local set of state codes and standards for contractor licensing and training relating to solar installations.

Applicable Sectors: Construction
Applicable Technologies: Active Space and Water Heating, Photovoltaics

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Minnesota

Wind Energy Generation Grants $

Minnesota's program is unique in its offering of payments for actual energy output. There is an advantage in programs that offer credits or payments based on production rather than for investment: production payments and credits place a premium on project output and hence quality-not just rated capacity which may or may not be fully utilized once installed.

From July 1999 to June 2005, Minnesota will offer a 1.5 cent per kilowatt hour payment for electricity generated from new wind energy projects less than 2 MW in capacity. Qualifying projects will receive payments for ten years. Payments will be made available on a first come, first serve basis until new wind capacity statewide totals 100 MW. The ten year payment period extends beyond the current expiration date of January 1, 2005.

This program and Minnesota's other programs promoting wind generation have been created to help Northern States Power (now Xcel Energy), the state's largest electricity generator, meet the Minnesota legislature's mandate that NSP build or purchase 400 MW of wind power by 2004 and an additional 400 MW by 2013. Through its other wind energy incentives Minnesota has had success in developing large, centralized wind electricity generation projects through the benefit of existing incentives. This particular grant program for small scale wind projects has been initiated with the goal of establishing dispersed wind generation infrastructure.

This is one of very few state level production based renewable energy incentives offered on the in the U.S. Minnesota's production credit roughly mirrors the federal corporate production tax credit that allows a 1.5¢/kWh tax credit for electricity produced from wind and closed loop biomass.

Statute or Rule: MS2000 216C.41
Applicable Sectors: Residential, Commercial, Industrial, Utility, tribal council
Applicable Technologies: Wind, Hydro

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Agricultural Improvement Loan Program for Wind Energy $

This low interest loan program, which is administered by the Department of Agriculture through the Rural Finance Authority, provides loans to farmers for improvements to or additions to permanent facilities. In 1995 wind energy conversion equipment was added to the definition of agricultural improvements. Like Minnesota's Stock Loan Program, this is a "participation loan," whereby the loans are made by individual financial institutions working with the Rural Finance Authority. The Rural Finance Authority has a Master Participation Agreement with 365 financial institutions throughout the state; this agreement governs the responsibilities of the various parties in such participation loans. This is a relatively new program with no loans for wind energy systems having been made to date.

Statute or Rule: MS2000 41B.043
Applicable Sectors: Residential, Commercial
Applicable Technologies: Wind

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Wind and Photovoltaic Systems Exemption $

This statute excludes from property taxation the value added by photovoltaic and certain wind energy systems. This statute applies to the residential, commercial, and utility sectors. Wind systems rated less than 2 MW are completely exempt—including support structures—for the life of the system. Special rules apply to larger systems, and these rules are currently being considered for amendment. Current rules state that wind systems greater than 2 MW of rated capacity shall have nine percent (9%) of their value subject to local property taxes. As proposed by various counties in Minnesota (i.e. the property tax collectors), the new rules would maintain that systems between 2 MW and 12 MW shall have nine percent of their value subject to the property tax, while systems larger than 12 MW shall have thirty percent (30%) of their value subject to taxation. It should also be noted that in Minnesota, utilities face higher property tax rates than private companies, so that allowing a percentage of a project's value to be subject to the property tax creates a competitive advantage for independent power producers.

Statute or Rule: MS2000 272.02(21), 272.02(23)
Applicable Sectors: Residential, Commercial, Utility
Applicable Technologies: Photovoltaics, Wind

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Wind and Solar Equipment Sales Tax Exemption $

This sales tax exemption replaces an earlier and broader incentive. The solar energy exemption applied to the materials used to construct a "business incubator" or "industrial park" incorporating solar or wind energy and operated by a nonprofit whose goal is the advancement of waste reduction, alternative energy, and environmental technology businesses.

The new exemption law applies to wind energy equipment more specifically, as well as all materials used to manufacture, install, construct, repair, or replace the systems as being exempt if they are used as an electric power source.

Statute or Rule: MS2000 297A.25-68&72
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Photovoltaics, Wind

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Value-Added Stock Loan Participation Program $

This low interest loan program, which is administered by the Department of Agriculture through the Rural Finance Authority, was created in 1994 and is designed to assist farmers wishing to buy into wind generation cooperatives. Under current rules, the maximum size of an individual project supported by a wind energy cooperative is 1 MW. Like Minnesota's Agricultural Improvement Loan Program, this is a "participation loan" whereby the loans are made by individual financial institutions working with the Rural Finance Authority. The Rural Finance Authority in effect subsidizes the interest rate so that actual interest rates are half the rate offered by the lending institution. Rates under this program therefore typically average four percent (4%). The program is funded through a revolving account.

Statute or Rule: MS2000 41B.046
Applicable Sectors: Residential, Commercial
Applicable Technologies: Wind

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Solar and Wind Easements §

Minnesota statutes provide for the creation of solar and wind easements for solar and wind energy devices. As in many other states, these easements are voluntary contracts. Minnesota, though, is one of four states that specifically provide for wind easements. The statute also notes that for tax purposes, an easement imposed on a property may decrease the property value, but an easement which benefits a property may not add value to that property.

Minnesota statutes also allow for local zoning boards to restrict development for the purposes of protecting access to sunlight, and subdivisions may create variances in zoning rules in situations where undue hardships—such as lack of access to sunlight for solar energy devices—impinge on a particular property.

Statute or Rule: MRS @ 500.30 and @ 462.358
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind

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Net Metering §

Minnesota's statute based net metering laws were established in 1983 and apply to all of the state's investor-owned utilities, municipalities, and rural cooperatives. Qualifying facilities of 40 kW or less are eligible for the program and there is no limit to statewide capacity allowed under net metering. Utilities must purchase net excess generation at the average retail rate. The average retail rate is the total annual class revenue from sales of electricity minus the annual revenue resulting from fixed charges, divided by the annual class kWh sales. The purchase of net excess generation at retail rates distinguishes Minnesota's net metering legislation from programs in most other states. Only Wisconsin also provides for the purchase of net excess generation at retail rates.

Statute or Rule: MRS @ 216B.164(3)
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Solar Equipment Certification §

Minnesota rules require that all active solar space and water heating systems installed on residential and commercial buildings meet Solar Rating and Certification Corporation (SRCC) standards. Specifically, the rule references SRCC's Operating Guidelines pertaining to collector certification and system certification: OG-100 and OG-300, respectively. Local building officials may issue permits for the installation of solar water and space heating systems once these systems have been issued certification by the SRCC.

Statute or Rule: Minnesota Rules Chapter 1325.1100
Applicable Sectors: Residential, Commercial, Construction
Applicable Technologies: Active Space and Water Heating

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New Building Construction Requirements §

Minnesota statutes require Minnesota's Department of Administration, which oversees all of the state's new government building projects, to use building designs that incorporate active and passive solar energy and other alternative energy sources where feasible in new buildings and buildings undergoing major renovations. The statute also mandates energy efficiency programs in selected state buildings.

Statute or Rule: MS 16B.32
Applicable Sectors: Government, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics

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Mississippi

Energy Investment Program $

The Energy Division of Mississippi's Department of Economic and Community Development administers this program which makes low interest loans for a wide variety of renewable and non-renewable energy projects. Eligible technologies include solar thermal, solar space heat, solar process heat, photovoltaic, alternative fuels, geothermal, biomass, hydropower, and recycling facilities. All projects must demonstrate that they will reduce energy costs. The interest rate is two percent (2%) below the prime rate with a seven year payback period. The maximum loan amount is $300,000. This $7 million revolving loan fund was established through federal oil overcharge funds.

Applicable Sectors: Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Missouri

Wood Energy Producers Production Credit $

This statute, enacted in 1996, allows a producer that processes Missouri foresty industrial residues into a fuel to take an income tax credit in the amount of five dollars per ton of processed material. The credit may be claimed for a period of five years. Any amount of credit, which exceeds the tax due by the company in the year of production, may be carried over to any subsequent taxable year, not to exceed four years. Eligible fuels include forestry industry residue and processed wood products.

Though this statute affects a relatively small sector within the state, this incentive is unique among those we have identified because it is the only state-level corporate production tax credit for renewable energy in the U.S. That is, it is the only state-level corporate tax credit for renewable energy that is based on actual production levels—not simply the installation of qualifying equipment—and is therefore distinguished from all the investment tax credits that are offered. There are only two other state-level production-based incentives identified in this report, Oregon's personal income tax credit for renewable energy systems and Virginia's photovoltaics manufacturer's production grant program.

Statute or Rule: Missouri Revised Statutes 135.300-135.311
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Biomass, Alternative Fuels

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Low-Cost Efficiency Loan Funds $

This statute-based loan program is administered by the Energy Center of Missouri under the Department of Natural Resources. The loans are available for energy efficiency and renewable energy projects and are available to public schools (K-12) and local governments. The next sectors to be targeted for assistance in the future include private schools and hospitals. The loans are provided at a fixed interest rate below the market rate and repayment schedules are determined on an individual project basis. Since program-inception, $7.9 million in loans were made to units of local government and $16.4 million were made to schools.

Statute or Rule: Missouri Revised Statutes 640.653
Applicable Sectors: Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Biomass, Alternative Fuels

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Montana

Renewable Energy Systems Exemption $

This statute exempts from property taxation the value added by a qualified renewable energy source. Qualified equipment includes active and passive solar, geothermal, wind, and low emission wood or biomass combustion devices. Such equipment is exempt from taxation for a period of 10 years following installation. The value added exemption applies to systems with up to $20,000 in value in the case of a single-family residential dwelling and $100,000 in the case of a multifamily residential dwelling or a nonresidential structure.

Statute or Rule: 15-6-201(b)(3)
Applicable Sectors: Residential, Commercial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Biomass, Geothermal

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Residential Geothermal Systems Credit $

This statute allows individuals to claim an income tax credit up to $250 for the cost of installation of a geothermal energy system. This credit is allowable for the 3 years following the year of installation. However, there is no carryforward of the credit permitted.

Statute or Rule: 15-32-115
Applicable Sectors: Residential, Commercial
Applicable Technologies: Geothermal

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Wind Energy System Credit $

This statute allows a 35% tax credit for an individual, partnership or corporation which makes an investment of $5,000 or more in a wind electricity generating system or facilities to manufacture wind energy equipment. Eligible property includes wind energy system equipment, transmission lines, and equipment used in the manufacture of wind energy devices.

Statute or Rule: 15-32-401/15-32-402
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Wind

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Universal System Benefits Program §

As part of its 1997 restructuring legislation, Montana established its Universal System Benefits Program (USBP). Beginning January 1, 1999, all electricity suppliers began annually contributing 2.4% of their 1995 revenues to the USBP. This is an amount equivalent to $14.9 million annually, collected at a rate of 1.1 mills/kWh. The funds support energy efficiency, renewable energy resources, low-income energy assistance, and renewable energy R&D. The distribution of the funds among these programs for Montana Power (MPC), the first utility to submit a plan for implementation, was established through an order issued by the Montana Public Service Commission (PSC) on February 2, 1999: Large Customer Rebate ($2.5 million or 29%); Market Transformation ($1.132 million or 13%); Local Conservation ($1.804 million or 21%); Low Income ($1.786 million or 21%); Renewable Resources ($1.113 million or 13%); and Research and Development ($0.225 million or 3%). Already, Montana Power's programs have lead to the installation of PV on residences, schools, and commercial facilities through the National Center for Appropriate Technology (NCAT). MPC funding is also going toward buy-downs for central wind generation facilities.

Montana's USBP is scheduled to have a four and a half year life span from January 1, 1999 to July 1, 2003, although it is unclear what will happen to this timetable for two utilities, Energy Northwest (a regulated affiliate of Flathead Electric Cooperative) and Montana-Dakota Utility, which have yet to begin collecting or dispensing the USBP. Utilities may spend all or a portion of the funds on internal programs, or they may opt to contract or fund these programs externally. Industries with loads exceeding 1,000 kW also fall under the law and may choose to "self-direct" the funds that would normally go to the USBP to internal company energy programs.

Statute or Rule: 1997 Senate Bill 390; §69-8-402
Applicable Sectors: Utility

Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind, Geothermal

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Fuel Mix and Emissions Disclosure §

Montana's 1997 restructuring law called for the disclosure of fuel mix and environmental impact information. Specific rules were developed by the Montana Public Service Commission.

Statute or Rule: 1997 Utility Restructuring Law (SB 390); Docket No.L-97.8.6-RUL
Applicable Sectors: Utility

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Solar and Wind Easements §

Montana's solar and wind easement provisions allow property owners to create solar and wind easements for the purpose of protecting and maintaining proper access to sunlight and wind. While thirty-two other states have solar easement provisions, only three other states have created specific provisions for the creation of wind easements. Montana's solar easement law was enacted in 1979 and the wind easement was enacted in 1983.

Statute or Rule: MC 70-17-101 and 70-17-301— 70-17-303
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind

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Net Metering *§*

Montana's net meetering law, enacted July 1, 1999, allows net metering for customers with solar, wind, and hydropower systems of 50 kW or less that are intended primarily to offset part or all of the customer's requirements for electricity. All customer classes are elligable and no limit on enrollment or statewide installed capacity is specified. Utilities cannot place any additional standards or requirements on customer-generators beyond those requirements established by the National Electrical Code, National Electrical Safety Code, Institute of Electrical and Electronic Engineers and Underwriters Laboratories. Net excess generation is credited to the customers next monthly bill. At the beginning of each calendar year, any remaining unused kWh credit accumulated during the previous year must be granted to the utility.

