

**Committee of the Whole
 Unapproved Minutes
 April 1, 2021 at 5:00 p.m.**

1. Call to Order	Mayor Boyer called the meeting to order at 5:00 p.m.
2. Present	Mayor Boyer (Chair) (left meeting at 6:25 p.m.), Deputy Mayor Power, Councillor Sanford, Councillor Hafting, Councillor Tompkins, Chief Administrative Officer (CAO) Sandi Millet-Campbell and Recording Secretary Taylor Robinson. One member from the public joined the meeting to provide a presentation. All members joined via Zoom.
3. Regrets	None
4. Additions to the Agenda	Under 12. IN CAMERA iv. Contract Negotiation Move 9. NEW/UNFINISHED BUSINESS v. Annapolis Royal Tartans to 12. IN CAMERA v.
5. Approval of the Agenda	MOTION #CoW2021-04-01-01 It was moved by Councillor Tompkins, seconded by Councillor Sanford to approve the April 1, 2021 agenda as amended. Motion carried.
Edits to the Minutes	None
6. Approval of the Minutes	MOTION #CoW2021-04-01-02 Regularly moved and seconded to approve the March 4, 2021 Committee of the Whole minutes as presented. Motion carried.

7. PRESENTATIONS:

- i. Soulna Energy Inc. Proposal for Tidal Power Pilot Project to the Federation of Canadian Municipalities Green Municipal Fund – Bill Crossman (TAB 1a,1b,1c)
 Mr. Crossman presented his proposal for a cost cutting innovation allowing coastal communities to deliver climate change solutions. The presentation for the tidal energy project outlined the design, function, and research of vertical axis tidal turbines; as well as funding opportunities from various parties. Council asked questions and then thanked Mr. Crossman for his informative proposal.

8. PUBLIC INPUT: None

9. NEW/UNFINISHED BUSINESS:

- i. State of Emergency Update
 CAO Millett-Campbell informed Council that Dr. Strang reported that the cases of Covid-19 in Nova Scotia are remaining low as there are only 24 active cases right now. It was noted that the local drugstore in Town is participating in the vaccine rollout and individuals between the ages of 55 to 59 will be permitted to get the vaccine starting April 6, 2021.
- ii. Strategic Planning Update
 Mayor Boyer stated that staff have posted the second draft plan and the public input survey onto the Town’s website for anyone to partake in. It was encouraged to participate in the survey as both Council and staff want to see public feedback.
- iii. Meeting in Person
 Council discussed the option to meet in person. It was ultimately decided to remain virtual and revisit the matter in a couple of months.

- iv. Request for Decision for Donated Weather Station
Council reviewed the report from staff recommending to accept the donation for the weather station. CAO Millett-Campbell mentioned that this would be beneficial as the data collected would be posted to the Town's website for the public to view. It would be the only weather station in Annapolis Royal and it would be installed on the water side of Town Hall's roof for accurate readings. Council discussed and agreed that it would be useful to the Town.

MOTION #CoW2021-04-01-03

It was moved by Councillor Sanford, seconded by Councillor Hafting to recommend to Council to accept the donation of the weather station and install the unit. **Motion carried.**

- v. Notice of Intervention – NSURB Matter
Council reviewed the presented document outlining the reasoning why the Town has interest in the application by Nova Scotia Power Incorporated (NSPI) to the Nova Scotia Utility and Review Board (NSURB). Council agreed that the document was well written and should be distributed.

MOTION #CoW2021-04-01-04

It was moved by Councillor Hafting, seconded by Councillor Tompkins that Council approve the enclosed Notice of Intervention as presented and authorize its signature by the Chief Administrative Officer to send to the Nova Scotia Utility and Review Board and other parties stated. **Motion carried.**

- vi. NSPI Task Team Recommendations
CAO Millett-Campbell explained that these recommendations are a list of items for Council to approve. Council asked some clarification questions and agreed to support them. It was noted that a public forum should be included in the NSPI Task Team's communications plan as the public should be allowed a chance to ask questions on the matter. Council decided that this should take place after the NSURB hearing in September.

