

CLEAN ENERGY JOBS

RETROFIT AND RENEW MONTANA

Northern Plains Resource Council's campaign to generate Montana jobs in the clean energy and efficiency industries and building our economy by rethinking the way we produce and consume energy.



Photo illustration courtesy Google.com

Here in Montana, we want job opportunities and clean air, land, and water. A balanced energy strategy would give us both. Investment in energy sources and technologies that are clean, innovative, and native to Montana promises widespread economic prosperity in rural parts of the state.

As Americans, we can continue to pull \$3.2 billion each year from the pockets of taxpayers to subsidize fossil-fuel development.¹ Or we can put people to work making our homes and workplaces more energy efficient and increasing our use of renewable energy. We can design, manufacture and install technologies that make use of energy sources that will never run out, such as solar and wind.

By safeguarding the health of our water, our air, and our soil, and by protecting the places our families farm and ranch, or hunt and fish, we stabilize the economic future of Montana.

Green jobs are here today

In 2009, 1,133 people were employed by the coal industry in the state of Montana. Today, the coal industry approaches maximum maturity level. U.S. coal sales have been on the decline in recent years, and current plans to export coal to Asia are the requirement for propping up this industry a while longer.

By contrast, Montana had 2,155 “green” jobs in 2007 – nearly twice as many as in the coal industry. Even so, Montana has barely scratched the surface. For several years, we have lagged behind other Western states in developing green jobs, despite our abundance of sunny and windy days. Montana ranks fifth in the nation for wind-energy potential.²

This means **our potential growth in clean energy jobs is significant.** Valuable opportunities lie ahead of us, but we need to grab hold of them.

These are high-paying jobs. The Bureau of Labor Statistics predicts that students who acquire sustainable energy technician certification will make \$37,500 annually on average, with expected growth of 15% through 2018. This is more than 10% higher than Montana’s average wage.³

Renewable energy and energy efficiency sectors have many years of growth ahead. Moving deliberately to develop these jobs will put Montana skills and Montana hands to work.

¹ P.R. Epstein, J.J. Buonocore, K. Eckerle, M. Hendryx, B.M. Stout III, R. Heinberg, R.W. Clapp, B. May, N.L. Reinhart, M.M. Ahern, S.K. Doshi, and L. Glustrom, “Full cost accounting for the life cycle of coal,” *Annals of the New York Academy of Sciences*, Feb. 2011, v. 1219: 73–98. doi: 10.1111/j.1749-6632.2010.05890.x

² Mark Muro, Jonathan Rothwell, and Devashree Saha, *Sizing the Clean Economy: A National and Regional Green Jobs Assessment*. Metropolitan Policy Program at Brookings (2011): n. pag. Web. July 26, 2011. http://www.brookings.edu/~media/Files/Programs/Metro/clean_economy/0713_clean_economy.pdf.

³ Bureau of Economic Analysis, U.S. Dept. of Commerce, <http://www.bea.gov/regional/reis/drill.cfm>

Green jobs will build our economy

A move in Montana toward a new, sustainable economy will engage and expand varied sectors of employment through the use of retrofits and renewables. As we undertake this move toward cleaner energy and energy efficiency, we need to keep these three points in mind:

1 Clean energy and energy efficiency jobs can be created quickly and cheaply. Such jobs – manufacturing, installation, maintenance – are comparatively labor-intensive, meaning that a given dollar investment will create more jobs in these areas than in traditional fossil fuel extraction, and it will create those jobs more quickly.

2 Clean energy and energy efficiency jobs can spread economic benefits across the entire state. While a

coal mine provides jobs at the mine site, renewable energy and building retrofit jobs are dispersed statewide. Every Montana community can benefit from the jobs associated with energy efficiency and renewable energy. Even specific types of development – wind, geothermal, sustainable biodiesel production – are themselves more widespread than fossil fuel sites.⁴

3 Clean energy and energy efficiency jobs cut overall energy bills. By helping us reduce our use of fossil fuels, clean energy and energy efficiency jobs have the additional payback of reducing energy bills. This makes energy efficiency a cost-effective way to accomplish economic growth by freeing up money that had previously been spent on energy. **The cheapest form of energy is the energy we don't have to generate.**

RETROFIT

efficiency: reducing energy demand without reducing consumer benefits.

Retrofitting, the process of adding new, more efficient, technology to older systems, uses skill sets of various industrial sectors. Energy efficiency improvements require professional engineering audits, construction contractors, products and materials manufactured and then marketed by salespersons, and financial expertise.

Aggressive investment in the energy efficiency sector will reduce the amount of electricity consumed and the number of tons of coal needing to be mined. Once retrofitted, a building produces energy savings year after year, savings that are large compared to the investment.

A skilled labor force must be enlisted to help make the most



In the United States, buildings consume 65% of all electricity, and account for 36% of total energy used.⁷ Most buildings operate at low efficiency levels and could and should be retrofitted to use less energy.

of the energy we are already using. According to a 2008 estimate, the U.S. energy efficiency sector sustained 1.6 million domestic jobs.⁵

Because “efficiency and renewables are already in commercial operation...the technology development and commercialization challenge of retooling with these technologies appears smaller than the challenge of developing low-carbon coal technologies and a new fleet of nuclear plants.”⁶

True to a balanced energy economy, retrofitting does not end with job creation. Retrofitting is also about lowering energy costs.