Statute or Rule: SB 409
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Solar Thermal Electric, PV, Wind, Hydro

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Nebraska

Low Interest Loan Program for Energy Efficiency $

This program makes available low interest loans for residential and commercial energy efficiency improvements. The Nebraska Energy Office administers this program, which was created in 1990 using oil overcharge funds. To date, over 15 thousand individual loans have been made totaling over $100 million.

Renewable energy projects are eligible under one of two criteria. A project may be eligible if it is included in a list of "prequalified improvements." This list includes, for example, the purchase of alternative fuel vehicles. Projects not listed as prequalified improvements may be eligible with the submission of a technical audit that supports that the project will create energy dollar savings and show a simple paypack satisfying program requirements..

Much of this program's success is due to the leveraging of state funds through collaboration with individual banks, savings institutions, and credit unions. Those seeking a loan under this program first approach their own financial institution, which approves the project on financial terms before contacting the State Energy Office for its approval. The State Energy Office then buys half of the loan at 0% interest so that the total interest on the loan "from the borrower's perspective" will be half the market rate obtained through their private lending institution. Of the $100 million lent out so far, $51 million has been State Energy Office money.

Though they are eligible, loans for renewable energy projects have not previously been widely sought, and only a handful of renewable energy projects have been funded to date. It is felt that the program has potential benefits for renewables in Nebraska as well as other states where this structure could be replicated.

Applicable Sectors: Residential, Commercial, Agricultural, Local Gov
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Lincoln, NE 68509-5085
(402) 471 2867
http://www.nol.org/home/NEO/
http://www.nol.org/home/NEO/loan/index.html

State Agency Renewable Energy Utilization §

In 1998 former Governor Benjamin Nelson issued an executive order that all state agencies are to support the use and development of renewable energy to the greatest extent possible wherever cost-effective, available, and practical. Agencies are directed to look for renewables opportunities for new and existing buildings and are encouraged to purchase electricity generated using renewable energy resources. Life-cycle cost analysis of the potential improvements must be used. On the transportation side, by 2010, 50 percent of the Transportation Services Bureau fleet will be comprised of renewable fueled vehicles; and by 2025, 100 percent. Beyond renewables, the order calls for agencies to look for opportunities to utilize water conservation techniques

Statute or Rule: NE Executive Order 98-1
Applicable Sectors: Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Fuel Cells

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http://www.nol.org/home/NEO/exec98-1.htm

Solar and Wind Easements §

Nebraska's solar easement provisions are similar to those in most other states. They allow property owners to create binding solar easements for the purpose of protecting and maintaining proper access to sunlight. Nebraska's solar access laws were updated in March 1997 to include wind. While thirty-two other states have solar easement provisions, only three other states have created specific provisions for the creation of wind easements.

Statute or Rule: Revised Statutes of NE 66-901—66-914 revised by 1997 Bill 140
Applicable Sectors: Residential, Commercial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind

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Nevada

Renewable Energy Systems Exemption $

This statute states that any value added by a qualified renewable energy source shall be subtracted from the assessed value of any residential, commercial or industrial building for property tax purposes. Qualified equipment includes solar, wind, geothermal, solid waste converters and hydro power systems. This exemption applies for all years following installation.

Statute or Rule: NRS 361.079
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Biomass, Hydro, Waste

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http://www.state.nv.us/b&i/eo/

Solar Energy Producers Property Tax Exemption $

Enacted in 1993, this statute allows a property tax exemption for any business "that includes as a primary component an active system to utilize solar energy or a facility for the production of electrical energy from recycled material and is found by the commission on economic development to have as a primary purpose the conservation of energy or the substitution of other sources of energy for fossil sources of energy." The exemption for a qualified business applies to 75% of all the business's property—personal and real. Personal property may be exempted for ten years, while real property may be exempted for twenty years.

Statute or Rule: NRS 361.0685
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Biomass, Waste

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Nevada Department of Business and Industry
http://www.state.nv.us/b&i/eo/

Solar Contractor Licensing §

Nevada requires that solar energy system installers be licensed solar contractors under the solar contractor license category (C-37). Nevada has two other specialty solar contractor licenses: Solar Water and Space Heating (C-1j) under the Plumbing category and Solar Air Conditioning (C-21e) under the Refrigeration and Air Conditioning category. There are no training programs offered by the state.

Statute or Rule: NAC 624.540
Applicable Sectors: Construction
Applicable Technologies: Active Space and Water Heating, Solar Industrial Process Heat, Photovoltaics

Contact Information:
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Nevada State Contractors Board
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Reno, NV 89502
(702) 688 1141
http://www.state.nv.us/nscb/NRSNAC.htm

Renewable Portfolio Standard §

As part of its 1997 restructuring legislation, the Nevada legislature established a renewable portfolio standard. Utilities must comply according to the following schedule:

% Renewables	Date
0.2%	01/01/2001
0.4%	01/01/2003
0.6%	01/01/2005
0.8%	01/01/2007
1.0%	01/01/2009

Of these percentages, at least 50% must be derived from solar energy resources. Solar thermal systems that reduce electricity consumption qualify. Beyond solar, qualifying renewables include wind, geothermal, and biomass, and systems must be installed in Nevada. All systems must be "new" which means they must have been installed and operational after July 1, 1997. The RPS applies to investor-owned utilities and independent power retailers, but not to municipal utilities or cooperatives. Penalties for non-compliance include license suspension and revocation. Specific rules for the RPS are being developed by the Nevada Public Utilities Commission.

The portfolio standard has been established as a credit system, whereby utilities and other sellers of electricity earn credits for the amount of renewable energy that they sell in a year. These credits then can be sold or traded among utilities and electric sellers. Under such a system, those utilities with a percentage of renewable capacity exceeding the standard will be able to sell their excess credits to those utilities that have not met the standard through renewable energy production. Utilities that already meet over nine percent (9%) of their electricity demand with renewable energy do not have to meet the solar requirement until January 1, 2005.

Statute or Rule: NRS 704.989
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Geothermal

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http://www.state.nv.us/b&i/eo/

Disclosure §

Nevada's 1997 restructuring law requires utilities to disclose fuel mix and price variability information. Specific rules were established by the Nevada Public Service Commission.

Statute or Rule: NRS 704.985
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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http://www.state.nv.us/b&i/eo/

Solar Access Laws §

In June, 1995 Nevada passed a solar access law which prohibits any restrictions on building solar devices on property. Nevada also has solar easement provisions that are similar to those in many other states. Parties can voluntarily enter into solar easement contracts which are enforceable by law.

Statute or Rule: NRS 111.370—11.380
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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http://www.state.nv.us/b&i/eo/

Net Metering *§*

This recently enacted law allows net metering for those customers with solar and wind generation units of 10 kW or less. The statute establishes a statewide limit of one hundred participating customer-generators for each investor-owned utility. Utilities are required to supply a two-way meter to measure flow in both directions, and utilities are prohibited from adding any additional charges to the bills of those customers participating in net metering. Furthermore, utilities cannot place any additional standards or requirements on customer-generators beyond those requirements established by the National Electrical Code and Underwriters Laboratories. Utilities are not required to pay for any net excess generation by the customer-generator. Customers have the option of annualizing the net metering calculation by having net excess generation at the end of a month credited toward the following month's bill.

Statute or Rule: NRS 704.766-775
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind

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New Hampshire

Renewable Energy Technology Grants Program $

The Renewable Energy Technology Grants Program, administered by the Governor's Office of Energy and Community Services, yearly offers a small number of grants of up to $5,000 for renewable energy projects to non-profit organizations and businesses with fewer than 25 employees. Projects funded must include a significant public education component.

Applicable Sectors: Commercial, Industrial, Government, educational
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro

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http://www.state.nh.us/governor/energycomm/renewable.html

Local Option Property Tax Exemption for Renewable $

Like those in Connecticut, Iowa, Maryland, Rhode Island, and Virginia, New Hampshire's local option property tax statute allows each city and town to offer an exemption on residential property taxes in the amount of the assessed value of a solar, wind, or wood energy system used on the property. Eligible technologies may include photovoltaics, solar space heating, solar water heating, passive solar, wind, and biomass. A list of cities and towns with the exemption is on the web at www.state.nh.us/governor/energycomm.

Statute or Rule: NHRS 72:61-62
Applicable Sectors: Residential, Local
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Biomass, Hydro

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http://www.state.nh.us/governor/energycomm/index.html

Fuel Mix Disclosure §

Under the New Hampshire Public Utility Commission Order DR-96150 on Electric Utility Restructuring, electricity suppliers will be required to disclose their resource mix. The New Hampshire PUC's order, issued on February 28, 1997, was a detailed follow up to the state legislature's Electric Utility Restructuring Act, passed on May 21, 1997. The language of the PUC's order does not specify the extent or the details of the disclosure requirement, but requires that a working group within the commission be established to determine the disclosure standards. The PUC's order specifically states that portfolio standards are not the preferred method of supporting renewables; rather, disclosure provisions are more consistent with the goals of supporting renewables in an open power market. Updated information on
restructuring is available on the web at www.state.nh.us/governor/energycomm.

Statute or Rule: PUC Order DR-96150 and RSA 374-F:1
Applicable Sectors: Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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http://www.state.nh.us/governor/energycomm/index.html

Net Metering §

New Hampshire's net metering law requires each state utility to offer net metering within three months after the utility is deregulated or within three months of final approval of net metering regulations by the Public Utilities Commission. Residential and commercial customers with renewable facilities of 25 kW or less are eligible. Customers generating more electricity than they use in a given billing period receive credit for excess power generated. The statewide limit on capacity enrolled in net metering is .05 percent of the annual peak demand of each utility.

Statute or Rule: NHRS 362-A:1 & 9
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Photovoltaics, Wind, Hydro

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New Jersey

Solar and Wind Energy Systems Exemption $

New Jersey offers a full exemption from the state 6% sales tax for all solar and wind equipment. This exemption (present regulation will expire in 2000) is available to all taxpayers. In addition, reference to New Jersey's technical sufficiency standards is necessary. These standards for solar equipment were established in order to certify eligible solar energy equipment for the state's sales and use tax exemptions. The statute defines all relevant solar energy equipment including equipment for passive solar design.

Statute or Rule: NJSA 54:32B-8.33 and regulations: N.J.A.C. 14:25-1
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels

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New Jersey Green Homes §

The mission of the Green Homes Office is to fundamentally improve the environmental performance, energy efficiency, quality, and affordability of housing in New Jersey. Through advocacy, education, and technical assistance we aim to accelerate the use of innovative green building design, which includes renewable energy technologies such as photovoltaics, wind, and biomass energy, and building technologies, raise building standards and create a consumer demand for efficient and environmentally responsible, high-performance homes.

Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Waste, Building standards

Contact Information:
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Net Metering §

New Jersey's net metering law, enacted February 1999, requires that net metering be offered to residential and small commercial customers with photovoltaic and wind systems. The law requires any net excess generation to be credited to the following month and any unused credit at the end of the year to be purchased by the utility at its avoided cost. The law caps net metering system capacity at 0.1% of the utility's peak demand or at an annual financial impact to the utility of $2,000,000. In January 2000, the NJ Board of Public Utilities (BPU) issued a draft rule to implement the requirement, entitled Interim Net Metering, Safety, & Power Quality Standards for Wind & Solar Photovoltaic Systems. This rule established a 100 kW cap on the system size for systems eligible for net metering.

Statute or Rule: NJSA 48: 3-49 et.seq. "Electric Discount & Energy Competition Act"
Applicable Sectors: Residential, Commercial
Applicable Technologies: Photovoltaics, Wind

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Public Benefits Fund §

New Jersey's January 1999 electricity-restructuring legislation provides for a $230 million per year fund for energy efficiency and renewable energy programs through a system benefit charge of about 3.0 mills/kWh. This total is based on current utility energy efficiency program funding of about $230 million per year. The charge will be imposed on all electricity public utility customers. The program will continue for at least eight years, and after the eighth year the Board of Public Utilities (BPU) will determine the appropriate level of program funding. As part of the lead up to the commencement of restructuring, the Board will undertake a comprehensive resource analysis of energy programs.

New Class I renewables will be allocated at least twenty-five percent (or $29 million) of the annual funding for new efficiency and renewables programs. Class I renewables include solar, wind, fuel cells, geothermal technologies, wave or tidal action, and methane gas from a landfill or biomass facility. Class II includes hydro power but will not be funded through the PBF. The BPU, in consultation with the Department of Environmental Protection, is currently in the process of determining the appropriate level of funding for Class I renewable energy programs and will review this level every four years.

Energy efficiency programs will include current DSM commitments and new efficiency programs. Existing programs will likely use 50% or $115 million per year for the first four years, and approximately $87 million per year will be available for new efficiency programs in this time period. As with renewables, the BPU in consultation with the Department of Environmental Protection is currently in the process of determining the appropriate level of funding for energy efficiency programs and will review this level every four years.

The level of funding for new programs—both new renewables and new energy efficiency programs—will be fixed at about $115 in the first four years, and in years five through

eight will rise as past DSM commitments expire until the level of funding for new programs reaches $140 million per year.

