

## **2009-10 Energy Policy for Montana**

Prepared by Sonja Nowakowski

January 2010

### **Part IX of IX "Increasing energy efficiency standards for new construction"**

#### **Governor Schweitzer's Energy Policy statement on efficiency in construction:**

"Energy efficient houses keep us warmer while saving money, especially for those who are forced to choose between food and medicine or heat."

**ETIC Energy Policy statement:** (This is a DRAFT statement that has not received ETIC approval. It is meant ONLY as a starting point for ETIC discussion)

#### **Findings:**

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.

#### **ETIC recommendations: ?**

#### **Recommendations (Examples from other state energy policies):**

**Idaho** (During the 2006 session, the Idaho Legislature passed House Concurrent Resolution No. 62, directing the Legislative Council Interim Committee on Energy, Environment, and Technology to develop an integrated state energy plan. The Energy Plan's principal focus is boosting the acquisition of in-state energy conservation and renewable energy resources.)

#### Idaho recommendations and policies:

- Idaho should adopt international building codes on a three-year cycle as a minimum for building energy efficiency standards and should provide technical and financial assistance to local jurisdictions for implementation and enforcement.
- Requiring that new buildings meet these energy efficiency requirements will result in gradual but significant and long lasting reductions in building energy consumption, often with little or no increase in total project cost. Without adoption and enforcement of the energy efficiency standards, many opportunities to cost effectively lower building energy usage would be lost.
- The committee recommends that the state provide both technical and financial assistance to help local jurisdictions implement and enforce the building codes.
- Heating homes and businesses with natural gas is more efficient than heating them with electricity when energy losses due to fuel conversion and delivery are considered. The committee finds it is in Idaho's interest to encourage the use of natural gas rather than electricity in these instances.

**Iowa** ("Charting our own course: Today's challenges, tomorrow's opportunities" -- Iowa Energy Independence Plan produced by the Office of Energy Independence in December 2008. The Iowa Power Fund Board, which includes legislative representatives, also reviews the plan.)

### Iowa recommendations and policies:

- As new developments are considered, energy efficient measures should be a consideration of all development and construction projects. Incentives for infill and mixed-use development should be a consideration of policymakers.
- The Office of Energy Independence recommends denser growth in cities and advocates compact, transit-oriented, walkable, bicycle friendly land use, including neighborhood schools, and mixed-use development with a range of housing choices.
- Initiatives include evaluating energy efficiency standards and practices for residential, commercial, and industrial buildings; developing new energy efficiency programs with rural and municipal utilities; and expanding the infrastructure for and access to renewable fuels across the state.
- Municipal utilities, rural electric cooperatives, and investor-owned utilities are at different stages in development and implementation of energy efficiency programs. From home audits to appliance and component installation to public outreach, utility companies are already working to stimulate energy efficiency measures in Iowa. The state should encourage these efforts and work to ensure all available measures are accessible to Iowans statewide.

### **Background**

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. The state Department of Labor and Industry, Building Codes Bureau met with stakeholders during the last two years to discuss an upgrade from the 2003 IECC to the 2009 standards. In June 2009, the Montana Building Codes Council voted to adopt the 2009 standard. 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 (discussed later in this report).

When the Environmental Quality Council (EQC) designed Montana's energy policy in 1993, it brought legislation allowing for the enforcement of the energy code provisions of the state building code in single-family through five-plex residential buildings. (50-60-102, MCA) The EQC also brought the legislation requiring the labeling sticker. (50-60-803, MCA) The EQC went on to design the self-certification program noted above for home builders to assist with

enforcement. (50-60-802, MCA) The Department of Labor, using the self-certification program, is charged with enforcement. The 2009 Legislature took this issue one-step further and allowed local jurisdictions that have a building codes enforcement program to adopt voluntary energy conservation standards for new construction as an incentive to encourage voluntary energy conservation. The incentive-based standards can exceed any applicable energy conservation standards contained in the state building code.

The current state energy code requires all new homes have an "Energy Efficiency Components Label." An example of the label is included in **Figure 1**. With the label, builders inform buyers of insulation levels, heating system efficiencies and other energy saving features in a new home. 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 DEQ does not believe all inspectors are leaving the packets on a regular basis based on their records of packet requests. When ordered from inspectors, DEQ assembles and sends the packets. In addition several inspectors have stated that they rarely see an energy comment label in the electrical breaker box during the final electrical inspections.

The DEQ also notes that certain areas of the energy code are generally not followed in Montana. Requirements to size heating systems and air sealing requirements are two aspects that are not often implemented in residential construction. In commercial construction the DEQ notes that lighting controls, lighting limits, and insulation of slabs on a grade are not often used in construction.

