



## Project Overview

Big Moon Canada Corporation (BMP) has proposed to construct a 5 megawatt (MW) tidal power demonstration facility in the Minas Passage, along the north shore of the Blomidon Peninsula, Kings County, Nova Scotia. BMP's novel and proprietary tidal power system (which is subject to worldwide patent application filings) will produce consistent, predictable power while creating minimal impact on the surrounding environment. This is accomplished by the proprietary system's two main components: a novel land-based generator assembly and a unique unmanned, passive barge. The barge is connected to the generator by a high strength rope in such a manner that is submerged below the drafts of local boat traffic. Power is generated as the ebb and flood tides flow, causing the barge to move away from the generator and cause the generator to turn for generating electrical power.

The generator assembly area will be on land along the north side of the Blomidon Peninsula which rises to an elevation of 130-150 m above the low water mark. The Barge operation area will extend 5 nautical miles in each direction originating from the generator assembly (See Site Drawing).

The Project has been proposed in support the recent amendments to the Marine Renewable Energy Act and in alignment with of Nova Scotia's "Renewable Electricity Plan: A Path to Good Jobs, Stable Prices and a Cleaner Environment" (Renewable Electricity Plan) (NSDOE 2010), which is a strategic plan designed to decrease the Province's dependence on carbon-based energy sources (i.e., fossil fuels) and move towards greener, more affordable and more reliable sources of electricity. Nova Scotia recognizes the numerous benefits of supporting the development of renewable energy within the province, as currently 70% of the province's energy comes from nonrenewable sources, mostly sourced from outside of the province (NSPI 2016). Dependence on fossil fuels increases the vulnerability of Nova Scotians to rising international energy prices, weakens energy security, and takes valuable revenue out of the province (NSDOE 2010). Negative impacts to human health, particularly in developing countries, and the environment, mainly in the form of climate change, are among the widely cited problems associated with fossil fuel consumption around the world. Nova Scotia has legislated targets to replace power generated from fossil fuels. The legislated 2015 target of 25% renewable electricity was exceeded with 26.6% of the electricity used by Nova Scotians coming from renewable resources. By 2020, the target is 40%. It is expected that tidal energy would make a longer-term contribution to Nova Scotia's electricity mix post-2020. The Province is home to the Bay of Fundy, where roughly 160 billion tonnes of water flow twice a day. In 2012, the NS Department of Energy (DOE) launched the Province's Marine Renewable Energy Strategy (MRES) to outline the pathway for the development of tidal energy. The tidal energy sector is advancing quickly, and Nova Scotia is well positioned to be a global leader in the development of commercially-viable tidal energy projects and solutions. The Provinces' first grid-connected in-stream tidal turbine began operation in November 2016 at the Fundy Ocean Research Center for Energy (FORCE) test site near Parrsboro.

### Phase 1 Prototype Testing

From 2015 to 2016, BigMoon designed, manufactured, and completed land and sea trials of a 200kW prototype of its proprietary barge and generator assembly. Sea trials were conducted during April of 2016 in the Minas Basin after receiving approval from all necessary governmental agencies. For the preparation of this test, Big Moon worked with the support of Nova Scotia Department of Energy, FORCE and several partners that provided their expertise for the success and safety of this testing.

### Phase 2 Prototype Testing

During the month of August 2017 BMP conducted a second phase of prototype testing in the Bay of Fundy. This testing was conducted to verify the controllability of the overall system in the tidal flow of the Bay of Fundy.

A 1/10<sup>th</sup> scale model was built in Nova Scotia and successfully tested with the support of local contractors. This was a major milestone for BMP as it represented further validation of its proprietary tidal energy-generation system and provided valuable information that will be beneficial in the final design of the BMP novel Tidal Energy System.

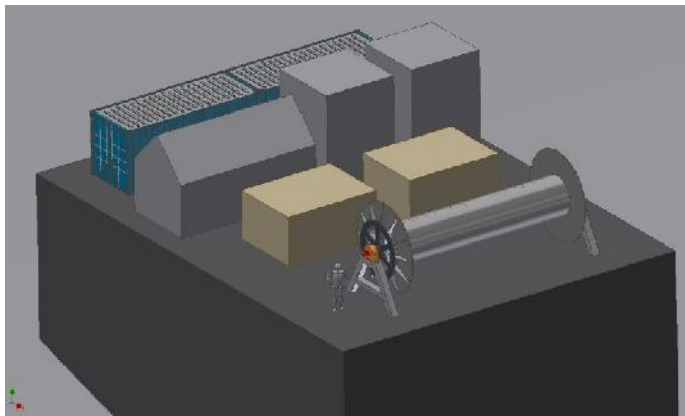
### Phase 3 Prototype Testing

BMP is currently developing a 100kW Prototype that it plans on testing in 2018. The test will be conducted at the proposed project site. The testing is planned to last for 2 to 3 months.

