MINUTES

NATIONAL FOREST SYSTEM/WOODY BIOMASS INTERIM COMMITTEE

CAPITOL ANNEX (OLD ADA COUNTY COURTHOUSE)
WEST CONFERENCE ROOM 117
514 WEST JEFFERSON STREET
BOISE, IDAHO

August 7, 2007

The meeting was called to order at 9:00 a.m. by Co-chair Representative Joyce Broadsword. Other committee members present were: Co-chair Representative Ken Roberts; Senate Pro Tem Robert Geddes; Senator Clint Stennett; House Speaker Lawerence Denney; and Representative Wendy Jaquet. Senator Edgar Malepeai and Representative George Sayler were absent and excused. Staff members present were Paige Alan Parker and Charmi Arregui.

Others present included: Representative Donna Pence; Clete Edmunson, Governor Butch Otter's Office; Mike Tennery, U.S. Forest Service/IAL Fuels for Schools & Beyond; Arleen Pence, Idaho Forest Owners Association; Jay O'Laughlin, Ph.D., University of Idaho, College of Natural Resources; Suzanne Rainville, Payette National Forest, Forest Supervisor; Bob Giles, Payette National Forest, Natural Resource Staff; Steve Gurnsey, Western Pacific Timber; Jane Wittmeyer, Idaho Forest Association (IFA); Morris Huffman, West Central Highlands RC&D; Sharon Burke, Idaho Association of Counties (IAC); Ken Miller, Snake River Alliance; Pat Barclay and Beth Markley, Idaho Council on Industry and the Environment (ICIE); Carol Cardin, SiemensCorporation; Roger Seiber and Jerry Deckard, Western Legislative Forestry Task Force (WLFTF); Betty Munis, Idaho Forest Products Commission; Dale Dixon, Idaho Rural Partnership; Jonathan Oppenheimer, Idaho Conservation League; Dustin Miller, Senator Larry Craig's Office; Vince Moreno, Representative Bill Sali's Office; Andy Brunelle and Dave Atkins, U.S. Forest Service; Jon Foster, Bureau of Land Management; Richard Furman, Idaho Department of Lands; and Pete Johnston, Adams County, Coordinator, Idaho Fuels for Schools & Beyond.

Senator Broadsword called the meeting to order at 9:30 a.m., thanking the attendees for their participation and interest in the biomass issue. The committee members introduced themselves, as did all attendees of the meeting. **Senator Broadsword** reiterated that the woody biomass issue came about through House Concurrent Resolution No. 27 which charged the committee to study specific issues related to woody biomass and incentives and to make woody biomass available to be processed into value added product. **Senator Broadsword** encouraged everyone to give the committee input through their participation.

Representative Roberts stated that the August 8, 2007 meeting would be discussing federal

forest management with regard to House Concurrent Resolution No. 26, ending with a round-table discussion with all participants.

Mr. Pete Johnston was the first speaker; he thanked Adams County and the Idaho Department of Commerce and the U.S. Forest Service for funding a year-long feasibility study to look at biomass utilization in Idaho, particularly southwest Idaho. **Mr. Johnston** is a forester by trade (for 40 years) and is currently a consultant. **Mr. Johnston** handed out "SAGE Community Resources, Class Specification" which was a job description for a Woody Biomass Coordinator position, and another handout entitled "Energy from a Gallon of Diesel Versus A Pound of Wood Chips." Both handouts are available in the Legislative Services Office. **Mr. Johnston's** PowerPoint presentation entitled "Building a Woody Biomass Utilization Industry in Southwest Idaho and Beyond" is also available in the Legislative Services Office. **Mr. Johnston** stated that a gallon of diesel fuel costing $3.00 per gallon produces 138,000 BTU's per gallon of energy when burned at a cost of approximately $35 per ton; to produce an equal amount of BTU's as a gallon of diesel would require approximately 30 pounds of wood chips, costing 52 cents. Cost comparison using 1,000 gallons of diesel for fuel versus wood equivalent: diesel = $3,000; wet wood = $525; dry wood = $283. Schools, and public buildings especially, could benefit by using wood chips for energy. There has been a tremendous savings of 75% to 80% on fuel at a school in Council, Idaho for heating and air conditioning. **Mr. Johnston's** conclusion was that the most valuable product in the woods is wood chips, not saw logs, and he emphasized that we are wasting millions of tons each year in the United States. He believes there is an increasing need to manage forests through thinning, to better protect private lands and to more fully utilize a very valuable natural resource. He pointed out that insect infestation in forests has risen dramatically in the last ten years, as well as fire activity during years of drought. In his opinion, if our overstocked forests are not managed, he believes that wildfires will increase.

Mr. Johnston said that Adams County's forward-thinking school superintendent, who was going to replace a fifty-year old, outdated oil fire boiler in a school contacted the Fuels for Schools Program. The result was that the first woody biomass burner in the state of Idaho was installed. Then the Adams County Commissioners got interested in woody biomass as they faced the potential loss of Craig-Wyden funds, and they asked the Idaho Legislature to look at allowing public entities, such as counties, to generate and sell power. As a result, Siemens Corporation did a feasibility study on the possibility of Adams County building a co-gen plant with the ability to sell power. **Mr. Johnston** pointed out that the Council school biomass burner is very clean burning. The cost of heating oil for one year would be about $45,000 for heat only; the real cost of a one-year supply of wood chips at $10/ton for 300 tons, which includes heating and air conditioning, is $3,000 to $9,000 per year. Siemens guaranteed the investment cost and a guaranteed BTU savings over a 15-year period, which made it easier to sell the idea to voters. The Adams County Biomass Working Group was formed in 2006; its mission is to identify viable alternatives to build the woody biomass utilization industry in southwest Idaho.