Low-income programs will continue at approximately current levels through funds collected in distribution utility rates. This totals approximately $13.2/year for rate assistance and $15 for weatherization. The Board will determine the levels of funding and appropriate administration.

Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Fuel Cells

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Fuel Mix and Emissions Disclosure *§*

As part of its electric utility restructuring legislation, New Jersey mandates the disclosure of fuel mixes and emissions information.

Statute or Rule: 1999 Restructuring Law
Applicable Sectors: Utility,

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New Mexico

System Benefits Charge *§*

As part of New Mexico's "Electric Utility Industry Restructuring Act of 1999" the legislature created the Electric Industry System Benefits Fund for renewable energy, customer education, and low-income assistance. The fund is created through a charge of 0.03¢/kWh beginning January 1, 2002 and doubling in 2007. The charge is collected from all electric utilities, both private and public. The funds will support renewable energy up to $4 million to be used by school districts, cities, towns, villages, or counties. Renewable technologies to be supported include solar, wind, geothermal, biomass, landfill gas, and hydropower.

Consumer education will be funded at $500,000 and overseen by the Public Regulation Commission. Low-income energy assistance will be funded at $500,000 and a provision for electricity to remote communities not connected to the grid will be funded at a up to $4,000,000. These funds will be used to develop electric service through the initiation and implementation of new projects, including those using renewable energy, to provide or extend electric service in low-income communities.

Statute or Rule: Section 15, Senate Bill 428 of 1999
Applicable Sectors: Government, Utility, Local, Schools
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Solar Rights Act of 1978 §

New Mexico's Solar Rights Act of 1978, like those in many other states, allows property owners to create solar easements for the purpose of protecting and maintaining proper access to sunlight. The Energy Conservation and Management Division reports that three to five solar easements are granted each year. The Solar Rights Act also includes provisions allowing local governments to create their own ordinances or zoning rules pertaining to the protection of solar rights.

Statute or Rule: New Mexico Code 47-3-1—47-3-11
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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Renewable Portfolio Standard §

As part of New Mexico's "Electric Utility Industry Restructuring Act of 1999" the legislature required the Public Regulation Commission (PRC) to examine a renewable portfolio standard for the state. In May 2000, the PRC issued an order calling for retail electric suppliers to meet 5% of their standard offer service with renewables. Eligible renewables must come from New Mexico and include wind, solar, geothermal, biomass, hydropower and fuel cells. It has been estimated by the Land and Water Fund of the Rockies (LAW) that the RPS will lead to 60 to 120 MW of new renewable energy for New Mexico. However, the PRC also ruled that compliance with the RPS is waived if the RPS would result in the cost of electricity increasing more than $0.001 per kWh. In the same order, the PRC required utilities to offer an optional green power tariff for standard offer customers who are willing to pay more for renewable energy.

Statute or Rule: PRC Rule 591: Standard Offer Service Rule
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal, Fuel Cells

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Net Metering *§*

The New Mexico Public Regulation Commission Rule 571 differs from the NM Administrative Code as Title 17.10.571. The Rule 571 details a net metering calculation that credits net energy generation to the consumer from month to month. Annually the excess credit is zeroed out. The administrative code offers a second option for calculating the net energy generation credit which essentially pays the customer the utilities avoided cost, "crediting or paying the customer for the net energy supplied to the utility at the utility's energy rate pursuant to NMPRC Rule 570.17." The utility gets to choose which method they want to use.

Statute or Rule: 17 NMAC 10.571; 1998 NM PUC Order 2847
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Line Extension *§*

Based on New Mexico Public Utility Commission Case number 2476, electric utilities in the state are required to provide information on photovoltaic systems to remote customers who request line extensions when the cost of the requested line extension is greater than $25,000. In such cases, utilities must provide customers with information on suppliers of photovoltaic systems. This policy was designed to assist those customers with remote water pumping needs. The cost of line extension in new Mexico is shared by utilities and customers: the utility pays the first $600 to $2000 (depending on the particular utility) and the customer pays the remainder.

Statute or Rule: NMPUC Case Number 2476
Applicable Sectors: Residential, Commercial, Utility
Applicable Technologies: Photovoltaics

Contact Information:
Tom Halbin
New Mexico Public Utility Commission

New York

Renewables R&D Grant Program $

This collaborative research program is run by the New York State Energy Research and Development Authority (NYSERDA). The Authority typically makes solicitations for research projects on an annual basis with annual funds averaging $2 million. Funds are available to support research projects, typically involving product development and commercialization activities, that target either commercial, industrial, residential and utilities sectors. The program funds up to 50% of a project's costs with expenditures running between $10,000 and $200,000 per project. Eligible technologies include solar thermal electric, photovoltaics, hydropower, alternative fuels, wind, and biomass. The largest recipients are biomass, photovoltaics, and wind. This program focuses on product and technology development as opposed to the installation of individual renewable energy systems.

Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels

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Photovoltaic Income Tax Credit $

Passed by the New York legislature in August 1997, this personal income tax credit applies to expenditures on solar electric equipment used on residential property. This tax credit provision was passed as part of a bill that includes provisions for the net metering of the same equipment, thereby providing a double benefit to the homeowner. The credit is for twenty-five (25%) percent of the cost of equipment and installation of photovoltaic systems. While there is no limit on the size of the system or the total amount of the credit, there is an "expenditure cap" that stipulates that the total cost of the system eligible for the tax credit may not exceed $1.50 per watt of rated capacity.

For example, if a homeowner installs a 500 watt system for a total equipment and installation cost of $4,000. Thus the tax credit would allow $3,000 maximum cost ($6/watt) and the tax credit would be 25% of this or $750 ($1.50/watt). Any amount of credit that exceeds a taxpayers liability in a given year can be carried forward for the five

following years. Any amount of the system cost provided by a grant from any source cannot be counted toward the tax credit.

While there is not explicit limit on the size of a system that would be eligible for the tax credit, there is a 10 kW limit on the size of equipment eligible for net metering. There is also a statewide limit on the amount of total capacity that may be net metered. This limit is set at one tenth of one percent (0.1%) of 1996 peak demand for each electrical corporation. That is, each electric utility is obligated to provide net metering to customers only until the total net metered capacity in that utility's service district reaches 0.1% of that utility's 1996 peak load. This sort of limit provides insurance against excessive revenue losses by the utilities, although this limit is not expected to impinge on the number of installations.

Statute or Rule: 1997 A 8660
Applicable Sectors: Residential
Applicable Technologies: Photovoltaics

Contact Information:
Taxpayer Assistance
Taxpayer Assistance Bureau
New York State Department of Taxation and Finance
W.A. Harriman Campus
Albany, NY 12227
(800) 225 5829
http://www.tax.state.ny.us

Residential Photovoltaics Program $

The Solar Connect New York program offers homeowners rebates for interconnected photovoltaic systems. The rebates are $3,000 per installed watt up to $7,500 and are available to customers in the following utility service areas:

* Central Hudson Gas & Electric Corporation
* Consolidated Edison Company of New York, Inc.
* New York State Electric and Gas Corporation
* Niagara Mohawk Power Corporation
* Orange & Rockland Utilities, Inc

Solar Connect is built around the New York Energy $mart program managed by the New York State Energy Research and Development Authority in cooperation with the New York State Public Service Commission. Eligible systems must be installed by authorized Solar Connect dealers. Customers need to call he installation contractors directly: Astropower 1-800-800-8727 or www.astropower.com; SunWize Technologies, Inc. 1-800-817-6527 or www.sunwize.com; Four Seasons Solar Products 1-800-368-7732 or www.pvsunrooms.com. The program includes a 2-year service contract and warranty.

Applicable Sectors: Residential
Applicable Technologies: Photovoltaics

Contact Information:
Jeffrey Peterson
Energy Resources
http://www.nyserda.org

Green Building Tax Credit Program $

New York State passed an innovative Green Building Tax Credit for business and personal income taxpayers. The Green Building Tax Credit, through the NY Division of Environmental Conservation with support from New York State Energy Research and Development Authority (NYSERDA), Steven Winter Associates, and various state agencies, offers tax credits to large commerical or multi-family residential "green" building owners and tenant spaces within green buildings that increase energy efficiency, improve indoor air quality and reduce environmental impacts.

The total credit amount allocated by the legislature is $25 million to be distributed between 2001 and 2009. Owners and tenants must work through an architect or engineer who will help obtain a credit certificate from the state for their project. The credits are distributed over a five year period with any unredemed portion able to be carried forward indefinitely or transferred to a new owner or tenant. Intitial credit certificates will be issued between the years 2000 and 2004.

Projects can qualify for credits under six different program components: (1) Whole Building Credit (owner or tenant) where base building and all tenant space are green; (2) Base Building Credit (owner) for non-dwelling spaces; (3) Tenant Space Credit (owner or tenant) where the base building must be green to qualify if the tenat space is under 10,000 sf.; (4) Fuel Cell Credit for systems fueled by a "qualifying alternate energy source"; (5) Photovoltaic Module Credit; and (6) Green Refrigerant Credit new air conditioning equipment using an EPA-approved non-ozone depleting refrigerant. The compents 4, 5 and 6 have to be serving green spaces.

The fuel cell credit is for 30% of capitalized cost of each fuel cell (6% x 5 years) with a cap of $1,000/kw x DC-rated capacity. The photovoltaic credit is for 100% of the incremental cost of "building-integrated" photovoltaic modules (20% x 5 years) or 25% of the incremental cost of non-building integrated photovoltaic modules (5% x 5 years) with a cap of $3/w x DC-rated capacity. For the other components, see the NY Division of Environmental Conservation website.

Statute or Rule:
Applicable Sectors: Residential, Commercial, Construction
Applicable Technologies: Photovoltaics, Fuel Cells

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http://www.nyserda.org/green.html
http://www.dec.state.ny.us/website/dar/ood/grnbldg.html

New York State Energy Reseach and Development Authority (NYSERDA) §

The New York State Energy Research and Development Authority (NYSERDA) is a public-benefit corporation created in 1975 by the New York legislature in order to meet public needs that are not met by the private sector. NYSERDA is funded through a surcharge on intrastate gas and electric sales by the state's investor-owned utilities as well as funds from the New York Power Authority and royalties on projects.

NYSERDA supports research, development and commercialization activities in all areas of renewable energy technology and provides financial support to further the market penetration of renewable technology across the state and around the world. NYSERDA's R&D program goals are: (1) promote energy efficiency and the development of energy and environmental technologies to encourage economic growth in New York; (2) Expand the use of New York's indigenous and renewable energy resources; and (3) Reduce and mitigate adverse environmental effects associated with energy production and use.

Examples of renewable energy R&D work by NYSERDA include: development of photovoltaic products, fostering the development of indigenous woody biomass crops, and the development of a hybrid-electric vehicle. The majority of NYSERDA's research projects are contracted out.

In addition to its R&D program NYSERDA's activities include:
- providing energy efficiency services;
- issuing tax-exempt bonds for utilities and special energy projects;
- managing the Western New York Nuclear Service Center;
- addressing radioactive waste issues; and
- administering federal energy grant programs.

Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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New York Public Benefits Funds §

New York's public benefits funds cover energy efficiency, research and development, low-income programs, and environmental disclosure. New York implemented electric utility restructuring in 1997 through regulatory orders by the Public Service Commission (PSC). The three year public benefits fund of $234 million was established for New York's six investor-owned utilities, with the New York State Energy Research and Development Authority (NYSERDA) serving as the primary fund administrator. NYSERDA is administering $172 million of the fund total, and the utilities are administering the other $62 million. A seventeen-member SBC Advisory Group consisting of stakeholders was established to provide input and guidance to NYSERDA on program design and implementation.

The three-year funding total by program, including both the NYSERDA and utility administered programs, is as follows:
- renewables research and development: $40.4 million
- energy efficiency: $161.6 million
- low-income assistance: $29 million
- environmental disclosure: $3.0.

Weatherization is included in the low-income program. The research and development programs include wind, photovoltaics, and biomass. Results so far have included the development of over 20 MW of new wind power, R&D in fuel cells and micro turbines, leveraging over $98 in additional utility funds for efficiency programs, 10 new green building projects, and testing to overcome interconnection barriers.

On an annual basis, program funding equals about 0.6 mill/kWh. In addition, this amount does not include programs operated by the Long Island Power Authority (LIPA) and New York Power Authority (NYPA), which are not regulated by the PSC. LIPA has a current public benefits program of $32 million per year, which is estimated to decrease to about to $12 million per year. NYPA has a $200 million, multi-year energy efficiency program.

Statute or Rule: Opinion 96-12 of the Public Service Commission (PSC)
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Fuel Cells

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Solar Easements §

New York's real property laws allow for the creation of solar easements. Like those in many other states, these are voluntary contracts which must be entered into in order to ensure uninterrupted solar access for solar energy devices. New York General City codes allow local zoning districts to make rules regarding solar access.

Statute or Rule: NY Real Property Law @ 335-b & NY General City Codes @ 20
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

Net Metering §

In the summer of 1997, New York enacted a net metering law for residential photovoltaic systems of 10 kW or less. A similar law was vetoed in November, 1996 over concerns about interconnection safety issues. New York's new net metering law also includes an income tax credit allowing residential customers to claim a credit of twenty-five (25%) percent of the cost of a qualifying photovoltaic system. The maximum system size is 10 kW and utilities are obliged to accept customers into the net metering program on a first come, first serve basis until the capacity signed up for net metering equals one tenth of one (0.1%) percent of the utility's 1996 peak demand. Individual utilities, however, can choose to allow a greater capacity to enroll in net metering.

