



Surfing the bio-economy wave

The Alberta town of Drayton Valley is looking to be part of the next economic wave--the bio-economy--and has a good forestry base to surf that wave.

By Tony Kryzanowski

Before the development of the silicon-based computer chip, California's Silicon Valley was largely a rural area, known for its agricultural products. Look at the size of it now, and the high-tech industry that has been spun off in the region.

Like the early promoters of Silicon Valley, the town of Drayton Valley, Alberta is hoping to profit by anticipating the next big economic wave: the bio-economy.

Since the permanent closure of Weyerhaeuser's oriented strand board (OSB) plant in the community about a year and a half ago--which resulted in the loss of about 500 direct and indirect jobs as well as 10 percent of the town's municipal tax base--the mayor and council have been working hard to establish and promote the town's BioMile industrial park concept.

The plan is to attract a large cluster of bio-based businesses that complement each other, based on the concept that one businesses' industrial waste could be another businesses' feedstock. Products manufactured from wood and agriculture byproducts, such as electricity, liquid transportation fuels, bio-composites, bio-based platform chemicals as a substitute for oil-based chemicals, and produce from greenhouses that take advantage of waste heat and wastewater are just some of the concepts being considered with a number of companies.

Mayor Moe Hamdon believes that the town is seeing the future correctly by latching on to the bio-economy, and that it represents a huge opportunity for future business development and diversification. The town seems to be facing few competitors at this time.

"We have been to several bio-conferences where we are the only municipality at the conference," he says. That gives Drayton Valley a huge advantage in attracting bio-related business, he believes.

The biggest advantage, besides being located 1.5 hours southwest of the provincial capital of Edmonton, is the town's location in the midst of a large forested area. There is also a lot of agriculture not too far away as well as a large oil and gas industry presence.

The BioMile consists of roughly one square mile on the edge of town next to the Weyerhaeuser sawmill, which is still operating, and the mothballed OSB plant.

"It's important that it (BioMile) is near Weyerhaeuser because so much of it deals with residual wood waste, and the transportation costs associated with handling wood waste," says Hamdon. "We needed to be together to work as a completely integrated bio-industrial park."

Forestry continues to have a strong presence in the community, he adds, and may in fact have an even stronger presence in future.



The spotlight is shining brightly on Weyerhaeuser these days as the largest local supplier of wood residuals. Company spokesman Wayne Roznowsky says that Weyerhaeuser is eager to be part of the BioMile development.

“We’re obviously very interested in full utilization of the resource,” he says. “It just makes economic and environmental sense to use the resource fully.” However, a company making a bio-based investment still needs to be a business venture that stands on its own. Fibre availability and allocation is also an issue.

“As these things develop, even if we were cutting the full AAC, ultimately I don’t know that there is so much fibre out there that anyone and everyone can participate,” Roznowsky says. “So again, you have to look at the economics of the business model.”

The BioMile concept passed a significant milestone in August when Edmonton-based TTS Inc. turned the sod on a 30,000 square foot bio-composites facility, where the majority of products initially will be engineered fibremat. Fibremat can be used to produce a number of bio-based products for use in a variety of applications, most notably wherever fibreglass is currently in use. All told, as much as \$18 million could be invested into the facility.

Recently, TTS partnered with Columbus, Ohio-based, Hexion Specialty Chemicals Inc., the world’s leading producer of resins and adhesives for industrial applications, to develop ‘green’ building products for the construction industry.

Company president Tamrat Tekle says this is only phase one of the company’s building plans. He says TTS has mastered five major families of products and fibremat is only one of them. Once operational by summer 2010, the business will provide about 15 permanent jobs.

“If the BioMile concept is done right, I think it is a brilliant and very, very progressive approach at this time,” says Tekle. “It fits very well with our corporate philosophy.”

TTS has been in business since 1998, first as a forestry-based company and then more as a bio-composites company, given the research they’ve also done with agriculture-based fibres. Tekle says he estimates that the company’s feedstock at present will be about 50 percent forest biomass and 50 percent from agriculture.

Mayor Hamdon acknowledged the commitment made by TTS as a watershed moment.

“The sod turning, I think, took the BioMile from the drawing board to reality,” he says, “and we are starting to see some tangible results from the effort that council and staff have put into it.”

Minnesota-based Otoka Energy Inc. has also announced its intention to build a woody biomass-based gasification plant as part of Drayton Valley’s BioMile that will produce 25 megawatts of electricity, followed by syngas and liquid fuels from forestry residuals.

After issuing a press release to that effect in January, company vice-president Nathan Smith told Logging and Sawmilling Journal that they have every intention of completing it, “but there are so many moving parts in negotiations” for putting all the pieces for a project like this together. He acknowledged that the company is in negotiations for a wood biomass



supply, and those negotiations are believed to be with Weyerhaeuser.

Roznowsky acknowledged that the company is in negotiations with unspecified parties.

“We have not formalized anything,” he says. “We are certainly in discussions, but nothing has been formalized.” This was as of September 1.

Drayton Valley has also signed a Memorandum of Understanding with a German-based organization called CLIB2021. With 60 German and international members, some being among the largest chemical producers in Germany, the organization’s aim is to become the leading German and European cluster in industrial biotechnology. The industrial biotechnology sector uses renewable resources to develop substances for a variety of markets, such as chemicals, paper, leather, automotive, household applications and medicine.

“We are working with them to identify different technologies for the creation of platform chemicals,” says Hamdon, “and we will hopefully soon be setting up an office for CLIB2021 in Drayton Valley. It’s exciting for us that their North American presence will be in Drayton Valley.”

The provincial and federal governments are providing grant funding and the networking support needed to put the BioMile concept before companies and organizations around the globe. The town has received a \$289,000 grant from the Alberta government as part of its Bio-refining Commercialization and Market Development Program. Another more sizable amount from this program has been earmarked for a project being contemplated for the BioMile, and disclosure is expected later this fall. The Alberta government has allocated \$239 million to its Nine Point Energy Strategy to help communities dependent on the forest and agriculture industries move into the bio-economy.

“We have a great working relationship with the provincial and federal government,” says Hamdon, “which is important in making this happen. Sometimes it takes grant funding and incentives that Drayton Valley is in no position to provide.”

Patrick Guidera, Director of Forest Business and Bio-economy Initiatives for the Forestry Division of Alberta Sustainable Resource Development, says development of the Drayton Valley BioMile marks the beginning of the establishment of a bio-economy in Alberta, which is one of the goals of the Nine Point Energy Strategy. It also has the potential to act as a template for other smaller communities to follow, in the government’s bid to achieve greater sustainability of rural communities.

“It also allows us to use our residual waste,” says Guidera. “So the wood in the forest that is normally just burned and disposed of can now be used to create a renewable fuel.” It reduces greenhouse gases and moves Alberta towards being more green, he added.