Mr. Johnston opined that removing woody biomass from natural forests creates positive environmental benefits. Utilizing woody biomass can help resource-dependent rural communities

recover from the loss of sawmills and establish jobs tied to their agricultural base. Communities can benefit when the key economic factors are a dependence on agriculture and natural resources. In the past, natural resource-based industries have been reluctant to utilize wood waste. The existing industries would not share information with each other. Communities wanted to keep the old-style wood products industries. Efficient woody biomass transportation systems did not exist. There was no one person or organization to facilitate the development of the woody biomass utilization industry, such as wood pallets, fire wood, hog fuel, pulp wood, timber for bridges, livestock bedding, tongue and groove flooring, landscape mulch, bark, posts and poles, furniture, vineyard supports and literally hundreds of other products. This is feasible now because the USFS is beginning to require the removal of biomass. Organizations have been formed to gather and share information. Efficient transportation systems are being developed, and there is a shortage of material used in value-added wood products (pellets, pulp and shavings). Brand new equipment has just been developed, including a roll-off transportation system, and a forwarder system.

Mr. Johnston believes that the woody biomass utilization industry needs to be developed now because:

- States are developing new air quality regulations;
- Rural communities have higher unemployment rates;
- There are few good paying jobs to keep youth in rural communities;
- Idaho is experiencing rapid growth in wildland/urban interface areas;
- We are wasting a valuable renewable resource.

Mr. Johnston stated that a four-county partnership led by a Biomass Coordinator is being organized. It is a $100,000 year program, 75% funded by grants and each county contributes $6,000 per year for the other 25% of the program. These four counties, Adams, Boise, Gem and Valley are agriculture and resource dependent. Other partnerships are forming in Salmon, northern Idaho and western Montana. Work is also occurring in Utah, Nevada and Oregon.

Mr. Johnston believes that what we need to do is:

- Develop a system that gathers information from the industry, research, land management agencies, private timber land owners and potential entrepreneurs;
- Develop an approach in the management of forests that looks at more than saw logs and takes into account all value-added products in a stand so that lowest value product can be removed and not burned (consideration and segregation);
- Hire facilitators with forestry or strong business backgrounds to provide information to potential entrepreneurs and existing industries about the potential to make a "buck" from processing woody biomass. The facilitator would:
    - Assist entrepreneurs with planning;
    - Direct people to financial institutions and granting institutions;
    - Create a website to provide information on developments.

Mr. Johnston announced that the Statewide Biomass Task Force has been identified and the first meeting set. **Mr. Johnston** shared the hope that this committee would accomplish the following:

- Encourage the federal and state land management agencies to enter into cooperative projects and have a consistent approach to pricing and management practices, particularly as it relates to fire mitigation of mixed agency lands adjacent to private lands (WUI's) i.e. the west side of Cascade Reservoir;
- Tax incentives, low interest or no interest loans for biomass operators who enter this field for the purchase of equipment;
- Cooperative efforts between landowners to accomplish goals (a holistic approach rather than an agency approach);
- Identification of funds that could subsidize the removal of biomass other than saw logs (the costs avoided by not burning and fuel treatment costs);
- Legislation that would require power companies in Idaho to utilize renewable resources to produce power incrementally increasing the amount up to the year 2025 (use Arizona and Oregon bills as patterns).

Senator Geddes asked if **Mr. Johnston** could draw a contrast between what is being done on state and federal lands versus what some private companies are doing with their own lands and their own utilization of woody biomass. "Are they getting all the benefit from this material that they can and are they demonstrating they can make a profit in utilizing this material?" **Mr. Johnston** answered that all the landowners are looking at fuel approach and slash piles, trying to utilize woody biomass. He believes that all the land management agencies and the private land owners need to look at segregating material into various products, rather than pushing everything into one pile. Saw timber should go into one pile, pulpwood into another, one pile for poles, firewood into another, ending up with a pile of slash. He believes that we need to take a completely different approach to how we look at timber management to incorporate utilization of woody biomass.

Representative Roberts asked about the Bear Tornado area; he asked whether the remainder of those logs were used for saw logs and whether they were sent to mills or were they chipped? **Mr. Johnston** responded that saw logs were hauled to mills, but that the tops, pulpwood and firewood were segregated. Minimum rates were set. **Representative Roberts** mentioned the infrastructure necessary to transport the materials to markets and he asked how we develop the markets and estimations of how many megawatts of power could be generated in Idaho. **Mr. Johnston** answered that the Siemens feasibility study looked at a ten megawatt plant in the Council area, which was viewed by Siemens as the smallest size plant to make money, and it would take 130,000 tons of material to keep that plant going 24/7, 365 days per year. In the national forests, that much material does exist; what doesn't exist is the infrastructure to move that material. **Mr. Johnston** stated that he thinks this committee should create an environment through laws and incentives to create a supply and demand situation such as the 2025 proposal which would create the demand and stimulate people to get into the power generating business using that kind of

material. Low interest loans and tax incentives at a state level, as well as a national level, would encourage entrepreneurs to get into this business to move the material that is available. **Mr. Johnston** added that agriculture is subsidized in many ways; if it were recognized that wood chips can be used to generate power and other value added-products, he asked why we couldn't come up with subsidies to get it started. He asked about some kind of tax incentive for schools or public entities who burn wood chips, some kind of a direct benefit to them for decreasing their heating and cooling costs. Everyone, he said, seems to be so focused on ethanol, emphasizing that it takes nine gallons of fuel oil to produce ten gallons of ethanol.

