ELECTRICITY PRODUCTION

PRESENT STATUS

Montana has 44 electricity generation facilities located across the state with generating capacity of 5,500 megawatts. Coal fired generation makes up 64%, hydro facilities 34%, petroleum 1%, natural gas and wind the other 1%. Montana's coal reserves are estimated at 119 billion tons, roughly 25% of the total United States reserves. The total United States production of coal is 1.1 billion tons per year. Electricity produced in Montana is not dependent on imported oil.

Montana currently has five coal-fired power plants. The power plant in Colstrip, Montana is one of the cleanest plants in the United States. It is way below all of the EPA minimums on pollution. Also technologies are being developed to reduce pollution even further by treating the coal before it is burned. Coal has been the logical choice for Montana because the cost of coal in 2008 averaged $2.05 per MMBtu, compared to $15.72 for liquid fuel, and $9.11 for natural gas. The national demand for electricity is expected to increase by 50% in the next 25 years.

Northwestern Energy, which serves 320,000 electric and natural gas customers in Montana, secures 111 megawatts from Colstrip Unit 4, with the remaining 40% coming from market purchases from third parties.

There are ongoing efforts to increase the amount of Montana coal mined and to increase its use as a source of electricity and even a liquid fuel source. However, increasing the use of coal-fired generation for electricity is closely linked to potential federal climate change activities and restraints on CO2 emissions. The impact of potential climate change activities on the future price of coal-fired generation is uncertain at this time. Six additional coal-fired power plants have been recently proposed in Montana. Due to this uncertainty, five of these have been cancelled and the remaining one near Great Falls will now be powered with natural gas. .

Montana is now considering clean coal technologies such as coal gasification (chemical conversion of coal into hydrogen or methane gas) and converting coal into synthetic petroleum products or natural gas. A number of projects are in the preliminary stages. If carbon regulations move forward at the Federal level, these efforts will be of critical importance in Montana profiting from its vast coal resources. The Montana Legislature, in approving Senate Bill No. 498 during the 2009 session, has made clear its intent to have jurisdiction over a sequestration program if mandated by the Federal government.

FUTURE STATUS

The future of Montana is tied to energy. The standard of living in Montana is based on the widespread availability of abundant energy from coal, oil and gas. The current emphasis on climate change world wide means that Montanans may pay much more for the energy required to power their homes and cars.

Use of natural gas for power plants and home heating is seen as a good option by many states including Montana, but that fact means that the price could increase dramatically and about the same amount of carbon is emitted. Low cost electricity in the long run is dependent on a cost effective diversified portfolio. Nuclear, coal, hydro, biomass and IGCC provide the best options for cheap base power. Abandoning these conventional energy sources bears significant risks and may be counter productive by raising electricity rates too high, too fast and diminish public support and money to achieve the real promising technological breakthroughs that lie ahead. Alternative energy does not have the capacity, nor is the price competitive with conventional energy sources. Additional supply of low cost electricity does not look likely unless Montana can buck the current trend.

POLICY STATEMENTS

Continued wise utilization of the vast coal resources to export to other states and supply existing coal power plants in Montana can help maintain Montana's economy and the standard of living of its citizens.

Continued research and pilot projects to convert coal into synthetic petroleum products, hydrogen, methane and natural gas will extend Montana's competitive advantage with coal well into the future.

Increased oil and gas exploration and development will stop Montana's declining production, provide natural gas for generating electricity and most importantly help get our nation off Mid-East oil.

Consider a nuclear plant.

Consider co-generation biomass plants to generate electricity and manage our forests.

ALTERNATIVE ENERGY PRODUCTION

PRESENT STATUS

Alternative energy systems are defined in 15-32-102, MCA as "the generation system or equipment used to convert energy sources into usable sources." Those sources include "geothermal systems, low emission wood or biomass, wind, photovoltaic and small hydropower plants (under 1 megawatt), fuel cells that do not require hydrocarbon fuel, and other recognized nonfossil forms of energy generation".