At the end of each month, net excess generation is credited toward the following month's bill. At the end of the annual billing cycle, if there is any net excess generation by the customer, consumers are paid the utility's avoided cost for that generation.

The New York State Department of Public Service has developed uniform interconnection rules for net metered systems. Systems must use type tested inverters to be approved for interconnection. Visit the DPS website for more information: http://www.dps.state.ny.us/distgen.htm.

Statute or Rule: 1997 Assembly Bill 8660, Senate Bill 5400
Applicable Sectors: Residential, Utility
Applicable Technologies: Photovoltaics

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North Carolina

All Renewables Tax Credit $

North Carolina revised their renewable energy tax credits in 2000. The new various older statutes were repealed and a unified statute that addresses nearly all renewables was instated. The new statute provides for an expanded tax credit of 35% of eligible hydroelectric project costs to a maximum of $10,500 for residential projects and $250,000 for commercial projects per installation.

Elligible expenses include 100% of the cost of equipment to generate electricity at existing dams or in free flowing waterway and related devices for water supply and control, and for converting, conditioning and storing electricity, including design, construction and installation costs. When replacing equipment to increase capacity, the percentage eligible for tax credit shall be in the same percentage as the increase in project capacity divided by the pre-change capacity.

Ineligible expenditures include construction of new dams, repair or additions to existing dams or dredging to increase original impoundment capacity and all maintenance expenditures at existing and/or previously credited projects including replacement of eligible equipment.

Statute or Rule: NCGS 105-129.15,16A
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Daylighting

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Renewable Systems Manufacturer Incentive $

North Carolina offers a corporate income tax credit to manufacturers of renewables energy systems. The credit is equal to 25% of the installation and equipment costs of construction with no maximum limit to the credit except that it cannot exceed a taxpayer's tax liability in one year. If the credit does exceed the manufacturer's tax liability, the credit may be carried forward for up to five years. This tax incentive can be used in conjunction with the federal corporate tax credit and accelerated depreciation allowances; however, any amount of the facility's costs provided by federal, state, or local grants cannot be included in the

calculation of the allowable credit. It should also be noted that the credit's maximum carryover of five years can limit the ability of a company with a small tax liability to take full advantage of this 25% credit.

Statute or Rule: NCGS 105-130.28
Applicable Sectors: Industrial
Applicable Technologies: Photovoltaics, Solar Thermal Electric, Biomass, Wind, Hydro, Landfill Gas, Solar Hot Water

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Active Solar Heating and Cooling Systems Exemption $

This property tax exclusion allows for active solar heating and cooling systems to be assessed at not more than the value of a conventional system for the purposes of property taxation. This applies only to active solar systems and does not include any land or structural elements of buildings such as walls and roofs. Specifically, "system" includes all controls, tanks, pumps, heat exchangers and other equipment used directly and exclusively for the conversion of solar energy for heating or cooling. Not included are land or structural elements of the building such as walls and roofs nor other equipment ordinarily contained in the structure. Residential, commercial, and industrial property is eligible for this exclusion.

Statute or Rule: NCGS 105-277
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Active Space and Water Heating

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North Carolina Solar Center §

Established in 1988, the North Carolina Solar Center (NCSC) serves as a statewide clearinghouse for information, education, technical assitance, and applied research on solar energy technologies. The Center is sponsored by the Energy Office of the North Carolina Department of Administration and operated by the College of Engineering at NC State University. In addition to receiving support from the Energy Office for its state programs, the Center is involved in a number of national, international, state, and local programs that receive funding from federal sources, other state agencies, foundations, and corporations.

The Center features a solar demonstration home which is used year round for public education on the use of active and passive residential solar systems. Other public outreach programs and services include workshops for building professionals and contractors, design reviews for home builders and educational programs for local K-12 schools.

In addition to its outreach and education programs, the NCSC is home to research and testing projects on emerging solar technologies including concentrating solar thermal technologies, building integrated photovoltaics, and solar pasteurization.

Applicable Sectors: Government
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Alternative Fuels

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North Dakota

Geothermal, Solar, and Wind Devices Deduction $

This statute allows any taxpayer to deduct five percent (5%) of the cost of equipment and installation of a geothermal, solar or wind energy device for a period of three years.

Statute or Rule: North Dakota Century Code 57-38-01.8
Applicable Sectors: Residential, Commercial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Geothermal

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Renewable Energy Systems Exemption $

North Dakota exempts from local property taxes any solar, wind or geothermal energy device (whether stand alone or part of a conventional system). In the case where the solar, wind or geothermal system is part of a conventional energy system, only the renewable energy portion of the total system is eligible. This exemption is applied only during the five year period following installation.

Statute or Rule: North Dakota Century Code 57-02-08(27)
Applicable Sectors: Residential, Commercial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Geothermal

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Net Metering *§*

Passed in 1991 by the North Dakota Public Utility Commission, this net metering ruling applies to both renewable energy generators and cogenerators up to 100 kW in capacity. Net metering is available to all customer classes and there is no statewide limit to the capacity signed up for net metering. When customers have excess generation in a monthly billing period, utilities must purchase net excess generation at the avoided cost.

Statute or Rule: ND Administrative Code @ 69-09-07-09
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Ohio

Conversion Facilities Tax Exemption $

This statute exempts certain equipment from property taxation, the state sales and use tax, as well as the state francise tax where applicable. Originally enacted in 1978, this incentive has had some impact in the promotion of renewable energy in Ohio according to the Ohio Office of Energy Efficiency.

The code applies to tangible property used in energy conversion, thermal efficiency improvements and solid waste energy conversion. Generally, "conversion" refers to the replacement of fossil fuel sources of energy with alternative fuels or tehcnologies; "thermal efficiency improvements" refers to the recovery of waste heat or steam produced in any commercial or industrial processes; and "solid waste conversion" refers to the use of waste to produce energy AND the utilization of such energy. Technologies included are solar thermal systems, photovoltaic systems, wind, biomass, and waste recovery systems.

Upon receipt of certification from the tax commissioner, such property is exempt from the sales and use taxes. Such equipment improvements also cannot be considered an improvement on land for purposes of property taxation and are not considered in the assessment of the state francise tax.

Statute or Rule: ORC 5709.45—5709.53
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Alternative Fuels, Waste

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Net Metering §

Enacted in 1999 by the State General Assembly as part of an electric utility restructuring bill, Ohio's net metering rule requires utilities to offer a net metering option to customer-generators who own qualifying systems. Qualifying systems include wind, solar, biomass, landfill gas, hydropower, fuel cells and microturbines and must be intended primarily to offset part or all of the customer-generator's requirements for electricity. There is no cap on system size but the total installed capacity is limited to 0.1% of each utility's in state customer peak demand.

Net metering system must meet safety standards of the National Electrical Code, the Institute of Electrical and Electronics Engineers, and Underwriters Laboratories. Utilities cannot require the customer-generator to comply with any further safety and performance standards. Net excess generation will be purchased at the unbundled generation rate and be credited to the following bill.

Statute or Rule: Ohio Legislature, SB 3
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Fuel Cells, micro turbines

Contact Information:
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Columbus, OH

Solar Easements §

Ohio's solar easement provisions are similar to those in most other states. They allow property owners to create binding solar easements for the purpose of protecting and maintaining proper access to sunlight.

Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics

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http://www.odod.ohio.gov/cdd/oee

Energy Efficiency Revolving Loan Fund Program *§*

Ohio's 1999 electric restructuring law created the Energy Efficiency Revolving Loan Fund and Universal Service Board which consolidate low-income assistance programs and create a weatherization program targeted at low-income housing. The Fund will collect $100 million over 10 years to provide loans at below market rates or loan guarantees for energy efficiency improvements undertaken by residential, government, educational, small commercial, small industrial, or agricultural customers. Renewable energy projects are also eligible for loans through the fund. And, funds will be available for public education.

In addition to establishing funding levels, the restructuring legislation sets up a Public Benefits Advisory Board as a multi-stakeholder panel to assist the Department of Development in making policies for and administering the Universal Service Board and the Energy Efficiency Revolving Loan Fund. The Department of Development will also meet regularly with the state Public Utilities Commission in the development of spending programs.

Statute or Rule: Section 4928.61 et seq., Amended Substitute Senate Bill No. 3, 1999-2000
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Fuel Cells

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Oklahoma

Solar and Wind Equipment Certification §

Oklahoma statutes require that wind turbines and photovoltaic modules be certified by the Solar Rating and Certification Corporation (SRCC), the American Wind Energy Association (AWEA), the Oklahoma Solar Energy Industries Association (OK-SEIA), or other nationally recognized certification agency. This certification requirement was originally established for systems that applied for Oklahoma's tax credits, which have since expired. The statute further stipulates that purchasers be provided with solar and/or wind energy resource information, as well as product performance specifications conforming to the Solar Energy Industries Association (SEIA), SRCC, Jet Propulsion Laboratory (JPL), or AWEA standards. Another protection required is that qualifying renewable energy generating equipment must carry, as a minimum, a three-year warranty against defects in design, manufacture or installation.

Statute or Rule: Oklahoma Codes 68 @ 2357.32
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Photovoltaics, Wind

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Net Metering *§*

Net metering has been available in Oklahoma since 1988 under Oklahoma Corporate Commission Order 326195. This ruling requires investor owned utilities and rural cooperatives under the Commission's jurisdiction to file net metering tariffs for customer-owned renewable energy and cogeneration facilities at 100 kW or less in capacity. The program is available to all customer classes and there is no statewide limit to the amount of net metering capacity. Utilities are not allowed to impose extra charges for customers signed up for net metering, but utilities are also not required to purchase net excess generation from customers. The ruling, however, does allow customers to request that utilities purchase the net generation. In this case, the utility purchases the generation at the utility's avoided cost.

Although all renewable energy sources are eligible, only wind generating systems have used net metering in Oklahoma to date. In most cases, customer generation does not exceed demand.

Statute or Rule: Oklahoma Corporate Commission Order 326195
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Oregon

Remote Water Pumping Rebate Program $

The Oregon Office of Energy offers financial and technical support for people interested in buying a solar electric system for water pumping in remote locations. In addition to residential and business tax credits, the Oregon Office of Energy is offering a $100 cash rebate on completed projects and will cover all application fees. The rebate is expected to cover the first 20 customers. Qualifying systems must cost less than a power-line extension and be a new system with equipment specifically designed for photovoltaic use.

Applicable Sectors: Residential, Commercial
Applicable Technologies: Photovoltaics

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(800) 221-8035
http://www.energy.state.or.us/renew/solar/PVpump.htm

Renewable Energy Systems Exemption $

Oregon's property tax exemption states that the added value to any property from the installation of a qualifying renewable energy system not be included in the assessment of the property's value for property tax purposes. Qualifying renewables include solar, geothermal, wind, water or methane gas systems for heating, cooling, or generating electricity. This exemption is intended for end users and does not apply to property owned by anyone directly or indirectly involved in the energy industry.

Statute or Rule: 29@307.175
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Alternative Fuels, Geothermal

Contact Information:
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Oregon Office of Energy
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(503) 378 4040
http://www.energy.state.or.us

Residential Energy Tax Credit $

The Residential Energy Tax Credit is for premium-efficiency appliance and duct systems, closed-loop geothermal space or water heating systems, solar water and space heating systems, photovoltaics, wind, fuel cells, and alternative fuel vehicles and charging or fueling systems.

Only appliances recognized as premium efficiency by the Oregon Office of Energy are eligible for the tax credit. The Oregon Office of Energy updates monthly the lists of qualifying appliances. The tax credit is the lessor of: (1) the first year energy yield in kWh multiplied by 40¢, or (2) 25 percent of the net cost of the appliance, not to exceed $1,000.

Performance-tested duct systems qualify for a tax credit of 25 percent of the cost of the work, not to exceed $250. Work must be performed by a contractor certified by the Oregon Office of Energy.

Geothermal heat pump systems must have a seasonal coefficient of performance (COP) of at least 3.0 to qualify. Performance of solar space heating systems is based on the heating load of the dwelling. The system must provide at least 10 percent of the building's space-heating load. Performance of water heating devices is based on hot water use of 75 gallons per day at 120 degrees F. Solar electricity generating devices must provide at least 50 percent of the building's electrical load. The tax credit for photovoltaic systems and solar or geothermal domestic water heating and space heating systems is the first year energy yield of the device in kWh multiplied by 60¢, up to $1,500. The tax credit for solar pool or spa heating systems is the lessor of (1) 50 percent of the cost of the device or (2) the first year energy yield multiplied by 15¢, not to exceed $1,500.

Vehicles that run on alternative type of fuels qualify for a tax credit. Examples are electricity, natural gas, methanol, propane and hydrogen. Vehicles must be registered in the state of Oregon to operate on public roadways. An additional tax credit is available for installing a home charging or fueling system. The tax credit is 25 percent of the cost of the vehicle or device, not to exceed $750. The tax credit may be claimed for a vehicle and a charging or fueling system.

Statute or Rule: ORS 29@316.116
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Alternative Fuels, Geothermal, Fuel Cells

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http://www.energy.state.or.us/res/tax/taxcdt.htm

Utility Independent Home Rebate Program $

The Oregon Office of Energy offers financial and technical support for people interested in buying a solar electric system for their home. In addition to the residential tax credits, the Oregon Office of Energy offers a rebate of up to $2,000 (while funds last). A rebate for the project can be reserved for 120 days. If the project is not completed within 120 days, the

funds are made available to the next person on the list. The rebate is expected to cover the first 20-30 customers.

