

## CHAPTER 7:

# Energy for the Long Haul

### A CONCLUSION AND A BEGINNING

Montanans can build and grow our way to *energy security and self-reliance*, leaving most of the coal in the ground to continue to act as the aquifer for large expanses of the Northern Plains.

Compelling evidence for this abounds: an explosion of real-time, real-place stories, along with a growing flood of studies showing that this is not only possible but profitable. Energy self-reliance and a quality environment can create significant economic benefits to the state equal to, and ultimately, greater than “Business as Usual” energy development relying on centralized coal-fired power plants, *so called* “clean coal” and wasteful long distance transmission of electricity.

By the time a child today in Billings, or Plentywood, or Victor is in high school or is entering college—say around the year 2020—the concepts in this document will be commonplace. (In regions of the U.S. with critical energy challenges, some of these concepts already are commonplace.) At the same time, a coal-fired power plant that is permitted now, and built within the next few years, will still have—by that same year 2020—two or three decades left in its operating life. Yet another opportunity to restrain the degradation of the land by mining, the waste of water in cooling, the build-up of CO<sub>2</sub> in the atmosphere by burning, and the release of mercury downwind, will have been lost.

Investments made and policies crafted in the next few years will determine Montana’s chances for achieving the goals in this *Blueprint*—to meet all of Montana’s energy needs using conservation and clean, renewable sources while creating jobs, saving money, and revitalizing rural and urban communities.<sup>119</sup>

Ironically, even though solutions highlighted here promise to save

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TO GENERATE WEALTH AND  
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<sup>119</sup> Richman, Dan, “Global Warming to Cost Us”, Seattle Post-Intelligencer, reprinted in NW Climate Connection newsletter by Climate Solutions ([www.climatesolutions.org](http://www.climatesolutions.org)) Seattle, Washington, January 2007.

businesses and households money in the long run, and typically have competitive payback rates, financing them continues to be a challenge. Investors and customers must relearn how to assess “technology risk” and payback times. Even with grants, tax credits, or loan programs, businesses, individuals and local governments are reticent to invest in distributed generation and decentralized energy. Technologies that are ready to go now, like cellulosic ethanol, are delayed from coming on line by these uncertainties, further delaying a secure energy future, and committing us to additional decades of inefficient, polluting choices.

New creative approaches for finance are becoming available, as people and institutions overcome their fear of change. The discussion of “distributed energy utilities” in Chapter 4, and other examples in Chapters 2 through 6, offer useful suggestions for action from both the public and private sectors. Local and state governments can set policies that reduce energy use or invest public money to build community infrastructure, but much of this change will need to come from the private sector, as individuals and businesses make choices about everything from building design and location, to appliances, manufacturing processes, and transportation.

This *Blueprint* is one of many from around the country to make the case for conservation and renewable energy. More than nine states and hundreds of municipalities are implementing measures to reduce contributions to global warming and use energy more efficiently. They are finding their investments being returned faster than anticipated, with no negative impacts on quality of life. Time and again the ideas suggested here rise to the top of the list.

Salt Lake City, Utah, and Portland, Oregon, provide excellent examples. In the Salt Lake area note the local utility initiatives, especially Rocky Mountain Power’s Blue Sky and Demand Response programs.<sup>120 & 121</sup> Prepare to be amazed! More examples can be found at the International Council for Local Environmental Initiatives (ICLEI) website.<sup>122</sup> ICLEI is a coalition of local municipalities concerned about sustainability that are addressing pressing issues like energy. The U.S. Conference of Mayors, a supporting partner of ICLEI, has a new report, *Energy and Environment Best practices 2007* highlighting programs in almost 100 cities around the U.S. Also check out the New Rules project of the Institute of Self Reliance.<sup>123</sup>

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<sup>120</sup> For information about Salt Lake City’s efforts see <[www.slccgreen.com](http://www.slccgreen.com)>.

<sup>121</sup> Follow the cost-savings and progress Portland has made at <[www.portlandonline.com](http://www.portlandonline.com)>.

<sup>122</sup> See <[www.iclei.org/usa](http://www.iclei.org/usa)>.

<sup>123</sup> See <[http://usmayors.org/uscm/best\\_practices/EandEB07.pdf](http://usmayors.org/uscm/best_practices/EandEB07.pdf)>, <[www.newrules.org/electricity/planningfordg.html](http://www.newrules.org/electricity/planningfordg.html)>.

