



Environmental and Energy Study Institute

122 C St. N.W. Washington, D.C. Suite 630. 202-628-1400. www.eesi.org
Carol Werner, Executive Director

Bioenergy: Technologies, Federal and State Incentives

January, 2004

What is biomass?

Biomass is all nonfossil organic materials that can be used in the creation of bioenergy (electricity), biofuels (ethanol, biodiesel, cellulosic ethanol), and biobased products. Wood is the largest source of bioenergy and has been used for heat for thousands of years. Other types of biomass include plants, residue from agriculture or forestry, or organic parts of municipal solid waste (MSW), sewage, animal wastes (manures), and certain types of industrial wastes.

How can it be used?

- Biopower currently totals 7,000 megawatts of U.S. electric capacity, accounting for around 85 percent of non-hydroelectric renewable energy generation. Recent studies indicate that additional (presently unused) quantities of economically available biomass may exceed 39 million tons per year in the U.S. – enough to supply about 7,500 MW of new biopower – a doubling of the existing U.S. biopower capacity.¹
- Biofuels, such as ethanol and biodiesel, can be mixed with petroleum fuels in smaller percentages and used in standard engines, or used in higher percentages as stand-alone fuels in modified engines. Fuel ethanol production in the U.S. is expected to exceed 2.7 billion gallons in 2003, with a production capacity slightly more than 3 billion gallons. Research is being conducted to bring down the costs of utilizing cellulose, a complex molecule found in the cell walls of all plants, to produce ethanol. This would allow conversion of crop residues, forestry residues, segregated organic municipal wastes, and energy crops into ethanol. Biodiesel can be produced from soybean oil, other oilseeds, or even waste oils (e.g. restaurant frying oil). According to the Department of Energy, biodiesel reduces GHG emissions up to 80 percent on a life-cycle basis. In addition, biodiesel contains no sulfur. Like ethanol, biodiesel production can provide a new revenue stream for farmers while meeting multiple environmental and energy goals.

In Focus: Navy Biodiesel

On October 30, the US Navy unveiled a small self-sustaining processing plant that its naval base in Ventura County will use to convert used cooking oil into nontoxic, biodegradable biodiesel for its diesel vehicles. Capacity is estimated at one million gallons annually. Although given current demand, only a tenth of that amount will be produced this year, 20,000 gallons of which will be used on the base. By producing its own biodiesel from used cooking oil, the base can eliminate a solid waste disposal problem. The Navy is the largest diesel fuel user in the world.

¹ DOE Office of Energy Efficiency and Renewable Energy

In Focus: Cellulosic Progress

Masada OxyNol, based in Middletown, NY, continues to work towards construction of its planned ethanol production facility. The company will utilize technology that converts municipal solid wastes into fuel ethanol and other byproducts on a commercial basis. On Dec. 8, Middletown's City Council gave the final approval necessary for the project to proceed. Once negotiations are concluded with the town's engineering procurement contractor, Masada will be able to issue a timeline for facility construction.

Iogen is a privately owned Canadian business that has recently announced that its demonstration facility in Ottawa, Canada is successfully processing 50 tons of wheat straw per week into fermentable sugar and is on track to reach annual production of 700,000 liters of cellulosic ethanol annually.

- Biobased products include chemicals, polymers, adhesives, textiles, packaging materials, and any number of other products. Producing biobased products in conjunction with biofuels and other useful co-products in a biorefinery facility, similar in concept to a petroleum refinery, can lower production costs. Biorefineries can be established by farmer-owned cooperatives, creating new revenue streams for farmers and new jobs for rural communities. See below for information on USDA's proposed rule to implement the Federal Procurement of Biobased Products program.

Economic benefits?

