N.S. tests the waters of tidal-power technology

Three firms could begin pilot projects for harnessing power from the Bay of Fundy's surging waters as soon as next year, Premier says

OLIVER MOORE From Wednesday's Globe and Mail

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HALIFAX - The massive tidal power of the Bay of Fundy could be producing a trickle of electricity by next year, the first step in what the government hopes will turn into a surge that powers up to 15 per cent of the province's needs.

Premier Rodney MacDonald announced yesterday that three companies have been chosen to experiment with harnessing the tidal flow of the Bay of Fundy.

Two are proposing turbines on the ocean floor. The third is planning to build a turbine that its spokesman described as a buoyant "underwater electric kite" that will rise or descend as the water levels change.

The turbines will be installed near the entrance to the Minas Basin, which is swollen daily by 14 billion tonnes of seawater, after an environmental assessment.

Depending on regulatory approvals, the machinery could be in place by next year.

The companies plan to start modestly, each installing a single undersea turbine. Each will cost millions of dollars, company officials said, although large-scale production would be cheaper.

The first turbines will produce minimal electricity, but the government believes the ebb and flow of water could power a quarter of the homes in the province.

But questions remain about the economic viability and environmental effect of the projects. And the performance of the turbines will be closely watched.

"There's a lot to learn," said Glennie Langille, spokeswoman for Nova Scotia Power, which will use a stationary OpenHydro turbine. "This is a test facility. The idea is to test the technology to see what it will behave like in a very difficult environment."

She was echoed by Glen Darou, president of Vancouver-based Clean Current Power Systems Inc., which will install its Mark III turbine. "If you can build a unit that performs well in the Bay of Fundy, it'll work anywhere else," he said.

The third company, Minas Basin Pulp and Power, will be installing a UEK hydrokinetic buoyant turbine. That same company has also been given approval

to build the infrastructure all three companies will need to get electricity to the power grid.

Spokesman John Woods said that part of the project would cost about $10-million. He said his company's turbine cost would be in the millions of dollars.

The government described the package yesterday as a ground-breaking step to create a testing centre for tidal technology.

"This is a demonstration facility - a centre of excellence," Energy Minister Richard Hurlburt said in remarks prepared for a morning news conference in Parrsboro. "One day in the future, when somebody buys a tidal device on the other side of the world, we want them to ask 'Is it built to the Fundy standard?' "

In a telephone interview later yesterday, Mr. Hurlburt reiterated hopes that the site could turn Nova Scotia into a leader in tidal energy.

"It's a big learning curve here but we will be the first in North America," he said. "It's cutting edge."

Tidal power has been harnessed before in Nova Scotia, at a 1970s-era facility that can produce up to 20 megawatts daily. But that facility is fundamentally different from what is being proposed.

"That power plant is essentially a hydroelectric dam; it's barrage technology," explained Matt Lumley, a spokesman for the province's Department of Energy. "In this case, it's as if windmills were being dropped into the ocean."

Riding the tide

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CLEAN CURRENT

POWER SYSTEMS

The Vancouver company's Mark III turbines are built to a simple design with one moving part and no drive shaft or gearbox. A tall column anchors it to the seabed and a central opening allows fish to pass through.

NOVA SCOTIA POWER

Nova Scotia Power Inc. already operates the Annapolis plant that harnesses the tidal action of the Bay of Fundy. Its OpenHydro Turbine is an Irish technology that, similar to the Mark III turbine, anchors to the seabed on concrete columns.

MINAS BASIN

PULP AND POWER

This Nova Scotia company plans to install Maryland-based UEK's hydrokinetic buoyant turbine. The turbine will be dropped into the water and float freely until it finds the optimal current. Anchors will fix it into position.

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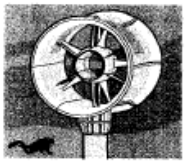

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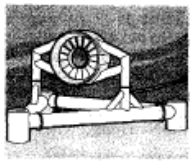

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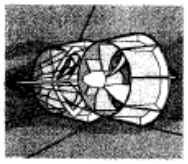

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