Representative Jaquet asked what the role of the Department of Commerce had been thus far? **Mr. Johnston** said that the Department of Commerce has a very active role in the woody biomass issue and expressed his appreciation. **Representative Jaquet** asked **Mr. Johnston** to address goals with regard to sustainability. **Mr. Johnston** answered that they looked at sustainability as a three-stage process: (1) getting the supply to wherever it is to go, and right now the infrastructure is not there to do that; (2) trying to come up with enough supply; and (3) eventually getting biomass to produce biodiesel or ethanol although the research is still in progress on how to do that. In the near term, emphasis should be on infrastructure.

Senator Stennett asked what size burner was installed in Council. **Mr. Johnston** answered that it is a burner which uses 250 tons of wood chips per year to heat two schools in Council. **Senator Stennett** asked how the price of the fuel was determined? **Mr. Johnston** responded that the $35 per ton figure came from talking to many people dealing with wood chips and that it was a "scientific, wild guess" but that it seemed to be a reasonable, ball park estimate. Woody biomass from the Bear Tornado was purchased at $10/ton; this year they will be paying $15/ton; somewhere between $30-40/ton <u>delivered</u> is what they will have to pay in the long run. **Senator Stennett** asked if the cost of the burner in Council has been paid for by their savings in fuel costs, over the life of the bond. **Mr. Johnston** answered that with a total cost of $2.2 million; to pay off the capital investment will take seven years. The life of the system is projected to be 25 years, and could be longer.

Senator Broadsword mentioned waste wood, yard and construction waste, asking if there was a plan to put a chipper at the Council school facility where others could bring their waste and run it through a chipper to add to their supply on a volunteer basis. **Mr. Johnston** answered "no, there hasn't; however, there are chippers operating in the area, such as Idaho Power." He mentioned that the school currently has a storage problem for chips. He added that the County and the Forest Service has put together a proposal for a grant to identify a local transportation company to get a grant for 60% of the cost of building a system in their area, so progress is being made. **Senator Broadsword** asked if Idaho Power had to pay to take chips from the treetops to the landfill? **Mr. Johnston** answered: "I'm sure they do."

The next speaker was **Mr. Mike Tennery**, Coordinator, Idaho Fuels for Schools & Beyond, whose PowerPoint presentation of the same name is available in the Legislative Services Office. This program started in 2003 through the USDA Forest Service and it is called Idaho Fuels for

Schools & Beyond because schools are a practical place to use woody biomass or wood chip fuel, adding that prisons and hospitals provide the ideal situation for using woody biomass for fuel because they operate 24/7, 365 days per year. It was originally believed that the public might balk at "fuel for felons." Having a very limited budget, the decision was made to get the best public education bang for the buck beginning with a school. This program is currently a six-state program. The Idaho Department of Lands is involved in this program with the Forest Service, and Panhandle Lakes RC&B handles the negotiating paperwork on the contract.

Mr. Tennery said the forests are full of slash, which is usually put into piles and burned. This slash can be piled and hauled; the program is basically a very simple one consisting of slash turned into wood chips which go into a fuel bin, moved by an auger into a metering box, into a boiler fire box, electronically driven by a computer and thermostat. Air quality management can be monitored and maintained efficiently with this system. **Mr. Tennery** said that he was horrified about the woods around Stanley, Idaho, adding that we could be doing so much for that area and the forests infested with beetle kill by using all that material for a purpose to the public's benefit. **Mr. Tennery** gave a comparison energy cost for one million British thermal unit as follows: $14 for natural gas; $14 for electric fuel; $17 for propane gas; $19 for fuel oil; and $1.96 for wood chips that we have been burning up in the woods, adding that these prices were from 2005.

Fuels for Schools is currently looking at 22 Idaho cities and 47 different public buildings; a spreadsheet in the back of **Mr. Tennery's** handout gives the result comments on each prospective location. Every Idaho School Superintendent received a letter in 2003 including a preliminary survey. Actual engineering surveys were done by CTA Architects and Engineers, in selected prospects. A boiler building was built in Council, Idaho, at a total cost of $1.4 million; it was previously heated electrically, with no air conditioning whatsoever. A super majority vote was held for a bond election; it required 66 2/3% to pass. The first election was lost by six votes. After educating the public, the next vote passed by 84% approval. This system in Council is extremely efficient and economical; instead of running at 160 degrees Fahrenheit, it runs at 85 degrees Fahrenheit through a heat pump system. Fuel bills typically are reduced anywhere from 30% to 80%, switching from use of fossil fuels to wood chips.

Kellogg Middle School and administrative buildings are now using wood chips for fuel. The grand opening was in August, 2007. They have 80,000 square feet; project cost was $1.2 million to replace natural gas; annual wood chip usage is estimated at 600 tons; annual fuel cost savings is estimated at $60,000 annually; Kellogg received a Forest Service FFS Grant in the amount of $381,000. These are both performance-based contracts managed by Siemens Corporation, one of four registered energy service companies in Idaho. They do an energy survey for minimal cost at a building, and they guarantee energy savings in a certain amount. If Siemens should be wrong in its guarantee, Siemens writes a check in the amount of the difference between the projected energy savings and the actual results. It is an insurance policy which works wonderfully, especially in small school districts having bond elections.

In Saint Maries, Idaho, Heyburn Elementary is under development, using woody biomass heat; it

received a $250,000 Forest Service Construction Grant. The University of Idaho, Moscow, Idaho, has been heating with wood chips for twenty years, and burns 70 tons to 100 tons of wood chips per day. The University of Idaho is a perfect example of how efficiently wood chips can work in other areas of Idaho. The heating system heats 70% of the campus at Moscow, Idaho, and provides all of the hot water, as well as all air conditioning. The University of Idaho saves $4 million annually in fuel costs, using wood chips compared to natural gas fire boilers.

Mr. Tennery shared the program's vision as follows:

- To lessen fossil fuel;
- To quit wasting wood energy in our forests;
- To improve forests' health, cleaning up forests economically by turning slash into profitable, marketable products, thus reducing costs overall;
- Reducing wildfire hazard by thinning forests;
- Addressing air quality concerns.