Montana has an abundance of alternative energy sources. "The Montana Renewable Power Production and Rural Economic Development Act" requires that public utilities and competitive electricity suppliers procure a minimum of 15 percent of their electricity from renewables starting January 1, 2015. Cooperative utilities with 5,000 or more customers are responsible for implementing their own renewable standards.

.FUTURE STATUS

Alternative energy is in most cases more expensive than conventional fossil-fuel sources. Renewable energy, however, increases energy diversity, energy independence and security, and has fewer environmental impacts in terms of pollution. Small-scale distributed generation can produce electricity near the load and reduce transmission and distribution costs.

Montana has tax incentives in place to promote both large-scale renewable energy and distributed energy opportunities. Alternative energy systems also can provide economic development in rural Montana. The manufacturing of renewable energy equipment in Montana also can lead to new industries. Montana has increased wind energy generation from 1 megawatt in 2004 to just over 270 megawatts in 2009.

Montana has a wealth of alternative energy sources. The number of alternative energy systems continues to increase.

POLICY STATEMENTS

Evaluate existing tax incentives and loan programs that promote alternative energy to see if the projects are cost effective. Discontinue those that are not.

Montana State tax laws provide a tax credit for many types of renewable energy systems for the home. Evaluate these systems for cost effectiveness. Provide individual tax credits only on projects which have a reasonable pay back time (cost effective) and provide greater credit for short pay back time. Location is very important for wind and solar.

Search for new alternative energy projects to promote such as a hydrogen generator to improve vehicle mileage and reduce exhaust emissions.

Provide incentives and loan programs to promote the development of biomass plants to generate heat for industrial use or electricity.

Continue research to produce more cost effective and clean alternative fuels.

Continue to promote long-term growth of large utility scale wind and small-scale distributed generation that are cost effective.

Encourage utilities to offer voluntary "green pricing" programs that allow customers to Support renewable energy resources.

Suspend net metering until the utility has the means of using the additional electricity.

Establish uniform policies for interconnection and net metering
that promote investment in customer-owned renewable energy facilities.

Promote additional hydropower expansions by classifying them as renewable under the "The Montana Renewable Power Production and Rural Economic Development Act."

ENERGY REGULATIONS

PRESENT STATUS

The Montana Public Service Commission (PSC) ensures that public utilities in Montana provide adequate service at reasonable rates. The PSC strives to balance the interests of ratepayers with a utilities' need to earn a fair rate of return on their investment. The Montana Consumer Counsel represents Montana consumers in utility proceedings before the PSC and in appropriate proceedings before the Federal Energy Regulatory Commission, and appropriate state and federal court proceedings.

FUTURE STATUS

Electricity rates can be detrimentally impacted by regulations and taxes to fund projects, loans and grants that may not be consistent with delivering reliable service at a reasonable rate to the rate payers.

POLICY STATEMENTS

Examine expenditures of funds on such items as grants, loans and projects collected from rate payers to determine if they relate directly to the role of the public utility.

Review the use of the Universal System Benefits program (USB) to determine if the funds are being used appropriately.

Access the impact on rates requirements such as renewable portfolio standards, uniform net metering requirements and energy efficiency mandates.

Requirements more stringent than federal standards can only be implemented by an act of the Legislature.

REBUILDING AND EXTENDING TRANSMISSION LINES

PRESENT STATUS

NorthWestern Energy and Montana-Dakota Utility distribution costs are regulated by the Montana Public Service Commission. Distribution costs of electric cooperatives are set by the governing boards of individual co-ops. In February 2007 the Federal Energy Regulatory Commission issued Order 890, which reforms aspects of the open access transmission tariff. The order mandates that transmission providers implement a coordinated, transparent, and participatory transmission planning process. Each transmission provider was required to develop a proposal describing a transmission planning process that complies with the order. Order 890 is geared at promoting reliability, sending accurate market signals, and encouraging the development of energy infrastructure. Since 1990, the demand for electricity in the United States increased by about 25% and construction of transmission facilities decreased by about 30%.

