Nova Scotia Energy Research and Development Forum 2012

Greg Trowse

Biography

Greg is the Chief Technology Officer (CTO) at Fundy Tidal and is scheduled to graduate from the Oceanography Program at Dalhousie University in the fall of 2012 under the supervision of Dr. Alex Hay. Greg's engineering background is in the field of environmental engineering consulting, and he worked with Nova Scotia Power as an Environmental Specialist during the OpenHydro deployment in the Minas Passage. Greg provided NSP with services related to environmental and performance monitoring of the OpenHydro turbine.

Working with Fundy Tidal, Greg has been key in the development of COMFIT projects, including preparation of the Project Description for the Outer Bay of Fundy Tidal Energy Project and five COMFIT applications. Ongoing responsibilities include lead in: resource assessment and site characterization activities; evaluation of technologies for deployment at Fundy Tidal berth sites; Fundy Tidal's R&D projects; obtaining all applicable permits and approvals, including preparation of the Environmental Impact Statement required for the Environmental Assessment process, and development and implementation of the Environmental Effects Monitoring Plan.

Presentation Abstract: Southwest Nova Scotia Tidal Energy Resource Assessment

The Inventory of Canadian Marine Renewable Energy Resources (CHC 2006) identified several sites in Southwest Nova Scotia with potential for in-stream tidal energy development. OEER commissioned Dalhousie University, Acadia University, Fundy Tidal Inc., and the Applied Geomatics Research Group (AGRG) at the Nova Scotia Community College to conduct community engagement, quantify the tidal energy resource at select sites, assemble data in GIS format, and provide recommendations for further investigation as appropriate.

As presented by Dr. Karsten, preliminary results are available from a numerical model including Digby Gut (DG), Grand Passage (GP), and Petit Passage (PP). In addition to available bathymetry from CHS, a local fishing vessel has been hired to collect high-resolution bathymetry using the WASSP multi-beam sonar and OLEX software. The flow predictions and bathymetry information were used to site ADCP deployments, which have been conducted in Digby Gut, and are scheduled for Grand Passage and Petit Passage for spring and early summer 2012. The numerical model will then be refined and validated to predict available energy and effects of energy extraction on the natural flow regime.

In addition to work in DG, GP, and PP, tidal energy reconnaissance is to be conducted in early summer 2012 along the coastline between Yarmouth and Shelburne. Site selection is based on review of bathymetry, tidal predictions, and recommendations from recent community meetings. Reconnaissance will inform additional ADCP deployments to be conducted in late summer 2012.

Data is to be compiled by the AGRG in GIS format and made publicly available upon completion of the project.