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**IN THIS ISSUE ►**

**CBJ ONSITE**  
HWY H20

**ECONOMY**  
The currency journey

**YEAR IN REVIEW**  
2010



**PROTECTIONISM**  
**or regulatory pitfall?**

CBJ Onsite: <b>HWY H20</b>	190
<b>MIWAY</b> A new level of service for Mississauga Transit	194
<b>WILDCAT HELICOPTERS</b> The best in aerial firefighting	202
Reinventing the wheel: <b>WILLOWDALE NISSAN &amp; INFINITI</b>	210
<b>3D TV</b> The good, the bad and the ugly	220
<b>PREMIER TECH HOME &amp; GARDEN</b> Canada's leading manufacturer of lawn and garden products	226
<b>SAULT STE. MARIE STRIKES OIL</b>	234
<b>THE 4TH ANNUAL SOCIAL MEDIA CONFERENCE</b> The social media movement in business	238
<b>REGINA QU'APPELLE HEALTH REGION</b> Integrated innovation in healthcare delivery	246
<b>MEDIC NORTH</b> Remote healthcare experts	252
<b>DANIELS INTERNATIONAL</b> Making healthcare safer	260
<b>SALUMATICS</b>	268
<b>SIoux LOOKOUT</b> Integrating healthcare in Ontario's North	274
<b>DIESEL VS. GAS CARS</b>	280
Bienvenue encore to <b>LE BIFTHÈQUE</b>	282
<b>ATLANTIC MIST CRANBERRIES</b> The native cranberry	290
<b>ROYAL STAR FOODS</b> The finest in Canadian seafood	296
<b>MEXICAN CORN PRODUCTS INC.</b> Mexican tortilla chip mastery	304
<b>ENERKEM BIOFUELS</b> plants fuel community development	310
Protecting consumer renovations: <b>SAWDAC</b>	318
<b>VINYLGUARD</b> Standout window and door manufacturer celebrates 20 years of success	322
<b>HOT AIR</b> Big wind energy plan touted for Quebec	330
<b>BOOK REVIEWS</b>	336
<b>MOVIE REVIEWS</b>	338



# SAULT STE. MARIE

# STRIKES OIL

Well, not exactly. But advanced technology at a plant under construction in Sault Ste. Marie will be used to extract oil from used tires, along with other valuable by-products, when it becomes operational early next year.

**THE SHOWCASE FACILITY** will be using a proprietary technology developed by Environmental Waste International Inc. (stock symbol EWS on the TSX Venture Exchange) (TSX VENTURE:EWS). Its patented microwave delivery system breaks down the tires at the molecular level, reducing them to their simplest forms—oil, carbon black, steel and hydrocarbon gases. Running at a planned recycling rate of about 300,000 tires a year, the plant would produce some 240,000 U.S. gallons of oil, 2 million pounds of carbon black, and 600,000 pounds of steel annually. Off-gases produced by the system will be used to co-generate electricity that allows the system to be energy self-sufficient.

Reverse Polymerization, the patented EWS

technology used in this system, is the most advanced process of its kind in the world. Since it does not melt tires, but rather breaks apart the molecular bonds, virtually 100 per cent of the tires' by-products are reclaimed. Stephen Simms, President and CEO of EWS, says the facility in the Sault will be the first large-scale pilot plant of the tire application. "There's a tremendous amount of interest in our process," he notes, "with many potential purchasers eager to see the system up and running."

"The price of oil was over \$100 a barrel in 2008," says Simms. "We were getting multiple inquiries a week about opportunities for this technology. The first step had to be to develop a showpiece system to demonstrate the ability for



the process on a continuous basis, which is what led us to where we are now. As oil has maintained itself in the high \$80s per barrel, it is at a very economic value for the technology. Because the by-product of the technology is a derivative of oil, their values have also gone up.”

### **Partnership**

Securing raw materials for the plant is already under way. About 12 million used tires are gen-

erated in Ontario each year. In fact, under the Ontario Tire Stewardship program, a fee is paid for every tire processed through the plant.

Ellsin Environmental Ltd., the owner of the Sault facility, contracted EWS to design and build the prototype equipment for the plant which will have a total cost in excess of \$6 million. EWS will build all future Ellsin systems and receive a royalty for each tire processed.

Simms points out that some 300 million

used tires are generated each year in North America, and another 600 million annually in other parts of the world. He says the company's goal is to capture about 30 per cent of the global market over the next decade.

The prototype EWS system being installed in the Sault is the TR-900. Models to be sold in the future will be larger. For example, the TR-6000—the largest unit that EWS currently has on the drawing board—is designed to process 2 million used tires a year and costs about \$30 million.

Each TR-6000 will be capable of reclaiming over 1.6 million gallons of oil, about 6,500 tonnes of carbon black, and 1,800 tonnes of steel a year. Carbon black is used as a pigment and reinforcement in rubber and plastic products. The Northern Ontario Heritage Fund Corporation (NOHFC) has loaned \$2 million to Ellsin to help fund the Sault project. Operations are expected to begin in the first quarter of 2011.

In North America, used tires are currently ground up and used in such applications as carpet under-padding or road re-surfacing, burned in cement kilns and other energy generating facilities, or they are sent to landfill. Since the EWS technology is capable of recovering and recycling valuable by-products from used tires, it is a far superior method of disposal. "The technology allows the tire to be broken back down to its components

and this gives marketable by-products that can be sold back into the market places," says Simms.

### Tire to buyer

"Our technology squeezes every bit of recyclable product out of a tire, and does so without sending any hazardous emissions up a smokestack or residual waste to landfill," Simms explains.

The main component of the system, which houses the microwave equipment, has now been completed by contract manufacturer Abuma Manufacturing Ltd. of London, Ontario, and will be transported to the Sault over the next few weeks.

This demonstration system is currently in the final stages of being set up; the core component and the designed microwave system have had the initial assembly complete and is being shipped to Sault Ste. Marie to be put together for operation.

Simms and his colleagues are preparing for 2011 to be a prosperous year and the culmination of a lot of dedication. The system is scheduled to be running in the first quarter of the year. "It will be an exciting year with the opportunity to begin selling the commercial system. We expect to be booking in sales and establishing the company, ideally on a worldwide basis." **CBJ**