

Submitted Testimony of  
Mark Mathis  
President, Confluence Energy

Before the  
U.S. House of Representatives Committee on Natural Resources  
Subcommittee on Water and Power  
&  
Subcommittee on National Parks, Forests and Public Lands

Oversight Hearing on  
“Mountain Pine Beetle: Strategies for Protecting the West”

Tuesday, June 16, 2009, 10:00 am

Madam Chairwoman, Mr. Chairman, and distinguished subcommittee members, thank you for the opportunity to discuss the epidemic of the Mountain Pine Beetle and what we can do to help alleviate the problem. This joint hearing is timely as more of our forests are being ravaged by these beetles.

Confluence Energy is helping the State of Colorado with the removal of the effected timber and is putting it to beneficial use. Confluence Energy, LLC was formed in June 2007 and operates a wood pellet manufacturing facility in Kremmling, Colorado, which is 70 miles northwest of Denver.

Our plant is taking advantage of the regional pine beetle infestation to access dead and dying timber for use in its pelletization process. Lodge pole pine is delivered to the Colorado plant where these trees are chipped and then dried using heat from a sawdust-powered furnace. The wood chips are then ground into a course sawdust and sent to the pellet mills. The pellet mills press the wood particles through a die using intense pressure, forming the pellets without using any binding agents. The result is a pure wood product. The pellets are then either bagged in 40 pound bags, or stored in silos for bulk deliveries. The fuel created by the plant is both high in energy value and carbon neutral.

The biomass industry is in need of better access to this type of feedstock. The dead, dying, downed and diseased wood in our forests could be put to beneficial use. The pellet industry, along with other biomass industries, could utilize this feedstock in a sustainable manner, while also helping with forest fire mitigation and suppression.

Pellet fuel is a renewable, clean-burning and cost stable home heating alternative currently used throughout North America. It is a biomass product made of renewable substances, such as Mountain Pine Beetle infested trees. There are approximately 1,000,000 homes in the U.S. using wood pellets for heat, in freestanding stoves, fireplace inserts and even furnaces. Pellet fuel for heating can also be found in such large-scale environments as schools and prisons. North

American pellets are produced in manufacturing facilities in Canada and the United States, and are available for purchase at fireplace dealers, nurseries, Home Depot and other building supply stores, feed and garden supply stores and some discount merchandisers. In short, pellet fuel is a way to divert millions of tons of waste and turn it into energy.

As a wood pellet manufacturer, we take ground wood, waste wood, paper, bark and other combustibles and turn them into bullet-sized pellets that are uniform in size, shape, moisture, density and energy content. Their uniform shape and size allows for a smaller and simpler conveying system that reduces costs. Because of pellets' high density and uniform shape, they can be stored in standard silos, transported in rail cars and delivered in truck containers. Of course, in transport as well as end use, pellets pose none of the risk of explosion that fossil fuels do.

#### About Confluence Energy:

- 100,000 tons of fuel production per year – largest wood pellet facility in Western U.S.
- 35,000 homes and businesses that can be heated with our fuel
- 12 million gallons of heating oil displaced by our clean, renewable pellet fuel
- 264 million annual pounds of CO<sub>2</sub> displaced by our carbon-neutral fuel if heating oil is replaced, thus helping to address global warming and climate change
- 160,000 tons per year of annual wood purchases -- approximately 100% beetle kill material, providing valuable market for USFS and private land owners in Colorado
- \$10 million annual payroll, wood and materials purchases, circulating in local economy
- Approximately 30 full-time employees and indirect job creation in wood supply, pellet distribution, retail sales
- 25 trucks per day - all through local contract hauling - making wood and packaging supply deliveries, and shipping pellets throughout the region

We are a developer, owner and operator of renewable energy production facilities. Our goal is to generate cleaner, more reliable, cost-effective and sustainable energy by combining a cellulosic ethanol generation facility with a wood pellet production facility. From a single feedstock of timber by-product or woodland waste, we will both power our combined facilities and generate two distinct energy products, ethanol and wood pellets.