MOTION #CoW2021-04-01-05

It was moved by Councillor Sanford, seconded by Councillor Hafting to recommend to Council to accept and move forward with the 10 recommendations from the NSPI Task Team. **Motion carried.**

- vii. MEDC Mandate
Discussion tabled until strategic plan is established.

- viii. Invasive Species Policy
CAO Millett-Campbell stated that this updated policy has been reviewed and approved by the Environment Advisory Committee and is now being brought forward for Council to approve. It was noted that the resources and Appendix A were the main variations in the policy and most of the work was completed by Katie McLean from Clean Annapolis River Project.

MOTION #CoW2021-04-01-06

It was moved by Councillor Hafting, seconded by Councillor Sanford to recommend to Council to approve the updated Invasive Species Policy as presented. **Motion carried.**

10. CORRESPONDENCE:

- i. New Minister of Municipal Affairs
For information purposes.
- ii. Municipal Affairs – Changes to Support Making Nova Scotia Barrier Free
For information purposes.
- iii. Municipal Affairs – More Accountability for Local Governments
For information purposes.

11. ROUND TABLE:

Mayor Boyer stated that a meeting with the Board of Trade and Annapolis Investments in Rural Opportunity was postponed but she met with Acting CAO Coutinho of the County of Annapolis to discuss the possibility of working together in the future. It was also noted that herself, CAO Millett-Campbell, Acting CAO Coutinho, and Deputy Warden Gunn were all invited to see the improvements at Kejimikujik National Park.

Deputy Mayor Power mentioned that she has been very busy with meetings and has only heard complaints from the public on bicycle riders not using safety equipment and not following signage.

Councillor Hafting shared that she is excited for the upcoming Easter Eggstravaganza event and thanked all the organizers and volunteers for making the event possible.

Councillor Sanford agreed with Councillor Hafting and stated that it should be a great event with all the safety protocols in place.

Councillor Tompkins echoed Deputy Mayor Power's comment about the bicyclists. It was also noted that the newly opened Whiskey Teller pub looks great and has delicious food.

MOTION #CoW2021-04-01-07

It was moved by Deputy Mayor Power, seconded by Councillor Tompkins to move into in-camera at 6:07 p.m. to discuss five contract negotiations. **Motion carried.**

12. IN CAMERA:

Under Section 22(2) of the Municipal Government Act:

Approval of Minutes:

- i. Committee of the Whole, In-Camera – March 4, 2021

Business Items:

- i. Contract Negotiation
- ii. Contract Negotiation
- iii. Contract Negotiation
- iv. Contract Negotiation
- v. Contract Negotiation

MOTION #CoW2021-04-01-09

It was moved by Councillor Tompkins, seconded by Councillor Sanford to move out of in-camera at 6:47 p.m. **Motion carried.**

MOTION #CoW2021-04-01-10

It was moved by Councillor Sanford, seconded by Councillor Tompkins to accept staff's recommendation to approve option 2B from the HATCH Engineer report dated March 30, 2021 for the Pump Station No. 1. **Motion carried.**

MOTION #CoW2021-04-01-11

It was moved by Councillor Tompkins, seconded by Councillor Sanford to recommend to Council to give a letter of support to Federation des Associations de Familles Acadiannes (FAFA). **Motion carried.**

MOTION #CoW2021-04-01-12

It was moved by Councillor Hafting, seconded by Councillor Tompkins to accept staff's recommendation and award the auditing contract to Kent & Duffett for a five-year term. **Motion carried.**

MOTION #CoW2021-04-01-13

It was moved by Councillor Sanford, seconded by Councillor Tompkins to rescind MOTION #C2021-03-15-05 to preapprove to extend the agreed amount to purchase the specified amount of Annapolis Royal tartans in the 2021-22 budget. **Motion carried.**

13. **ADJOURNMENT:** Councillor Tompkins moved adjournment at 6:52 p.m.