The federal government last January, 2007, reduced the particulate matter PM2.5 emissions element level to half, and this will have an impact on whether open burning can be done on slash piles in the future. Idaho DEQ set standards for Council, Idaho, and compromises were made, emphasizing that there is a cooperative agreement; everyone is now working together very well to forward the philosophy that woody biomass can be successful in Idaho. Burning forest slash in open piles significantly contributes to regional haze and particulates. Compared to open burning, wood fuel boilers produce less than 3% of the particulate matter, less than 40% of the nitrous oxides, about 3% of the methane, and only 5% of the carbon monoxide. Water vapor is the only visible exhaust.

Mr. Tennery announced that the Idaho Department of Lands has just gotten a grant for $52,000 to move forward on woody biomass issues through the state forester and the Fuels for Schools Program. The program will now analyze Idaho through a boiler database to find prisons, hospitals, colleges and complexes to be encouraged into conversion to wood fuels; they will work with southwest Idaho, Silver Valley and Pocatello woody biomass groups. See the Fuels for Schools website at www.fuelsforschools.org for more information.

Senator Stennett referred to the Council, Idaho, project and the fact that **Mr. Tennery** had stated in his presentation that 300 tons of wood chips were used at an annual fuel cost savings of $59,000, while Kellogg will use 600 tons of wood chips annually and save $60,000. He asked how twice as much wood chips can be burned and have the same amount of savings? **Mr. Tennery** answered that those figures were projections received from the contractors. **Mr. Dave Atkins**, Forest Service, Missoula, Montana, responded by explaining that Council, Idaho was offsetting fuel oil and electricity and Kellogg, Idaho, was offsetting natural gas which is substantially cheaper than fuel oil and electricity. **Senator Stennett** reiterated that in his back yard in Ketchum, Idaho, there was "a wreck waiting to happen" and said that the closest school district on Mr. Tennery's spreadsheet is in Challis, Idaho, and it is listed as having "no economic wood supply." **Mr. Tennery** answered that at the time the survey was done, it was determined

that wood chips could not be hauled that distance economically. **Senator Stennett** asked what could be done with the slash problem and wood kill in Stanley, Idaho. **Mr. Tennery** responded that more economical transport for the material was needed; he said that there are many ideas developing, one of which is the bin system and another is a portable wood pellet system which actually generates wood pellets on the spot and then hauled to a landing. School districts do not have the funding to support this kind of thing, according to **Mr. Tennery.**

Representative Jaquet asked about air quality problems and **Mr. Tennery** explained that the Kellogg, Idaho, high school sits in a draw and, in order to meet the air quality standards, the smoke stack would have to be over the height of the surrounding hills, which was not feasible. Pinehurst, Idaho is in a nonattainment area, a term used by the EPA to indicate extremely difficult air quality problems. It would take very sophisticated emission control devices as part of a system to be able to put it into a location like Pinehurst, Idaho or Salmon, Idaho, even though Salmon is not in a nonattainment area, which is a formal term used by the EPA where air quality issues are extremely difficult to deal with. **Representative Jaquet** asked if the school district eliminated a position by changing fuel systems and **Mr. Tennery** answered that no position was eliminated.

Representative Roberts asked about the Council, Idaho and Kellogg, Idaho facilities and the fact that those buildings had to be retrofitted; he asked how much of the $1.4 million was used to retrofit the buildings versus the size of the unit. **Mr. Tennery** answered that the Kellogg, Idaho system ran about $1.2 million and there was actually a contract for $2.2 million for complete retrofit of the entire works, but that included energy efficient lights, complete ventilation systems, and bringing the school up to modern codes. **Mr. Tennery** said that the projected life on the Messersmith Wood Fired System was thirty years, for long-term savings. **Representative Roberts** asked about the Stanley Basin, concurring that the area is a "disaster waiting to happen;" he asked about whether converting biomass into electricity would be an avenue to get that energy out of the Stanley Basin, or any other areas of the state, without having to deal with the high price of transportation and putting more vehicles on the roads. **Mr. Tennery** said he was not knowledgeable about financing of cogeneration plants. He said that they stayed away from that because three years ago; it was decided to stay with smaller units to assure wood supply and to promote the idea that this technology will work. **Mr. Tennery** believes that the way the Forest Service is viewing public lands, that it now could be feasible to consider electrical generation.

Dr. Jay O'Laughlin, **University of Idaho**, College of Natural Resources was the next speaker. He has been working for several years with various biomass groups in Idaho. He stated that the Fuels for Schools program has been a good catalyst for four county group (Adams, Boise, Gem and Valley), the Lemhi County economic development group, the Shoshone County biomass group and the Clearwater-Palouse group. He recalled a situation ten years ago in Salmon, Idaho where the wood-fired school boiler had to be converted to fossil fuels because of a shortage of wood chips after the saw mill had shut down. Most of the materials that provide the wood chips is on national forest lands. The hard part is getting the materials off those lands due to policy barriers. The policy barriers include: small harvesting economics, sufficient supply of material to

encourage private investment, and the forest service's planning and decision-making processes. These policy barriers can be overcome in two ways: One is by collaboration and communication of different interests. Secondly is risk management.

The society of American Foresters, of which **Dr. O'Laughlin** is a member, supports policies that promote utilization of forest biomass because of the urgent wildfire situation. The society supports the expanded opportunities to increase utilization to help reduce hazardous fuels, particularly on public lands. The University of Idaho uses 45,000 tons of wood waste per year; the University of Idaho steam plant uses considerably more chips than the projects in Council and Kellogg.

