



Forestry: Time to Take Major Steps toward Renewable Energy

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April 20, 2011

The forest products industry has been the industry of change for the past two decades. These changes present a number of challenges and opportunities. Perhaps the forest industry's greatest opportunity is to convert the recent trends of financial losses to profits by providing sustainable energy resources in an environmentally friendly manner.

Status of the Industry

While all manufacturing industries have been impacted by global economic pressures, the forest industry has experienced extensive transformation—ranging from basic ownership structure changes to significant changes in consumer product use. The larger publically traded class C corporations have either sold much of their land holdings or converted to real estate investment trusts. Mergers, buyouts, bankruptcy, and investment by offshore businesses are only a few of the actions that have become commonplace in the industry. These actions have occurred in both private and publicly-owned businesses.

The two major manufactured forest product sectors are building products and pulp and paper. The decline in real estate and construction activities after 2007 has resulted in significant reductions in demand for wood building products. Housing starts in the United States declined from almost 1.5 million in 2006 to less than half a million in 2010, a 68% decrease. In my home state of Georgia, the production at sawmills declined more than 20% between 2007 and 2009.

The pulp and paper sector of the industry reacts to a more complicated formula. Changes in consumer practices and a slow economy have reduced the need for newsprint and paper-based packaging. Electronic media and false perceptions of the environmental impacts of paper usage have both impacted changes in consumer demand for pulp and paper.

Moreover, industry developments in South America and Asia have served to establish pulp and pulp products as global commodities fully subject to the pressures of changes in national economies and currency values. These influences resulted in a decline in Southern pulp production in 1998, following five consecutive decades of industry growth. Slight increases in production occurred again in 2007 and 2008, especially of raw pulp, as the value of the U. S. dollar decreased relative to foreign currencies. As with other industries, some pulp and paper companies have weathered the economic storm well through upgraded production systems and modified product portfolios. However, the future of most of the South's pulp industry hinges on trends in consumer use of paper and currency exchange rates.

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The forests of the U.S. South have grown to be a major global wood basket because of maintained forest areas, conversion of agricultural land use to forests, and developments in silviculture practices that result in more wood grown per acre. A symbiotic relationship exists between the forest industry and forest owners. Timber resources are sold to the industry by landowners and the industry has supported research and development of better methods of growing wood while protecting environmental qualities in the forest. In fact, wood volumes growing on Southern timberlands have almost doubled since the early 1950's. The consumption of local resources does reach sustainable limits when many mills compete for similar resources. However, these high local demands result in higher prices and new investments in reforestation.

Understanding the impact of economic stress and increased wood supplies can make the prospect of renewable energy production using purpose-grown trees attractive to all sectors of the wood products industry. Public concerns about energy security, reducing greenhouse gas emissions, and job creation could also be addressed by this effort.

Potential Actions by the Forestry Community

Pulp and paper mills have the most potential to produce renewable energy. Most facilities already produce heat and electricity using black liquor and bark byproducts as feedstock. The electricity production can easily be expanded by increasing the amount of feedstock. These mills also hold the greatest potential to produce liquid transportation fuels, either through thermochemical conversion or enzymatic hydrolysis. Perhaps the greatest advantage of existing facilities is their established wood procurement systems, which can more easily facilitate increases in utilization.

Sawmills produce large amounts of sawdust, shavings, bark, and chips, all of which can be utilized for energy products. Besides internal utilization of heat and power produced by these byproducts in boilers, the potential for wood pellet production should be considered by these mills. In many Southern states, an increase is expected in the availability of saw logs throughout the next decade. Utilization of these logs for lumber will also produce increases in sawdust and other byproducts ripe for conversion to wood pellets.

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Additional woody biomass markets will allow **wood suppliers and loggers** to add new product sorts and provide flexibility in moving products through the supply chain. Additional investments in chippers and other biomass harvesting equipment and incremental changes in harvesting operations can be achieved if loggers have confidence in the sustainability of these new markets.

Forest owners and managers will achieve ecological and cost reduction benefits that come from the harvest of logging residues and pre-commercial thinning, in addition to direct income from these products. In areas where biomass pulpwood stumpage values exceed \$10 per ton, forest managers will modify forest management practices to a more integrated approach in which more trees are planted initially and tree thinning is begun earlier in the rotation. This will increase financial returns and increase the amount of biomass produced per acre, while maintaining the production of logs for traditional forest products.

Enabling Actions by Policymakers

The production of energy from Southern renewable forests will readily occur when enabling policies are enacted. Economic incentives (other than competing high fossil fuel prices) may not be necessary, if certain other policy steps are taken. Renewable portfolio standards (RPS) that are developed should recognize energy production from existing biomass facilities within the forest industry and encourage the development of new distributed generation

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within the forest industry. The forest industry should receive credit for being the first investor in renewable energy.

It is also very important that “energy” mills be allowed to use whole trees from managed forests, not just forest plantations. This restriction currently exists for biofuel production and must be removed. With this restriction in place, the conversion of pulp mills to bio-refineries and the use of sawmill residues for biofuel production cannot be expected to occur in the South.

Without these types of enabling policies, economic growth built on sustainable renewable energy may be a missed opportunity.

The Southeast Agriculture & Forest Energy Resources Alliance (SAFER) is committed to positioning the South as the national leader in the bioeconomy. SAFER works toward this vision by providing strategic leadership in advancing initiatives related to biopower, biofuels, and bioproducts. These initiatives focus on better policy, targeted research, efficient commercialization, and outreach and education. SAFER is managed by Southern Growth Policies Board. www.saferalliance.net