- Recent studies indicate that additional (presently unused) quantities of economically available biomass may exceed 39 million tons per year in the U.S. – enough to supply about 7,500 MW of new biopower - a doubling of the existing U.S. biopower capacity.²
- The biomass power industry represents a \$15 billion investment and 66,000 jobs. According to a report prepared for US DOE by five National Laboratories, domestic biomass generation capacity could reach 20-30 GW by the year 2020 by cofiring at existing U.S. coal-fired power plants.
- A 2002 study by US Department of Agriculture (USDA) found that the federal Renewable Fuels Standard (RFS), as laid out in the Senate 2003 Energy Bill, would have increased demand for corn and sorghum, which would impact net farm income. In the short-term (2002-05), the effects on farm income would be relatively small, but the period 2006-2011 would see net farm income rise “on average by \$0.7 billion a year.” The USDA study found that the increasing size of the ethanol market would also influence employment, creating an estimated 13,500 jobs in the United States economy.

Federal Incentives

Energy Title/Rural Development:

1) Energy Title, 2002 Farm Bill, Title IX

- **Sec. 9002: Federal Procurement of Biobased Products**

² DOE Office of Energy Efficiency and Renewable Energy

Provision: Sec. 9002 makes available \$1 mil/yr (FY02-07) and requires Federal agencies to purchase biobased products that meet price, availability, and performance standards; provides for a voluntary labeling program of certified “Biobased Products;” and provides financial assistance for testing of biobased products by manufacturers.

Status: On Dec. 19, 2003, US Department of Agriculture (USDA) published a proposed rule to implement the Federal Procurement of Biobased Products program, Section 9002 of the Energy Title of the 2002 Farm Bill. This provision requires Federal agencies to purchase biobased products that meet price, availability, and performance standards; provides for a voluntary labeling program of certified “Biobased Products;” and provides financial assistance for testing of biobased products by manufacturers. USDA invites comments on this proposed rule from all interested parties during a 60-day public comment period starting December 19, 2003 – comments can also be submitted via the same website. To view the proposed rule, visit http://www.biobased.oce.usda.gov/public/pro_regs.cfm.

- **Sec. 9004: Biodiesel Fuel Education Program**

Provision: Sec. 9004 makes available (\$1 mil/yr FY03-07) in grants to conduct a biodiesel fuel education program. The intent of the program is to educate government and private vehicle fleet managers and the public about the benefits of biodiesel in order to increase demand for this renewable fuel.

Status: In October 2003, The National Biodiesel Board was awarded \$770,000 to create educational programming; University of Idaho was awarded \$190,000 to provide technical support for the effort.

- **Sec. 9006: Renewable Energy and Energy Efficiency Improvements Program**

Provision: Sec. 9006 provides \$23 mil/yr (FY03-07) in grants, loans, and loan guarantees to farmers, ranchers, and rural small businesses for the development of renewable energy projects and energy efficiency improvements. The program is designed to help farmers become net energy producers of on-farm renewable energy.

Status: In August, USDA announced awards for 113 applications in 24 states totaling \$21,207,233. 35 applications totaling \$7.4 million to support wind power, 30 applications totaling \$7 million for anaerobic digesters, 6 applications totaling \$1.1 million solar and 16 applications totaling \$3.9 million for ethanol plants/anaerobic digesters, direct combustion and fuel pellet systems.

The Northwest was allotted \$1,930,028 in grant money: Idaho is to receive \$1,010,000 in three grants; Montana is to receive one grant for \$37,000; and Washington is to receive \$883,028 in five grants. Project-specific technologies include large and small wind projects, bioenergy, and anaerobic digesters.

Visit <http://www.eesi.org/programs/agriculture/agriculture.htm> for further information.

- **Sec. 9008: Biomass Research and Development Act of 2000**

Provision: Sec. 9008 reauthorizes and funds the Biomass Research and Development Act of 2000 at \$5 mil FY02, \$14 mil/yr FY03-07. The Biomass Research and Development Act of 2000 requires the coordination of federally-funded biomass research. This is to be facilitated by the “Interagency Biomass R&D Board,” which will report to the “Biomass Research and Development Technical Advisory Committee.” The Biomass R&D Technical Advisory Committee is then required to make

recommendations on the strategic direction of research being funded by the U.S. Department of Energy (DOE) and the U.S. Department of Agriculture (USDA).