Dr. O'Laughlin named the three kinds of woody biomass: wood products residue, urban wood waste, and forest biomass. Twenty-four percent of the forest is owned by the federal government. The amount of available woody biomass material continues to increase. Approximately 737 million cubic feet of timber was added to the forest this year, enough to fill a football field three miles high. This number is projected to increase in future years. The result is an increased fire danger and an increase in the number of acres burned. Meanwhile there has been a decline in the harvest from federal lands. According to **Dr. O'Laughlin**, active management of the forests through thinning is required. Last year, 150,000 acres were treated in Idaho, which is not nearly the amount of the acres available.

The management of the forest for biomass harvest faces challenges, including the harvest and transportation costs and ensuring a stable supply. The harvest cost challenge may be met by integrating small timber into the harvest contract. The cost savings achieved by reducing the fire suppression cost needs to be factored in. Treating forests to reduce fuels creates more revenues than the cost, particular if saved suppression costs are considered. The Idaho Energy Plan did not provide guidance in this area.

Ensuring a stable supply needs to be addressed. **Dr. O'Laughlin** stated that the Forest Service recognizes this problem and is entering into memorandums of understanding for the harvesting of woody biomass when consistent with the law. The barriers that need to be overcome include:

- The supply is too small and scattered to be economical;
- The economic value of the material is less than the cost;
- Woody biomass is not part of NEPA;
- There is a lack of consensus as to short versus long-term benefits; and
- The existing USFS culture.

David Atkins of the United States Forest Service was the next speaker to address the Interim Committee. According to Mr. Atkins, woody biomass has the potential for low cost but its true value has not been fully tested in the market. The future of woody biomass can be facilitated by:

- The treatment of forests;

- Developing public and private partnerships;
- Using woody biomass for heating where a million BTUs can be produced for a ton of woody biomass at $35/ton, rather than electrical generation where it has difficulty competing with other sources; and
- Integrate woody biomass use into new construction which reduces the cost.

Senator Broadsword asked what cost saving has achieved at Glacier High School by utilizing woody biomass rather than installing a natural gas system. **Mr. Atkins** stated that natural gas would have cost five times more. **Senator Broadsword** noted that woody biomass utilization may result in a loss of nutrients when removed from the forest.

Pro tem Geddes inquired as to the environmental costs associated with woody biomass use. **Mr. Atkins** replied that there were trace amounts of heavy metals found during testing at Council, but that these trace amounts reflect the background amounts in the source wood. **Pro tem Geddes** wondered if there are any current regulations that impact the disposal of the ash residue. **Mr. Atkins** answered "no" and that the ash is used as a fertilizer.
Pro tem Geddes asked whether a backup fuel source should be incorporated into a woody biomass boiler in case that the chip supply cannot be maintained. **Mr. Atkins** stated that the old heating system might be left in place in retrofits and that fuel conversion is part of the new systems.

Senator Stennett commented that a bigger return might be realized by using woody biomass to heat prisons due to the economy of scale and the year around utilization.

Representative Roberts asked if there was a certainty of supply form the national forest system prospective. **Mr. Atkins** stated that the focus should be on the smaller scale projects of 12,000 tons as a rule of thumb. This could be supplied with the current forest system treatment projects. There are up to five forest treatment projects in the Boise National Forest this year with a similar number in the Payette National Forest. Thirty-five dollars a ton delivered is the current price for wood chips. The long-term availability is a policy issue that is part of the ongoing debate over the use of the public federal lands.

Jon Foster, Bureau of Land Management (BLM), was the next speaker. His PowerPoint presentation entitled "BLM's Biomass Program" is available in the Legislative Services Office. He began by stating that the BLM is not the same scale player as the Forest Service in woody biomass utilization, even though the BLM has had successes around the west. Idaho is the third largest producer for the BLM of wood products behind Oregon and Washington. He stressed that there is a full range of byproducts through utilization of woody biomass, in addition to energy and heat. **Mr. Foster** said that the BLM's biomass utilization strategy is to:

- Increase utilization of biomass from BLM lands;
- Utilize tools of the Healthy Forest Restoration Act and Healthy Forests Initiative such as

Stewardship Contracting;
- Align goals with the National Fire Plan, the National Energy Policy and the DOI Strategic Plan;
- Develop a strategy for buying bio-based products consistent with the Farm Security and Rural Investment Act of 2002;
- Develop tools, field office expertise, acres treated and biomass offered in the short term;
- Expand working with partners to resolve barriers to biomass utilization in the long term;
- Stimulate supply and demand for bio-based products; and
- Coordinate with the Forest Service, Bureau of Indian Affairs, other federal, state, and local agencies, and private timber companies.

BLM has forest health projects which could provide residual materials such as tops and branches from timber sales or thinning activities. **Mr. Foster** pointed out that in Colorado in 2004-2005 a power plant utilized 800 tons of chips from public lands that generated 730 megawatts of power. Contractors use or develop tools to meet the need, such as portable chippers and portable sawmills in small areas which minimize site disturbance and create economic opportunities. **Mr. Foster** pointed out two projects in Idaho: Emmett Biofuels started building a lumber mill, and in Grangeville, Bennett Forest Industries has a new mill under construction which will utilize a co-gen furnace and boiler.

Mr. Foster shared some issues facing biomass utilization as:
- Market - limited markets to take advantage of biomass supplies for products or energy development;
- Transportation - much of the biomass resource is located away from communities;
- Value - biomass generally does not have high commercial value, so it must be cost effective to use.

Mr. Foster mentioned BLM biomass opportunities as:
- In FY 2007, the Idaho BLM expects to provide over 5,000 tons of biomass.
- Biomass is still an under-utilized resource. The Salmon Field Office estimates a potential of between 3,700-8,000 tons over three years. However, there is currently no biomass market in the Salmon area.
- The Healthy Forest Restoration Act, Healthy Forest Initiative, Stewardship Contracting, and overall Forestry Program capabilities provide the tools for accessing woody biomass.