In November 2007, Montana's Climate Change Advisory Committee (formed by Governor Schweitzer) recommended several steps be taken to improve the energy-efficiency-related elements of Montana building codes. They identified key elements as:

- Increasing standards so that the minimum performance of new and substantially renovated buildings, both commercial and residential, is at least 15 percent higher by 2010 than that required by IECC 2003, and 30 percent higher by 2020;
- Encouraging and working toward achieving the goal of "carbon-neutral" status for new buildings;
- Encouraging the use of recycled and local building materials;
- Expressing energy-efficiency standards on a per-unit-floor-space basis for commercial buildings and on a per-dwelling-unit basis for residential buildings;
- Periodically and regularly reviewing building codes, including energy-efficiency

ENERGY EFFICIENCY COMPONENTS		
Address: _____		
		Insulation* Value
Ceiling	Flat	R- 49
	Vaulted	R- _____
Walls:	Above grade walls	R- 21
	Basement walls (finished)	R- 11
	Crawlspace foundation	R- 20
Floors:	Over unheated spaces	R- 21
	Perimeter slab	R- 13
	Under slab	R- _____
Exterior doors:		R- _____
Windows:	NFRC unit rating (or)	U- 35
	Default window rating	U- _____
Water heater:	Energy factor (EF) rating	54
Heating system:	Energy efficiency rating	78%
	(AFUE for gas; HSPF heat pump)	
Heating ducts:	Systems sealed Yes <input checked="" type="checkbox"/> No _____	
	In non-conditioned areas insulated to Supply R-8 Return R-6	
Other (i.e., ventilation systems, radon abatement) _____		
Insulation Subcontractor: _____		
Certified by: _____		Date: _____
Builder (Company): _____		
<i>The home builder certifies compliance with ARM 24.301.162 by completing and signing this label.</i>		
<b>THIS LABEL MUST BE PERMANENTLY AFFIXED BY HOME BUILDERS TO THE INTERIOR BREAKER PANEL ON ALL NEW RESIDENTIAL BUILDINGS, AS REQUIRED BY SECTION 50-60-803, MONTANA CODE ANNOTATED</b>		

**Figure 1**

- requirements of building codes, to ensure that they stay up-to-date;
- Offering, and requiring as appropriate, education to equip building code officials, builders, designers, and others to effectively implement building energy code improvements; and
- Exploring new mechanisms, such as working with financial institutions and the use of spot checks, to improve code implementation in rural areas.<sup>1</sup>

Fifteen years ago the Environmental Protection Agency and the Department of Energy started the "Energy Star" program to provide a voluntary, market-based program to encourage the construction of buildings that exceed existing building codes. Energy Star homes are at least 15 percent over the 2004 International Residential Code. In 2008, the EPA announced that about 17 percent of all single-family homes built nationally in 2008 earned EPA's Energy Star label, up from 12 percent in 2007. In 2008 American families living in Energy Star qualified homes saved more than \$250 million, about 1.5 billion kWh of electricity and 155 million therms of natural gas.<sup>2</sup> In Montana, the Butte-based National Center for Appropriate Technology (NCAT) is the Energy Star Builder Option Package Provider in Montana, which helps recruit builders to participate in the program and offers technical assistance. NCAT also can assist developers achieve Energy Star and green building certification. In 2007 there were 117 Energy Star homes in Montana, and in 2009 there were 170 Energy Star homes. There are 38 verified Energy Star verifiers in Montana.

The Montana DEQ also provides Montana homeowners with information about Energy Star opportunities. In 2010, the DEQ will use about \$928,000 in American Recovery and Reinvestment Act (ARRA) money for a State Energy Efficient Appliance Rebate program. Of the 35 utilities and cooperatives in Montana, less than one-third presently have an appliance rebate program in place. Most of the existing programs offer rebates of \$25 or less for various appliances. With the stimulus money, consumers who purchase Energy Star appliances will be rebated between \$50 and \$100 for various appliances. The DEQ hopes to replace nearly 9,000 appliances in Montana. The DEQ will hire a third-party provider to manage the program for the state.

