

## MEDIA RELEASE

### FOR IMMEDIATE RELEASE:

### OEER and OETR Associations award \$1.1 million in funding for tidal marine energy research projects

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October 27, 2009

HALIFAX, NS – The OEER Association (Offshore Energy Environmental Research) and OETR Association (Offshore Energy Technical Research) have awarded \$1.1 million in funding for eight projects related to tidal marine energy research in the Bay of Fundy.

The funded projects cover a broad range of research areas, including tidal resource assessment, sediment dynamics, animal behaviour, near- and far-field effects, potential effects of ice and debris, and potential effects of tidal lagoons. The various projects are expected to be completed within the next two to three years.

“These projects provide an opportunity to tackle some of the important research questions associated with tidal energy development in the Minas Basin area,” said Dr. Wayne St-Amour, Executive Director of the OEER/OETR Associations. “It is important to fill fundamental knowledge gaps with a combination of theoretical and field research. With these projects, we can better assess the potential impacts of the devices on the environment -- and the environment on the devices.”

The eight successful proponents are:

#### **Assessment of the Potential of Tidal Power from Minas Passage and Minas Basin**

*Dr. Richard Karsten, Acadia University, Dr. David Greenberg, Fisheries and Oceans Canada, and Michael Tarbotton, Triton Consulting*

Dr. Karsten is teaming up with Dr. Greenberg and Mr. Tarbotton to use ocean coastal modeling to assess the power potential of the tides and tidal currents in the Minas Basin and Minas Channel. Estimates will be based on current turbine technology and will take into account the impact on the tidal range and currents.

#### **Assessing the Far Field Effects of Tidal Power Extraction on the Bay of Fundy, Gulf of Maine and Scotian Shelf**

*Dr. Jinyu Sheng, Dr. Keith Thompson, and Dr. Paul Hill, Dalhousie University, Dr. David Greenberg, Fisheries and Oceans Canada*

Dr. Sheng, Dr. Thompson, Dr. Hill and Dr. Greenberg will quantify the far field effects of tidal power extraction, with a particular focus on tides, frequency of coastal flooding, tidal current patterns, distribution of temperature and salinity, and large-scale sediment distributions.

#### **Effects of Energy Extraction on Sediment Dynamics in Intertidal Ecosystems of the Minas Basin**

*Dr. Danika van Proosdij, Saint Mary's University*

Dr. van Proosdij and her team are planning to assess how the dynamics of sedimentation change when energy is extracted from a macrotidal system.

#### **3-D Acoustic Tracking of Fish, Sediment-Laden Ice and Large Debris in the Minas Channel of the Bay of Fundy**

*Dr. Michael Stokesbury and Dr. Anna Redden, Acadia University*

Dr. Stokesbury and Dr. Redden, in collaboration with the Ocean Tracking Network and a broad team of researchers and consultants, are planning to use VEMCO animal tracking technology to complete in-situ testing of the path, depth and velocity of fish and objects passing through the Minas Passage. Using hydrodynamic models, they will

determine the potential for interaction of fish and objects with turbines installed in the water column, and provide advice on risk and mitigation to regulators and developers.

**Investigation of the Vertical Distribution, Movement and Abundance of Fish in the Vicinity of Proposed Tidal Power Energy Conversion Devices**

*Dr. Norman Cochrane and Dr. Gary Melvin, Fisheries and Oceans Canada*

Dr. Cochrane and Dr. Melvin will work with other researchers at Fisheries and Oceans Canada, Coda Octopus and ROMOR Atlantic to image fish trajectories in the area of the Minas Passage turbines using bottom-mounted sonar, with the objective to observe and quantify the distribution and abundance of fish in the water column and their ability to detect and avoid turbines.

**Impacts of Tidal Energy Extraction on Sediment Dynamics in Minas Basin, Bay of Fundy, NS**

*Dr. Peter Smith, Fisheries and Oceans Canada, Dr. Ryan Mulligan, East Carolina University*

Dr. Smith and Dr. Mulligan are teaming up with researchers from Fisheries and Oceans Canada and Dalhousie University to develop a numerical hydrodynamic and sediment transport model for Minas Basin in the Bay of Fundy, focusing on the sediment dynamics of the tidal inlets and flats.

**Assessment of Hydrodynamic Impacts Throughout the Bay of Fundy and Gulf of Maine Due to Tidal Energy Extraction by Tidal Lagoons**

*Dr. Andrew Cornett, Canadian Hydraulics Centre (CHC)*

Dr. Cornett and his colleagues from the CHC will extend existing hydrodynamic models of tidal flows in the Bay of Fundy to simulate the presence and operation of a tidal lagoon in the upper part of the Bay. They will attempt to predict and identify changes in water levels, tide range and circulation throughout the Bay of Fundy.

**Near-Field Effects of Tidal Power Extraction on Extreme Events and Coastline Integrity in the Bay of Fundy**

*Dr. James Warner, Martec Limited*

Dr. Warner and Martec Limited, in collaboration with Dalhousie University, will quantify the near-field effects of power extraction on the resulting effects of extreme storm events and coastline integrity by implementing a spectral wave model to numerically simulate wave transformation for tidal current conditions with and without turbines. The objective is to assess the changes in wave conditions caused by the extraction of energy from tidal currents, as well as the effects of turbines on shoreline erosion and coastline integrity.

**About the OEER and OETR Associations**

OEER and OETR are independent, not-for-profit associations dedicated to fostering offshore energy, environmental, and technical research and development, including the examination of renewable energy resources, renewable technologies, and their interaction with the marine environment. OEER and OETR were formed in 2006 with funding from the Nova Scotia Department of Energy. OEER's members are Acadia University, St. Francis Xavier University, Cape Breton University, and the Nova Scotia Department of Energy. OETR's members are Dalhousie University, Saint Mary's University and the Nova Scotia Department of Energy.

For more information and background on the research projects and on the OEER and OETR Associations, please visit our website at [www.offshoreenergyresearch.ca](http://www.offshoreenergyresearch.ca).

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