



A Clean Energy Economy for Montana: Building Rural Communities Through Renewable Resources Development

Montana is the 4th largest state, with not only a “Big Sky,” but a remarkably varied landscape of mountains and valleys, rivers and plains, lakes, forests and farmlands. Rich in natural resources and fertile land, Montana has a historically stable and increasingly diverse economy, including a large agricultural sector. But the global economic downturn is impacting communities throughout the state, with unemployment climbing by 74 percent since the start of 2008¹.

Montana’s rural economy is in a unique position to benefit from comprehensive clean energy and climate legislation currently under debate in Washington. A comprehensive clean energy and climate bill will boost farm income by creating new markets for carbon offsets—credits given for reducing greenhouse gas (GHG) emissions in sectors like agriculture and forestry—and clean energy, bringing new revenues to Montana and helping its rural communities capture the jobs of the 21st century. Instead of sending Montana dollars out of state to pay for fossil-fueled energy, Montana could become a key supplier of homegrown renewable energy and the tools that produce it.

energy efficiency. Montana farmers will benefit from multiple new revenue sources, including land leases for wind turbines, sales of biomass feedstocks and energy to local utility companies, as well as carbon offsets generation. Taking advantage of these opportunities would create tens of thousands of new jobs in Montana and give a big boost to rural communities across the state.

New Income for Montana Farmers from Reducing Pollution

Comprehensive clean energy and climate legislation will establish national limits on GHG pollutants and create a new market for carbon offsets with environmental safeguards in place to ensure offset credits maintain a high value. Because agriculture and forestry are exempt from emissions limits, Montana farmers, ranchers, and foresters can generate new income by selling high-quality offsets, earned by reducing their direct emissions or enhancing carbon sequestration in soils and trees. In 2015, Montana has the potential to produce offsets totaling 5 million metric tons (MMt) of CO₂e from projects in agriculture, landfill gas, and forestry, bringing in revenue of \$35.5 million. In 2030, these totals would increase to 10.3 MMtCO₂e and revenue of \$109 million.⁵

More Jobs, Cleaner Energy, Stronger Rural Communities

A healthy rural economy is critical for Montana, which has the 2nd largest amount of agricultural land of all U.S. states—61.4 million acres actively managed as farms and ranches.² Under a national policy to curb GHG pollutants and rapidly develop renewable resources, Montana businesses can tap lucrative opportunities in clean energy production, including wind power, sustainable, low-carbon biofuels and bioenergy, biogas, and



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www.nrdc.org/policy

March 2010

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Montana Opportunities in Clean Energy and Energy Efficiency⁴

Energy Source	Potential Output	Impact on Energy Production	Carbon Reduced	Economic Benefits
Wind Power	25 wind farms averaging 150 MW = 12.4 million MWh of electricity per year	\$700 million of wind energy could be produced each year	10.9 million metric tons	1,050 permanent jobs, \$56 million in annual property tax revenue, \$150 million annually in local economic impact
Biofuels	175 million gals potential from existing crop residues	Equivalent to 37% of Montana gasoline replaced with biofuels	1.5 million metric tons	10 cellulosic ethanol plants would create 2,310 long-term jobs, \$219 million in annual economic activity and \$12.4 million in local property taxes
Biopower	Replace 10% of coal capacity = 1.8 million MWh	6.5% of all electricity would be biopowered	950,000 metric tons	435 production jobs created, not including new agricultural jobs to produce and harvest the biomass fuel
Biogas	4,000 metric tons of methane	14,000 MWh of electricity	Equivalent to 84,000 metric tons of CO ₂	\$1 million worth of homegrown energy per year
Energy Efficiency	15% electricity savings and 10% natural gas savings by 2020	Annual electricity savings of 1.1 million MWh, gas savings of 32.9 million therms.	800,000 metric tons	533 net jobs created, \$342 million net energy savings

¹ See: http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?data_tool=latest_numbers&series_id=LASST30000003

² See USDA Montana State Fact Sheet : <http://www.ers.usda.gov/StateFacts/MT.HTM>

³ Based on University of Illinois, Yale University and University of California EAGLE analysis; see: <http://www.e2.org/jsp/controller?docName=jobs>

⁴ For more information on all calculations, see *A Clean Energy Economy for Montana*, forthcoming in spring 2010.

⁵ http://www.awea.org/faq/wwt_potential.html "How%20much%20energy" http://www.awea.org/faq/wwt_potential.html#How%20much%20energy

Montana Renewable Energy Facts

- Montana ranks 2nd in the nation in commercial wind energy potential with accessible wind power potential 370 times the electricity usage of the entire state.⁵
- Montana is well-positioned to become a center of next generation biofuels production. If produced sustainably, existing usable crop and timber residues could produce roughly 175 million gallons of transportation fuels each year, equivalent to 37 percent of all gasoline used in the state. The same residues can be used for direct heat and electricity production in biomass-fired power plants. Essential to harvesting these benefits, however, is putting a price on carbon—including biomass energy. Without a market signal to drive innovation towards better performing, low-carbon biofuels, next generation fuels will remain a distant promise.
- As one of the nation's leading livestock producers, Montana has the opportunity to meet on-farm needs for natural gas and electricity, and earn offset credits for cutting methane emissions, by expanding production of biogas recaptured from animal waste.

Clean Energy and Climate Legislation Will Strengthen Montana's Rural Economy

Transitioning to a low-carbon economy will set the stage for economic growth and job creation in rural communities across Montana. Comprehensive climate and energy legislation will allow Montana to capitalize on its potential to build a strong, long-term economy on the foundation of its abundant renewable resources and become a national leader in producing the clean energy that America needs.



For more information about state renewable energy opportunities, visit NRDC's interactive map at <http://www.nrdc.org/energy/renewables/default.asp>