



**USDA Forest Service
American Recovery and Reinvestment Act
Green Energy – Wood to Energy**

U. S. Forest Service ARRA Funding Green Energy – Wood to Energy

The American Recovery and Reinvestment Act (ARRA) assigns a key role to the Forest Service in creating and maintaining thousands of private sector jobs for Americans in locations across the United States. America's forests and grasslands are the cornerstone of our nation's natural resource conservation and contribute to economic security for America's citizens by providing alternative fuels for energy production.

ARRA provides \$1.15 billion to the Forest Service for conservation work on the Nation's forests, with a focus on providing and retaining jobs. Congress appropriated \$650 million for capital improvement and maintenance and \$500 million for wildland fire management. Of the \$500 million for wildland fire management, Congress directed that \$250 million be used on Federal lands, that \$250 million be used on State and private lands and that up to \$50 Million of the total funds may be used to make wood-to-energy grants to promote increased utilization of biomass from Federal, State and private lands.

Through ARRA funding, as well as the annual Woody Biomass Utilization Grants program, the Forest Service is supporting the sustainable utilization of woody biomass to help meet a portion of the Nation's energy needs through alternative fuels. Using woody biomass for renewable energy provides opportunities to improve energy security, reduce energy costs, and enhance economic development across rural communities.

Forest Service woody biomass utilization and bioenergy activities are accomplished in partnership with states, the Bureau of Land Management (BLM) and other federal agencies, tribes, local governments, the private sector and non-government organizations. Selection of Wood to Energy ARRA projects considered alignment of source of woody biomass to utilization capability, as well as coordination with BLM and other agencies.

The Forest Service is also working with the Department of Energy National Energy Technology Laboratory to develop regional bioenergy facilities near large concentrations of woody biomass. Through the Coordinated Resource Offering Protocol (CROP), the Forest Service is working with partners to remedy the growing wildland fuel load problem. This long-term supply study facilitates development of bioenergy plants in close proximity to biomass supplies, and was also utilized in making selections of ARRA Wood to Energy projects.

Over the life of ARRA projects, the agency estimates it will remove over 5 million green tons of biomass. This is enough to produce approximately 12.5 million megawatt hours of electricity (enough to power 223,000 homes for one year).

The attached table lists ARRA funded projects that focus on developing and utilizing woody biomass for energy production.

Wildland Fire Management - Federal, Green Energy / Wood-to-Energy

Project Type		
Arizona		
Wood to Energy Grants - Federal Lands	Drake Wood to Energy	\$1,400,000
	Project Description: Working with the Prescott Urban Interface Commission, Yavapai County, and local private forest consultants, this grant will develop systems for providing wood biomass to a new cement plant north of Prescott in Drake, AZ.	
California		
Hazardous Fuels Mitigation	Hazardous Fuels Mitigation	\$3,970,000
	Project Description: Contiguous buildup of dead and dying vegetation can lead to large, dangerous and expensive wildfires that can be harmful to Forest watersheds and threaten surrounding communities. This project will help reduce the size and scale of forest fires by clearing brush along roads and fire lines, and removing dead trees in areas where they create an unnatural fuel buildup. The wood biomass byproduct will help support wood-to-energy industry in the Sierra Nevada region of the State.	
Wood to Energy Grants - Federal Lands	Renewable Energy Cogen Facilities NW CA	\$4,500,000
	Project Description: Funding will allow the refurbishing, opening, and operation of biomass-fueled power plants in two locations in California. The plants are Blue Lake Power, supporting Humboldt and Del Norte Counties and Buena Vista Power in Inyo, supporting Amador and Eldorado Counties. The biomass fuel required to operate these plants is available from federal, tribal, state, and private lands located a reasonable distance from the plants.	
	Blue Lake Power, LLC	\$248,000
	Project Description: This funding will be used to re-open a closed co-generation facility in Blue Lake, CA, and will be used to upgrade and retrofit the facility to use woody biomass to generate heat and electricity.	
Forest Health - Federal	Regionwide Biomass	\$5,000,000
	Project Description: This project will remove excess brush, small trees, and other vegetation known as wood biomass from areas that are overgrown on national forests throughout California. The wood biomass recovered from this project will be transported to local mills where it will be used as an energy source or to manufacture wood products.	
	Thinning and Biomass Phase 1	\$3,110,000
	Project Description: This wood biomass recovered from this project will be used as an energy source or to manufacture wood products.	
	Thinning and Biomass Phase 2	\$2,100,000
	Project Description: This wood biomass recovered from this project will be used as an energy source or to manufacture wood products.	
Colorado		
Wood to Energy Grants - Federal Lands	Colorado Springs Utilities	\$250,000
	Project Description: Funding will assist the co-firing of a coal facility with woody biomass.	
	Confluence Energy, LLC	\$250,000
	Project Description: Funding will assist grinding, hauling, and processing for a wood pellet (used as a type of fuel) facility.	
	Boulder County Parks	\$250,000
Project Description: Funding will help establish a biomass collection site and the reinstallation of a biomass heating system.		