The residential building must provide a minimum of 10% of the annual energy needs for the home, cost less than a power-line extension, be a new system with equipment specifically designed for photovoltaic use and be installed by a qualified installer.

Statute or Rule:
Applicable Sectors: Residential
Applicable Technologies: Photovoltaics

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http://www.energy.state.or.us/renew/solar/PVhome.htm

Small Scale Energy Loan Program (SELP) $

This program is administered by Office of Energy under the Department of Natural Resources and was created in 1981 after voters approved an amendment to the Oregon Constitution in 1980 authorizing the sale of bonds to finance small scale, local energy projects. The funding source thus is unlike most other state renewable energy loan programs, which are funded by revolving funds. The sale of bonds done on a periodic basis and is occasionally done to accommodate a particularly large loan request. For 1995-97 SELP may issue up to $35 million per year in general obligation bonds.

This program is split into two divisions—commercial/industrial and municipal/school. One of the primary requirements for the overall program is that energy savings be great enough to provide for the majority—and in some cases all—of the loan repayment. If it is deemed that the project will have benefits beyond energy savings, energy savings requirements are lowered. Though there is no legal maximum loan, the largest single loan has been $16.8 million. Loan terms can vary. Generally they are set to match the term of the bonds that funded the loans, but loan terms may not exceed project life. It should be noted that though the SELP and Business Energy Tax Credit (BETC) are different programs, businesses which qualify for SELP often qualify for BETC.

Applicable Sectors: Commercial, Industrial, Government, Schools
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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http://www.energy.state.or.us/loan/selphme.htm

Business Energy Tax Credit "Betsy" $

Oregon's Business Energy Tax Credit is for investments in energy conservation, recycling, renewable energy resources or less-polluitng transportation fuels. Any Oregon business may qualify. Projects may be in manufacturing plants, stores, offices, apartment buildings, farms or in transportation, for example.

The 35-percent tax credit is taken over five years: 10 percent the first and second years and 5 percent for each year thereafter. Any unused credit can be carried forward up to eight years. Under the "pass-through" option, investor-owned utilities and other companies can claim the credit and give customers a lump-sum cash payment of about 28 percent—the net present value—of their project costs.

Lighting projects must improve energy efficiency by at least 25 percent to qualify. All rental-property weatherization projects qualify for the tax credit if recommended by a utility or state energy auditor. Other conservation projects must reduce energy use by at least 10 percent. For new construction, measures are eligible if they reduce energy use by at least 10 percent, compared to a similar building that meets the minimum requirements of the state energy code.

Projects that use solar, wind, hydro, geothermal or biomass to produce energy, displace energy, or reclaim energy from waste may qualify for a tax credit. Renewable resource projects must replace at least 10 percent of the electricity, gas or oil used. The energy can be used on site or sold.

Projects that develop new markets for recycled materials or recycle materials not required by law are eligible for the tax credit. Projects that reduce employee commuting (or work-related travel) and investments in alternative fuels may qualify. To date, more than 4,800 energy tax credits have been awarded to Oregon businesses. Altogether, those investments save or generate energy worth some $90 million a year.

Statute or Rule: ORS 36@469.185—225
Applicable Sectors: Commercial, Industrial, Utility, Transportation
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, recycling

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http://www.energy.state.or.us/bus/tax/taxcdt.htm

Net Metering §

Oregon's net meetering law, passed July 1999, allows net metering for customers with solar, wind, or hydropower systems up to 25 kW. All customer classes are eligible but enrollment is limited to a total installed capacity of 0.5% of the utility's historical single-hour peak load. Above this installed capacity, net metering eligibility can be limited by regulatory authority. Net metering will be accomplished using a standard electro-

mechanical meter. Utilities cannot place any additional standards or requirements on customer-generators beyond those requirements established by the National Electrical Code, National Electrical Safety Code, Institute of Electrical and Electronic Engineers, and Underwriters Laboratories. Net excess generation is credited to the customers next monthly bill, and at the end of an annual period, any unused credit is granted to the electric utility. This credit is then used for customers enrolled in the utility's low-income assistance programs.

Statute or Rule: HB 3219
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Solar Thermal Electric, PV, Wind, Hydro, Fuel Cells

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(503) 378 4040
www.energy.state.or.us

Public Benefits Funds *§*

Oregon's 1999 utility restructuring legislation included a 3% public benefits charge to be paid by all electricity users. The charge is expected to generate about $60 million per year over the next 10 years for renewable resources, energy conservation and market transformation, low income weatherization programs, and school energy programs. An additional $10 million was also authorized for assistance to low-income customers.

The final version of the bill allocates the funds collected by the 3% public benefits surcharge in specific amounts. After 10% of the total funds are distributed to Education Service Districts for school energy efficiency and renewable resource activities, the balance is allocated as follows: (1) Energy Conservation and Market Transformation, 63%; (2) New Renewable Energy, 19%; (3) low-income weatherization, 13%; and (4) Housing and Community Services grants, 5%. Total annual funding for renewables is expected to be $8.7 million.

Electric customers with loads greater than 1 MW may receive credits against the 3% charge for qualifying expenditures not to exceed 68% for new energy conservation expenditures and 19% for new renewable energy expenditures. These credits will be regulated by the Oregon Office of Energy and verified by a certified public accounting firm.

Oregon's residential customers must be offered a "portfolio" of options by October 1, 2001, including green, market-based, and cost-of-service rates. The green rate "must reflect significant new renewable energy resources." By January 1, 2003, the Oregon PUC is to analyze and make recommendations to the state legislature as to whether residential customers would also benefit from direct access.

Oregon's legislation does not apply to Idaho Power customers in Oregon unless they grow to exceed 25,000 or meet certain conditions. Municipal utilities and electric cooperatives may decide whether and under what terms and conditions they will offer their customers direct access or portfolio options; however, once a consumer-owned utility offers direct access, it must start the collection of a public benefits fund from eligible customers.

At least 80% of the energy conservation expenditures are to be concentrated in the service territory of the utility where the funds were collected. Low-income assistance will be funded by a separate charge set by the Oregon PUC that is expected to make available about $10 million annually once direct access begins (i.e. $5 million annually until that date).

Statute or Rule: Section 3, Senate Bill 1149, 1999 Regular Session
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal

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Pennsylvania

Renewable Energy Pilot Program $

Three of Pennsylvania's jurisdictional electric distribution companies (EDC) entered into settlements of their restructuring proceedings under the Electricity Generation Customer Choice Act that included provisions for low-income renewable energy pilot programs. The Renewable Energy Pilot Program provides select low-income customers across Pennsylvania with renewable energy systems for solar water heating and photovoltaic power generation to improve electric affordibility.

Applicable Sectors: Residential
Applicable Technologies: Solar Water Heating, Solar Thermal Electric, PV, Wind

Contact Information:
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265
(717) 783 7349
http://www.PAenergy.state.pa.us/renew.htm

Net Metering §

Pennsylvania's 1998 net metering rule covers all renewable electric technologies and fuel cells up to 10 kW and is available to all customer classes. Net excess generation at the end of each month is granted to the utility. Interconnection rules are determined by each distribution utility individually.

Statute or Rule: 52 Pennsylvania Code 57.34
Applicable Sectors: Residential, Utility
Applicable Technologies: Photovoltaics

Contact Information:
Pennsylvania Public Utilities Commission
P.O. Box 3265
Harrisburg, PA 17105-3265
(717) 783 1740

Pennsylvania's December 1996 electricity restructuring law did not establish renewable energy funds and did not set specific funding levels for low-income and energy efficiency programs. (However, it did require that low-income and energy efficiency programs be maintained at current levels or higher.) Renewables funding programs were subsequently created through individual settlements with the state's major distribution utilities: General Public Utilities (GPU), West Penn Power Company, PECO, and Pennsylvania Power & Light (PP&L). Each utility created its own "Sustainable Energy Fund" with the goals of promoting (1) the development and use of renewable energy and advanced clean energy technologies, (2) energy conservation and efficiency, and (3) sustainable energy businesses. Each utility has established an oversight board and designated a fund administrator.

GPU's Sustainable Energy Fund totals $12.1 million and is collected by its two Pennsylvania subsidiaries, Metropolitan Edison and Pennsylvania Electric (Penelec) through December 2004. Funding will continue at a rate of 0.01¢/kWh beginning in 2005. In 1999-2000, $1.1 million was spent on photovoltaic projects and $600,000 on solar water heating projects.

West Penn Power's Sustainable Energy Fund totals $11.4 million, covering the period of 1999-2005, that will be administered by a 7-member independent board. Funds after this date will be collected annually at a rate of 0.01¢/kWh. The funds are to be used to promote the development and use of renewable and clean energy technologies and energy efficiency. Specific funding of more than $390,000 was set aside for a PV program and $220,000 for a solar water heating program in 1999 and 2000.

PECO's Sustainable Development Fund totals $32 million to be collected from January 1999 through December 2006. Funding will continue at a rate of 0.02¢/kWh beginning in 2007. The PECO/Unicom 2000 merger settlement added $12 million for new wind development; $4 million for a photovoltaic program; and $2.5 million for public education about renewables. Visit http://www.trfund.com/sdf/.

PP&L's Sustainable Development Fund totals $20.5 million to be collected from January 1999 through December 2004. Funds after this date will be collected annually at a rate of 0.01¢/kWh. The first programs funded by PP&L's fund were approved in November 2000.

Statute or Rule: Individual utility settlements
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste, Fuel Cells

Contact Information:
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Pennsylvania Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17102
(717) 783 5048

Fuel Mix Disclosure §

As part of Pennsylvania's electric utility restructuring legislation, utilities must disclose fuel mix information to customers. Emissions information disclosure, however, is not required.

Statute or Rule: 1997 House Bill 1509
Applicable Sectors: Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

Contact Information:
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(717) 783 5048
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www.oca.state.pa.us

Renewable Portfolio Standard §

Pennsylvania's December 1996 electricity restructuring law did not establish a renewable portfolio standard. But, as with the state's public benefits funds for renewables, an RPS was subsequently established through individual utility restructuring settlements. Twenty percent (20%) of all residential customers have to be assigned to a provider of last resort-default supplier other than their local electrical distribution company (EDC). The Competitive Default Service (CDS) bidding process is being used to select the Energy Generator Supplier (EGS), and in order to qualify for the CDS bidding process EGSs must supply at least 2.0% renewables increasing by 0.5% each year. Eligible renewables include photovoltaic, solar thermal, wind, low head hydro, geothermal, landfill and mine-based methane gas, and energy from waste and sustainable biomass. The start dates for the Competitive Default Service bidding processes are: 6/1/00 for General Public Utilities (GPU), 6/1/01 for PECO and West Penn Power, and 6/1/02 for Pennsylvania Power & Light (PP&L).

Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Geothermal, Waste

Contact Information:
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Rhode Island

Renewable Energy Personal Tax Credit $

Eligible technologies for Rhode Island's personal renewable energy tax credit include photovoltaics, solar hot water and space heating systems, and wind systems. Non-eligible technologies include: passive solar space heating system, passive solar hot water system, sunspace or solar greenhouse, PV and wind systems on boats or recreational vehicles, solar pool collectors, existing renewable energy systems, used equipment, repairs and replacements of existing renewable energy systems. This credit can also be taken as a corporate tax credit by a commercial entity.

The tax credit declines over time as follows:
25% of the cost of the system for systems claimed in year 2000;
20% in 2001;
15% in 2002;
10% in 2003;
5% in 2004.

Statute or Rule: RI General Laws 44-56-1
Applicable Sectors: Residential, Commercial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind

Contact Information:
Rhode Island Public Utilities Commission
100 Orange Street
Providence, RI 02903
(401) 222 3500

Rhode Island Rooftop Photovoltaic Program $

Solar Works, Inc., of Montpelier, Vermont, was recently chosen by the Rhode Island Renewable Energy Collaborative to initiate a rooftop photovoltaic (PV) program in Rhode Island (RI). The program will offer a variety of utility interactive solar electric systems which will be installed on residences, schools, and public buildings.

This program will be the first large-scale rooftop PV program in the eastern United States. Supported with funds from the RI Utility Restructuring Act and the U.S. Department of Energy, participants will be able to buy PV systems at well below current market costs. According to Leigh Seddon, President of Solar Works, "Our goal is to install 250 kilowatts (kW) of PV capacity in RI by the end of 1999. This will give the RI market a tremendous push and pave the way for similar efforts in other New England states."

The RI program will also be one of the first to use "ac" photovoltaic modules. These are photovoltaic modules which are fitted with an inverter to convert the direct current output

to 120-volt ac current. An ac module can be wired directly into a customers service panel with no additional equipment required. This makes installation of these systems quick and inexpensive. It also allows customers to start with small, inexpensive systems that can be easily expanded at a later date. Solar Works will be offering a 250-watt PV system to Rhode Island customers for a cost of approximately $15 per month.

The RI program will include a "solar schools" initiative. This program will provide schools with photovoltaic systems and an energy curriculum program that will help students learn about how solar electricity works as well as involving them in the study of the benefits of renewable energy and energy efficiency. Schools will raise funds for these systems through a community "green energy" program that will involve parents, teachers, and students. "Because schools are the focal point of the community and the training ground for the next generation, our solar schools initiative will be one of our most important efforts," said Seddon.