Status: In October 2003, USDA/DOE announced \$23 million in biomass research funding to 19 projects selected under a joint solicitation. This is the first time that the two departments have solicited and selected biomass R&D projects under the same solicitation. The projects selected by USDA and DOE are reflective of each agency's respective mandate and interest in bioenergy.

Visit <http://www.bioproducts-bioenergy.gov> for more information.

- **Sec. 9010: Commodity Credit Corporation Bioenergy Program**

The Program: Sec. 9010 provides up to \$115.5 million for FY 2003 and up to \$150 million annually for FY's 2004-06 to continue the work of the Commodity Credit Corporation (CCC) Bioenergy Program, which reimburses ethanol and biodiesel producers for the purchase of commodities to expand existing production. The Secretary of Agriculture makes payments (through the Commodity Credit Corporation) to eligible producers to encourage increased purchases of eligible commodities (energy feedstocks). Payments to eligible producers are based on the increase in quantity of bioenergy they produce during a fiscal year over the quantity they produced during the preceding fiscal year. The list of eligible feedstocks was expanded in the 2002 Farm Bill to include animal byproducts and fats, oils and greases (including recycled fats, oils, and greases).

Status: The 30 day sign-up period for Fiscal Year 2004 began August 1 and ended September 2, 2003. The sign-up will cover production beginning October 1, 2003.

2) Rural Development Title, 2002 Farm Bill, Title VI

- **Sec. 6401: Value-added Agricultural Product Market Development Program**

The Program: Sec. 6401, which is part of the Rural Development title of the 2002 Farm Bill, was allocated \$40 million per year in mandatory funding. The program was created to spur development of new uses for agricultural products, and the 2002 Farm Bill amended the program to include renewable energy. On December 11, 2003, USDA announced the approval of \$28.7 million in fiscal year 2003 Value-Added Producer Grants (VAPG) to 184 projects in 40 states.

Status: In this award cycle, 29 applications focusing on bio-mass and renewable energy were selected to receive \$4.3 million in grant funds. USDA received nearly 800 applications for fiscal year 2003, and funded 184 of them for a total of \$28.7 million. Earlier this year, USDA spent \$10 million from the \$40 million originally allocated to the program to fund 10 regional Agriculture Innovation Centers. According to EESI analysis, grant monies were awarded to 12 ethanol-related projects, 9 biodiesel projects, four wind projects, and a handful of other technologies.

Funding Issues for Sec. 9006, 6401

- Sec. 9006: Released in February 2003, the Administration's proposed budget for fiscal year 2004 (FY04) eliminated mandatory funding for Sec. 9006, as did the House Appropriations Committee. However, in House floor action in July, an amendment by Rep. Marcy Kaptur (D-OH) was adopted that restored full funding (\$23 million) for Sec. 9006. The Senate bill

provided \$23 million for Sec. 9006 and full funding is included in the Omnibus appropriations bill.

- Sec. 6401: On December 8, the House passed the FY04 omnibus appropriations bill, eliminating the \$40 million in mandatory funding provided in the 2002 Farm Bill, and instead provided just \$15 million in discretionary funding for fiscal year 2004. The Senate will take up the omnibus bill in early 2004 (The Continuing Resolution will expire Jan. 31, 2004). This past February, the administration's budget called for elimination of mandatory funding for the program, providing a mere \$2 million in discretionary funding.
- This will continue to be an issue for Fiscal Year 2005 funding and beyond.