Currently, there are a number of opportunities that our business model may be able to benefit from:

- Utilizing dead and dying trees for use of renewable energy product

- Create utilization park that would use 100% of the forest material and create some of the following products:
  - Wood pellets
  - Second generation bio-fuels (ethanol)
  - Electricity generation
  - High value lumber products
  - Landscape products
  - Animal bedding
  - Provide local communities with renewable energy
  - Create energy independence for our local communities
- Most experts have estimated that fossil fuel cost will increase in price over the next five years and most industry experts agree that the cost will continue to move higher over longer periods of time. We believe this will drive consumers and business owners to look for viable alternatives to fossil fuels.

The utilization of the material from U.S. forests and parks will put value to the material which is currently considered a substantial liability to the U.S. taxpayers. Confluence Energy has viewed documents created by United States Forest Service (USFS) personnel that suggest that the cost to treat some of the existing area in USFS Region 2 would exceed \$220 million over the next three years. Confluence Energy suggests that by lowering some of the existing hurdles in accessing the dead and dying trees, private industry can put value to the material and dramatically reduce the cost to the tax payers. Confluence Energy would estimate the saving to be in the range of \$75 million over the course of five years.

There is no current access to large volume long-term USFS or Bureau of Land Management Lands (BLM) lands. There is no current legislation that allows the USFS to allow for 20 year stewardship or other agreements to access national forests. Confluence Energy will suggest allowing private industry the access to large volumes of the dead and dying trees over extended periods of time (long term stewardship agreements). The long term access to feed stock supplies will allow private industry accessibility to equity and debt markets that require long term views. Accelerated access to beetle infested material could also be done through abbreviating the current National Environmental Policy Act (NEPA) process for these infested areas.

There are a few pieces of pending legislation that would restrict access to dead and dying material. As problem grows the liability to the tax payers increases. There is pending legislation (e.g. HR 1190) that would allow access to the dead and dying materials that could be used to create jobs and produce renewable energy, building materials, and economic development in rural areas.

The dead and dying trees have a limited shelf life. It is estimated that once the trees die and turn red they have eight to 15 years before they blow over. Once the trees blow over, they will create a jack straw effect which will make it nearly impossible to be harvested affordably. When trees blow over, they rot dramatically faster and remove any value in the wood. Every minute we talk and do not act, not only are we losing value, but we are reducing the time private industry has to get a return on their money to justify investing in these types of projects.

Confluence Energy's wood utilization facility can use the material long after there is *no* value for the high value user (e.g. house logs and architectural beams). Most forestry experts will agree once the beetles kill epidemic moves through a lodge pole pine forest, that the forest will regenerate into what is referred to as a dog hair stand (3,000 to 4,000 trees per acre). A healthy lodge pole forest has approximately 300 to 400 trees per acre. A pre-commercial thinning will be required to accomplish any future commercial value in future generations. Removing 60 to 80% of the small diameter trees in 20 to 25 years will allow the trees to grow in healthy stands for future generations. To summarize, the small wood utilization facility is a good forest management tool, now and for generations to come.

The sizes of the facilities are critical to the success of the forests now and in the future. We suggest that several of these facilities could and should be built in the beetle infested areas. Care should be taken not to make the facilities too large. Over-sized facilities could potentially place incremental demand on the forest that is not sustainable, creating a boom and bust cycle for the local economies. In many of the areas that are predominately lodge pole forests, there is a limited 10 to 15 year window for the higher grade material. This is due to the fact that after the initial beetle kill material is utilized, blown down, or consumed by fire, the pre-commercial thinning projects in the future would not yield large enough trees to yield a high value.