Montana regulates transmission siting through the Montana Major Facility Siting Act (MFSA), and that requires certain proposed transmission projects to go through a review before construction. Typically transmission lines greater than 69 kV are covered under MFSA if they meet certain criteria. With some exceptions, electrical transmission lines of 230 kV or more and 10 miles or more in length or 10% of the existing right-of-way, whichever is greater, are covered under MFSA.

FUTURE STATUS

The western grid is congested and states are increasingly looking for new energy suppliers. Large population centers see promise in Montana's diverse energy resources, but channeling those resources will require a significant investment in transmission projects.

In order to maximize Montana's energy potential, new and upgraded transmission lines will be needed to export to population centers with a high demand for energy. At the same time, Montana utilities must build and upgrade electric transmission to provide low-cost and reliable service to Montana customers. Private landowners also have a valuable role to play and a stake in efforts to expand and rebuild transmission lines.

Improving transmission infrastructure in Montana will require a significant financial investment. Innovative management of the electrical grid will need to increase efficiency. Coordination between private companies, government entities and the public is critical to develop new transmission lines and meet the needs of customers.

POLICY STATEMENTS

Form a state-level working group to explore how to improve transmission development and streamline regulation. Engage in two state-level planning processes. First identify areas in Montana where there is significant need. Second, complete a high-level analysis identifying acceptable corridors for new transmission lines.

Develop programs to assist with the financing of transmission facilities.

Develop a tax deferral program for transmission developers during the first three years of operation.

Increase the capacity of existing lines in existing corridors and maximize the potential of existing lines.

Make use of existing rights-of-way when building or rebuilding transmission facilities when feasible.

Coordinate the following agencies in their efforts in the building and extending of transmission lines: Department of Commerce Energy Promotion Division, Department of Environmental Quality, Fish Wildlife and Parks, and Department of Natural Resources and Conservation.

Address Interests of property owners and property rights up front to provide time to consider options as the easements are secured.

Plan construction of transmission in a way that fairly apportions the costs of development to those who cause the need for the development.

Continue to participate in regional transmission organizations at the present level.

Implement Interconnection agreements in a manner that complies with state and federal laws and does not make small-scale projects financially unfeasible.

Work closely with affected local governments in the preliminary stages of development.

Continue to advance smart grid technologies.

Examine noxious weed regulations and responsibilities in relation to transmission line construction.

WIND INTEGRATION

PRESENT STATUS

Montana ranks 19th in existing wind capacity [272 MW] and 5th in potential wind capacity. Montana's wind resource is rated number one in the nation for class 3 wind and above.

In Montana, state law, the renewable portfolio standard, requires public utilities and competitive electricity suppliers to procure a minimum of 5% of the retail sales from renewable resources through 2009, 10% between 2010 and 2014, and 15% starting in 2015. Cooperative utilities are responsible for implementing their own renewable standards.

FUTURE STATUS

With the construction of the 230-kilovolt Montana Alberta Tie Line, up to 300 megawatts of power could come online. Because a collection of wind developers have secured capacity on the line, the majority of the new power on the new line is expected to be wind.

The costs associated with wind can be reviewed in two areas. One is wind integration, or the impacts of adding wind into a utility's operations. A second is the cost of wind as it relates to marketing that product or having adequate transmission to get it to market. From many utility operator's point of view the cost of integration or ancillary costs are critical. From the production perspective, the importance of increasing transmission lines and the ability to get wind power, or any source, to market is key.

NorthWestern has about 148 MW of wind contracts and received more than 509,000 MWh in 2008. In 2008 the amount NorthWestern supply paid for regulation resources specifically to integrate wind generation into its electric supply portfolio was $2.6 million. This is at about $5.19 of regulation cost per MWh of wind generation. [9] In 2008 NorthWestern Energy, along with several other partners, completed a wind integration study with the assistance of Phoenix Engineering, a wind engineering firm with offices in Alberta, Canada and Texas. The $110,000 wind integration study provided a high level understanding of the amount of additional regulation resources necessary to integrate large quantities of new wind generation sited at different locations throughout Montana.

POLICY STATEMENTS

Determine the capability in the rest of the electric system to provide reliable service when the wind power output drops. In addition, the variability of wind resources can cause overall system dispatch costs to increase. These "system integration" issues generally limit projections of wind power expansion.