Mayor Amery Boyer

Recording Secretary Taylor Robinson

SHALLOW WATER TIDAL ENERGY

A Cost Cutting Innovation
Allowing Coastal
Communities to Deliver
Climate Change Solutions



Horizontal Axis Turbines



Deep water operations require ships, barges, specialized equipment and commercial divers. Most activity restricted to slack tide.

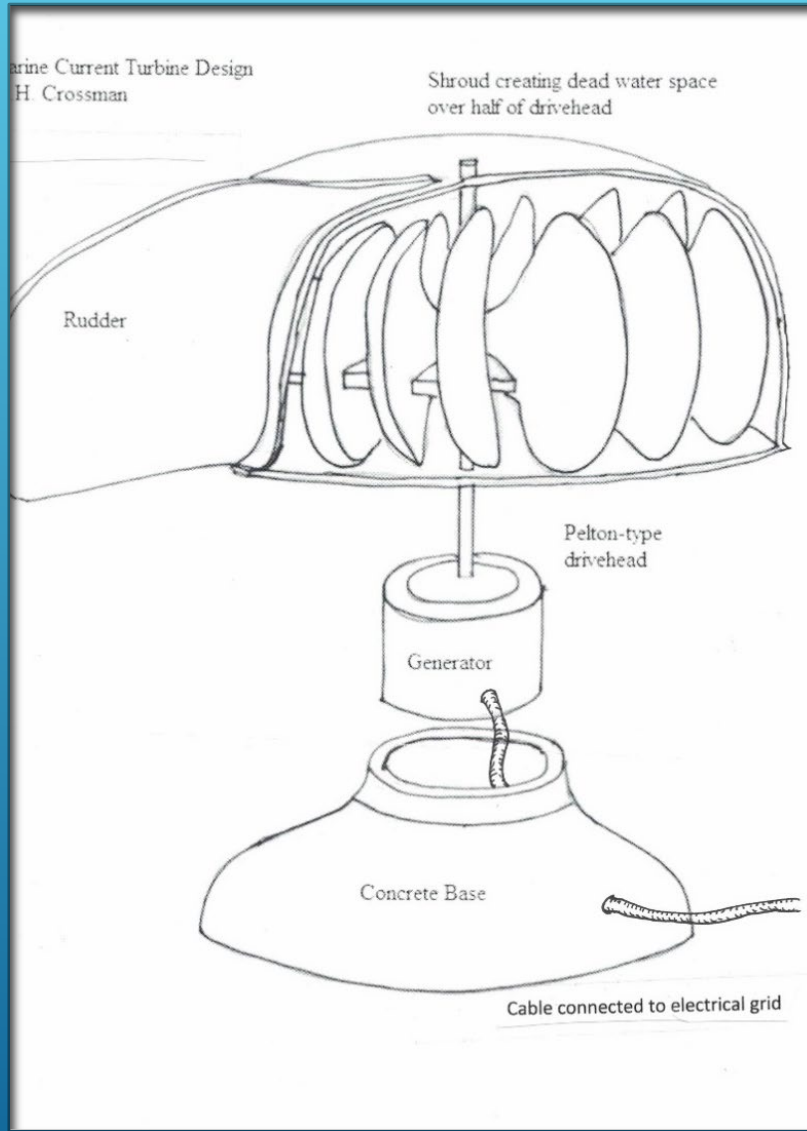


A SHALLOW WATER APPROACH

- ▶ Set the turbine at the low tide mark
- ▶ Replace the horizontal axis turbine with a vertical axis turbine
- ▶ Make the turbine more efficient

RESEARCH AND DEVELOPMENT GRANTS

- ▶ 2013-2014 – NS Voucher Program: Tier 1 Level Support: \$15,000 – Dalhousie University, Engineering Dept. – Dr. Sue Molloy
- ▶ 2014-2015 – NS Voucher Program: Tier 2 Level Support: - \$25,000 – Dalhousie Engineering Dept. and Nova Scotia Community College
- ▶ 2017 – IRAP and AIRO Support: \$20,000 Dalhousie Aquatron Testing