There is currently some USDA programming that is *almost* available to fund this sort of project. Confluence Energy would require \$10 million in grant funding and an additional \$20 million in USDA backed loans. The loans and grants would allow Confluence Energy to:

- Build an 8 to 10 million gallon ethanol plant (Confluence Energy has partnership with large U.S. fossil fuel company that is interested in the joint venture project)
- Build a five megawatt power generation system to provide clean renewable energy to meet all the facilities needs. Excess power would meet entire energy needs of the town of Kremmling. Any excess power can be sold back to grid. Excess heat from electrical generation will be used in both the pellet plant and ethanol plant.
- Retrofit and remodel the 50,000 sq. ft. existing facility to manufacture high value wood products
- Renovate existing rail loading facility to transport all finished products to market
- Expand current pellet facility to maximize potential output

The current USDA programs require the participation of a conventional lender. The current credit market makes it very difficult to fund these types of projects. The current USDA programs only cover 75% of such a project. The lenders risk on the remaining 25% is enough to scare away most lenders. The limitations on the grants that we qualify for are \$500,000.

The implementation of a wood utilization facility would allow companies like Confluence Energy to place the highest possible value to the existing dead and dying trees. Each and every tree would be sorted in effort to have the tree go to its highest value use. The facility will be designed to utilize 100% of the unwanted biomass material. Confluence Energy can create a system that will not require incremental federal money once the facility is up and running. Confluence Energy would pay a high enough value for the material that the USFS and other agencies would not be required to subsidize the removal of the trees.

It is estimated that the suggested facility would utilize approximately 400,000 tons of material. The estimated feed stock cost is \$14 million a year. Confluence Energy estimates that USFS and other federal agencies would realize greater than \$10 million in annual savings.

The utilization facility would create over 100 good-paying full time jobs in rural areas. The jobs would include chemical engineers, mill rights, carpenters, managers and operators. Confluence Energy currently employs over 30 people and pays wages that are 25% higher than the average wage in the area.

The biomass industry is virtually not recognized by federal government as part of the solution to help this county realize our energy independence. We would like to see biomass treated on an equal playing field with the other renewable energy industries. The industry would expect to see production tax credits similar to what others receive. In fact, the Pellet Fuels Institute, a trade association representing biomass pellet manufacturers and equipment suppliers, is currently working to make this tax credit a reality. Creating thermal energy using biomass is given *no* federal support of any kind, which is inexplicable, given that thermal energy accounts for 32% of this country's energy needs.

We believe that conditions are ripe for expanding our business and co-locating wood pellet, cellulosic ethanol, power generation and high value building products utilization facilities. Our combined facilities could take advantage of all of the opportunities noted above. The implementation of combined facilities would allow us to expand what we can use as raw feedstock and to then allocate our raw feedstock costs across several business streams. The wood pellet plant alone--or a combined facility--is an effective forest management tool. The plants can utilize low or no value material from forests and turn it into high value renewable energy sources. The ethanol processing residue would also be used to provide the process heat requirement for both plants. This results in a processing facility with lower emissions and two fuel streams (ethanol and wood pellets) that are cleaner and more environmentally friendly than their fossil fuel counterparts. High grade logs would be separated on site and utilized to make several building products including flooring, paneling, house logs, architectural beams, round

wood products and etc. It is estimated that only 10% to 15% of the standing dead trees would qualify for the high value use.

Our experience suggests that we have solid demand for our existing wood pellet manufacturing capability in both residential and commercial applications. Residential applications have existed for more than 20 years and sales of residential stoves are forecast to increase in popularity. To date, we have had success in securing distribution contracts with hundreds of retail stores. We have packaging capabilities and are readily able to serve the residential market. Moreover, as pellets can be produced, delivered and fired for 50% less than propane, fuel oil or electric heat, this fuel savings is creating fast-growing interest in using wood pellets in commercial applications. With expanded capacity, we intend to focus on the commercial market.

The pellet industry is part of the solution to the Mountain Pine Beetle infestation. These infested trees are a detriment to the health of the forest and can lead to massive wildfire hazards. The pellet industry can use this un-merchantable wood and put it to a beneficial use. This form of renewable energy is a win-win proposition to address this problem. Thanks again for allowing me to testify regarding this Mountain Pine Beetle epidemic and what we can do to help alleviate the problem.