Continue testing and application of new and innovative technologies to address wind integration.

Continue to improve wind forecasting and scheduling.

Avoid areas of the state where large-scale wind development is inappropriate.

Require the qualifying facility to pay the cost of integrating its power in contracts between small scale qualifying facilities and utilities.

Provide for a systematic and ongoing study of integration costs in Montana.

Develop a set of Best Management Practices (BMPs) for wind projects on state lands.

Identify large contiguous blocks of state land that could be the core for a wind development and proactively seek bids.

Wind power is a mature technology that can produce electricity at a generally low cost relative to other renewable resources. However, wind power is an intermittent power source that introduces complexities and costs.

Establish uniform policies for interconnection and net metering that promote investment in customer-owned renewable energy facilities.

MAXIMIZING STATE LAND USE FOR ENERGY GENERATION

PRESENT STATUS

There are more than 5 million surface acres and 6.2 million mineral acres of state trust land scattered across the state. The law requires the Board of Land Commissioners manage the land to "secure the largest measure of legitimate and reasonable advantage to the state" and "provide for the long-term financial support of education." Trust land revenues play a significant role in the funding of public schools, receiving the majority of the revenue generated by state trust land in the state.

State lands have historically been the source of varied energy riches in Montana, and the potential for even greater energy development is receiving increased attention. While a limited number of tracts of state land are used for energy generation, those that are used for such proposes, produce significant revenue for lessees and the state. Technological advancements also are increasing exploration and development opportunities. Royalty rates, as well as production taxes, are a key component to ensuring Montana's state trust lands are used appropriately for energy generation.

FUTURE STATUS

Historically, state lands have provided hydropower, wind power, coal production, and oil and gas production. State lands are now being looked at in a much broader context in terms of geothermal energy, biomass energy, and even carbon sequestration.

The Department of Natural Resources Minerals Management Bureau oversees the leasing, permitting and managing of about 4,802 oil and gas, coal, sand and gravel, and metalliferous and non-metalliferous agreements covering about 2 million acres of the 6.2 million acres of available school trust lands and 2,400 acres of additional state land.

With beetle-infestations in areas of Montana's forested lands, biomass also holds potential for the future. The state of Montana has about 4% of the live tree woody biomass of live tree woody biomass on Montana timberland, and there is an average of 5.61 tons per acre of standing dead tree woody biomass on state lands.

Oil and gas exploration and development on state and private lands is regulated and bonded by the Montana Board of Oil and Gas Conservation Commission. Of the 6,653 oil and gas leases the department is now leasing and monitoring, about 606 are currently productive.

School trust grants received more than $31.2 million attributed to oil and gas leasing in the 2008 fiscal year. And production showed nearly 2 million barrels of oil, 7.8 million MCF (thousand cubic feet) of natural gas, and 1.5 million gallons of condensate produced in that time period. It was the most successful royalty revenue year in the bureau's history -- largely due to record high oil prices.

A portion of Montana's vast coal resources are also located on state land. The operating, rental, and royalty provisions are established by a lease, but that lease does not authorize a coal mine. Before mining occurs, the lessee must comply with the Montana Environmental Policy Act and secure the proper permits.

During the last year, Montana's coal resources, particularly the Otter Creek Project area, has received much attention. the State's ownership totals over 9,500 acres, or roughly half of the Otter Creek area. The state's ownership is in a "checkerboard" pattern, and Great Northern Properties own most of the other half of the coal estate. Surface ownership is a combination of state, federal, and fee. State recoverable coal totals 616 million tons at Otter Creek, or about one-half of the total 1.3 billion ton reserve.

Currently, an Environmental Impact Statement is being completed for the proposed Springdale/Coyote Wind Farm. Coyote Wind, LLC, plans to erect six to ten wind turbines on school trust land in Sweet Grass County, between Big Timber and Livingston. The project would also include some adjoining private land.