⁴ http://www.eia.gov/emeu/rep/rpmap/rp_mountain.html

⁵ Ehrhardt-Martinez, Karen. *The Size of the U.S. Energy Efficiency Market: Generating a More Complete Picture*. (2008)

⁶ Synapse Energy Economics report, *Beyond Business as Usual*, May 11, 2010, page 6

⁷ U.S. Environmental Protection Agency, <http://www.epa.gov/greeningepa/projects/>

RENEW

renewable energy: energy sources that can be replenished at the same rate they are consumed.

Montana and other Western states possess some of the nation's most powerful renewable resources.

According to an American Wind Energy Association study, by 2009 the number of jobs in the wind sector alone surpassed the number of jobs in the coal industry.

Wind is cost-effective. In June 2010, NorthWestern Energy



reported that it paid \$56.05 per MWh for Colstrip Unit 4 coal; they paid far less – a range of \$37.25 to \$42.25 per MWh – for Judith Gap wind power.⁸ Strategic investment in biodiesel and biomass, geothermal, and solar opportunities in Montana complement energy efficiency measures and reduction of energy use.

Coal will run out and with it coal-dependent jobs, as well as the livelihoods of the farmers and ranchers negatively impacted by coal development. In contrast, wind and, therefore, wind jobs, will never run out.

U.S. clean energy employment



Wind: About 75,000 jobs

Solar: 93,000

Geothermal: 5,200

Biodiesel: About 52,000

Jobs in Renewable Energy and Energy Efficiency, Environmental and Energy Study Institute, June 2011. Web. July 19, 2011. http://www.eesi.org/jobs_reee_060111.



Can green tech propel economic growth?

By Chad Vander Veen

March 2010, *Governing* online magazine

The U.S. Department of Energy (DOE) estimates that the wind industry alone will support a half million jobs in the nation by 2030. In the western United States, this activity also would boost annual property tax revenues by more than \$1.5 billion and increase payments to rural landowners to more than \$600 million over the same time period, according to the DOE's *20% Wind by 2030* report.

The report explores the challenges and implications of generating one-fifth of the nation's electricity needs through wind power. Under that scenario, Montana stands to benefit handsomely from embracing wind power. Given the current and planned wind power capacity for the state, if 20 percent of the nation is in fact using wind power by 2030, Montana could expect 2,875 long-term new jobs, 16,888 short-term jobs, a \$78.2 million increase in property tax revenue, and a \$230 million annual economic boost over the long term. In addition, data indicates a two-year wind farm construction phase could generate a \$900 million short-term economic boost.

The Green Blocks Pilot Projects in Missoula and Helena are partnerships between the cities and NorthWestern Energy. They have conducted energy audits and made hundreds of homes more efficient. In addition to energy auditing, the programs created jobs in contracting and insulation. In the process, the retrofits reduced energy bills for participating home occupants.

⁸ NorthWestern Energy, *2009 Electric Supply Resource Planning and Procurement Plan*, Status of Portfolio. Chapter 3. Vol. 1., 2009.

Ready or not, here they come

While some actively oppose development of renewable energy and the jobs that come with it, those jobs are already a growing part of today's world. The United States military, the largest energy consumer in the nation, is making increased use of renewables, from biodiesel to photovoltaics, for field use. On June 3, 2011, for example, Deputy Assistant Secretary of Navy for Energy, Tom Hicks, testified before the House Subcommittee on Energy and Power against a proposed coal-to-liquid mandate being

proposed by some members of Congress who wanted to promote coal mining:



“America’s advanced biofuel industry knows no geopolitical boundaries.... The feedstocks and the refineries needed to produce advanced biofuels to power the Fleet or our aircraft can literally be made in all

fifty states. The camelina grown in Florida and Montana, the algae grown in New Mexico, Hawaii or Pennsylvania, for example, can be turned into fuels blended in existing infrastructure in the Gulf or on the East or West coast to power the Fleet.”

Green jobs represent an important opportunity to build Montana’s economy and keep more of our energy dollars in our own pockets while benefiting people and communities all across Montana. Like any other industry, we can speed its growth by creating incentives such as strengthening Montana renewable energy standards. The payback for these incentives will be quick, cost-effective, and widespread.

What you can do

- 1 Visit an online guide to employment in renewable energy and energy efficiency sectors offered in your ZIP code: www.greenjobsearch.org
- 2 Conduct a personal energy audit. The U.S. Department of Energy has a useful list of what you can do on your own to audit your home’s energy use. (http://www.energysavers.gov/your_home/energy_audits/index.cfm/mytopic=11170) Conservation measures also include what you can do every day in the way you use energy in your home or business – from turning off your computer, to modifying your use of air conditioning, large appliances, and hot water.
- 3 Purchase green energy through your public utility. If you are served by a rural electric cooperative, join your fellow members in asking your co-op to add renewables to its energy portfolio.
- 4 Support efforts to raise the Renewable Energy Standard in Montana. The current Renewable Energy Standard has created more than 2,000 jobs in Montana since 2005. A higher standard will create more jobs.
- 5 Join Northern Plains and participate in our campaign for renewable energy and energy efficiency jobs.

Keep informed! Join Northern Plains

Northern Plains Resource Council is a conservation and family agriculture group that organizes Montana citizens to protect our water quality, family farms and ranches, and unique quality of life.

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