

Bio-chemicals set to surge for consumer products

BY DAVE COOPER, EDMONTON JOURNAL MAY 27, 2013



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Photograph by: JEWEL SAMAD, AFP/Getty Images

EDMONTON - The next time you open a Coke bottle, consider that sugarcane from Brazil is the feedstock for bio-ethanol which is turned into bio-polyethylene, and then into the bottle in your hand.

“There is a cost to the green bottle, and Coke is happy to pay it out of their marketing budget where it is a small line item,” said Norman Deschamps, an analyst with SBI Energy, during a recent information session about the future of a bio-economy in Alberta’s Industrial Heartland region.

Coke’s bottles are currently 30 per cent bio-polyethylene, but the firm plans to have all their bottles made of 100 per cent bio-plastic within a few years.

Brazil’s Braskem, which also makes petroleum-based polyethylene, doesn’t see a problem producing both products side-by-side, said Deschamps.

“The plant can produce either type, but from different feedstocks as their customers demand. But compared with petroleum-based plastics, bio-plastics are a drop in the bucket.”

The lesson for Alberta and the Industrial Heartland area around Fort Saskatchewan, a major petrochemical hub, is that biologicals can be added to the mix in certain cases, and they can become the foundation for entirely new industries.

“The major market for biological-based chemicals will be the consumer focused areas — cleaning products, health care, plastic items, disposable packaging, things that consumers use and where manufacturers can put on their green labels. But this can make a huge difference in the chemical market,” said Deschamps.

And while biochemicals cost between 15 and 30 per cent more than their identical petrochemical cousins, that could change in the future.

“But even if the bio-industry could take over five per cent of the current market it would be huge,” said Neil Shelly, executive director of the Heartland Association, a group of five municipalities including Edmonton which work to coordinate growth in the region.

For many consumer goods, the percentage of the raw material is small, so the increase in total product cost would be small, said Deschamps.

“Consumers are willing to pay slightly more, but not huge amounts more, for biological-based products.”

Shelly predicts that new bio-diesel and glycerine production will be the most likely biological-based products to come out of the Heartland in the future “because of the proximity with refiners in the region.” Glycerine is produced in the bio-diesel process, which in Alberta uses canola as a feedstock.

Since biological products are based on agriculture or forestry feedstock, Shelly thinks the provincial government could help out by insisting that a certain percentage of its purchases are bio-chemical-based rather than derived from petrochemicals. Governments have done this before, with wind-powered electricity and a request that more wood be used in large structures.

“Those kinds of policies could offer a stepping stool to this industry,” Shelly said.

And this kind of substitution could come about because companies see the value, and no change in quality.

“A good example is the foam in car seats, which is now 20 per cent soybean-based. A few years ago that number was five per cent, but the industry has been slowly increasing the amount,” said Murray McLaughlin, executive director of the Bio-Industrial Innovation Centre in Sarnia.