Rhode Island was officially opened to retail electric competition in January of 1998. This means customers now have the right to choose their electricity provider and are not limited to purchasing power from a designated utility in their area. The RI PV program will be working with these new retail providers to offer PV service options for their customers. Because Rhode Island currently has net metering for small renewable energy systems, customers will be credited for surplus production at their full retail rate. This will provide customers with the maximum financial savings possible from their PV systems.

Applicable Sectors: Residential, Government, Schools
Applicable Technologies: Photovoltaics

Contact Information:
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www.solar-works.com

Renewable Energy Sales Tax Credit **$**

Rhode Island division of taxation offers a sales tax refund for qualifying renewable energy systems. Eligible technologies include photovoltaics, solar hot water, solar space heating, and wind systems.

Statute or Rule: RI General Laws 44-56-1
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind

Contact Information:
No Contact
Rhode Island Public Utilities Commission
100 Orange Street
Providence, RI 02903
(401) 222 3500

Renewable Energy Property Tax Credit $

Like the property tax provisions of many other states, Rhode Island law states that renewable energy systems cannot be assessed at more than the value of a conventional heating, hot water, or other energy production system. Qualifying technologies include photovoltaics, solar hot water systems, and active solar space heating system.

Statute or Rule: RI General Laws 44-56-1
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind

Contact Information:
Rhode Island Public Utilities Commission
100 Orange Street
Providence, RI 02903
(401) 222 3500

Net Metering §

Created in 1985 by the Rhode Island Public Utility Commission, Rhode Island's net metering ruling applies to renewable energy generating facilities and cogeneration facilities. The ruling was originally created to encourage small wind generation facilities, but all renewables are eligible. Net excess generation is purchased at the utility's avoided cost.

The maximum allowable capacity depends on the utility. Of Rhode Island's four investor-owned utilities, two are considered large utilities: Blackstone Valley Electric and Narragansett Electric Company. Customers of these two utilities may have generating units of up to 25 kW. Block Island Power Company and Newport Electric Corporation are considered smaller utilities under the net metering ruling. Customers of these two utilities can install facilities of up to 15 kW.

Statute or Rule: Supplementary Decision and Order, Docket No. 1549
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

Contact Information:
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275 Westminster Street
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(401) 222 3370

System Benefits Charge for DSM and Renewables §

Rhode Island's August 1996 restructuring legislation established the nation's first public benefits fund to support the development of renewable energy and demand side management programs. The charge is 2.3 mills ($0.0023) per kWh for five years. The Public Utility Commission may increase the per kWh before the end of the first five year period. After 2001, the Commission will determine the future level of the charge.

While the statute has a 2.3 mills/kWh floor, the program is being funded at about 2.7 mill/kWh, which is similar to previous funding levels for DSM, renewables, and low income assistance. The annual budget for renewable energy programs is roughly $3 million, with qualifying renewables including wind, small scale hydropower plants (<100 MW) that do not require the construction of new dams, solar energy, and biomass. Fuel cells are included under demand-side management programs. A utility-based collaborative is working with the Public Utility Commission to administer renewables and efficiency funds. Beyond utilities and the Rhode Island Public Utilities Commission, members of the collaborative include the Division of Public Utilities and Carriers, Office of Attorney General, Rhode Island State Energy Office, Conservation Law Foundation, and the Energy Council of Rhode Island. A wide variety of projects have been supported through these funds, including:

- Wind resource assessment;
- Residential and commercial PV $1.50/Watt buy-down;
- Landfill gas electric generation project;
- PV Outdoor Lighting demonstration projects;
- Large and small scale fuel cell projects; and
- Program development studies, including in-depth study of market development in the photovoltaic industry (1997-98).

In addition to funds for renewables and energy efficiency, funds are collected for subsidized rates for low-income assistance. This program's funding level is $2.4 million per year.

Statute or Rule: Section 39-2-1.2(b), Chapter 316, 96-H 8124B, the Electricity Restructuring Act of 1996
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Passive Solar, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels

Contact Information:
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al.contente@ripuc.org

Solar Contractor Licensing *§*

Rhode Island has a specific solar contractor license category within the Pipe Fitter Category. The Limited License Class II #9, Solar Journeyman II, covers the piping and installation of solar hot water systems. Completion of a training program is a requirement for this license.

Applicable Sectors: Construction
Applicable Technologies: Active Space and Water Heating, Solar Process Heat

Contact Information:
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275 Westminster Street
Providence, RI 02903-5872
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South Dakota

Renewable Energy Systems Exemption $

This statute exempts from local property taxes renewable energy systems on residential and commercial property. The exemption applies to the entire assessed value of residential systems and 50% of the installed cost of commercial systems, and it may be taken for three years after installation. This exemption is not allowed for systems which produce energy for resale.

Statute or Rule: SD Codified Laws 10-6-35.20
Applicable Sectors: Residential, Commercial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Biomass, Alternative Fuels, Geothermal

Contact Information:
Governor's Office of Economic Development
711 East Wells Avenue
Pierre, SD 57501-3369
(605) 773 5032

Tennessee

Small Business Energy Loan Program $

Created in 1988, this loan program is administered by the Energy Division within the Department of Economic and Community Development. Loans are available up to $100,000 with terms up to 7 years. Loans cannot be used for new construction or business startup. All renewable energy technologies are eligible under the program's guidelines. Nearly $8.2 million has been lent out to date, but few of the loans were for renewable energy projects.

Applicable Sectors: Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

Contact Information:
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Tennessee Department of Economic & Community Development
Rachel Jackson Building
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Texas

Solar Energy Device Franchise Tax Deduction $

The franchise tax is Texas's equivalent to a corporate tax; their primary elements are the same. This statute allows a corporation to deduct the cost of a solar energy device in one of two ways: (1) the total cost of the system may be deducted from the company's taxable capital or (2) 10% of the system's cost may be deducted from the company's income. Both taxable capital and a company's income are taxed under the franchise tax. Texas also offers a franchise tax exemption for manufacturers of photovoltaic systems. This program is discussed in the industrial recruitment section.

Statute or Rule: Texas Statutes and Codes 2F@171.107
Applicable Sectors: Commercial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Biomass

Contact Information:
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State Energy Conservation Office
Texas General Services Commission
111 East 17th Street, Room 1114
Austin, TX 78701
(512) 463 1889

Solar and Wind-Powered Energy Systems Exemption $

This statute exempts taxpayers from any value added by a qualified renewable energy source for property tax purposes. Qualified equipment includes any active solar equipment and any wind devices, as well as transmission equipment.

Statute or Rule: Texas Statutes and Codes 1C@11.27
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind

Contact Information:
Pam Groce
State Energy Conservation Office

Solar Energy System Manufacturer Franchise Tax Exemption **$**

For solar equipment manufacturers, Texas code states that "A corporation engaged solely in the business of manufacturing, selling, or installing solar energy devices . . . is exempted from the franchise tax." The franchise tax is Texas's equivalent to a corporate tax; their primary elements are the same. There is no ceiling on this exemption and thus is a substantial incentive for solar manufacturers. This is the only such blanket exemption of its kind for solar manufacturers. Only Nevada makes a similar sort of exemption with a seventy-five percent (75%) property tax exemption—for all property—for producers of renewable energy.

Statute or Rule: Texas Statutes and Codes 2F@171.056
Applicable Sectors: Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics

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Texas General Services Commission
111 East 17th Street, Room 1114
Austin, TX 78701
(512) 463 1889

Disclosure and Certification *§*

Retail energy providers must disclose information on fuel mix, environmental impacts, and water consumed in producing power.

Statute or Rule: H.B. No. 1983
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal, Waste, Fuel Cells

Contact Information:
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Texas Office of Public Utility Counsel
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(512) 936 7518
Johnm.opc@puc.state.tx.us

Line Extension and Construction Charges *§*

The Texas Public Utility Commission requires that, in cases where the utility requires a customer to pay a contribution toward the construction of extending utility power lines to a remote location, the utility must provide information about on-site renewable energy technology options. This line extension rule is part of Texas's integrated resource planning requirements. The Renewables for Utilities Texas Cooperative has published "Line Extension Alternatives," a brochure that discusses the use of renewables to meet the needs of remote customers. The brochure also includes a list of renewable energy system providers in Texas and may be used by utilities to meet the Commission's information requirement.

Statute or Rule: Public Utility Commission Order 23.44(c)(3)
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal, Waste, Fuel Cells

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Renewable Generation Requirement *§*

On December 16, 1999 the Texas Public Utility Commission issued the Renewable Energy Mandate Rule, establishing the state's renewable portfolio standard, which calls for 2,000 MW of new renewables to be installed in Texas by 2009. The goal will be ramped in as follows:

400 MW by 2003
850 MW by 2005
1,400 MW by 2007

Qualifying renewable energy sources include solar, wind, geothermal, hydroelectric, wave or tidal energy, or biomass or biomass-based waste products, including landfill gas. Qualifying systems are those installed after September of 1999. The RPS applies to all retail energy providers including municipal and cooperative utilities.

Commission is establishing a renewable energy credits trading program to start January 1, 2002 and continue through 2019. A Renewable Energy Credit (REC) represents one megawatt hour (MWh) of qualified renewable energy that is generated and metered in Texas. A Capacity Conversion Factor (CCF) will be used to convert MW goals into MWh requirements for each retailer in the competitive market. The CCF will be administratively set and equal to 35% for the first two compliance years, thereafter based on the actual performance of the resources in the credits trading program.

Each retailer in Texas will be allocated a share of the mandate based on that retailer's pro rata share of statewide retail energy sales. The program administrator will maintain a REC account for program participants to track the production, sale, transfer, purchase, and retirement of RECs. Credits can be banked for 3 years, and all renewable additions have a minimum of 10 years of credits to recover over-market costs. A penalty system has been

established for providers that do not meet the RPS requirements. The penalty is the lesser of $50 per MWh or 200% of the average cost of credits traded during the year.

Statute or Rule: Section 39.904 of Texas Utilities Code; PUCT Substantive Rule 25.173
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal

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http://www.puc.state.tx.us/rules/rulemake/20944/20944.cfm

Alternative Energy in New State Construction §

Texas state law requires state government departments to compare the cost of providing energy to new buildings from alternative energy sources. The statute reads, "If the use of alternative energy devices for a particular function is determined to be economically feasible . . . the commission or governing body shall include the use of alternative energy devices . . . in construction plans."

Statute or Rule: Texas Code Title 10 @2166.401— @2166.402
Applicable Sectors: Government, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

Contact Information:
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Texas Office of Public Utility Counsel

Certification of Solar Collectors §

To be eligible for Texas's sales tax exemptions for solar energy systems, solar energy collectors must be certified by either the Solar Rating and Certification Corporation (SRCC) or the Air Conditioning and Refrigeration Institute (ARI).

Statute or Rule: Senate Bill 1140 (68th Legislature); PUC Rule 23.81
Applicable Sectors: Residential, Industrial
Applicable Technologies: Active Space and Water Heating, Photovoltaics

Contact Information:
John McElroy, Jr.
Texas Office of Public Utility Counsel

Net Metering *§*

Texas's net metering ruling was made by the Public Utility Commission of Texas in 1986 in an effort to promote small wind power and photovoltaic generation in the state. The order requires utilities to offer a net metering option to qualified facilities of 50 kW or less that use renewable resources. The utility must install a single meter that can read electric flow in both directions. At the end of each billing cycle customers are paid the utility's avoided cost for any net excess generation. To date, roughly twenty-five wind facilities have signed up for the program. All customer classes are eligible for the program.

Statute or Rule: Public Utility Commission Rule @23.66(f)(4)
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal

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Utah

Energy Saving System Income Tax Credit $

This individual income tax credit for renewable energy systems on residential buildings has been recently reenacted after it had expired in 1996. Eligible technologies include active and passive solar systems, photovoltaics, biomass, hydropower, and wind. Like the corporate tax credit, the credit is 25% of the cost of installation of a system up to a maximum credit of $2,000 per system. This tax credit expires on January 1, 2001.

Statute or Rule: Utah Code Annotated 1953 59-10-601
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro

Contact Information:
Donna Coulson
Office of Energy and Resource Planning
Utah Department of Natural Resources
1594 W. North Temple
Salt Lake City, UT 84114-6480
(801) 538 5428

Renewable Energy Tax Credit $

This corporate income tax credit for renewable energy systems on commercial and residential buildings has been recently reenacted after it had expired in 1996. Eligible technologies include active and passive solar systems, photovoltaics, biomass, hydropower, and wind. For residential buildings owned by the business, the credit is 25% of the cost of installation of a system up to a maximum credit of $2,000 per system. For commercial systems, the credit is 10% of the cost of installation up to $50,000. This tax credit expires on January 1, 2001.

Statute or Rule: Utah Code Annotated 1953 59-7-611
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro

Contact Information:
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1594 W. North Temple
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(801) 538 5428

Solar Equipment Certification *§*

Utah's Energy Saving System Tax Credit for solar energy systems requires eligible systems to be certified by the Office of Energy and Resource Planning. Acceptable certification standards include the Solar Rating and Certification Corporation (SRCC) Certification Program. Those filing for the tax credit must submit a descriptive certification application prior to the system's installation. The installation must be performed by a licensed solar contractor, and a minimum warranty is required.