Some states have taken steps to develop Home Energy-Rating Systems (HERS) to accelerate energy efficient home building. A HERS program involves a third-party professional measuring home energy efficiency performance in various construction features and translating that performance into a numerical score or rating. Those scores range from 100 to zero. The lower the score, the more efficient the home, with each point reduction reflecting a 1 percent reduction in energy consumption. Energy Star homes, for example, require a minimum HERS certification of 85 in warmer climates and 80 in colder climates. Sixteen states have adopted HERS for new home construction in an effort to advance energy building codes. New Mexico, for example, provides a tax credit for construction with a HERS rating of 60 or lower. The Western Governors' Association recently released policy recommendations for energy efficient building, including a recommendation to expand the HERS program in the West. NCAT also has provided training to builders interested in using HERS in Montana. Builders can use the HERS program to qualify for a \$2,000 tax credit for constructing a new energy efficient home that achieves 50 percent energy savings for heating and cooling over IECC requirements. The

---

<sup>1</sup> "Montana Climate Change Action Plan: Final Report of the Governor's Climate Change Advisory Committee" November 2007.

<sup>2</sup>

<http://yosemite.epa.gov/opa/admpress.nsf/7ebdf4d0b217978b852573590040443a/45e75621976f6dea852575e700550e14!OpenDocument>

federal credit was authorized under the 2005 Energy Policy Act. In Montana there are 16 qualified HERS raters, and three additional people are in the final stages of certification.

The Western Governors' Association report also includes a recommendation that local governments provide more information about energy efficiency opportunities. A survey in September 2007 by the American Institute of Architects found that 91 percent of U.S. voters said they would pay an additional \$5,000 for an energy-efficient home.<sup>3</sup> A September 2009 survey of National Association of Home Builders (NAHB) members, however, found that prospective home buyers were not willing to pay much more for green homes.<sup>4</sup> Builders said that among buyers who are willing to pay more for green features, more than half -- 57 percent -- were unlikely to pay more than an additional two percent. In addition only 11 percent of the builders surveyed indicated that customers asked about environmentally features.

In 2008 the Montana Home Builders Association and the Missoula Building Industry Association unveiled a voluntary residential green building program called the Montana Green Building Program. The program provides a baseline for green building in Montana and provides training resources for local builders. The Montana Green Building Program is the affiliate of the NAHB Green program. The Montana Legislature has discussed other building certification systems, specifically the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) system. The LEED certification is awarded to buildings that meet USGBC standards for energy and water conservation, indoor-air quality and selection of preferred materials, among other things.

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 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 tuneups, 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.

---

<sup>3</sup> [http://www.dexigner.com/design\\_news/aia-study-top-cause-of-greenhouse-gas-emission.html](http://www.dexigner.com/design_news/aia-study-top-cause-of-greenhouse-gas-emission.html)

<sup>4</sup> [http://www.nahb.org/news\\_details.aspx?sectionID=0&newsID=9695](http://www.nahb.org/news_details.aspx?sectionID=0&newsID=9695)

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.

The State Buildings Energy Conservation program is designed to finance energy improvement projects on state-owned buildings. Montana encourages agencies to participate in the program to achieve available energy savings. During the 2009 session, stimulus money was used to significantly expand the State Building Energy Conservation program. Montana is investing close to \$22 million in ARRA money in cost-effective energy improvements in 50 state-owned buildings. Energy audits were completed to identify improvements that will save the most energy. The audits were presented to the 2009 Legislature and reviewed before the projects were approved. The \$22 million stimulus supplement is substantial -- the 2007 and 2009 Legislatures appropriated \$3 million in general funds for the program. Even with the increase in funding, state agencies will still have to repay the cost of the projects using energy savings.

Governor Schweitzer has initiated a 20x10 Initiative, requiring all state agencies to reduce facility energy use by 20 percent by the end of 2010. The DEQ identified cost-effective energy improvements in state and university buildings through the State Building Energy Conservation program. The construction projects alone, however, will not achieve the 20 percent energy savings goal. Energy performance contracting is expected to achieve additional savings under 20x10. In 2009, the DEQ issued a request for qualifications and now has 11 qualified energy service companies to do work for Montana state government. The DEQ is identifying projects and will have the first few under contract in 2010.

About \$300,000 in ARRA money is being used by DEQ to develop and expand an information campaign directed at homeowners about the benefits of federal and state tax credits for energy conservation and renewable energy investments in 2009 and 2010. Montana offers a 25 percent credit for energy conservation investments and a \$500-\$1,000 credit for renewable investments. "The existing Montana tax credits and expanded 30 percent federal tax credits create a unique opportunity for Montanans to make energy conservation and renewable energy investments now that will lower their utility bills for many years in the future," according to the DEQ.

An Energy Efficiency and Conservation Block Grant program also was authorized by ARRA. The grants are designed to support investments in energy efficiency and conservation, mostly at the city and county level. About \$4.4 million for energy efficiency block grants will pass directly from the federal government to Montana's 10 larger cities and counties. A second avenue of funding at \$5.7 million will be administered by DEQ and is intended for Montana's remaining cities and counties. Grants of up to \$200,000 are available on a competitive basis. The grants may be used for energy audits and retrofits for buildings and facilities, energy conservation in transportation, building codes and inspection services, and energy distribution and renewable energy applications. DEQ will provide technical assistance and training for local governments who do not receive direct funding.