Idaho		
Hazardous Fuels Reduction	Boise & Payette NF Stewardship/Biomass Projects	\$6,138,000
	Project Description: Changes in land uses and fire suppression activities on National Forest System lands have altered the frequency of natural wildland fire in forested stands that historically experienced frequent, low intensity wildland fire. The lack of wildland fire has resulted in an uncharacteristic build-up of vegetation and has increased the risk of severe fires that threaten local communities. The Boise/Payette Project is designed to remove hazardous fuel in forested stands adjacent to our local communities. The project includes commercial and pre-commercial thinning along with associated slash treatments. Once thinning is complete, 34,100 tons of biomass from the Payette NF will be chipped and used to generate renewable energy, while on the Boise NF 3,000 tons of biomass will be made into various wood by-products.	
Wood to Energy Grants - Federal Lands	Garden Valley Fuels for Schools	\$3,000,000
	Project Description: Funding will convert Garden Valley School to a central biomass heating plant.	
	Treasure Valley Forest Products	\$250,000
	Project Description: Funding will establish a wood pellet mill (biomass pellets are a type of wood fuel).	
Kentucky		
Wood to Energy Grants - Federal Lands	Fuels for Community Health Facilities	\$1,000,000
	Project Description: This is an energy conversion project that will supplement energy demand at Trigg County Hospital. It will create markets for small diameter wood and low value trees removed during forest restoration activities. The work will result in increased value of biomass, the removal of economic barriers for using small diameter trees and woody biomass, and the generation of renewable energy. In addition, funds may help communities and entrepreneurs turn residues from forest restoration activities into marketable energy products.	
	Fuels for Schools	\$1,000,000
	Project Description: This demonstration biomass utilization project will design and build an alternative energy source into an existing community school facility. Simultaneously, the FS will be preparing projects, with partners, to provide a sustainable supply. This will help create a local market for small diameter wood.	
Minnesota		
Wood to Energy Grants - Federal Lands	Bois Forte Development Corporation	\$250,000
	Project Description: Funding will allow for the purchase of chippers and grinders for a biomass facility, Laurentian Energy.	
Missouri		
Wood to Energy Grants - Federal Lands	Missouri Fuel for Schools Program Partnership NOTE: Partnership with Mark Twain NF	\$6,000,000
	Project Description: This project will build wood energy facilities in six schools in southern Missouri.	
Nevada		
Wood to Energy Grants - Federal Lands	North Nevada Correctional Center Bio Energy	\$620,000
	Project Description: Funding provides for upgrades to improve energy efficiency at Northern Nevada Correctional Center, including a 1 mega-watt biomass chip plant, two bins for hauling material to site, and an onsite chipper.	
New Mexico		
Wood to Energy Grants - Federal Lands	Mescalero Apache Woody Biomass Energy Development	\$2,500,000
	Project Description: The project will develop a pellet production plant (biomass pellets are a type of wood fuel) and a 6 mega-watt power generation facility in conjunction with the Mescalero Apache tribe's sawmill.	