USDA/NRECA Memorandum of Understanding

- 1) On November 12, 2003, the US Department of Agriculture (USDA) and the National Rural Electric Cooperative Association (NRECA) entered into a Memorandum of Understanding (MOU) that commits both organizations to seek voluntary opportunities for electric cooperatives to reduce greenhouse gas emissions. Each party will work to identify, develop and deploy technologies appropriate for rural cooperatives through research, joint projects, program coordination, information sharing, and other means.
- 2) Relevant biomass technologies to be considered: biomass co-fired plants, biomass gasification power plants, animal-waste-to-electricity studies, landfill methane power plants, wind and solar.
- 3) Examples of Action Items under the MOU:
 - Demonstration of fuel-flexible generators for biomass and waste products, including ethanol
 - Demonstrations of low-Btu microturbines on biomass feedstocks (e.g., pecan nutshells, wood waste)
 - Development of business case studies based on animal waste-to-electricity studies
 - Investigation of the micro-grid concept for rural utility operation of clusters of biomass-based distributed power sources and storage.
 - NRECA will research, develop, promote, and encourage greater cooperative use of biobased products such as biodiesel, ethanol, lubricants, and solvents.
 - USDA and NRECA will develop education, outreach, technical support, and other incentives to encourage utilization of these technologies by cooperatives.

Energy Policy Act of 2003 (HR 6):

Renewable Fuels Standard (RFS):

- Requires 5 billion gallons of renewable fuels (ethanol, biodiesel), which would double production by 2012; current production is approximately 2.7 billion gallons/yr. Important to note that the requirement would be on REFINERS, not consumers or individual states.
- The Conference Report crafted by the Conference Committee followed the Senate's timeline of five billion gallons of renewable fuels by 2015, contained the Senate's cellulosic credit, and eliminated the oxygenate requirement. Concerning MTBE, the Conference Report delayed elimination of MTBE as a fuel oxygenate until 2014, provided defective product liability waivers for MTBE producers retroactively to September 1, 2003, and authorizes \$250,000,000 for each of fiscal years 2005 through 2012 for MTBE producer "transition assistance."

Status: Despite months of effort from Senate and House leaders, the White House, and scores of lobbyists, Congress was again unable to pass comprehensive energy legislation this year. On Nov. 25, proponents of the Energy Policy Act of 2003 (H.R. 6) were unable to overcome a bipartisan Senate filibuster by a count of 40-57, falling just two votes shy of the requisite 60 votes that would have ended the filibuster (Senate Majority Leader Frist (R-TN) voted against the motion for Cloture in order to allow him to bring the bill up at a later date). The Senate bill also included the Volumetric Ethanol Excise Tax Credit (VEETC), which ensures that the entire excise tax paid on ethanol-blended gasoline would be transferred to the Highway Trust Fund (HTF). Currently, 2.5 cents of the federal excise tax paid on ethanol-blended fuels goes to the government's general fund instead of being transferred to the HTF. This has been fertile ground for many critics of the excise tax, who argue that ethanol-blended fuels effectively removed revenue from the HTF.

(Federal) Tax Incentives

- 1) The Renewable Energy Production Incentive (REPI) provides incentive payments for renewable power produced by publicly-owned electric utilities, rural electric cooperatives. About \$4 million/yr have been appropriated the past few years, which is far below the need.
- 2) The Renewable Energy Production Tax Credit (PTC) contained in the Conference Report extends the wind and biomass (including poultry litter) energy production tax credit through January 1, 2007. It also expands it to include swine and bovine waste nutrients, geothermal energy, and solar energy. The PTC expired at the end of 2003.

Renewable Portfolio Standard

A Federal RPS was included in the Senate energy bill, a 10% national standard that would apply to all states by 2020, requiring that states produce 10% of renewable electricity as a portion of their total output, and does allow trading of renewable credits. However, the RPS was not included in the Conference Committee report.

State Incentives

Renewable Portfolio Standard

While the federal government has yet to enact a national RPS, **13 states** have taken the initiative to enact standards of their own. In many of these cases, the enacted RPS received broad bipartisan support within the state legislatures. While the provisions of these state standards vary with respect to renewable energy requirements, timing and policy mechanisms, they have all enjoyed significant success diversifying energy supply and stimulating clean, renewable electricity sources within their state. Collectively these state RPS initiatives will add over 12,400 megawatts (MW) of new renewable electricity capacity in the United States by 2012, providing enough electricity to meet the needs of 7.6 million homes.

