

Background on the Forest Products Industry

The American Forest & Paper Association (AF&PA) is the national association of the forests products industry, representing pulp, paper, packaging and wood products manufacturers, and forest landowners. The forest products industry employs about 1 million workers who make products essential for everyday life from renewable and recyclable resources that sustain the environment. The industry is among the top ten manufacturing employers in 48 states and provides family-wage jobs that are critical for the rural communities where our facilities often are located. Our industry also generates more jobs throughout the supply chain and in local businesses, which further sustains communities and families. Studies have shown the high value of the forests products industry to the economy and job creation.

Our production is accomplished while adhering to market-based sustainable forest management practices that ensure that the wood fiber we use is grown in a responsible manner that ensures a reliable supply of raw material for the future. Demand for forest products helps to keep millions of acres of land sustainably forested for future use while providing habitat for wildlife and recreational opportunities for the community and sustaining the economy of the region. We have helped to combat illegal logging around the world and support only responsible use of forest resources.

Energy Profile of the Wood, Pulp, and Paper Products Industry:

Many forest products facilities convert biomass to heat and power as well as biobased products. The industry also is a leader in highly efficient co-generation of energy, much of it from biomass, both for internal use and for electricity sold to the power grid. Co-generation is widely recognized as the most efficient method for producing energy, and our mills often can produce twice as many usable BTUs of energy than utilities from the same amount of biomass. Nearly all pulp, paper, and wood products mills that generate electricity produce the majority of their electricity using co-generation technology. The following are examples of how our energy production occurs.

Our facilities generate energy by burning two basic biomass-based feedstocks: "hogged fuel" and spent pulping liquor, a by-product of the pulping process. Hogged fuel is a catchall term that includes material purchased either as residues from the forest, including forest slash, or in the form of whole tree chips produced at the harvest site, as well as material generated at solid wood and pulp facilities when logs are prepared for processing. At solid wood facilities, sawdust, slab wood, and logs unsuitable for lumber production are fed into a "bark burner," which is used to generate heat (primarily for operation of dry kilns) and power. Solid wood facilities also sell this material as hogged fuel to other facilities, primarily pulp mills. (Rejected logs may also be adequate for sale as pulp logs.)

On the pulp and paper side, facilities fall into three general categories: chip mills, pulp mills, and paper mills. They may exist separately or in combination, although a pulp mill will almost always have the capability to manufacture chips. The chipping process creates considerable residue in the form of bark and other trimmings. These are used or sold as

hogged fuel. A stand-alone chip mill may sell wood chips in the market to pulp mills, pellet manufacturers or bioenergy facilities, including electric utilities. Portable chippers also can be used at the harvest site in the forest.

At Kraft, sulfite, and neutral sulfite semi-chemical pulp facilities, the pulping process generates spent pulping liquor, a byproduct of the process. Wood fiber is decomposed into cellulose fibers (from which paper is made), lignin fragments, and hemicellulose. Spent pulping liquor is an aqueous solution of lignin residues, hemicellulose, and the inorganic chemicals used in the pulping process. Spent pulping liquor contains more than half of the energy content of the wood fed into the digester. Spent pulping liquor is used in fuel recovery boilers and is extremely important to the energy profile of the pulp and paper industry. Spent pulping liquor produces between 50,000 and 65,000 BTUs per gallon, generating approximately sixty-eight percent of the biomass energy generated by pulp and paper facilities. The energy generated by burning spent pulping liquor in recovery boilers is used to generate steam for paper dryers, evaporators and other steam-consuming processes in the mill as well as electricity.

Finally, a paper mill will benefit from the energy produced at a pulp mill on the same site. If no pulp mill is present, most wood pulp-consuming paper mills will purchase hogged fuel to generate power or steam, often from other forest products facilities or other biomass suppliers.

Competitive Pressures on the Industry:

Unlike other renewables – solar, wind and geothermal – biomass not only is a source of energy, but also is an essential raw material for value-added forest products, such as paper, packaging, and wood products. U.S. forest products manufacturers operate in a highly competitive global marketplace, and it is extremely difficult to pass on higher raw material and energy costs to customers and stay in business.