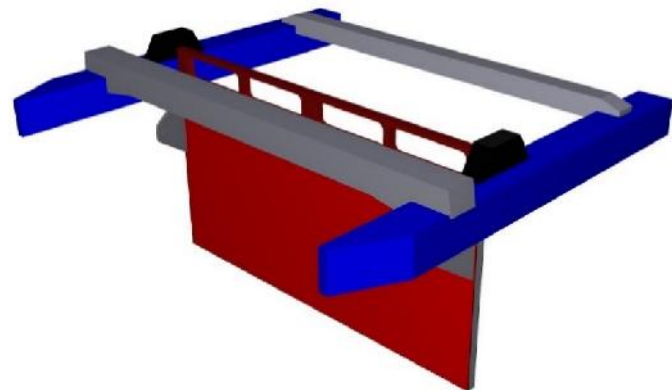
### Commercial System

The 5 MW project will begin with the installation of a 1 MW system. Upon success of the first installation, the subsequent 4 MW will be installed.

**Proposed Land Based Generator Assembly**



**Proposed Tidal Barge**



**Proposed Crown Lease Area**



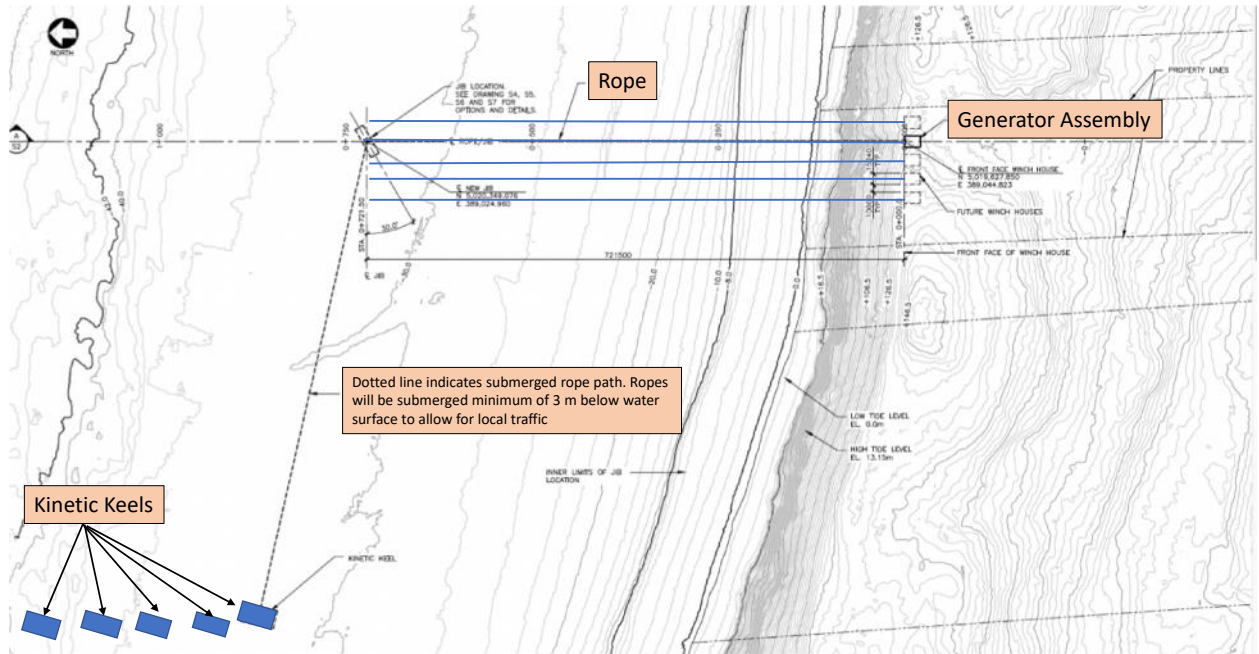
Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image © 2018 DigitalGlobe  
Image © 2018 TerraMetrics

5 mi



## Site Plan



## BMP Partners

BMP has retained industry leading engineering, naval architectural, environmental and public relations companies in Nova Scotia (with suitable precautions of confidentiality and secrecy to protect BMP's proprietary rights, including its unique team of suppliers and contractors) to ensure the design of the system is not only of the highest quality but also mitigates impacts on the surrounding environment and incorporates the community in which it will be installed.