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A new tilt on an old technology

By RICHARD BLACKWELL

John Douglas, a former Bay Street investment banker who last year cashed out of the wind power business by selling his Ventus Energy Inc., is back in the electricity game with a new company that intends to build giant underground hydro power generators.

While Ventus's wind turbines required a few million dollars to erect, the stakes this time are much higher - each of the 1,000-megawatt power plants planned by his new company, **Riverbank Power Corp.**, will cost as much as \$2-billion, and involve massive below-ground excavations.

If he's daunted by the magnitude of the proposals, Mr. Douglas doesn't show it. He's now confidently beating the bushes in the investment community to raise \$12-million - enough money to take the company to the point where it can bring in big international energy companies to fund the first few projects.

The Riverbank concept makes use of a clever financial concept - the arbitrage of differences between daytime and nighttime electricity prices.

Essentially, Riverbank plans to build hydroelectric generating stations underground. Water from a river, lake, ocean or flooded quarry would fall down 600 metres of shafts, turn the electric generating turbines, then be stored in huge underground caverns. Power would be generated during the day, when demand is at its peak and the price the plant can get from a utility is highest.

At night, the system would buy cheap off-peak power available from other sources to pump the water back up to the surface, where it would be ready to run through the turbines again the next day.

If the nighttime power is bought from renewable sources, such as wind farms, the whole cycle becomes "green," an increasingly important factor for power buyers.

Because each plant could deliver flexible power on demand at peak-demand periods, it would be particularly helpful when combined with intermittent and uncontrollable sources such as wind power. "We're almost like a battery for wind," Mr. Douglas said.

And because most of the operations are underground, the environmental footprint is much smaller than that of a traditional hydroelectric plant, he added. "We're going to be the first to take the above-ground reservoir and put it underground, just by using traditional Canadian underground mining techniques."

Mr. Douglas, who worked at Canaccord Capital and Sprott Securities before founding Ventus in 2003, cashed in his investment last summer, when French energy giant Suez SA paid \$124-million for the wind firm. Mr. Douglas stayed on for a few months to run Ventus under the new owner, then turned his sights to a different power technology.

He learned of the underground power concept from Montreal engineering firm Groupe RSW, which came up with the basic idea years ago before the difference between daytime and nighttime energy prices made it practical.

RSW is now Riverbank's key engineering consultant, and one of its shareholders. The biggest non-employee shareholder is New York investment firm BlackRock Inc.

Riverbank has been using BlackRock's \$5-million seed money to find likely sites for underground power stations, and it now has 14 locations on its list, mostly in northeastern North America. At some, such as the port lands in Ogdensburg, N.Y., (across the St. Lawrence River from Prescott, Ont.), land rights have been obtained and local politicians are onside.

Once Riverbank completes its \$12-million private placement, the next step will be to get land-use and transmission permits, then line up larger investors - likely multinational energy companies - to pay for construction on the five best sites. Mr. Douglas hopes to have the first power plant up and running by 2014.

He doesn't think he'll have trouble finding big energy firms to be part of this. "The world is awash with capital for permitted renewable energy projects," he said. "What the world is not awash in, is people who are crazy enough like us to run around and pull these projects together."

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