

This photo from GreenBug Energy of Delhi's website shows an example of the Archimedes screw that the company uses to generate electricity from small scale hydroelectric projects like the Quance Dam in Norfolk County. Photos www.greenbugenergy.com

GreenBug Energy making power with Norfolk County

By DAVID JUDD

Ancient technology may bring future revenue for Norfolk County.

The county has joined with renewable energy company GreenBug Energy to propose a small-scale hydroelectric project for the Quance Dam on Big Creek in Delhi.

Water flowing from the dam's raceway would turn an Archimedes screw to generate electricity.

The screw, named for Greek mathematician Archimedes, looks like a giant auger.

It has been used since at least 200 AD to raise water from low-lying bodies of water to irrigation ditches.

GreenBug Energy of Delhi is pioneering the screw's use in

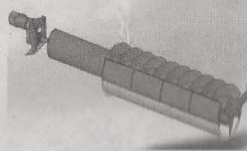
North America to make electricity. Under its deal with GreenBug,

Norfolk County would invest \$24,000 in the \$480,000 dam project.

The county's profit over 40 years, minus costs, would total more than \$266,000.

The project must first receive provincial approval, including an environmental assessment.

It's possible that the Archimedes screw would start turning at the Quance Dam next summer but



it's more likely to happen in 2015, GreenBug CEO Tony Bouk said.

The Delhi project would produce 53 kilowatts of power, enough to supply 39 homes.

Among the project's advantages:

- It would produce power all year long;

- It would not affect water flow or fish in Big Creek;

- And it would take advantage of a dam and raceway already in place.

The weight of water would turn a screw three metres wide and 16 metres long.

Norfolk County owns Quance Dam in Delhi.

If the project proceeds, the county would become the first municipality in North America to generate power this way.

GreenBug installed its first Archimedes screw at the Fletcher horse farm east of Waterford this year.

Its success has prompted many inquiries, especially from Europe where Archimedes screws are better known, Mr. Bouk told county councillors on Nov. 26.

The technology has much potential.

Canada has 10,000 sites suitable for Archimedes screws.

Mr. Bouk said Norfolk may become a showroom for GreenBug technology.

The Delhi dam project has no drawbacks for Norfolk County, said Eric D'Hondt, general manager of public works and environmental services.

The county would recoup its investment in three to six years.

The project would tidy up the Quance Dam raceway and draw tourists to see the Archimedes screw, Delhi Coun. Mike Columbus said.

Port Dover Coun. John Wells joined county councillors in voting unanimously to invest in the Delhi project.

In recent months, Coun. Wells has opposed solar energy projects because of their high costs to hydro customers.

But the Archimedes screw project would be good for Norfolk County, he said in an interview.

The project will make money for the county while promoting a new industry.

Archimedes screws may help pay to repair hundreds of dams across Ontario, Coun. Wells said.

"I hope the Golden Goose will be laying eggs for the good of us all," he said.

Will this work at Misner Dam?

By David Judd

One day Misner Dam may generate electricity with an Archimedes screw. If so, it won't be soon.

Misner Dam on the Lynn River in Port Dover is an ideal site, Tony Bouk, CEO of GreenBug Energy, told The Maple Leaf in an e-mail.

Mr. Bouk looked at Misner Dam as a possible project for an Archimedes screw, an ancient technology repurposed for small-scale electricity projects.

However, the dam has issues that currently make it unsuitable.

Misner Dam essentially is no longer a dam since it was lowered and Silver Lake was largely drained four years ago as a safety precaution.

The structure has no water pressure or water drop to operate an Archimedes screw, which is turned by the weight of water.

And Mr. Bouk would need an agreement with the site's owner.

Mr. Bouk does not know who the owner is.

Norfolk County has legal advice that it does not own the dam and no one has come forward to claim ownership.

"I can't see how we could proceed as who would we have an agreement with?" Mr. Bouk wrote in his e-mail.

Mr. Bouk said GreenBug also did not want to interfere with a community group, which was

pursuing a waterpower project at Misner Dam at the time that he considered it.

"If somehow these issues were ever resolved in the future, we would be highly interested in the site," Mr. Bouk wrote.

GreenBug in partnership with Norfolk County is pursuing a \$480,000 Archimedes screw project at Delhi's Quance Dam on Big.

Unlike Misner Dam, the Delhi dam's ownership is clear.

Norfolk County owns it.

And the Quance Dam, which was rebuilt about 20 years ago, is in good physical shape.

The Ivey Dam above Silver Lake in Port Dover is another ideal site for a waterpower project, Mr. Bouk said.

The very old dam structure is in bad shape and, as it crumbles, huge amounts of silt will be deposited into Silver Lake, Mr. Bouk said.

A similar thing happened after the Sutton Dam in north Simcoe was decommissioned, he said.

Silt went downstream and silted in the lake in Simcoe's downtown park.

Norfolk County and the Ministry of Natural Resources have teamed up to look at short-term measures to reduce risk of the Misner Dam failing.

An engineer early this year said a long-term fix would cost at least \$10 million.

SOMETHIN' FISHY BY PETER PERCH
COME OVER TO DOVER (OR "DEE DEE BEE OR NOT DEE BEE")
OH-H-H-H... WE CAME TO DOVER TO FIND THE FISH WE ALL ADDRE...
GIVE US SOME PICKEREL, GIVE US SOME PERCH, WE FOUND THE D.D.B., IT'S ENDED OUR SEARCH.
OH-NO THERE'S NO NEED EXPLAINING, WHY THE DOVER DAIRY IS REIGNING,

AS THE PLACE WE ALL ADDRE... WHEN YOU COME TO DOVER, BE SURE YOU MAKE IT OVER TO THE DOVER DAIRY BAR!!!
WE REALLY MEAN IT! THE DOVER DAIRY BAR!!!
NEW AVAILABLE "DOVER" ON "DOVER" RECORDS & TAPES (D.D.B.)

Your
Dover Dairy Bar

ALL DAY
BREAKFAST
Everyday
\$5.25

EGGS
BENEDICT
Dover's Best
Weekends Only
\$7.99

NORFOLK FAMILY eyecare
Dr. Katie Ryan | Dr. Matthew Craig | Dr. Jane Van Dyk
OPTOMETRISTS
norfolkfamilyeyecare.com
SIMCOE • 519.426.0415
420 Norfolk St. S. (We've Moved!)
PORT DOVER • 519.583.2020
87 Thompson Dr. (No Frills Plaza) Unit 4

- Eye Examinations
- Contact Lens fitting
- Designer Sunglasses
- Safety Glasses OPG & Imperial Oil Approved
- Laser Vision Correction Co-management
- Evening and Saturday Appointments
- Fashion Eye Wear for the Whole Family



Meet your neighbourhood Brimage Lawyers

- Real Estate Law
- Business & Corporate
- Wills & Estates
- Family Law
- Civil Litigation
- Law Criminal Law
- Personal Injury
- Agricultural Law



A legal cornerstone...
Built on referrals,
established by reputation.
Est. 1949

Visit us online at: brimage.com or call us at 519.426.5840