- An RPS is most effective when designed for maximum flexibility by:
 - allowing for the use of the most cost-effective and appropriate technology in a given region

- including credit trading provisions, which allows utilities to that cannot meet RPS requirement to purchase credits from another generating source
 - phasing in requirements gradually, allowing the market to adjust over time
- Texas, Wisconsin, Arizona, California, Connecticut, Iowa, Maine, Massachusetts, Minnesota, Nevada, New Jersey, New Mexico, Pennsylvania all have a state RPS.

Mandatory

- Arizona: 1.1 percent by 2007
- California: 20 percent by 2017
- Connecticut: 10 percent by 2010
- Iowa: 2.6 percent by 1999
- Maine: 30 percent by 2000
- Massachusetts: 4 percent by 2009
- Minnesota: 10 percent by 2015
- Texas: 2,000 MW by 2009
- Wisconsin: 2.2% by 2012

Nonmandatory

- Nevada: 15 percent by 2013
- New Jersey: 6.5 percent by 2012
- New Mexico: 10 percent by 2011
- Pennsylvania: Varies by utility
- California's** Renewable Portfolio Standard (RPS) - SB 1078 - was signed into law in September, 2002. It requires retail sellers of electricity to purchase 20 percent of their electricity from renewable sources by 2017, establishes California as having the most aggressive RPS in the country. Renewable sources include biomass, solar thermal, photovoltaics, wind, geothermal, fuel cells using renewable fuels, small hydropower of 30 megawatts or less, digester gas, landfill gas, ocean wave, ocean thermal, and tidal current.
- One of the most successful RPS initiatives to date was passed in 1999 in **Texas**. Then Governor George W. Bush signed into law an RPS requiring Texas utilities to install (or purchase credits representing) 2,000 MW of new renewable electricity capacity by 2009. This requirement represents about three percent of Texas' generating capacity. While Texas' state share of renewable electricity use ranks in the bottom half of the 13 different state standards, in absolute terms it ranks second, since Texas is the largest electricity consumer among the participating states. Texas' level of success has been remarkable.

In 2002 the RPS called for 400 MW of new renewable electricity installations. Cost-effective wind investments in the western half of the state, however, stimulated the installation of more than 900 MW of wind energy. Currently over 1,000 MW have been installed in Texas under the RPS, representing over \$1 billion in investment. Moreover, GE recently announced that it will begin work on a new 400 MW wind farm this fall.

- Minnesota** legislation enacted in 1994 requires Xcel Energy to build or contract for 425 MW of wind power by December 31, 2003. In 2001, the Minnesota Public Utilities Commission ordered Xcel to build or contract out an additional 400 MW

of wind by December 31, 2006. In May 2003, Minnesota enacted new legislation (HF 9 of 2003) requiring Xcel to build or contract an additional 300 MW of wind by December 31, 2010, raising the total amount of mandated wind power to 1,125 MW. At least 100 MW of the most recent increase must come from small wind resources (2 MW or less).

In addition, Xcel was also required to build or contract for 125 MW of electricity generated from biomass resources by December 31, 2002. Although HF 9 of 2003 reduced from 125 MW to 110 MW the amount of biomass energy that Xcel must purchase, this law also required Xcel to enter into a power purchase agreement by January 1, 2004, for 10-20 MW of biomass energy from a specific project.

State Public Benefit Funds

Public Benefit Funds (PBF) are state-level programs developed through the electric utility restructuring process as a measure to assure continued support for renewable energy resources, energy efficiency initiatives, and low-income support programs. (These funds are also frequently referred to as a system benefits charge, or SBC). Such a fund is most commonly supported through a charge to all customers on electricity consumption. Examples of how the funds are used include: rebates on renewable energy systems, funding for renewable energy R&D, funding for energy efficiency upgrades for low-income recipients and development of renewable energy education programs.