These references barely scratch the surface of the multitude of efforts that are springing from the grass-roots: people taking care of their needs and their futures without waiting for the federal government to develop and implement intelligent, sustainable solutions to energy crises and global warming.

## SO WHERE DO WE START?

It is time to convene Montanans around the state to set specific goals, targets, and timelines for reducing energy waste, increasing efficiency, and taking advantage of clean, renewable opportunities in order to generate wealth, security and quality of life for our future. The Governor's Climate Change Advisory Committee plans to submit a list of recommended actions by July of 2007 to the Governor. Preliminary comparisons show this Blueprint and the climate change actions are complementary. But there is no reason to wait for formal state-level direction.

SEVENTY-ONE PERCENT OF THE PEOPLE IN MONTANA LIVE WITHIN 40 MILES OF ITS SEVEN LARGEST CITIES. THESE HAVE BECOME THE STATE'S "ECONOMIC ENGINES"...

—LARRY SWANSON, CENTER FOR ROCKY MOUNTAIN WEST, SPEAKING IN BILLINGS, 10/18/06.<sup>124</sup>

We propose that each of Montana's seven most populous areas embark on a Community Energy Assessment following the template offered by The Rocky Mountain Institute or the International Council for Local Environmental Initiatives mentioned above.<sup>125 & 126</sup>

AERO members living in or near these "economic engines" are encouraged to get the process started and invite others to join in. The AERO web site ([www.aeromt.org](http://www.aeromt.org)) has many links to a wide array of resources to help with all stages of the task. Targeting these seven population centers can focus and magnify our efforts as a state. Montana's many smaller towns are encouraged to take on the same challenge. Every community can all learn from what others are doing.

Why start in our communities with citizen groups? It's simple; cities are where most of the buildings are, and fully half the energy used in the United States is related to buildings and to the building industry, whether the buildings are old, new or in the process of being built.

<sup>124</sup> Dr. Larry Swanson, economist and regional planner, is Director of the Center for the Rocky Mountain West, Missoula, Montana.

<sup>125</sup> The seven communities are: Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, and Missoula

<sup>126</sup> See Community Energy Opportunity Finder by Rocky Mountain Institute at <[www.rmi.org](http://www.rmi.org) and ICLEI at <http://www.iclei.org/usa>>.

## A BLUEPRINT FOR HOMEGROWN ENERGY SELF-RELIANCE

According to experts at [www.betterbricks.com](http://www.betterbricks.com), “Our current U.S. building stock consumes 35 percent of all energy, 65 percent of electrical energy and contributes 35 percent of our carbon dioxide emissions. The energy use of this stock costs building owners over \$228 billion per year, 25 percent of which

is wasted by building systems that are poorly designed or operated. Buildings clearly have a large energy and environmental impact. Green buildings help to minimize this impact.”

Setting minimum energy performance standards for new construction (residential, commercial, and industrial) and for renovation and conservation remodels of existing building stock could mean huge savings of energy supply, and avoided energy costs into the future. Fully addressing how we build our communities and businesses offers large immediate impacts, as well as widely diversifying investment and economic activity.

Business, community, healthcare industry, local government, and efficiency experts from the utilities can begin working together to identify strategies for overcoming energy vulnerabilities with integrated long term solutions.

State government and Montana’s colleges and universities could provide technical support for the participants. The state could enhance the existing *Energize Montana* website and more actively make those resources and programs understood and available.

Another benefit of communities beginning their own efforts to conserve and use energy from sustainable sources is that, having gone through the process of discovering and implementing cost effective local policies and solutions, it will be easier to marshal the consensus needed to effect change at the state and national levels. Of course it is a two way street. State and national standards and initiatives can go a long way toward jump starting and supporting these local efforts.

“TRADITIONAL SOURCES OF ENERGY PRODUCTION AND USE ARE MAJOR CULPRITS OF ATMOSPHERIC POLLUTION.