Statute or Rule: Utah Statutes 59-7-611
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Photovoltaics

Contact Information:
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1594 W. North Temple, Suite 3610
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(801) 538 5428

Solar Access Laws and Solar Easements *§*

Utah's solar easement provisions are similar to easement provisions in many other states. Parties can voluntarily enter into written solar easement contracts which are enforceable by law. A solar easement, once created, runs with the land and does not terminate unless specified by conditions of the easement. State statute also stipulates that local zoning authorities may adopt regulations that mandate solar access.

Statute or Rule: Utah Code @ 10-9-901, @ 17-27-901, @57-13-1
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

Contact Information:
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Solar Contractor Licensing *§*

Utah's Division of Occupational and Professional Licensing has established specific criteria for solar contractor licensing. The division has established the contractors license classification 5215 Solar Energy Systems contractor. Installation of such systems requires a licensed contractor wit this classifcation. Qualifications for a 5215 classification include two years experience in the installation of solar systems and passing a written exam.

Statute or Rule: Utah Statutes 59-7-611
Applicable Sectors: Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

Contact Information:
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Vermont

Local Option for Property Tax Exemption $

The state of Vermont allows municipalities the option of offering property tax exemptions for certain renewable energy systems. Such systems include, "but not be limited to grist mills, windmills, facilities for the collection of solar energy or the conversion of organic matter to methane, and all component parts thereof including land upon which the facility is located, not to exceed one-half acre." Adoption of this exeption varies from one municipality to another, but typically the exemption applies to the total value of the qualifying renewable energy system and can be applied to residential, commercial, and industrial real and personal property.

Statute or Rule: 32 V.S.A. Sec. 3845
Applicable Sectors: Residential, Commercial, Industrial, Local
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Hydro, Alternative Fuels

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Sales Tax Exemption for Net Metering Equipment $

Net metering makes it easier and more cost-effective for farmers and other Vermonters to generate some of their own electricity. In 1998 the Vermont legislature passed H.605 which allowed in Vermont a practice known as "net metering". Net metering requires electric utilities to permit customers to reduce their electric bills by generating their own power using small-scale renewable energy systems. The excess power they generate can be fed back to their utilities, actually running their electric meters backwards.

Starting July 1, 1999 all equipment purchased to construct and install a net metered renewable energy system will be exempt from the state's 5% sales tax. This five percent savings in the cost of a net metered system provides Vermonter's with an extra incentive to produce their own green power. In order to install a net metered system you must first obtain a "net metering" Certificate of Public Good from the Vermont Public Service Board. You can visit the website and download a printed copy of the application.

The exemption was part of bill H.0548, titled, The Miscellaneous Tax Reduction Act Of 1999. The law (Sec. 74. 32 V.S.A. § 9741) states that 'Tangible personal property to be

incorporated into a net metering system as defined under 30 V.S.A. § 219a' shall be exempt from the state sales tax.

Statute or Rule: 32 V.S.A. Sec. 9741
Applicable Sectors: Residential, Commercial, Agricultural
Applicable Technologies: Photovoltaics, Wind, Fuel Cells, Anaerobic digestion

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Net Metering *§*

In 1998 the Vermont legislature passed H.605 which established net metering in the state. Any electrical utility customer in Vermont can net meter once they have obtained a Certificate of Public Good from the Public Service Board. Vermont's net metering law caps the size of net metering generators at 15 kW and includes photovoltaic panels, wind turbines, and fuel cells (when fueled by renewable sources). However, farmers who generate electricity from methane can generate up to 100 kW. This 100 kW limit offers an opportunity to farms to economically generate their own power and reduce demand from utilities. Utilities must allow net metered systems on a first-come, first-served basis to all customers until the cumulative generating capacity of all the net metering systems on its lines equals one percent of the company's peak demand during 1996.

Statute or Rule: 30 V.S.A. Sec 219A; VT Legislature H. 605
Applicable Sectors: Residential, Commercial, Agricultural
Applicable Technologies: Solar Thermal Electric, PV, Wind, Fuel Cells, Bio-gas

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Virginia

Virginia Alliance for Solar Electricity (VASE) $

The VASE program is a joint venture between the Virginia Department of Mines, Minerals and Energy, BP Solarex, Virginia Power, and the US DoE to accelerate the commercialization of photovoltaic panels manufactured in Virginia. The program has committed upwards of 1.5 MW of PV for projects in Virginia, New Jersey, Maryland, Pennsylvania, and North Carolina.

Applicable Sectors: Residential, Commercial, Industrial, Construction
Applicable Technologies: Photovoltaics

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Low Income Loan Program for Energy Conservation Improvements $

This loan program, which was created under HUD Title 1 in 1978, is administered by the Virginia Housing Development Authority. The program makes low interest loans available for low and moderate income homeowners for repairs that reduce energy consumption or reduce dependence on conventional energy sources. All renewable energy technologies are eligible. The interest rate is 6.75%, and in addition there is an annual Federal Housing Association insurance charge of one-half of one percent (.5%) of the loan amount. Loan amounts range from $1,000 to $25,000 for terms from six months up to twenty years. (A lien on the property is required for all loan amounts.) Borrowers can borrow up to one hundred percent of the equity in their home. About one hundred loans are made per year.

Statute or Rule: Code of Virginia 36-55.31:1
Applicable Sectors: Residential
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal, Waste

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Solar Manufacturing Incentive Grant Program (SMIG) **$**

Perhaps the most widely publicized industrial recruitment program in the renewable energy industry is Virginia's PV Manufacturer Grant program. Created in 1995 and administered jointly by the Virginia Department of Mines, Minerals, and Energy and the Virginia Economic Development Partnership, this fund makes available up to $4.5 million per year until 2001 for the manufacture of photovoltaic panels in Virginia. The incentive is paid at a rate of up to 75¢ per watt for panels sold in a calendar year, up to 6 MW. Companies receive benefits for a maximum of five years.

The July 1996 amended guidelines specify that the amount per watt that a manufacturer receives is based on the extent that the manufacturing process took place within the state.:
(1) If the panels were manufactured from raw materials to final product: 75¢ per watt.
(2) If manufactured from the semi-conductor materials prior to formation of semi-conductor junctions and associated circuitry necessary to form a photovoltaic cell, to final product: 40¢ per watt.
(3) If manufactured from photovoltaic cell through completion of a photovoltaic panel: 20¢ per watt.

While Arizona, North Carolina, and Texas offer financial incentives for the manufacture of renewable energy devices, Virginia is the only state that bases benefits on actual sales levels, and thus is the only state with a large program resembling a production tax credit incentive program.

Since the program's inception in 1995, two companies have located photovoltaic plants in Virginia. The first company to site a plant in Virginia as a result of this program was Solar Building Systems, Inc., an affiliate of Atlantis Energie, AG of Bern, Switzerland. They began manufacturing modules in 1995. The company's $1.5 million facility is located on Virginia's Eastern Shore, where they expect to create 30 new jobs. The second company is Solarex Corporation, a business unit of Amoco Enron Solar, the nation's largest manufacturer of polycrystalline silicon photovoltaic modules and cells. Their new $25 million facility expects to employ seventy to one hundred production workers to begin manufacturing photovoltaic panels in 1997. Based upon preliminary production estimates provided by the two companies, total photovoltaic power production and sales for 1997 is expected to be 5.5 MW and in excess of 6 MW in future years.

Statute or Rule: Code of Virginia 45.1-392
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Photovoltaics

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Local Option Property Tax Exemption for Solar and $

This statute allows any county, city or town to exempt or partially exempt solar energy equipment or recycling equipment from local property taxes. Residential, commercial, or industrial property is eligible. The statute broadly defines solar energy equipment as any "application which would otherwise require a conventional source of energy." Recycling equipment is defined as equipment which is "integral to the recycling process and for use primarily for the purpose of abating or preventing pollution of the atmosphere or waters."

Statute or Rule: Code of Virginia 58.1-3661
Applicable Sectors: Residential, Commercial, Industrial, Local
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV

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Net Metering §

Virginia's 1999 net metering law, covers residential and commercial systems up to 25 kW. (Residential systems are limited to 10 kW.) Eligible technologies include solar, wind, or hydropower systems that are intended primarily to offset part or all of the customer's requirements for electricity. Enrollment is open on a first come, first served basis until the rated generating capacity owned and operated by customer-generators in the state reaches 0.1 percent of each electric distribution company's peak-load for the previous year.

The interconnection rules were completed and utility tariffs finalized in the summer of 2000. Each utility uses a simplified one-page interconnection agreement. Customers can use a standard kilowatt-hour meter that can measure electrical flow in two directions, and monthly net excess generation is carried forward month to month for up to a twelve month period at which point any net excess generation is granted to the utility. Systems must comply with the National Electrical Code Article 690, Institute of Electrical and Electronic Engineers Standard , and Underwriters Laboratories. For systems that meet these technical requirements, no additional protective equipment can be required by the utility.

Statute or Rule: S.B. 1269
Applicable Sectors: Residential, Commercial
Applicable Technologies: Solar Thermal Electric, PV, Wind, Hydro

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www.state.va.us/scc/orders/case/e990788rul.pdf

Washington

High Technology Product Manufacturers Excise Tax Exemption $

This statute exempts qualifying high technology manufacturers from the state corporate excise tax. Their definition of high technology includes the development of alternative energy resources. The exemption is 100% with no limit. This exemption sunsets in the year 2004.

Statute or Rule: RCW 82.63
Applicable Sectors: Commercial, Industrial
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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Plug and Play Off Grid PV Buydown $

The Washington State 5,000 Solar Rooftops by 2005 Collaborative is introducing four pre-packaged, pre-engineered modular systems. Purchasers of up to one hundred of these off grid 'Plug and Play" solar electric systems will be awarded rebates by the Collaborative. These modular systems are an open standard that can be purchased from any Washington Solar Energy Industries Association dealer. Installation of the system must displace fossil fuel use.

Participants will receive a 25% rebate upon satisfactory installation of a solar electric system purchased under this program. These rebates are available to any Washington state resident.

System financing, at below market rates, may be available from Collaborative partners. Coulee Dam Credit Union offers loans for these systems. Financing from the Conservation and Renewable Energy System (CARES) is made available through participating local utilities to financially qualified participants.

Possible installations include, but are not limited to remote water pumping, communications, lighting, and remote home applications. Systems can be installed by State parks, cities, county governments, utilities, businesses, and private individuals. Federal facilities do not qualify.

Applicable Sectors: Residential, Commercial, Industrial, Government, Utility, Local, Schools
Applicable Technologies: Photovoltaics

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Washington State University Energy Program §

The Washington State University (WSU) Cooperative Extension Service's Energy Program was established July 1st, 1996, to provide energy programs and services within the transportation, residential, commercial, and industrial sectors. When the Washington State Energy Office was dissolved in 1996, WSU's Cooperative Extension Service took over the bulk of the Office's activities. The Program's mission is to supply energy information and solutions for business, government, and individuals to improve personal and global environmental quality and economic well-being.

The renewables program assists clients in finding solutions to energy problems that utilize renewable energy. Services include: technical assistance, education, workshops, field assistance and user-centered solutions. The Program's "Clearinghouse" offers a renewable energy hot-line to answer consumer and industry questions.

The Energy Program is financed through federal funding and contributions from the Bonneville Power Administration (BPA). With the advent of restructuring, BPA funding will likely be reduced. It is anticipated that this funding source will be replaced by project specific funding from the Northwest Energy Efficiency Alliance, a group of public and private utilities, public agencies, and public interest groups. Other sources of funding include the Western Area Power Administration and other grant making organizations.

Applicable Sectors: Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Alternative Fuels

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Net Metering §

Washington's net meetering law, enacted March 1998, allows net metering for customers with solar, wind, and hydropower systems of 25 kW or less that are intended primarily to offset part or all of the customer's requirements for electricity. All customer classes are elligable for enrollment. Enrollment is limited to a statewide installed generating capacity of 0.1% of the utility's 1996 peak demand. Systems shall meet all of the requirements established by the National Electrical Code, national electrical safety code, Institute of Electrical and Electronic Engineers and Underwriters Laboratories. Net excess generation is credited to the customers next monthly bill. At the beginning of each calendar year, any remaining unused kilowatt-hour credit accumulated during the previous year must be granted to the utility, without any compensation to the customer.

Statute or Rule: RCW 80.60; WA Legislature HB 2773
Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Solar Thermal Electric, PV, Wind, Hydro, Fuel Cells

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Wisconsin

Solar and Wind Energy Equipment Exemption $

This statute exempts taxpayers from any value added by a qualified renewable energy source for property tax purposes. Qualified equipment includes any active solar equipment and any wind devices as well as transmission equipment, but does not include equipment or components that would be present as part of a conventional energy system.

Statute or Rule: Wisconsin Statutes 70.111(18)
Applicable Sectors: Residential, Commercial, Industrial, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind

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http://www.doa.state.wi.us/depb/boe/

Renewable Energy Assistance Program (REAP) $

The Wisconsin Energy Bureau in Madison administers this program, which consists of grant funds for renewable energy systems incorporated into construction projects. Construction grants fund 10-20% of a project up to $75,000 and are performance based whereby half of the grant is available on equipment purchase and the other half is available upon project completion. The fund was created in 1991 using petroleum violation escrow money. All renewable energy technologies are eligible for these grants though the majority of the projects funded have been wood energy projects with some hydropower and biogas.