Mr. Foster listed BLM's challenges as:
- Working together to create public-private partnerships, technologies, products and markets.
- Identifying product utilization opportunities reflective of local availability of resources and differences across the state.
- Building certainty in the supply of biomass between taking advantage of various land management agencies and private landowners and businesses.
- Creating a business climate that results in jobs and revenue to promote investment.

Mr. Foster handed out two publications: "The Coordinated Resource Offering Protocol (CROP) in Central Oregon" and "Central Oregon Partnerships for Wildfire Risk Reduction (COPWRR)" both of which are available in the Legislative Services Office.

Senator Geddes asked **Mr. Foster** about environmental issues and if he, personally, would invest his money in biomass given the ebb and flow of policy set by the federal government and state agencies. **Mr. Foster** stated that there have been some incredible projects that exceeded expectations including a project near Wallace, Idaho, where a local contractor using small equipment did the clearing with good results.

Representative Roberts asked about what major hurdles stand in the way if there was a large increase in demand for biomass products. **Mr. Foster** said that the BLM is sometimes a litigation target. Regardless of political direction, there is going to be sustainability in terms of policies with regard to biomass utilization. He emphasized, however, that environmental concerns must be addressed.

Representative Jaquet asked about current projects in Idaho and **Mr. Foster** identified projects in Cottonwood, Idaho, and Coeur d'Alene, Idaho, as well as 6-8 other stewardship projects in Idaho. Marketing meetings are held in local communities, inviting entrepreneur companies to attend before a project is designed. The BLM tries to find out first if there is an interest, before time and effort is invested, to contribute to the economic stability and sustainability of local communities.

Mr. Richard Furman, Idaho Department of Lands (IDL), was the next speaker, and his PowerPoint presentation entitled "Idaho Department of Lands & Forest Residues" is available in the Legislative Services Office. He shared how IDL contributes to the biomass industry, stating that IDL manages about 2.5 million acres of endowment lands including 780,000 acres of forested timberland. Management activity on a substantial portion of forested land constitutes an important sector of the state's economy. State lands and corporate, private forest lands are intensively managed and supply hundreds of millions of board feet of timber. The endowment timberland is scattered around the state but highest production comes from northern Idaho. Endowment beneficiaries are public schools. Others benefit from the management activity. IDL is caretaker and steward for the endowment lands, which are utilized for timber sales, grazing leases, mineral leases, as well as regulatory programs such as wildfire control. With regard to the woody biomass issue, IDL thinks mostly in terms of income from timber.

Mr. Furman stated that in 2006 IDL harvested 188 million board feet, 754,000 linear feet of utility poles, 4 million board feet of cedar products, and 13 million board feet of pulp. He pointed out that pulp is mostly logs that are not able to be manufactured into boards, due to being rotten or degraded, that could end up in the biomass track. Total income for 2006 was just under $60 million; at the end of 2006, IDL held 169 timber sale contracts still on the books. **Mr. Furman** stated that there are milling operations in many parts of Idaho, although heavily concentrated in

northern Idaho. He explained the timber sale process. IDL is always concerned about how to deal with slash since it is a fire hazard and allows insect populations to build-up causing degradation of timber value. **Mr. Furman** said that the big money is in selling saw logs, adding that money can be made locally by getting slash out of the woods, if it can be used locally. **Mr. Furman** said that since the traditional method for removing excess material is to burn it on-site, there is increasing concern about air quality.

Mr. Furman stated that IDL is not in a position to create markets, but as the steward for endowment lands, is in a position to be a supplier of raw materials when a market develops. There is a regular dialogue between IDL and the industry on issues such as merchantability specifications, transportation issues and price structure. IDL has a trust obligation to obtain a fair market value for any materials removed from endowment land. Rough estimate of slash residues less than 3 inches in diameter, based on volumes of saw timber delivered to mills from IDL timber sales and private lands for 2006, is estimated at 820,000 tons. In terms of biomass industry, the only real equation is how do we get it from point A to point B because material is there on the ground. IDL's position is that when someone figures out a way to make money at that, they will be knocking at IDL's door.

Senator Broadsword asked what it might cost a contractor to sort materials at a job site and how that additional cost could be worked into the timber sale without harming the endowment fund while encouraging a contractor to get it out of the woods. **Mr. Furman** answered that the problem was how to sort and separate. It would be a wild guess at hours per machine time. The cost of transportation might be $5-10 per ton depending on distance to haul. He estimated it might take 5-15% more time for an operator to separate slash from a log at the site which would drive up cost of the logs or drive down the revenue. New machinery such as a forwarder and a cut-to-length machine would cost between $750,000 to $1 million, moving about 1,500 to 2,000 log pieces per day.

Representative Roberts asked about the figure of 820,000 tons of residue. **Mr. Furman** said that total was for both state and private;150,000 tons would be off state land. **Representative Roberts** asked if soil testing had been done on state lands where IDL has removed a majority of the biomass material to see, long-term, what happens to the soil when more organic matter is being removed. **Mr. Furman** responded that IDL has not done that specific research, but that back in the 1980's there was concern about soil compaction. IDL has not seen a lot of soil degradation, but **Mr. Furman** admitted there had not been micro-scientific testing done. **Dr. O'Laughlin** responded that foresters recognize that the long-term productivity of the site is dependent on soil quality more than anything else; the organic matter on the top (duff) is key to holding water and keeping erosion from occurring. Forest fires can burn duff and create a soil situation that may not be healthy for regrowth and vegetation on that site for a long time. **Dr. O'Laughlin** expressed concern for anything that degrades the site quality including timber harvesting and other forest operations. **Representative Roberts** stated that he asked the question because of the longevity of the policy. If Idaho is going to get into a policy change on biomass, this is an issue that needs further consideration. If 150,000 tons per year come off just state lands

and is converted to electricity, there is a potential of 60 megawatts of electricity power that could come off just the state lands..