**Energy Efficiency for New Construction Taxation and Incentives  
69-8-402, MCA, universal system benefits**

Among other things, provides for the continued funding of and new expenditures for cost-effective local energy conservation and low-income weatherization. When Montana restructured its electric industry, it created a USB charge and fund to ensure funding for these types of electricity conservation. Public utilities, cooperatives, and large customers can self-direct and receive credit for cost-effective local energy conservation and low-income weatherization.

**15-32-103, MCA, tax deduction**

Allows a deduction from gross corporate income for computation of net income for expenditures for capital investments in buildings for energy conservation purposes in accordance with a specific schedule set forth in the statute.

**15-32-109, MCA, tax credit**

Provides a resident individual taxpayer with a credit not to exceed \$500 against state income tax for expenditures for capital investments in a building for energy conservation purposes.

**17-7-213, MCA, high performance building standard**

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.

**20-9-516, MCA, school facility and technology account**

Establishes the school facility and technology account to provide money to schools for improving energy efficiency in facilities.

**Title 50, chapter 60, part 1 and 2, MCA, state building codes and conservation**

Designed to accomplish several objectives, including the following: encourage, to the fullest extent feasible, the use of modern technical methods, devices, and improvements for the purpose of reducing the cost of construction, consistent with the conservation of energy and the efficient use of energy; encourage efficient design and installation that will result in consumption of the least possible quantities of energy and reduce the need for heating in the winter and air conditioning in the summer; encourage efficient design of building envelopes with high thermal resistance and low air leakage; and require design and selection practices that will promote the efficient use of energy. The Department of Labor and Industry is responsible for adopting rules relating to the construction of, installation of equipment in, and standards for materials to be used in all buildings subject to the code.

**50-60-102, MCA, local government building codes and conservation**

Cities, counties, or towns with building enforcement programs may adopt incentive-based energy conservation standards for new construction. The conservation standards may exceed state building code standards.

**50-60-802, MCA project certification**

A person who begins construction on a residential building in Montana certifies in writing to the building owner at the conclusion of construction that the residential building has been constructed in compliance with the energy-efficient construction standards.

**50-60-803, MCA, energy labeling sticker**

Requires a labeling sticker to be affixed to a new residential building that describes the energy efficiency components of the home, including but not limited to heating appliance efficiencies and R-value or U-value of ceilings, walls, floors, windows, and doors in new residential buildings.

**Title 75, chapter 10, part 15, MCA, mercury-added thermostat collection program**

The program encourages the purchase of thermostats that are programmable and

increase energy efficiency as replacements for mercury-added thermostats.

**90-4-201, MCA, low-income weatherization**

Appropriates to Department of Public Health and Human Services (DPHHS) all federal funds and grants available under the U.S. Department of Energy low-income weatherization assistance program, U.S. Department of Health and Human Services low-income home energy assistance program, or any similar federal program designed to increase the energy efficiency of dwellings inhabited by low-income individuals. The DPHHS is directed to allocate at least 5% of funds received from the U.S. Department of Health and Human Services low-income home energy assistance program, if federal law allows. (90-4-201, MCA)

**Title 90, chapter 4, part 6, MCA, State Building Energy Conservation Act**

Requires DEQ to work with state agencies to identify buildings that have potential for energy savings, based on age, energy use, function, and condition of the building. DEQ is required to compile a report to be submitted to the Governor before September 1 of each even-numbered year. The Governor is required to submit proposed projects to be funded as a part of the budget. If two-thirds of the Legislature approves, energy conservation bonds may be issued to finance energy conservation projects.

**75-25-101, MCA, alternative energy revolving loan program**

Provides loans to individuals, small businesses, units of local government, units of the university system, and nonprofit organizations to install alternative energy systems that generate energy for their own use or for capital investments for energy conservation purposes when done in conjunction with alternative energy systems. Loans up to a maximum of \$40,000 must be repaid within 10 years. The rate for 2009 is 3.5%. If loans are made by the DEQ using stimulus money received through the American Recovery and Reinvestment Act of 2009, loans of up to \$100,000, with a 15 year payback may be available.

**Title 90, chapter 4, part 11, MCA, energy performance contracts**

Allows state agencies and local government such as county, city, school districts, and community colleges to enter into energy performance contracts that conserve energy for buildings and vehicles that those local government units operate.