



Pellet production boom

Wood pellet production in Ontario is expected to boom with the province announcing the elimination of coal-fired power plants and the move to using wood pellets as a fuel source.

By Tony Kryzanowski

For years, the steady investment of billions of dollars in the Alberta oil sands had a strong ripple effect throughout the rest of the Canadian economy.

However, as the economy transitions to carbon neutral fuel sources like wood biomass instead of fossil fuels, it seems that Ontario will be the province taking the lead in sending a strong economic ripple across Canada.

Ontario has recently passed its Green Energy and Green Economy Act, which legislates the elimination of power generated from coal-fired power plants in that province by 2014. As a result of this decision, Ontario Power Generation (OPG) is planning to convert some of its coal-fired power plants to burning wood pellets exclusively, which is expected to create huge demand for wood pellets right across Canada.

While many power plants around the world currently blend wood pellets with coal, this is believed to be the first example of power plants switching entirely to wood pellets.

The transition to wood pellets is expected to divert a significant portion of the 80 per cent of wood pellets currently being exported out of Canada, back to the domestic market--and result in significant new investment in pellet production in Ontario.

As a further incentive for companies and individuals to invest in alternative energy projects that may be deemed uneconomical when compared to power generated from fossil fuels, the Green Energy Act includes a component called a feed-in tariff (FIT). This program offers renewable electricity generators a guaranteed long term market and price for the power they generate, ranging from 10.3 cents per kilowatt/hour for landfill gas projects larger than 10 megawatts to 80.2 cents per kilowatt/hour for residential solar rooftop projects 10 kilowatts or smaller. Contracts are generally for 20 years, but 40 years in the case of waterpower. The FIT program is the first of its kind in North America.

As part of the transition out of coal-fired power generation, OPG has announced that it will close two power generating units that burn coal in Lambton and two at Nanticoke.

The good news for the forest industry is that OPG has targeted the 230-megawatt, Atikokan Generating Station as the first station to be converted to biomass fuel. Full electricity output tests from wood pellets were conducted in 2008 in Atikokan, and successful tests have also been conducted in Thunder Bay, Lambton, and Nanticoke.

Complete conversion to biomass pellets at Atikokan is expected to be completed by mid-2012. Converting the coal-burning power plants in Atikokan and Thunder Bay alone could save about 240 jobs.



OPG is facing a few challenges with its plans to convert the Atikokan plant to wood pellets, according to Chris Young, the power producer's vice-president of fossil fuel projects. The first is procurement of an adequate and consistent local supply of wood pellets, which at present does not exist. However, northwestern Ontario has a high concentration of forest industry activity, which generates a lot of wood residuals in both the logging and sawmilling sectors.

Exactly how much wood residual material is available is still unknown, which is one reason why OPG has issued a call to potential suppliers of biomass fuel and transportation services. The call is for the supply of both sustainable forest-based and non-food agricultural products and byproducts.

To date, Young says OPG has contacted and heard from many potential suppliers who have expressed an interest in producing bio-based fuel for the company's plan to convert to burning wood pellets and potentially other forms of biomass as well.

Other challenges being experienced by OPG in the conversion to wood pellets is biomass fuel storage, as it must be stored indoors as compared to coal, which OPG could store outdoors. Young says there will also need to be design changes related to feeding the wood pellets into the boiler.

The conversion to wood pellets has gotten significant local support; jobs will be saved in Atikokan as a result of the conversion, but there is also the potential for creating more local jobs. Atikokan Mayor Dennis Brown says rather than jobs being created in Saskatchewan's coal mines, more jobs will be created locally to ensure an adequate supply of wood pellets.

The projects announced by OPG alone are expected to consume about two million tonnes per year of wood pellets, and right now, total Canadian production is only about 1.4 million tonnes, according to the Executive Director of the Wood Pellet Association of Canada, Gordon Murray. Association members represent about 95 percent of domestic wood pellet production at the present time.

"We're obviously just delighted about this," says Murray, about the imminent demand for huge volumes of wood pellets in Ontario. "It's going to create a vacuum effect, will raise pellet demand and benefit just about every pellet producer right across the country."

The plan is to source pellets from Ontario first. There are a number of pellet plants expected to come on line within the next couple of years, Murray says.

In terms of supply, the Ontario Ministry of Natural Resources (MNR) estimates that there is about a five million cubic metre unused wood supply within Crown forested areas in the province that can be sustainably harvested, although a lot of that supply is not easily accessible.

Once the local supply is exhausted, Ontario's demand is expected to pull wood pellets from Quebec and the northeastern United States.

However, Murray doesn't expect this demand to have a significant impact on pellet prices because power generation from wood pellets must still compete with other forms of power generation, such as hydro.



The announcement by the Ontario government to phase out coal-fired power plants came as no surprise to the Ontario Forest Industries Association (OFIA), since it was an election promise of the Liberal government.

“If we were surprised about anything, it’s how aggressively the government was willing to say that there is fibre in this province when it knows full well and acknowledges that there are policies, regulations and legislation coming down that have a very serious potential to significantly reduce the available fibre in this province.” says Scott Jackson, OFIA Manager of Forest Policy.

One such piece of legislation is the Endangered Species Act along with a new permitting system that the OFIA worries could take thousands of hectares of commercial forestlands out of production. For example, protecting habitat for the province’s 5,000 woodland caribou alone has the potential to remove eight million hectares of the province’s commercial forest from production, or roughly 20 per cent.

The OFIA is highly supportive of initiatives that result in more complete utilization of the industrial wood resource because it means jobs, supports rural northern communities, and will help the province reduce its deficit. But it believes it has much bigger issues to resolve with the Ontario government in terms of guaranteeing the viability of existing wood product manufacturers that have managed to survive the current economic downturn.

“This (Green Act) hasn’t been a big file for us because we’re too busy just trying to ensure that there is still a fibre basket for industrial use here in the province of Ontario,” says OFIA chief executive officer Jamie Lim. “Our major files have been the Endangered Species Act and its effect on accessing fibre.”

She adds that it is important to recognize the value of the primary wood products sector and address its needs, specifically a guaranteed industrial wood supply. This would ensure there is a solid foundation in the solid wood sector that could then lead to the use of treetops and more complete use of a tree in value-adding enterprises like pellet plants.

“Toronto home builders spend \$800 million annually on framing lumber,” she says. “So when did framing lumber become something that we don’t think we need any more? I don’t know how these people keep talking about value added and biomass and they think they can do it without a strong, healthy, vibrant primary forest industry. I’d love to see the business plan.”

The OFIA wants the Ontario government to guarantee an industrial fibre basket of 36 million cubic metres annually, which includes the treetops, at an affordable cost for at least 25 to 30 years, so that investors can achieve a return on their investment. Lately, the trend has been to remove more and more of the landbase from forestry production through measures like the Endangered Species Act, which OFIA says removes certainty around the wood supply and discourages investment.