There was a roundtable discussion in which **Senator Broadsword** invited all attendees to share what their ideas were regarding biomass and where they think this state should be headed, which would benefit this committee.

Ms. Jane Wittmeyer, Vice President of Idaho Affairs, Intermountain Forest Association (IFA), Coeur d'Alene, Idaho, said that the IFA represents the interests of regional forest landowners, private forest landowners, and others. IFA members are economic drivers in northern Idaho and are investing in Idaho with brand new state of the art equipment and facilities. The cost for getting material out of the woods is the most important factor. If the price is right for the market, then IFA members will do sell the material. She suggested that incentives would help. She asked the committee not to force them to take material out of the woods, but rather to keep it as an option.

Ms. Arleen Pence, Idaho Forest Owners Association, stated that the small family landowners are always looking for a place to sell a product, and they will be very interested in any biomass projects that have economic value, adding that incentive is necessary for profit. The two things she sees as important for biomass feasibility are supply and transportation.

Representative Donna Pence stated that her family has been involved in forest industry or land management, and she is very interested in this biomass subject.

Mr. Roger Seiber, Western Legislative Forestry Task Force, shared that at its recent annual meeting in Washington, D.C. time was spent on biomass issues. He provided the committee with several documents which are available in the Legislative Services Office. A presentation by **Dr. Bryce Stokes** on the status of woody biomass fuels programs entitled "The Billion Ton Report - Forestry Feedstocks," and a handout published by the USDA and U.S. Department of Energy entitled "Biomass as Feedstock for a Bioenergy and Bioproducts Industry: The Technical Feasibility of a Billion-Ton Annual Supply" were provided to the Interim Committee **Mr. Seiber** stated that the sustainable forest resource potential is nearly 370 million dry tons annually. He commented that the Western Legislative Forestry Task Force was formed in 1974 and it is a working group with members from five western states, sharing information, and working with the administration nationally.

Representative Roberts asked **Mr. Seiber** about what effect the potential change in administration policy every four years in our country has on the ability for entrepreneurs to step in to invest. **Mr. Seiber** answered that, from an industry viewpoint, change does affect progress. The material is there, but if an entrepreneur cannot have some long-term guarantee, then they won't get involved.

Representative Jaquet asked about burning or not burning slash because of regulations. **Dr.**

O'Laughlin answered that the PM2.5 issue has been discussed at length and that it is viewed not as an EPA issue, but as a state regulatory issue since implementation of the Clean Air Act is carried out by state agencies.

Mr. Jerry Deckard, Western Legislative Forestry Task Force, stated that the EPA's response, when asked about particulate matter and forest fire impact on air quality, is that forest fires don't count. He added that we all know that isn't true. **Mr. Deckard** said that he was also representing the Associated Logging Contractors and he wanted the committee to know that they were the ones who go into the forest, cut the logs, transfer them to the mill and will transfer woody biomass as well, should that become a significant effort. When they look at public lands being two-thirds federal in this state, they are very concerned about the sustainability of the activity. He emphasized that logging contractors are there to make the investment, but it must come with the assurance that it be longer than the next administration in the White House.

Mr. Andy Brunelle stated that he had been reflecting on the role of state government with regard to biomass utilization in these areas: (1) the issue of mandating certain renewable resource components; (2) Idaho's $40-50 million per year capital budget that goes into state buildings, with part of that spent on retrofitting some of those state facilities; and (3) money that the school districts are spending for biomass is money that goes from Idahoans to other Idahoans who either labor to gather material or who own the land. There is an economic dollar turnover that **Mr. Brunelle** thinks is important to keep in mind.

Mr. Steve Gurnsey, Western Pacific Timber, stated that, from his perspective as a landowner, biomass should be market-driven and not regulated. He has offered slash to whomever wants it and five people have looked at it, with no takers. The transportation costs currently prohibit removal of slash. Processing chips can be done within about a 50-mile transfer area at $35 per ton; small 4-7 inch top diameter size material can be transported about 75 miles to make ends meet with little profit. If you have pulp logs, which are the larger ones, they can be transported about 150 miles and make a profit. A local facility is necessary as a solution to this biomass issue. The solution must be a byproduct of the state timber sale and not something they have to take out, or the price of that wood will go down. With machinery, they can operate on only 20% of our land, and on federal land it is sometimes even steeper. The biggest obstacle is that it costs 25 cents for every 1,000 board feet removed, which is about $1 an acre; until regulated otherwise, they will continue to burn.

Senator Broadsword asked whether a tax rebate on fuels used would be an option to help with transportation costs. **Mr. Gurnsey** said that in time he thinks the market will drive biomass, but it may be down the road, speculating that economic forecasts show that gasoline may cost $5 per gallon in the next 5-7 years. The market will drive entrepreneurs to come up with a solution.

Mr. Morris Huffman, West Central Highlands Rural Conservation & Development (RC&D), said that the RC&D helps with local projects in six counties in southwest Idaho, and is very interested in having better community development and more jobs created. Many Forest Service

districts have acreage that needed to be thinned or it will burn. Now is a very good time economically, and state and federal support is needed to make economic development happen. Whatever can be done to help the Forest Service and BLM, whether it is making more available on IDL lands or economic incentives, needs to happen to assist the market and enhance economic development.