Public Benefit Funds are generally administered either by state agencies (such as the New York State Energy Research and Development Authority, NYSERDA), by utilities themselves (such as the Renewable Development Fund run by Xcel Energy in Minnesota), or by a combination of the two (such as in Texas, where utilities are mandated to preserve funds for energy efficiency improvements, while the state administers low-income support programs). Each state's implementation of the Public Benefits Fund is unique, and resource allocation priorities, surcharge rates, and overall fund size vary widely among states. Some states have focused on providing low-income energy efficiency assistance, while others provide funding primarily for renewable energy production. Overall allocations depend, predictably, on the size of the state, with Delaware and California representing the upper and lower bounds, at \$2.6 million and more than \$525 million per year, respectively.

23 states and the District of Columbia have implemented public benefit programs. Of those, more than half specifically include provisions for funding biomass projects, according to the Database of State Incentives for Renewable Energy.

Public Benefit Funds that include **biomass include**: CA, CT, IL, ME, MA, MN, NJ, NY, OH, OR, PA, RI, WI

Visit the American Council for an Energy-Efficient Economy, <http://www.aceee.org>, and the Database of State Incentives for Renewable Energy (DSIRE), <http://www.dsireusa.org> for further information.

Other Renewable Energy Incentives with Biomass Provisions

From the Database of State Incentives for Renewable Energy (DSIRE), www.dsireusa.org

1) Financial Incentives

- State Grant Programs

Biomass or biofuels eligible in: AL, IL (2), IN (5; 1 biomass only), IA, KS, ME, MA, MI (3; 2 are biomass only), MT, NJ, NY, OH, OR, PA (2), RI, WI (2)

In Focus:

Michigan Biomass Energy Program Grants

The Michigan Biomass Energy Program (MBEP) provides funding for state bioenergy and biofuel projects on a regular basis. Funding categories typically include biofuels and bioenergy education, biofuels infrastructure, and biomass technology development and demonstrations. Grant awards range from \$5,000 to \$50,000.

Eligible Technologies: Biomass, Renewable Transportation Fuels

Applicable Sectors: Nonprofit, Schools, Local Government, State Government

Amount: \$5,000 - \$50,000

Max. Limit: \$50,000

Website: <http://www.michiganbioenergy.org/funding/>

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.

Eligible Technologies: Biomass, Renewable Transportation Fuels

Applicable Sectors: Industrial

Amount: \$20,000

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

- Production Incentives for Renewable Power Generation and Fuels

Biomass or biofuels eligible in: KS , MN (2; 1 ethanol, 1 anaerobic digester), MO, MT, NE, ND, NV, RI, SD, WA, WI

- Loan Programs

Biomass or biofuels eligible in: AK, CA, CT, ID, IA (3), MS, MO, MT, NE, NY, NC, OH, OR (2; 1 state, 1 utility-based), PA (2; 1 through SEFs only), TN

In Focus:

Iowa 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 \$400,000. 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 include six ethanol plants, two soy process plants and a methane recapture program for hog farmers.

Eligible Technologies: Biomass, Renewable Transportation Fuels

Applicable Sectors: Commercial, Industrial

Amount: 20% forgivable loan, 80% traditional loan

Max. Limit: \$400,000

Terms: prime rate

Website: <http://www.smart.state.ia.us/financial.htm#vaapfap>

- Property Tax Incentives

Biomass or biofuels eligible in: IA, KS, MT (2), NV (2), NJ, NY, OH, OR, SD, TX

Note: Property taxes are collected locally, so some states allow the local authorities the option of providing a property tax incentive for renewable energy devices. Six states have such provisions: Connecticut, Iowa, Maryland, New Hampshire, Vermont, and Virginia.