BUILDINGS GOBBLE CLOSE TO 40 PERCENT OF THE ENERGY USED ANNUALLY IN THE UNITED STATES TO HEAT, COOL, VENTILATE, LIGHT, AND SUPPORT OTHER OPERATIONS (DOE, 2003). THIS OPERATIONAL ENERGY, PLUS THE ENERGY USED TO EXTRACT, HARVEST, AND MANUFACTURE PRODUCTS, TRANSPORT MATERIALS, AND CONSTRUCT BUILDINGS MEANS THE BUILDING INDUSTRY CHEWS THROUGH MORE THAN HALF OF ALL THE ENERGY USED IN THE UNITED STATES EACH YEAR.”<sup>127</sup>

## WHAT ABOUT THE REST OF THE STATE?

The cities are growing. On the other hand, rural Montana is in decline in many places, losing population and tax revenues.

Maybe it isn't such a bad idea to let certain areas of the "Big Open" go back to buffalo and elk, as has been suggested over the years, but another idea is that rural Montana's economic woes open up an opportunity, or rather many opportunities, spread around the state. The 2005 Energy Policy Act mandates the sale of 250 million gallons of cellulosic ethanol by 2013, a billion gallons by 2015!

David Morris of the Minnesota-based Institute for Local Self Reliance argues that the best way to meet those cellulosic ethanol objectives is to focus on the Act's qualitative objectives, which are to *maximize the benefit of cellulosic ethanol production to farmers and rural areas*. Practical ways to do this include using Department of Energy seed grants to nurture geographically dispersed, farmer-owned or locally owned pilot plants (500,000 gallons/year); nurturing the funding and development of many small-scale commercial plants (5-10 million gallon capacity); using loan guarantees to facilitate larger plant construction and operation.

A recent study by the Institute for Local Self-Reliance's New Rules Project noted that a local bio-refinery can raise prices paid to the farmer for feedstock. In one example "a farmer-owned 40 million gallon facility could generate \$10 million more each year in direct economic benefits than an absentee-owned plant of the same size."<sup>128</sup>



*Imagine young people coming back to Conrad or Glendive or Poplar with an engineering degree from Montana State University to help build one of these ethanol or biodiesel plants. Our children would once again be able to work in their home communities instead of being forced to leave because of economic necessity. They can return, excited to be part of something new. Local farmers can now profitably diversify their income with new crops suited for various biofuels or lubricants. The increased availability of biofuels will motivate and allow more of us to drive biofueled vehicles.*

RURAL MONTANA FACES THE HARSH FACT THAT  
IN 2003 NOT ONE MONTANA COUNTY HAD  
TOTAL CROP AND LIVESTOCK MARKETING RECEIPTS  
THAT EXCEEDED THE COST OF PRODUCTION.

—LARRY SWANSON, BILLINGS, OCTOBER, 2006<sup>129</sup>

<sup>128</sup> New Rules Project. Institute for Local Self-Reliance. See < [www.newrules.org/agri/celluloseethanol.pdf](http://www.newrules.org/agri/celluloseethanol.pdf) >.

<sup>129</sup> Op. cit Swanson. (See footnote 124).

## A BLUEPRINT FOR HOMEGROWN ENERGY SELF-RELIANCE

*Imagine those in towns—driving electric cars, recharging them on the grid at home at night, and sending some of our power bills to pay landowner-cooperative owners of the wind turbine. Our individual efforts collectively multiply to revitalize Montana's rural communities, enhance life in Montana's towns.*



*Green buildings in the cities. Biofuels and windpower in the countryside. Solar energy everywhere. Greenhouses dot the landscape, extending the growing season. More local foods, less long distance hauling. More local energy, less long distance transmission. More carpooling, vans, buses, passenger trains. More inter-city bicycle and horse trails. Wherever there's a hiking path, explore it. Wherever there's hot water, soak in it. Wherever there's a sunset, sit down and watch it. More fun. More joy. More beauty.*

We need to identify the opportunities of the moment, ride the rapidly growing tide of concern, and devote our attention and creativity to the crucial question of our energy future. Montana is not alone in this growing awareness. Montana is far from alone in seeking alternatives.

Innovative technologies and commonsense practice are indispensable, but even more central to the task are the commitment we bring to it, the creativity we unleash, the satisfaction we find along the way.

Montana is well situated to embrace the initiatives offered here for a secure, affordable, robust energy future. We just need a practical vision, focused desire, and a road map to get us started.

Thanks for reading AERO's *Blueprint for Homegrown Energy Self Reliance*. It's a beginning.

Visit AERO's website: [www.aeromt.org](http://www.aeromt.org).

Please let us know what you think and how we can work together.