Ms. Suzanne Rainville, Payette National Forest, stated that she struggles most with the supply. As a Forest Supervisor, it is difficult to guarantee that supply; however, she is committed to do the best she can. How to pay for biomass to come out of the woods is the big question. Forest restoration is a priority, as is fuels reduction through the timber sale program and the vegetative program. These have been successful where a limited amount of people are litigating against them. The Forest Service is trying to provide not only saw logs but to also figure out how to pay for getting other biomass out of the woods through typical timber sale contracts and also stewardship contracts. The Forest Service really needs to work with industry and start sharing in the risk. The Forest Service wants to maintain open dialogue and build open relationships and partnerships.

Representative Roberts asked if the biggest hurdle to minimize risk is the litigation potential that the Forest Service faces when it has a sale or changes the procedure in thinking about biomass. **Ms. Rainville** answered that any time there is a project, the Forest Service tries to look at it in terms of success. The Forest Service must follow its process to document rationale, making sure everything possible is done properly so that if there is litigation, there is rationale to support the implementation of the project. In the Yellow Pine project, to thin in a wilderness area, the Forest Service got total support to move forward from the environmental community. The Forest Service will now see if people come forward to bid. **Representative Denney** asked what was the size of the Payette National Forest and **Ms. Rainville** answered that it was 2.4 million acres approximately. **Representative Denney** asked what the timber harvest was on that forest excluding the Bear Tornado last year? **Mr. Giles** answered that the timber harvest was virtually the Bear Tornado; their PSQ was about 30 million, of which they have only been able to do about 20 million. **Ms. Rainville** added that they have the capability of doing anywhere between 35 million and 40 million board feet of timber, which does not include biomass.

Senator Stennett asked about the figure that **Dr. O'Laughlin** had estimated for harvest in readily accessible areas that had been previously logged and easier to get to, and **Dr. O'Laughlin** responded that figure was 762,000 bone dry tons per year, sustainable over a 22 year period, which is a lot of biomass. **Dr. O'Laughlin** stated that a ten megawatt power plant burns between 86,000 and 130,000 tons per year, which boils down to 13,000 tons per megawatt. Some highly productive forest land in the Clearwater National Forest has 100 tons per acre of dead material.

Senator Broadsword asked if the difference in area from the GAO report to what was heard today could be the difference between the hardwoods in the east and the BTU's they produce versus the softwoods in the west. **Dr. O'Laughlin** offered to check on that in future information he will provide to the committee. **Senator Geddes** asked if the University of Idaho was the

largest utilizer of biomass, besides mills, and where that material comes from, and if there had ever been a year where they could not meet their demand. **Dr. O'Laughlin** stated that although the University of Idaho steam plant uses 45,000 tons per year; the Potlatch Paper Mill uses hundreds of thousands of tons per year, and Potlatch is having a hard time currently finding enough hog fuel to feed its process corridor, not to make paper, but just to run the processes to make paper. They cannot find enough wood, so they are running their hog fuel boiler on 20% natural gas right now. He pointed out that the fuel is there, but it is on federal land, so that is the challenge. **Dr. O'Laughlin** said he didn't think there had ever been a supply problem at the University of Idaho steam plant, and that 7-8 truckloads of chips per week are delivered, all of which comes from cedar mills in central Idaho.

Representative Roberts asked if **Dr. O'Laughlin** could research how many tons or millions of board feet is being produced within the state of Idaho through trees, what our potential is, how much will be used for saw logs, how much could be made available for biomass, and how much should be left on the ground, on state land, nondesignated federal lands, and private lands. **Dr. O'Laughlin** said he will include that information in his research which he will get to the committee at a later date, but he added that we are adding 727 million cubic feet annually to all forests in Idaho. When asked "how much of that has been removed," **Dr. O'Laughlin** said that 250 million cubic feet are being removed from the forests every year through the timber harvest on mostly state and private lands, and a little from federal lands. To break that harvest down into lumber and paper products, some goes to paper mills in Idaho and some to Missoula, Montana. What is left over, according to the WGA Biomass Task Force report, is 762,000 bone dry tons per year, sustainable on a 22 year basis. That is just from forest health thinnings to reduce stand density, which will improve the condition of forests.

Mr. Dave Atkins commented that the marketplace will cause things to flow. There are a number of nonmarket, nontransaction factors that don't get accounted for; some of that is suppression cost. Emergency rehabilitation costs after a major fire need to be factored in for erosion protection and reforestation, as well as costs of health effects from air quality. **Mr. Atkins** said that the market is a phenomenal slave and makes tremendous things happen, but it's also a terrible master. If you don't take everything into account, then you could end up with an end result that is not desirable. The task before this committee is to gather data and incorporate that into any changes in policy.

Mr. Tennery commented that he hears from the people who own the woods and control what goes on in those woods; if there are people out there who want biomass material, they need to come forward. On the other hand, for those people who need it or could use it, there is no guarantee about supply. We have a standoff. **Mr. Tennery** said that he knows of two areas that might stimulate the biomass effort in Idaho as a market: (1) Requiring that the state architect review all alternative energy sources when state building renovations are done; (2) For over two years, people in Orofino have talked about putting an efficient energy system together for the school, the prison and possibly the hospital. Engineers took a look at that possibility, and even though it may be economical to do that, there is a holdup of over two years because of a contract

for energy evaluations of our state prisons. **Mr. Tennery** said that contract is with Chevron Energy Solutions; however, that contract has never been funded and has never been implemented. He expressed appreciation for any help the state could give in that area.

Mr. Jon Foster said that the market for biomass is down the road somewhere, and anything that this committee can collectively do to shorten that distance creates opportunity. Feasibility is at the local level. Stability might be in providing the supply of material locally. The right people need to come together at the table.

Representative Roberts announced that the meeting on August 8, 2007, would begin at 9:00 a.m. and asked the attendees and committee members to be thinking about discussion items.

The meeting was adjourned at 4:28 p.m.