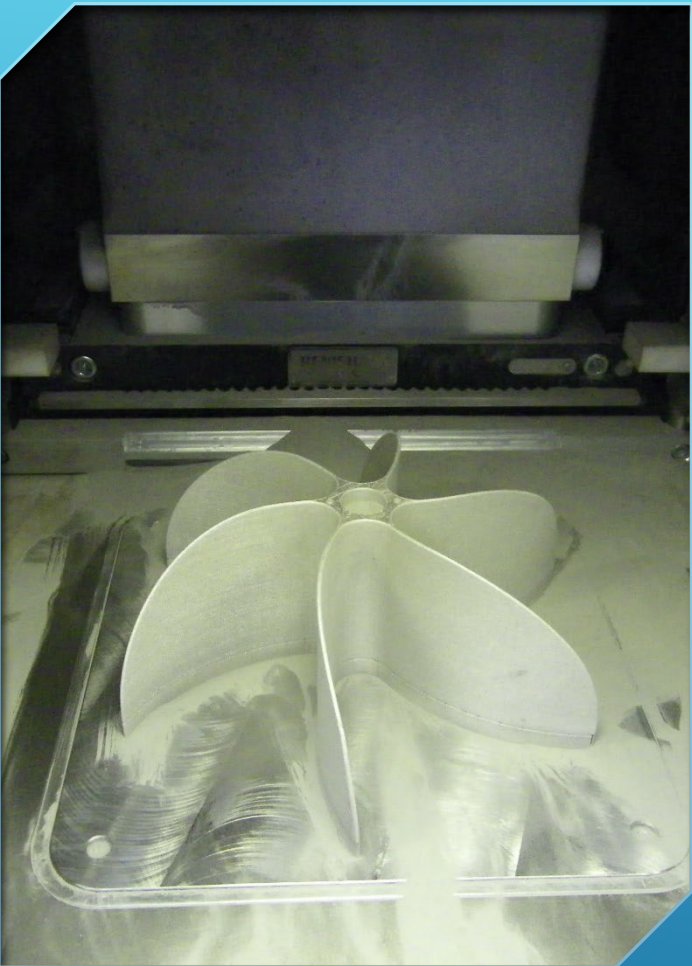
- ▶ Shroud covers half of drive head
- ▶ Rudder allows shroud to rotate
- ▶ Changes direction at turn of tide
- ▶ Base sits on ocean bottom
- ▶ Twice daily access at low tide

VERTICAL AXIS TURBINE



DOUBLING AS A WIND TURBINE

Rudder corrects for any
change in direction of
the wind or water flow



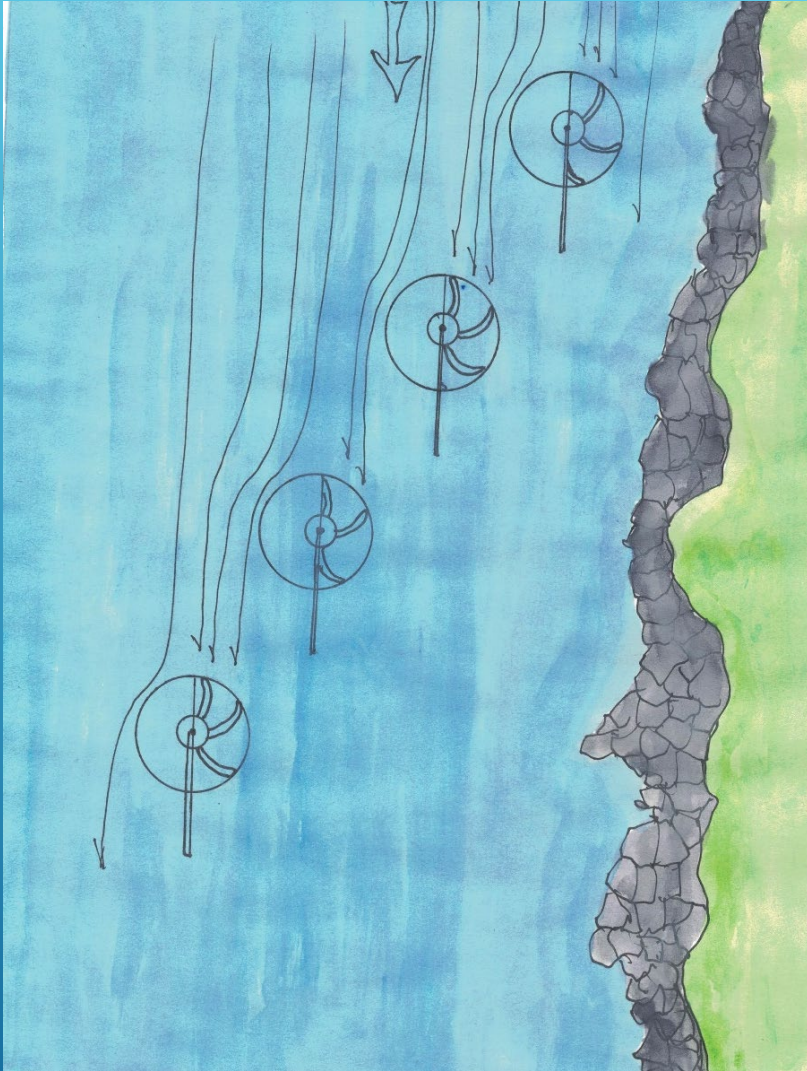
**Second Prototype Created on 3D Metal Printer
NS Community College, Dartmouth Campus**

