

Biomass Power: Where Do We Stand?

By Roy Anderson

For the past four years I've spent nearly three-quarters of my time consulting for clients seeking to develop biomass power projects. My role typically occurs early in the project development process and usually involves estimating the amount of biomass fiber available in the project's supply area and how much it will cost to deliver it to the prospective plant.

Along the way I've also gotten plenty of exposure to other aspects of biomass power projects, including estimating capital and plant operating costs, project financing, renewable power markets, and identifying the local, state, and federal incentive programs available to biomass power projects. As 2012 begins, it's worth noting how recent key changes are affecting biomass power project development.

The Section 1603 Grant Expires

The Section 1603 grant, which originated as part of the American Recovery and Reinvestment Act of 2009 and is administered by the Department of the Treasury, provides developers with cash at the completion of a renewable power project's construction. The payment is equal to 30 percent of the project's capital cost and is made in lieu of investment and/or production tax credits. The program was set to expire on December 31, 2011. At the time of this writing in early December, legislation had been introduced to extend the program, but its passage did not appear likely.

Prior to the existence of the Section 1603 grant, the traditional method of developing a renewable power project's financial package was to have a tax-equity partner. The partner was usually a financial institution with a tax liability high enough to be able to use the large amount of the tax credits generated by a renewable power project. However, during the depths of the economic downturn, many

of these partners disappeared or temporarily lost their appetite for tax credits. Thus, many renewable power project developers couldn't find tax-equity partners and therefore had no way to monetize the tax credits created by their renewable power projects. Section 1603 grants changed the landscape by providing developers with cash rather than having them find a partner capable of monetizing tax credits.

Many view the program as a success, because it spurred renewable project development at a time when such projects wouldn't have happened using the traditional tax-equity partner approach. As of September 2011, more than \$8.6 billion in grants had been awarded through the program; the vast majority—82 percent—went to wind projects. Biomass projects got 2 percent.

To qualify for a Section 1603 grant, plants needed to have begun construction by the end of 2011 and be commissioned before the end of 2013. The "begin construction" stipulation was a major decision point for many projects, because it meant that a minimum of 5 percent of the project's cost had to have been committed or expended by the end of 2011. For many projects, that commitment is easily more than \$1 million.

Another fallout of the recession is that few of the proposed biomass projects have been able to secure power-purchase agreements at prices high enough to provide investors with an acceptable return. Thus, in the currently weak renewable power market, many project developers, with no power agreement in hand, have chosen not to "begin construction," meaning that these projects did not qualify for the Section 1603 grant and effectively have been shelved.

Renewable Portfolio Standards

Although the weak market for renewable power has hampered many current projects, 29 states plus Washington, DC,

and Puerto Rico have Renewable Portfolio Standards (RPS), state laws that require a percentage of power to come from renewable sources. For example, California's RPS law requires that 33 percent of the state's power come from renewable sources by 2020. New York is aiming for 29 percent by 2015, and Minnesota 25 percent by 2025.

Rather than meeting the RPS targets in one huge step, states have set intermediate goals in earlier years. For example, California is shooting for 20 percent by 2013, 25 percent by 2016, and 33 percent by 2020. The percentage of renewable power required in many states is currently at or near the initial RPS targets. These initial targets were often set at the amount of renewable power the utilities already controlled. Hence the weak near-term demand for renewable power.

It's also worth noting that in the last three years or so, utilities in many of the states with RPSs have increased their percentage of renewables by simply doing nothing. That's because the down economy has lowered the overall demand for power, which in turn means that any renewable sources already on the books count as a higher percentage of the total power produced.

What's Next?

In the next six months to a year, I'm expecting my biomass power project workload to slow down. That's primarily because the expected Section 1603 grant expiration, combined with a weak power market, translates into a lot of currently proposed projects being either scrapped altogether or shelved indefinitely.

In the longer term—say, the next two to five years—I'm expecting biomass power projects to remain an important consideration for forest-products manufacturers and timberland owners. That's because the next tier of renewable-power

requirements in many state RPS laws significantly ratchets up the mandated percentage of renewable power in 2015 and 2016.

Thus, as long as RPSs remain in force, there will be demand for additional renewable power. That, in turn, means that biomass power projects will still be viable, provided that tax-equity partners reemerge to monetize the tax benefits generated by the Production Tax Credit (PTC) program, a long-running federal incentive available to renewable power producers.