Applicable Sectors: Commercial, Industrial, Government, Municipalities
Applicable Technologies: Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal

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WisconSUN Demonstration Grants $

The WisconSUN Demonstration Grants are funded by the Energy Center of Wisconsin (a public non-profit) to provide co-funding for "solar energy installations and training programs that promote the transformation of Wisconsin's solar energy marketplace," according to the WisconSUN website. These annual grants are announced in the winter and selected in the spring. Of the $40,000 awarded in 2000, $20,000 was for "truly building integrated PV systems. The remaining $20,000 funded other PV systems and active solar thermal systems."

It is particularly interesting to note that, "WisconSUN is particularly interested in funding photovoltaic (PV) systems that are owned and operated by for-profit organizations."

Applicable Sectors: Residential, Commercial, Industrial, Government
Applicable Technologies: Active Space and Water Heating, Photovoltaics

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Net Metering §

Net metering for customer-owned systems up to 20 kW was originally authorized by the Public Service Commission of Wisconsin through its January 1, 1993 ruling. Net metering is available to all customer classes and to customers of any utility type – municipal, cooperative, and investor-owned. All technologies—not just renewables and cogeneration units—are eligible. If a customer-generator operates a renewable energy facility, then the utility pays the retail rate for net excess generation; for non-renewable generation sources, the utility pays their avoided cost for net excess generation.

Statute or Rule: Rate Schedules; PSC of Wisconsin Order 6690-UR-107
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Waste

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With its October 1999 "Reliability 2000" law, Wisconsin became the second state to establish a public benefits fund without deregulating its electric utility industry. The only other state to create an explicit public benefits fund in advance of restructuring is Vermont (Vermont's Fund only covers efficiency programs and therefore is not listed in DSIRE. For information on Vermont's Energy Efficiency Utility, go to http://www.efficiencyvermont.com/). The Wisconsin public benefits fund provides funds for the state to award grants for (1) low income programs and (2) energy efficiency and renewable energy services. Total funding for Funds are administered by the Department of Administration (DOA), with most coordination to be carried out by the Division of Housing.

Annual funding for energy programs is roughly $84 million with at least 4.5% or $3.8 million going toward renewables projects. Wisconsin's Public Benefits Fund receives funding from three sources: (1) new wires charges from investor-owned utilities, municipals, and cooperatives; (2) continued collection of funds for public benefits set at the expenditure rate in 1998; and (3) fedeal funds for low income and weatherization. Customers in Wisconsin are also able to voluntarily contribute to the fund (or particular areas within the fund) through their utility bills. Funds will be collected through 2005 with continued funding for efficiency and renewables to be evaluated each subsequent year.

In November of 2000 the DOA began competitive solicitations for administrators of chunks of the funds. Criteria that have been established for the grants include: targeting energy conservation services that are the least competitive in the market; promoting environmental protection, electric system reliability, and rural economic development; encouraging customer owned renewables; and promoting customer education about renewables. The DOA's activities with regard to the fund are overseen by the Council on Public Benefits which is made up of eleven members appointed by the governor and the legislature.

The Reliability 2000 law also creates a renewables portfolio standard, requiring electricity providers to generate some of their electricity from renewable energy, starting at 0.5 percent by the end of 2001 and increasing to 2.2 percent by the end of 2011.

Statute or Rule: "Reliability 2000" Law
Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Thermal Electric, PV, Wind, Biomass, Hydro, Geothermal

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Renewable Portfolio Standard *§*

The Wisconsin renewable portfolio standard (RPS) became effective October 27, 1999 making Wisconsin the first state to have a RPS in advance of retail competition. The schedule of the percentages required and compliance dates are as follows:

% Renewables	Date
0.5%	12/31/2001
0.85%	12/31/2003
1.2%	12/31/2005
1.55%	12/31/2007
1.9%	12/31/2009
2.2%	12/31/2010

Qualifying renewables include fuel cells that use a renewable fuel, tidal or wave action, solar thermal electric or photovoltaic energy, wind power, geothermal technology, biomass, and hydro power (less than 60 MW). A credit trading program has been established such that electric service providers may sell to other electric providers renewable credits for any renewable energy in excess of the percentage specified for a given year. Credits can also be used in subsequent years. Violation of the RPS or misleading certification of renewable resources can lead to penalties up to $500,000.

Statute or Rule: "Reliability 2000" Law
Applicable Sectors: Utility
Applicable Technologies: Solar Thermal Electric, PV, Wind, Biomass, Hydro, Alternative Fuels, Geothermal, Fuel Cells

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Solar and Wind Access Laws §

Wisconsin statutes allow property owners with wind or solar energy systems to apply for permits which will guarantee unobstructed access to solar and wind resources. Permits may not be granted in the case where there already exists an obstruction or if the construction of such an obstruction is well into the planning stages.

Statute or Rule: Wisconsin Statutes 66.032, 700.41
Applicable Sectors: Residential, Commercial, Industrial
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV, Wind

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Demand Side Applications of Renewable Energy (DSARE) §

Under the management of the Wisconsin Energy Bureau, Wisconsin's 23 northeastern counties receive the benefit of a host of energy efficiency and renewable energy Demand Side Management (DSM) programs, including the $1.25 million renewable energy initiative "Demand Side Applications of Renewable Energy (DSARE)", under the umbrella of the larger $16 million public benefits pilot program, "Wisconsin Focus on Energy."

According to Alex DePillis of the Wisconsin Energy Bureau, beginning with transfer of responsibility for providing DSM in northeastern Wisconsin from Wisconsin Public Service Corporation to the state of Wisconsin DOA, Wisconsin is moving toward the state providing public benefits state-wide, including DSM, broadened to include "customer-sited" projects. Moving into state-wide public benefits, the Wisconsin Energy Bureau will co-ordinate many programs relating to the Reliability 2000 provisions enacted in October 1999. Included are a renewable portfolio standard and renewable energy funding.

Applicable Sectors: Residential, Commercial, Industrial, Government, Utility
Applicable Technologies: Passive Solar, Active Space and Water Heating, Photovoltaics, Wind, Biomass, Hydro, Geothermal

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Wyoming

Solar Rights Act *§*

Wyoming's Solar Rights Act was enacted by the state legislature in 1978. Unlike the solar easement laws found in most states, this statute provides unrestricted solar access for new construction by declaring solar access to be a basic property right. Wyoming's Solar Rights Act clearly spells out those solar devices or systems for which direct sunlight is beneficial, including greenhouses and passive solar design with thermal mass. The solar right allows unobstructed direct sunlight from 9:00 AM to 3:00 PM on the winter solstice (the day with the least sun light).

While the statute outlines the basic provisions of solar access rights, it leaves implementation to municipalities and counties. These local authorities must grant permits to those with solar devices or systems to guarantee solar rights. For those systems already in place, owners must apply for a permit within five years of the creation of the permit system by their local authority. It is worth noting that while this law establishes near universal solar access, it does not prevent suburban developments from adopting covenants that restrict or prevent the use of solar collectors for aesthetic reasons. The Wyoming Energy Office reports that this statute has seldom been invoked.

Statute or Rule: Wyoming Code §34-22-101—§34-22-107
Applicable Sectors: Residential, Commercial, Industrial, Construction
Applicable Technologies: Passive Solar, Active Space and Water Heating, Solar Industrial Process Heat, Solar Thermal Electric, PV

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Resources

The following resources are a sample of some of the excellent national organizations and sites available on the web for renewable energy policy. If you can't find what you're looking for at the DSIRE website (www.dsireusa.org.), you'll probably find it at one of these sites.

American Council for an Energy-Efficient Economy (ACEEE)

A Summary Table of Public Benefit Programs and Electric Utility Restructuring is updated periodically and includes details on state system benefit charges, renewable portfolio standards, and generation disclosure. Web address: www.aceee.org./briefs/mktabl.htm.

American Solar Energy Society (ASES)

The Society has issued a set of principles on electric industry restructuring and renewable energy resources, disclosing information for customer choice, community aggregation, connecting to the grid, and distributed generation. The Solar Today Magazine (www.solartoday.org.) often carries articles on utility restructuring, solar portfolio standard, green pricing, net metering, etc. Web address: www.ases.org./solarguide/position.html.

Center for Resource Solutions (CRS)

CRS launched the Green-e Renewable Electricity Branding Program - the country's first voluntary certification and verification program for environmentally-preferred electricity products. The web site lists the Green-e certified products as well as discusses the criteria and code of conduct for eligibility. (Also see Power Scorecard) Web address: www.green-e.org.

Clean Energy Funds Network (CEFN)

CEFN is a non-profit project to provide information and technical services to state energy fund managers. On this web site you will find information about the state funds, as well as the CEFN monthly newsletter the Clean Energy Funder. Web address: cleanenergyfunds.org.

Database of State Incentives for Renewable Energy (DSIRE)

State-by-state listing of information on financial incentives, rules, regulations and policies, and community investment programs. The on-line database is searchable and includes state energy contacts. Operated by the North Carolina Solar Center. Web address: www.dsireusa.org.

Electric Utility Restructuring Weekly Update

This weekly information has been compiled by Energetics, Inc. for the U.S. Department of Energy. Sections include information on national and federal restructuring activities, mergers, stranded benefits, and regional and state activities. Web resources and previous issues are also listed. Web address: www.eren.doe.gov/electricity_restructuring/weekly.html.

Energy Efficiency and Renewable Energy Network (EREN)

The EREN site provides links to a great deal of renewable energy information. You can also sign up for their weekly renewables newsletter, the EREN Network News. Web address: www.eren.doe.gov

Energy Information Administration: Department of Energy (EIA)
The status of state electric utility deregulation activity is presented in an on-line table and map. Web address: www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html.

Green Power Network
Through the DOE EREN website, this is a clearinghouse of information on electric power industry green marketing efforts. It provides current news on green power markets and utility green pricing programs. Links to green power and renewables information, relevant literature, conferences, etc. Also includes a section on state-by-state net metering programs. Web address: www.eren.doe.gov/greenpower.

LEAP Letter
LEAP Letter a subscription-based, state-by-state bimonthly newsletter covering state legislation on restructuring of the electric industry. Newsletter also includes a guest columnist, information on national trends and activities, retail pilot projects, and other issues. Available as a hard copy subscription or through internet access (LEAPNet). Web address: www.spratley.com/leap.

Million Solar Roofs (MSR)
The Department of Energy's MSR Initiative works with partners in the building industry, local governments, state agencies, the solar industry, electric service providers, and non-governmental organizations to remove barriers and strengthen the demand for solar technologies. The newly redesigned website includes renewable energy information, as well as contact information on MSR partners. Web address: www.millionsolarroofs.org.

National Association of Regulated Utility Commissioners (NARUC)
NARUC's website lists information on publications, resolutions, meetings, and membership. See the NARUC Electric Restructuring Database at www.naruc.whatsup.net. NARUC also provides links to all state utility commission websites and maintains a restructuring database on the web at ragtime.xenergy.com/Client/NARUC/Production/naruc.nsf. Web address: www.naruc.org.

National Association of State Energy Officials (NASEO)
NASEO's website provides links to energy offices in all fifty states. Also on the NASEO site, you will find their September 1999 report on public benefits funds at www.naseo.org./energy_sectors/power/system_benefit.htm. Web address: www.naseo.org.

National Council on Competition and The Electric Industry
The Council is a partnership of the National Association of Regulatory Utility Commissioners (NARUC) and the National Conference of State Legislatures (NCSL). Its mission is to make available quality information about the future of the electric industry to state, regional and federal government officials. Web address: eetd.lbl.gov/NationalCouncil.

Office of Power Technologies
The U.S. Department of Energy's Office of Power Technologies, in the Office of Energy Efficiency and Renewable Energy, has been closely tracking electric utility restructuring

developments across the country. Their website includes documents and web sites for detailed, up-to-date information on electric utility restructuring. Web address: www.eren.doe.gov/electricity_restructuring.

PV4You Project

In addition to the DSIRE project, the Interstate Renewable Energy Council (IREC) manages the national PV4You Project. This program includes the National Consumer Project, the Going Solar Campaign, Schools Going Solar, and the National Interconnection Project. Web address: www.irecusa.org.

Power Scorecard

This site, which is maintained by the Pace University Law School's Energy Project, provides information on the environmental impacts of utility power offerings in restructured states. (Also see Green-e). Web address: www.powerscorecard.org.

Regulatory Assistance Project (RAP)

Publishes issue letters, reports, and other documents on current regulatory issues and trends. Topics include electric industry restructuring, default service, customer choice, environmental disclosure, green pricing, system benefits charge, stranded costs, IRP and competition, and more. Web address: www.rapmaine.org.

Renewable Energy Policy Project (REPP)

Publishes issue briefs on such topics as net metering, disclosure and certification, green power, and energy and the environment. REPP provides policy research support for the renewable energy community and educates policy makers and energy professionals on renewable energy. Web address: www.repp.org.

State Renewable Energy News

A compilation of renewable electric activities in the states. Prepared by the NARUC Subcommittee on Renewable Energy. It is issued three times annually to coincide with the NARUC committee meetings. Web address: www.nrel.gov/analysis/emaa/projects/sren.

Solar Electric Power Association

Formerly known as the Utility Photovoltaic Group (UPVG), the Solar Electric Power Association is a membership organization for electric service providers and the solar industry. This site includes information on many utility photovoltaic projects and programs. Web address: www.upvg.org/upvg/index.htm.

The Utility Connection

This website provides links to all electric, gas, and water utilities. Web address: www.utilityconnection.com.