



Abstract: Mr. Michael Gardner, Gardner Pinfold

Tidal energy – current thinking on the value proposition

In a warming world, the oceans represent a substantial and important potential source of non-emitting renewable energy. Developing this potential requires vision matched by considerable investment in tidal and wave technologies capable of extracting the energy. Herein lies the value proposition – creating an industry that delivers the technology to meet renewable energy standards. Canada contributes to the global ocean energy potential on three coasts, including the Bay of Fundy, arguably the world’s most productive in-stream tidal site. There is a strong market for renewable energy in Nova Scotia. This represents an important driver for developing the tidal resource. Exploiting this potential creates opportunities for the supply community in Nova Scotia, the Atlantic Region and elsewhere in Canada. In creating a test site (FORCE) and introducing a feed-in-tariff, Nova Scotia has provided global industry with an incubator for device testing at greatly reduced risk. This is a vital ingredient to building an industry, but the path to fully realizing the potential is constrained by several factors: technological uncertainty, cost of energy, grid connection and integration, size of market and financing. These same factors constrain development in all areas. The need to reduce tidal costs to the level of alternative renewable technologies is critical in all markets. But tidal costs will only come down as a function of the rate of capacity installation – the key to fully industrializing the technology. Uncertainty about the level of future public support in sharing the developmental risks as costs come down creates uncertainty in the supply community, resulting in a reluctance to invest. Specifying a value proposition in these circumstances is challenging; however, once completed, will be integral to informing stakeholders of the potential value and broader benefits of tidal energy development that can accrue provincially, regionally and nationally.