

RESEARCH ANEMOMETER IN LAKE ONTARIO

June 2010

Background

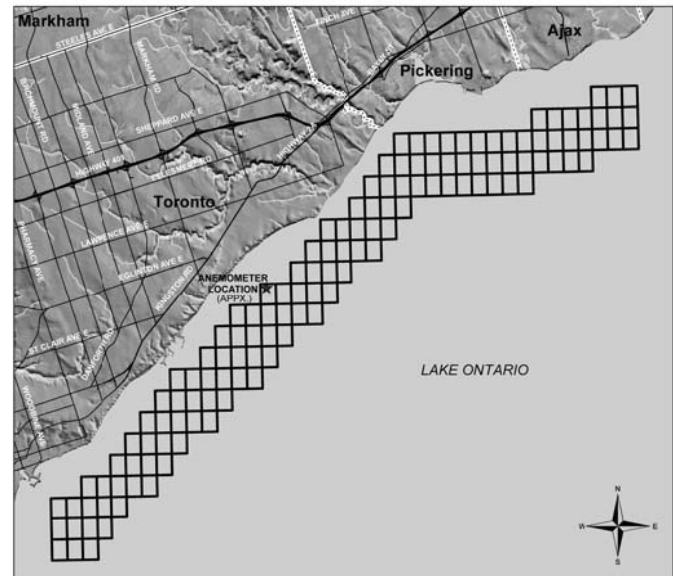
The Ontario Power Authority (OPA) is seeking new sources of electricity supply. The Ontario Ministry of Natural Resources (MNR) is encouraging the development of renewable energy generation from wind and water sources through the lease of provincial Crown land. Under that process, Toronto Hydro is investigating the feasibility of a wind farm offshore in Lake Ontario.

Where is the site?

Toronto Hydro has secured access to a series of lake-bed grid cells approximately 25 kilometres in length, roughly between two and four kilometres offshore stretching from east of the Leslie Street Spit to Ajax. The anemometer platform is located 1.1 kilometres south of Eastpoint Park in Scarborough.

What are the first steps?

The first step in siting a wind farm is research to confirm whether the wind resource is sufficient to support a business case to construct and operate the turbines. In order to do that, we need to erect an anemometer and leave it in place in the lake for two years to confirm the wind resource.



What is an anemometer?

An anemometer measures wind speed and direction. The anemometer and the platform it sits on, is a stand-alone structure with no moving parts that is affixed to the lake-bottom, but is removable after it has served its purpose. The specific location has been determined following a non-intrusive geotechnical study of the lake bottom area, and will have minimal disruption to the lake bottom. The platform consists of a structural steel platform located in approximately 12 metres of water, and extending approximately four metres above lake water level with a width of approximately five metres. The platform will house the anemometer instrument, an auxiliary power system, and communication and navigation beacons. The anemometer instrument measures wind speed and direction using light imaging radar. This method results in a compact structure.

Does this mean Toronto Hydro is building a wind farm?

It's too early to determine whether the location approved by the MNR has sufficient wind energy to develop a wind farm. Once the wind resource is confirmed, we will make that determination at that time considering many economic and environmental factors. If the decision is to proceed to construct a wind farm, a full environmental assessment with a full community consultation, would be required.

FREQUENTLY ASKED QUESTIONS:

How much of the anemometer platform will be seen from the shoreline?

The anemometer platform is located a considerable distance offshore (1.1 km) and rises approximately four metres above the water level of Lake Ontario. It will not create adverse visual or noise effects. As a result, current amenities in the area will not be negatively affected.

How can the community comment on the wind anemometer process?

Toronto Hydro's goal is to continue engaging the community to ensure that the public understands the value of researching the potential for wind energy in this area, and to ensure that local concerns are addressed.

Will the public receive notification on MNR's decision on the project?

Toronto Hydro has provided information to members of the public and to elected officials in the area on all decisions relating to the anemometer project, including MNR's approval of the project.

What are the potential benefits of a wind farm?

- Renewable energy with virtually zero emissions
- Potential 200 MW Offshore Wind Project
- Project of that scale could produce 575,000 MWh electricity/year and reduce 144,000 tonnes GHGs/year
- Short-term employment of an estimated 200 construction jobs and long-term employment of skilled operators and maintainers
- Adds to Ontario's tax base
- Meaningful environmental stewardship
- Close to the biggest demand for electricity in Canada

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