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■ **GREEN BUG ENERGY:** Hydro-electric project a North American first

## New twist on old technology

**MONTE SONNENBERG**  
Simcoe Reformer

**TOWNSEND** — A new hydro generating facility east of Waterford has the distinction of being the first of its kind in North America.

Green Bug Energy of Delhi recently installed the Archimedes screw hydro-electric project on Nanticoke Creek at Fletcher's Horse World north of Townsend Centre.

The micro-generator produces enough electricity to power five households. At a time of escalating hydro bills and mounting concerns over the environment, there are indications the concept has a bright future.

Green Bug Energy is the creation of Mike Bouk, president of the company, and his son Tony, who is CEO. They have converted the Archimedes screw - which was invented by the Greek mathematician of the same name nearly 2,300 years ago - into a water-driven turbine.

The Archimedes screw is the design concept behind a basic auger. Primitive agrarian societies have used it for millennia as a manual irrigation device. When situated properly in a flowing stream, it will rotate continually and generate electricity.

"It seems deceptively simple what we do," Mike Bouk said at Friday's unveiling. "But what we do is actually quite complex."

There is no other generating facility like this in North America. Europeans are further along with the technology, with Germany especially keen on its potential.

The screw's installation represents an interesting return to the past for the Fletcher property, which was once owned by the Hellyer family. Brothers Audrey

and Russell Hellyer installed a water-powered dynamo in the same location in 1921.

The facility produced a prodigious amount of electricity for its time. That was no small achievement considering that rural electrification did not arrive in this part of Norfolk till 1929.

"I know the electricity is going to work," farm owner John Fletcher said. "It's been working for a while now. It's working the way Tony and Mike said it would."

The complexity Bouk refers to stems from the fact that no two installations will ever be the same.

Each screw is designed and built to complement the water flow of its designated location. The technology is fish-friendly, which is important because the Ministry of the Environment and Ministry of Natural Resources insist on environmental assessments before any watercourse is used to generate hydro.

There is a great deal of interest in the Green Bug technology. The Bouks have fielded 35 proposals to date and are actively working on "six or seven," says Tony.

"We're doing a bunch of site assessments," he said.

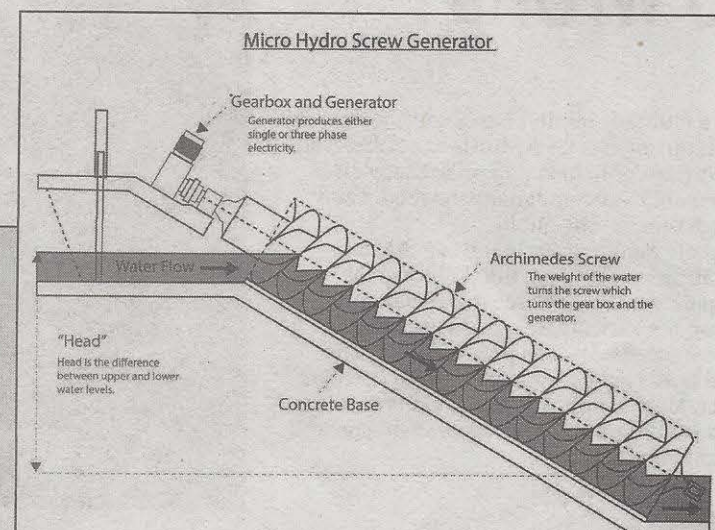
The screw technology has great potential in remote areas that rely on diesel-powered generators. Some of these communities are paying as much as \$1.50 per kilowatt hour for electri-

city. By comparison, the unit in Townsend Centre was installed at a total cost of \$64,400.

"This isn't rocket science," local MPP Toby Barrett said at the official opening. "We've been using water power to develop our

civilization for thousands upon thousands of years. I wouldn't be surprised if you could run this technology without a computer."

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GREEN BUG ENERGY GRAPHIC

A side view of the micro hydro screw generator installed on Nanticoke Creek at Fletcher's Horse World north of Townsend Centre.

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Tony Bouk, left, and his father Michael are the brains behind Green Bug Energy and its application of the Archimedes screw to hydro generation.



■ **TERRY FOX RUN:** Running for a cure

**INSIDE**



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MONTE SONNENBERG Simcoe Reformer  
Bianca Anghel Bachmann, of Simcoe, and 300 others honoured the memory of cancer crusader Terry Fox at the 10th annual Terry Fox Run in Simcoe on Sunday.

## Fox run reaches \$1750