

“Strategic Environmental Assessment of In-Stream Tidal Energy Generation Development in New Brunswick’s Bay of Fundy Coastal Waters”

Executive Summary

The Bay of Fundy, half of which borders on New Brunswick, is considered to have the highest tides in the world, an immense potential energy resource. Recently developed in-stream tidal energy generation devices, which are seen as most appropriate for adaptation to the region, suggest a means of capturing some of this energy, both to meet current provincial energy demands and to move toward a greener energy mix. However, every new activity in the Bay will have some impact on the environment and existing users of its natural resources. The New Brunswick Department of Energy has therefore commissioned this Strategic Environmental Assessment (NB SEA) to consult with the public and marine stakeholders of the Bay, assess all factors in light of the recently produced Background Report covering existing pertinent information, and develop recommendations in support of proceeding toward a tidal energy development policy for New Brunswick.

The NB SEA process held seven public forums throughout the New Brunswick side of the Bay during April, 2008, to consult with the public and marine stakeholders on their opinions and concerns with tidal in-stream energy development. Each followed the same format and provided the same background material, supported by a website for additional input. In all, 172 people participated in the forums covering nearly 9 hours, plus 12 submitted on-line concerns. A total of 820 concerns were recorded, 2/3 of which focused upon the general themes of potential impacts and this NB SEA process.

The full array of opinions/concerns readily fell into 32 categories. From a holistic perspective, support for tidal energy development would appear to be running at ten to one in favour among communities, but caveats exist. These categories were subsequently grouped into three major threads: namely, (1) balancing potential impacts and benefits, (2) improving processes and information, and (3) recognizing relevance/managing development.

The first of these categories constituted half of all concerns, principal among which were the concerns of fishermen over possible displacement, gear damage and impacts on the stocks they exploit. Within this group community benefits were also seen to be essential to counter the additional burdens they would have to endure with local tidal development. There were significant concerns for the ecosystem, but inadequate information to justify an opinion relative to the installation of this new tidal technology.

The second category related to the limited amount of information on tidal power technology and its applicability to the Bay, and to weakness in the NB SEA process itself, particularly the lack of consultation directly with fisheries stakeholders. This additional information must be provided, and consultations with all stakeholders held to overcome these limitations.

The third category focused on the management of tidal energy projects, and in particular, the involvement of all stakeholders in the process, a full-cost-accounting assessment, and a smaller-is-better perspective. It included a number of specific conditions seen as necessary for acceptable tidal development in the Bay, including a shut-down mechanism.

Previous studies identified in the Background Report suggest ten sites in New Brunswick coastal waters that might have development potential, although for financial and environmental reasons only three are identified as likely commercial candidates. The opinions/concerns collected in this NB SEA process do not support the applicability of tidal energy to these specific three sites, but additional data might alter this evaluation.

An assessment of the public/stakeholder data gave rise to 18 recommendations to the New Brunswick Department of Energy. If followed, and if site-specific hydrodynamic circumstances warrant, it is suggested that tidal energy generation could become a reality on New Brunswick shores of the Bay of Fundy.

Although this stage of the NB SEA process is now finished, it has identified through its public/stakeholder consultations that the NB SEA process in itself is not yet complete. The provision of further information and direct consultations with stakeholders by the New Brunswick Department of Energy prior to policy formulation are necessary to finalize this mission.