Big Horn County, Montana

Energy Conservation Plan

A commitment to ensure that energy and resource efficiency are explicitly considered, examined and executed throughout all Big Horn County facilities, regarding energy conservation.

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EXECUTIVE SUMMARY

The availability of energy resources is important to residents, businesses, developers, institutions, industries and all levels of government. Energy heats and cools our indoor environments, fuels our vehicles and powers multitudes of computer equipment, appliances and other equipment. Energy is critical to all aspects of our lifestyles and, as continuing technology advancements are made, our reliance on energy resources increases.

Due to the increasing concern for the limits and environmental impacts of non-renewable resources, as well as interest in energy alternatives, an Energy Conservation Plan (ECP) was determined to be a necessary element to the Big Horn County long-term comprehensive plan.

The purpose of the Big Horn County ECP is to introduce cost-effective, energy-efficient technologies into Big Horn County facilities and promote an energy conscious culture that encourages prudent decisions with regard to energy consumption. In the bigger picture, the reduction in total energy demand will result across all Big Horn County government operations, positively addressing escalating utility usage and costs. This measure can help hedge against higher energy costs each budget year. Energy conservation is the key element of this plan because of its potential to reduce overall energy demand, costs and consumption.

Recommendations and guidelines from the Big Horn County ECP are intended to ensure that energy and resource efficiency are explicitly considered, examined and executed throughout all Big Horn County facilities, regarding energy conservation. This plan establishes and dictates guidelines for cost-efficient and sustainable resource consumption within all Big Horn County facilities, while allowing the Big Horn County Commissioners the opportunity to coordinate and manage the implementation and execution of the policy. The majority of this information and analysis is described under the short-term and long-term activities that could be implemented to reduce energy consumption and reduce costs.

Although it is not discussed in detail in this plan, there is a positive impact to the environment when energy saving activities occur. Using a variety of sources, this plan will provide general energy efficiency techniques and methodologies that could be reasonably implemented in day to day functions within Big Horn County facilities that will have an immediate effect on energy savings and costs. This plan is not a static document and may be modified in the future to reflect emerging "best management practices" in energy conservation and energy management strategies and initiatives.

Energy conservation can also play an important role in addressing climate change by lowering overall greenhouse gas emissions. It is often the most economical strategy to advance climate protection efforts and provides an environmentally safe alternative to increased energy production and consumption.

John Pretty On Top
Chair

Chad Fenner
Member

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Energy Conservation Profile

A detailed profile of energy sources, uses and conservation practices was compiled prior to the development of the ECP. Key findings from this analysis include:

- Modern society is reliant on energy for commercial, industrial and residential uses and for travel and transportation among these uses. Energy is required for the construction and operation of most of the modern built facilities in both the public and private sectors. The vast majority of transportation modes used today are motorized and powered by gasoline or other fuels. As the technology in all aspects of our lifestyles increase, so too does our demand and reliance on energy resources.
- Sources of energy used in modern commercial, industrial and residential uses include:
    - Renewable sources (solar, geothermal, wind, wood, etc.)
    - Non-renewable sources (coal, propane, etc.)
    - Hybrid fuel sources (biodiesel, ethanol, etc.)

- Montana is home to more than a quarter of the country's estimated recoverable coal reserves, as well as large deposits of oil and natural gas. Montana provides about 4 percent of the nation's coal production and exports to more than 15 states.
- Montana has low electricity prices as compared to the national average (25 percent lower) and relies on coal for almost 60 percent of its electricity production. However, the price of electricity in Montana has grown steadily over the past 50 years with dramatic increases in the 1970s and early 1980s. Gasoline and diesel fuel prices have increased dramatically since 2000.
- The selection of an energy source for a particular use depends on what types of energy is needed and what sources are available.
- Energy use and rates of consumption for any individual site or operation are influenced by a number of factors: site design, building size and materials, operational costs of equipment and transportation needs.
- The cost of energy impacts both public and private sectors. Residents pay energy bills for home heating, electricity and fuel costs for travel. Businesses and industries, including farming and ranching operations, pay the equipment costs of processing and production and transportation costs to import supplies and export products and services. Business facilities and community institutions pay for facility heating, cooling and electricity.
- Consumption of gasoline has decreased over the last four years while the consumption of diesel fuel has increased. Montana ranks 18th in the nation for per capita consumption of gasoline (as of 2005). However, geography and location affects state energy consumption for transportation. Traditional wisdom indicates that larger and rural states consume more gasoline for transportation than smaller and urban states.
- Alternative fuels represent one of the best ways to reduce petroleum imports for transportation fuels. Alternative fuels include biodiesel, electricity, ethanol, hydrogen,

natural gas and propane. As of 2007, Montana had only 4 biodiesel stations located throughout the state and 36 alternative fuel stations of all types, ranking 11th among the nation.

- There are several programs available to residents and businesses in making smart energy and cost savings choices. By using programs such as Energy Star and associated guidelines, homeowners and business owners can become more energy efficient, thus reducing long term operating costs and making household and business energy costs more affordable.