- Personal Income Tax Incentives

Biomass or biofuels eligible in: AL (wood stoves only), AZ (wood stoves only), CO, LA, MD (2; 1 for wood stoves only), MA, MT, NC, OH, UT

- Corporate Tax Incentives

Biomass or biofuels eligible in: CA, HI, IA, ID, IN, LA, MD, MA, MO (biomass only), MT (4), NM, NC, OH (2), OR, SD (2), TX, UT

In Focus:

Missouri Wood Energy Production Credit

The Wood Energy Tax Credit, effective January 1, 1997, allows corporations processing Missouri forestry industry residues into fuels an income tax credit of \$5.00 per ton of processed material. Any amount of credit which exceeds the tax due by the company in the year of production may be carried over to a subsequent taxable year, not to exceed four years. A credit earned under this program may also be transferred to third parties for use within this five-year period. To be considered an eligible fuel, the forestry industry residues must have undergone some thermal, chemical or mechanical process(es) sufficient to alter the residues into a fuel product.

Eligible Technologies: Biomass

Applicable Sectors: Commercial, Industrial

Amount: \$5 per ton

Max. Limit: None

Terms: Carry forward up to four years

Website: <http://www.dnr.state.mo.us/energy/dersmo.htm>

Authority 1: § 135.300- § 135.311 R.S.Mo.

Effective Date: 1/1/97

- Sales Tax Incentives

Sales tax incentives typically provide an exemption from the state sales tax for the cost of renewable energy equipment.

Biomass or biofuels eligible in: AK, HI (2), IA, IL, NV, OH, VT (anaerobic digesters only), WA (landfill gas), WY

- Industrial Recruitment Incentives

Biomass or biofuels eligible in: HI, MI (3), NC, WA

- Rebate Programs

Biomass or biofuels eligible in: IL (2), NJ, OR, RI, WI

2) Rules & Regulations

- Construction and Design Policies
Biomass eligible in: OR, TX
- Generation Disclosure Rules
Rules in effect in: CA, CT, DE, IL, ME, MD, MA, MI, MT, NV, NJ, NY, OH, PA, TX, VT, WA
- Green Power Purchasing/Aggregation Policies
Biomass eligible in: IL, MD, NJ, NY, OR, PA, SC (landfill gas), TN
- Net Metering Rules
Standards in effect in: AR, CA, CT, DC, DE, HI, ID, IL (Chicago-area), IN, IA, LA, ME, MA, MN, NV, NM, NY, ND, OH, PA, RI, TX, VT, WI, WY
- Public Benefit Funds (also see above)
Biomass explicitly eligible in (but not limited to): CA, CT, IL, ME, MA, MN, NJ, NY, OH, OR, PA, RI, WI
- Renewables Portfolio Standards/Set Asides/Goals (also see above)
Biomass eligible in: AZ, CA, CT, FL, HI (goal), IA (set-aside), IL (goal), ME, MA, MN (2; 1 goal, 1 set-aside), NJ, NM, NV, PA, TX (2; 1 state set-aside, 1 Austin-area standard), WI
- Required Utility Green Power Option
Biomass eligible in: IA, MN, MT, NM, WA
In Focus:
Austin Energy has 10-year contracts for 79 megawatts (MW) of electricity generated from wind turbines and another 5 MW produced from landfill methane gas. That represents enough electricity to power about 40,000 homes. More than 160 small businesses and 30 of Austin's largest companies have subscribed to Austin Energy's GreenChoice renewable energy program for more than 300 million kilowatt-hours. Additionally, more than 6,500 residents have subscribed for another 9 million kWh annually.

3) Outreach & Voluntary Programs

- Outreach Programs
Biomass or biofuels eligible in: FL, NC, NJ, NY, TX, WA (2)
- Utility Green Pricing Programs
States with participating utilities: AL (biomass only), AZ (3), CA (4), FL (3), GA (2), IL, IN (3), IA, KY (3), MA, MI, MN, MO, NE, NC, OH, OR, TX, WA (2), WI (5)
Note: Additionally, The Tennessee Valley Authority maintains a green pricing program using landfill gas and other renewables in AL, GA, KY, MS, and TN.