Studies have shown that the use of woody biomass to create forest products (including associated renewable energy production) provides more jobs and economic value than using biomass solely to produce energy. For example, a study commissioned by the Confederation of European Paper Industries estimated that the pulp and paper industry in Europe directly created six jobs for every job created by the energy alternative, and the ratio rises to 13:1 if total employment (direct and indirect) is considered. Another study concluded that there is a 4-fold to 10-fold greater value to the economy (product value, plus associated workers' purchasing power) from producing paper than burning wood for electricity alone.¹

Government policies to encourage renewable energy should be fair, transparent, and provide equal treatment between existing renewable industries and new energy generation, whether among the industries that produce wood pellets, electricity or bioenergy, including the forest products industry. For example, without equal treatment, the BCAP incentive for utilities located near wood baskets to co-fire biomass with coal could create serious unintended consequences for forest products facilities that use the same biomass to create both

¹ See B.A. Thorp and Masood Akhtar, "The Best Use of Wood," Paper360 (Jan/Feb 2009).

renewable energy and forest products. Much of the biomass that could be burned by utilities is pulpwood and other biomass that is used by our industry to create higher-value forest products and renewable energy.

The BCAP reflects the desire of Congress and the President to promote the domestic use of renewable bioenergy and promote U.S. energy security. Recently, the European Union rule requiring member countries to generate 20 percent of their electricity from renewable resources by 2020 has sharply increased demand for wood pellets. Reports from Europe indicate that increased demand for biomass by the energy sector is driving up the price of wood pellets as well as chips, sawdust and small diameter logs, the traditional feedstock for the pulp and paper industry. In the first half of 2009, U.S. exports of wood pellets to Europe were 300,000 metric tons, compared to just 23,000 metric tons in the same period a year ago.

Forest Fiber Supply Chain:

The supply chain for the forest products industry differs significantly from traditional agricultural operations. In many transactions within the wood products industry, ownership of forest biomass passes from the landowner to a disinterested third party, who then merchandises the wood to a variety of wood products facilities based on a number of factors. Moreover, "eligible material" is also generated by our facilities in the form of hogged fuel and other residues such as spent pulping liquor. While the spent pulping liquor is typically consumed on site, hogged fuel is often sold to other facilities. Similarly, the chips that are bought and sold for pulp may also be used to produce energy or heat. The eligible owner explanation in the USDA's June 11 Notice of Funds Availability (NOFA) does not contemplate these transactions. Many of the proposed paperwork requirements seem to assume a direct relationship (i.e., an easily verifiable chain of custody tracking) between the harvester and the biomass conversion facility. The NOFA defines eligible material owners for fiber from private lands as the owner, operator, or "any other person designated by the owner of the land" (74 FR at 27768). This does not encompass the complicated set of biomass transactions that occur in our industry.

The definition of "arm's length transaction" in the NOFA does not fit within the realities of the forest products supply chain. Many forest products companies have affiliates or subdivisions that engage in open market transactions to buy and sell biomass. For instance, a saw mill or chip mill may sell residuals to a pulp and paper mill that is an affiliated unit within a larger integrated company. Logs and hogged fuel may be sold by the land affiliate to the highest offer, which may coincidentally be a mill owned by the same company. There are sources of information on market value of biomass, such as an average market regional index.

Conclusion:

Renewable energy produced and used by the pulp, paper, and wood products manufacturers is helping the nation meet its renewable energy goals. Any government policies that force our manufacturers to compete on an uneven playing field with their power suppliers and others for their essential raw material and energy could threaten the survival of the industry and undercut the goal for more renewable power for our nation. Our industry is now

under severe economic pressure. In fact, since early 2006, the housing crisis and economic downturn have led to the loss of over one quarter of our workforce – about 350,000 jobs. Market distortions that divert the supply of raw materials and energy or raise cost could have dramatic consequences for our industry and the essential jobs it sustains in many communities, particularly in rural America. Furthermore, the symbiotic relationship between the industry and the forest means that harm to the industry can threaten the demand for the sustainable forest practices that the forest products industry creates. We believe that solutions are available to advance the goals of renewable energy and to prevent unintended harm to the industry, its workers, and the economy. As our government works to promote our nation's economic recovery, it is essential to preserve and promote green jobs in the forest products industry.