MEMORIAL UNIVERSITY TOW TANK TESTING



POWER TESTING AT DALHOUSIE UNIVERSITY'S AQUATRON FACILITY






MORE POWER WITH STAGGERED ARRAY

- Researchers at Stanford University find 10-fold increase in power using Vertical Axis Turbines.
- Downstream turbines in a staggered array can capture deflected water to increase power 10 time more effectively that a Horizontal Axis Turbine on a given area.

FEDERATION OF CANADIAN MUNICIPALITIES: GREEN MUNICIPAL FUND

PILOT PROJECT: SIGNATURE INITIATIVE

- ▶ Includes Joint Research Projects for municipalities and companies
 - ▶ Municipalities explicitly recognized as suitable lead
 - ▶ Grants of up to \$500,000 for up to 80% of eligible costs
 - ▶ Other grants available to cover balance of costs
- 

CAPITAL PROJECTS

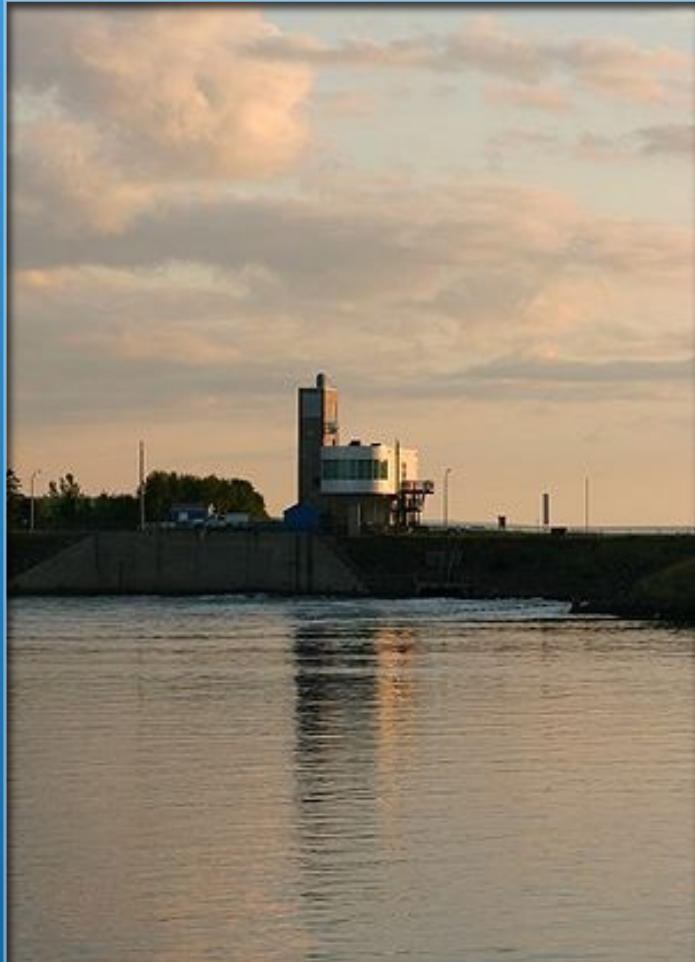
- ▶ **Low Interest Loans of \$5-million to \$10-million**
 - ▶ **Up to 80% of Project Cost**
 - ▶ **Grant available for 15% of loan amount**
- 
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DEVELOPMENTAL TIDAL FEED-IN TARIFF PROGRAM