Martinsdale Wind Farm LLC, a subsidiary of Horizon Wind Energy, is working in cooperation with the DNRC to develop the Martinsdale Wind Power Project. It would produce up to 300 megawatts and be located about 20 miles west of Harlowton. The project could include 36 turbines, possibly expanding to 100 wind turbines.

Efforts to turn the Norris Hill area of Madison County into a wind farm also could include state lands. Madison Valley Renewable Energy LLC, was selected to use state school trust lands in a portion of its project, which is expected to cover 14,000 acres of state and private land and generate about 150 megawatts of electricity. The agreement with the state provides the energy company with 4,000 acres in exchange for 3.1% of the wind farm's electrical generation revenues.

Wind related activities on state lands have generated a total of $306,115 since 2004.
There is one hydropower facility on state-owned water projects. The Broadwater Power Project near Toston has been generating power since June 1989. Revenue supplements funds for state water project rehabilitation costs. The DNRC owns and operates the 10-megawatt facility and contracts with NorthWestern Energy to sell the power. In a year with average runoff, the facility can generate about $3.5 million in revenue from energy capacity sales. If debt payments and operating expenses are deducted; about $1.3 million is left. Drought has reduced the power generated and revenue at the facility.

State lands also have the potential to be used for biomass and geothermal energy. The DNRC and other state agencies are taking a closer look at lands where these types of developments might be considered in the future.

POLICY STATEMENTS

In pursuing energy development on state lands, the state must continue to weigh its overall management responsibilities (fiduciary and multiple-use), as mandated by the Montana Constitution and state law.

Promote and facilitate infrastructure development in order to maximize energy generation on state lands.

Categorically exclude wind generation projects proposed on state land that comply with specific standards (with air, water, road construction, weed control) from MEPA rules.

Develop a set of Best Management Practices (BMPs) for energy projects on state lands.

ENERGY EFFICIENCY STANDARDS FOR NEW CONSTRUCTION

PRESENT STATUS

The Administrative Rules of Montana require that commercial buildings and residential buildings over three stories comply with the most recently adopted IECC or a comparable standard. The standards in the IECC outline minimum requirements for insulation, lighting, mechanical, and service water heating equipment. The new, 2009 standards are expected to be in place by April 2010.

Cities, towns, and counties that have building code jurisdictions enforce the state energy code in their jurisdiction. Montana does not have a statewide building energy inspection process, so building permits are not required outside of certified jurisdictions -- this means many new houses in Montana are not inspected for energy code compliance. Generally, residences constructed in one of the 44 certified cities or four certified county local government jurisdictions would receive an energy code inspection. The Montana Department of Labor and Industry estimates that about 50 percent of new Montana residences are located outside building code jurisdictions and did not receive an energy code inspection, according to a 2007 Department of Environmental Quality survey.

Outside of the building code jurisdictions, builders meet the requirements of the energy code and show compliance through a self-certification process. The certification requires that a builder provide a written statement to a homeowner showing that the house meets state energy code requirements. A homebuilder, or the builder's agent, provides the certification by signing and dating an energy efficient components label.

The DEQ estimates about 40 percent voluntary compliance for energy labeling. Since 2005, state electrical inspectors have been asked to leave a residential energy code summary booklet and a label at each home that is inspected. The 2007-08 EQC discussed certification systems at length and pursued Senate Bill No. 49, which was approved by the Montana Legislature. SB 49 requires the Department of Administration to develop high-performance building standards for state-owned buildings and new state-leased buildings. High-performance means exceeding the most currently adopted International Energy Efficiency Code by 20 percent or to the extent it is cost-effective. The Architecture and Engineering Division of the Department of Administration developed a process that incorporates "sustainable design expectations" determined to be cost effective and appropriate for new projects. High-performance building standards will be developed in collaboration with Montana's universities and state agencies. The standards will be used to articulate expectations to consultants.