North Dakota		
Wood to Energy Grants - Federal Lands	Bellerud Energy, LLC	\$237,000
	Project Description: Funding assists a biomass briquette facility (biomass briquettes are a substitute to coal, and are usually used to fire industrial boilers that produce steam).	
Oregon		
Biomass Utilization Grants - Federal Lands	Douglas County Small Woodlands Biomass	\$500,000
	Project Description: This project was developed by the Oregon Department of Forestry to work with small woodland owners to reduce fuels on their lands and pool this available biomass and provide it to two co-generation facilities in Douglas County. The concept is to improve the economics of the work by increasing the economy of scale across multiple small forest land owners.	
	T2, Inc.	\$250,000
	Project Description: Funding will allow this company to increase the efficiency of their operation with an excavator and road grader to improve their access for conducting fuels treatments. This will then allow them to become a year-round supplier of biomass, delivering that biomass to a biomass power plant. A biomass plant is moving into Central Oregon in anticipation of T2's ability to deliver this year-round supply.	
Hazardous Fuels Reduction	Reducing threat of wildfires in central and southwest Oregon	\$10,000,000
	Project Description: This project will protect lives, buildings and other resources by reducing hazardous burnable materials such as brush and small trees on thousands of acres in central and southwest Oregon. The work will improve the health and resiliency of forests and grasslands and provide biomass for energy production.	
	P-Forest Health Protection and Hazard Mitigation	\$4,784,400
	Project Description: The project, which uses temporary crews and contracts to get work done, includes labor intensive pre-commercial thinning and hazardous fuels reduction work. This includes hand piling of slash and running mechanical equipment to reduce fuels. There is also an opportunity to produce biomass for energy production.	
	Deschutes County - Hazardous Fuels Treatment	\$1,000,000
	Project Description: Many communities are at risk to wildfire in Central Oregon. Federal, state and local governments, and local community groups have worked in partnership to create Community Wildfire Protection Plans (CWPPs). This project funds the equipment needed to collect and grind woody biomass from hazardous fuel reduction projects on private and federal lands in Deschutes County, Oregon. Tons of woody biomass will be transported to Roseburg Forest Products Dillard Power Plant, where it will be used to generate energy (20,000 megawatt hours), creating jobs in the woods and at the power plant.	
	Central Oregon Hazardous Fuels Project (Deschutes, Crook and Jefferson counties)	\$1,553,600
	Project Description: Communities in Deschutes, Crook, and Jefferson Counties in central Oregon are at high risk of wildfire. Partnerships with federal agencies, the Oregon Department of Forestry (ODF), Central Oregon Fire Prevention Coop, local community organizations, fire departments, county officials, homeowner associations and landowners have formed to address the wildfire hazard by creating Community Wildfire Protection Plans (CWPPs) and implementing many innovative projects. This project will reduce fuels on larger parcels immediately adjacent to communities identified in CWPPs as high-priority areas to reduce hazard. Where feasible, fuels from this project will be made available for grinding and hauling to a biomass utilization facility.	
	Deschutes County - Hazardous Fuels Treatment.	\$250,800
	Project Description: The project will reduce hazardous fuels and haul slash piles to a central chipping site where outputs will be provided as fuel for the area school and hospital woody biomass boilers, as well as at a local co-generation facility. The project will reduce wildfire risk by decreasing quick-burning fuels, reduce smoke emissions from slash-pile burning, and provide raw material to support current and planned biomass and combined heat and power renewable energy systems in eastern Oregon.	

Wood to Energy Grants - Federal Lands	Sustainable Forest Bioenergy Production	\$300,000
	Project Description: This project will evaluate the economic value of using portable pyrolysis units for in-woods conversion of biomass into bio-oil and bio-char and test the impacts of bio-char application on forest sites.	
	Warm Springs Biomass LLC	\$5,000,000
	Project Description: Small diameter woody biomass will be used for a boiler at the Warm Spring Indian Tribe's existing sawmill. Steam from that boiler will be used to generate electricity.	
	Woody Biomass Removal for Energy Production	\$800,000
	Project Description: The projects funded collect and bundle woody biomass from private forest lands. Biomass will be used at a local power plant to generate energy.	
	Pellet Plant in Grant Harney Counties	\$5,000,000
Project Description: Funds will be used to design, provide for the permitting of and the installation of a biomass pellet plant (biomass pellets are a type of wood fuel). This facility would utilize biomass material from a 10 year Stewardship fuels reduction contract.		
South Carolina		
Hazardous Fuels Reduction	Francis Marion Biomass Thinning	\$300,000
	Project Description: In this project, thinning of dense pine forest stands is expected to reduce wildfire hazards on Francis Marion National Forest lands and provide biomass to a local paper mill for use as an alternative fuel. Approximately 1,000 acres will be treated for hazardous fuels reduction in areas near the wildland urban interface. Vegetation biomass that is mechanically removed will be chipped and hauled to an industrial plant for use as fuel for energy production.	
Washington		
Biomass Utilization Grants - Federal Lands	Vaagen Brothers Lumber, Inc.	\$250,000
	Project Description: This funding will help to upgrade equipment, including obtaining a Kobelco excavator for biomass removal. That biomass will be delivered to a biomass power plant.	

Wildland Fire Management - non-Federal, Green Energy / Wood-to-Energy		
Project Type	Project Name	
Maine		
Wood to Energy Grants - nonFederal Lands	Fuels for Public Buildings	\$11,424,000
	Project Description: This project will support the conversion of an estimated 15 public buildings to wood / dual fuel heating.	
Washington		
Wood to Energy Grants - nonFederal Lands	Kulzer Energy	\$4,000,000
	Project Description: This project will incrementally develop an integrated facility that produces wood products, processes steam, produces purified water, and electricity for local use. The boiler will be fueled with woody biomass and local waste. This is Phase I - build a 4-7 mega-watt co-generation plant.	