For projects placed in service through the end of 2013, the PTC provides a tax credit currently worth about \$11 to \$12 for every megawatt hour of biomass power produced for the first 10 years of the project. There's even a slim chance that biomass advocates may be able to convince Congress to pass legislation that increases the value of the PTC to \$22 per megawatt hour, which would place it at parity with the PTC for wind and geothermal projects—thereby making biomass projects even more viable.

There are other underlying reasons to be optimistic about the long-term prospects for small- to medium-size biomass projects at forest products manufacturing facilities: there's usually a built-in fuel supply in the form of mill residues. There's generally a need for process steam, which brings cogeneration into play. And there's typically a robust existing power distribution system in place, which means transmitting the power to market is usually less problematic than, say, a wind farm in a remote location.

The bottom line is that biomass power projects may slow down, but I don't believe they'll be going away.

Roy Anderson is an SAF member and a senior consultant with The Beck Group, a forest products planning and consulting firm in Portland, Oregon. Contact him at roya@beckgroupconsulting.com.



INDUSTRY

10 Billion Seedlings and Counting

Forest seedling producer ArborGen Inc. held a ceremony in November at its Summerville, South Carolina, headquarters to mark the planting of the 10-billionth seedling from its nurseries. The company noted that 10 billion seedlings would be enough to plant 20 million acres, an area about the size of the entire state of South Carolina. ArborGen has operations in four countries and sells more than 275 million trees annually, of which about 250 million are planted in the southeastern United States.

US, Canada Lumber Production Up

US lumber production for the first nine months of 2011, a total of nearly 20.4 billion board feet, was up 8.8 percent over the same period in 2010, according to the Western Wood Products Association (www.wwpa.org). Production increased by 9.4 percent in the South and 8.1 percent in the West. Production as a percent of practical capacity rose to 75 percent from 69 percent nationwide.



ArborGen Inc. recently celebrated the planting of the 10-billionth seedling from its nurseries. Left to right: Gene Kodoma, South Carolina State Forester; Hugh Weathers, state Commissioner of Agriculture; and Barbara Wells, president and CEO of ArborGen.

US softwood log and lumber exports to China increased by 123 percent and 262 percent, respectively, over the same nine-month period in 2010.

Total Canadian lumber production of 17.05 bbf during this period of 2011 was up by 2.3 percent over 2010, with an increase of 7.4 percent in British Columbia, but a decrease of 3.2 percent east of the Rocky Mountains. Overall production as

percent of practical capacity rose slightly to 75 percent from 74 percent.

Canfor Buys Tembec BC Mills

Canfor Corporation, based in Vancouver, British Columbia (BC), recently announced that it will acquire Tembec Industries's southern-interior British Columbia wood-products assets for \$60 million (CDN). The deal includes two sawmills with an annual capacity of 420 million board feet and about 1.1 million cubic meters of combined Crown, private land, and contract annual allowable cut. Once the sale is complete, Canfor's annual North American capacity will increase to more than five billion board feet.

Canfor also announced that it intends to spend more than \$50 million to enhance productivity and cost performance in its southern-interior BC facilities.

Going Dutch for Biomass

According to *Industrial Fuels and Power* (www.ifandp.com/article/0014832.html), proposals by the government of the Netherlands to require the cofiring of woody biomass in the country's coal-fired power stations by 2022 is expected to lead to a boom in biomass imports to the country. Currently, Dutch ports handle around

1.5 million metric tons of biomass annually, but this could increase to about 13.5 Mt by 2020.

In 2010, an estimated 1.6 million tons of pellets were shipped from the United States and Canada to the Netherlands, the United Kingdom (UK), and Belgium—twice the volume shipped in 2008, according to the *North American Wood Fiber Review* (www.woodprices.com). In 2010, nearly 50 percent of the pellets shipped from North America to Europe went to the Netherlands, while one-third went to the UK.

Got Hardwood Lumber?

A year ago, Roy Anderson reported that a proposed softwood lumber "check-off" program would generate an estimated \$14–\$21 million annually for lumber marketing and research efforts ("Got Softwood Lumber? Industry Considers New Marketing Program," January 2010). The program will be initiated in the fall of this year. Now, the US hardwood industry is conducting a similar assessment and working with the US Department of Agriculture to write rules for governing the program. A hardwood industry referendum on the program is tentatively scheduled for February 1. See www.hardwoodcheckoff.org.