In terms of residential weatherization, there are private and governmental programs in Montana that assist low-income electricity consumers. Many of the low-income electricity programs are funded either through federal money allocated to the state or through a universal system benefits program (USB) charge assessed to electricity and gas consumers. The Low Income Energy Assistance Program (LIEAP) is a federal program administered by the State of Montana that provides funding for low-income household weatherization. Weatherization includes heating system tune-ups, air infiltration reduction, and attic, wall, and floor insulation. The weatherization program is operated statewide by 10 private, nonprofit HRDCs and two tribal governments. Energy Share of Montana is a nonprofit organization funded by USB dollars and private and corporate donations. Energy Share also provides furnace safety, weatherization, and refrigerator replacements. Energy Share has an endowment designed to assist with energy emergency needs of future generations. From time to time, Energy Share also does other pilot projects that benefit low-income families. Public utilities and electric cooperatives also help fund low-income weatherization.

FUTURE

Montana is working to upgrade its statewide energy code, requiring newly constructed homes to meet the latest standards for energy efficiency. New houses in Montana will soon be expected to meet the requirements of the 2009 International Energy Conservation Code (2009 IECC) with Montana amendments.

Montana has taken steps to upgrade its statewide energy code, requiring newly constructed homes to meet new and tougher standards for energy efficiency. Incentives are in place to encourage energy efficiency in home building, for example, residents can claim a tax credit for energy conservation investments made to a home or other building. The state also has dedicated a sizeable amount of stimulus money toward the promotion of energy efficiency and conservation in public buildings, including schools, local government facilities, and state offices.

Montana homebuyers are eligible for a state tax credit of up to $500 to $1,000 per couple when an "above energy code" home is built or purchased. The credit also applies to improvements made in the efficiency of an existing home. Energy Star-certified homes or Montana Green Building Program (above Bronze level) homes with an Energy Star heating system also are eligible for the $500 energy conservation tax credit. Homebuyers also are eligible for the alternative energy systems tax credit, which includes a credit of $1,500 for geothermal and $500 for wind, solar, and eligible wood and pellet stoves. For 2009 and 2010, federal tax credits are available for improvements to existing principle residences with a $1,500 maximum credit per taxpayer.

POLICY STATEMENTS

Promote heating homes and businesses with electricity because electrical devises are cheap, clean, safe, reliable, pollution free, and easy to install and control. Electricity is cost effective, particularly in an energy efficient building.

Develop and emphasize a building performance standard of efficiency as an alternative to the prescriptive standards because the performance standard provides more freedom and will result in more energy savings, enjoyment and comfort by the public.

CONSERVATION AND ENERGY EFFICIENCY

PRESENT STATUS

Montana's current energy policy stresses energy conservation, efficiency, and demand response. Montana utilities and cooperatives also dedicate money to demand-side management programs ranging from residential energy audits to discounts on energy efficient lighting. Since implementing the Universal System Benefits (USB) program in 1999, the state has required utilities and cooperatives to sustain conservation and efficiency programs. Montana's two largest utilities also address demand-side management in their portfolio planning, which is reviewed by the Public Service Commission (PSC). tax incentives are in place to encourage weatherization. The PSC, Department of Revenue, and the Department of Environmental Quality (DEQ) have dedicated time and resources to educating Montanans about these programs.

FUTURE STATUS

Montana has tax incentives in place to encourage energy efficiency retrofits. The tax credit available to residential property owners who invest in energy conservation is increasingly being used by Montanans. Tax returns in 2006 show that 19,041 taxpayers claimed the credit for a total of $8.1 million. In 2007, that increased to 19,115 taxpayers claiming about $8.3 million. The Department of Revenue also provided estimates of the amounts claimed by corporations for investments in energy conservation. The Department of Revenue indicated that it rarely sees the deduction claimed in Montana, and estimated 10 corporate returns a year might include the deduction. (There are about 14,200 total corporate returns in a year). Using the estimate of 10 corporations claiming the deduction, about $18,000 to $36,000 is deducted against taxable income. Using the tax rate for most corporations, the estimated total reduction in tax liability due to the tax deduction is only between $1,215 and $2,430

POLICY STATEMENTS

Monitor tax credits, grants and loans to determine if money is being spent on activities and products that have a reasonable payback time.

Reconsider the use of florescent lights over incandescent. Florescent lights contain mercury and the light spectrum is not good for reading purposes and they do work well in cold weather.