- ▶ Approved by NS Utility and Review Board
- ▶ Developer can sell electricity produced while testing into the grid at 53 cents per kilowatt- hour
- ▶ Term can be up to 15 years.
- ▶ A ten-turbine array of 50 kilowatt generators could yield \$1-million per year.



**Alternative Resource Energy Authority (AERA)
Includes Berwick, Antigonish, and Mahone Bay
Owners of Ellershouse Wind Farm**



DECOMMISSIONING ANNAPOLIS ROYAL TIDAL POWER PLANT

- Technical Studies
- Negotiations between Province and NS Power Inc.
- NS Utility and Review Board hearings Sept. 13, 2021
- Design and number of flow ways
- Suitability of repurposing for tidal power production
- Public acceptance of reuse for power production
- Alternative Sites Available

SHALLOW WATER TIDAL ENERGY

Projected Outcome:

Manageable Scale

Financial Support

Guaranteed Revenue

Community Asset



DRAFT PROPOSAL

Federation of Canadian Municipalities Green Municipal Fund Pilot Project

To: Town of Annapolis Royal Municipal Council

From: Bill Crossman/Soluna Energy Inc.

Community Scale Tidal Power Production Collaboration

Introduction:

This proposal seeks to demonstrate the feasibility of capturing the power of tidal streams from inshore, shallow water locations to contribute to the displacement of fossil fuels and their greenhouse gas emissions. We believe the technology described here, if given a chance, will create a transformative change in tidal power production from the highly expensive state-of-the-art tidal capture to a low-cost, community manageable approach featuring an innovative turbine design and method of operation.

The Nature of Tidal Streams:

As a source of renewable energy, ocean tides are highly attractive because of their predictability. Mariners have studied them for thousands of years and tidal records are available for almost anywhere in the world. It is this predictability that positions tidal energy as an ideal foundation for the development of smart grids interconnecting coastal communities and reviving municipally owned utilities.

The extreme range of the Fundy Tides are world famous, but tidal range is only part of the tidal effect. Wherever the incoming or outgoing tide encounters a narrow inlet or passage, the water speeds up under pressure (the Bernoulli effect) and creates a current or tidal stream. It is this combination of tidal range and tidal stream that presents an opportunity to employ an innovative tidal technology that may drastically cut the costs of producing tidal power.

HAT's Vs VAT's:

During the 1970's, during the developmental stage of wind power, there were two competing technologies: horizontal axis turbines (HAT's) and vertical axis turbines (VAT's). The HAT is what we most often see in wind farms today, with tall towers, massive concrete bases, and long tapered blades attached to a horizontal shaft attached to the nacelle housing the generator. The VAT is not often seen anymore, but an early design was an "eggbeater" style turbine called a Darrieus turbine that could lose brake control in high winds and would self destruct into a tangled mess of twisted blades. Eventually HAT's dominated the wind turbine market.

When engineers turned their attention to tidal turbines, they seemed to have started from the premise that water and air both being fluids, the experience in developing wind turbines should be equally applicable to tidal turbines. As a result, most of the development in tidal technology has been with horizontal axis turbines.

But the horizontal axis turbine encounters considerable problems when located in a tidal stream. Because the blades cannot withstand the stress of going from water into the less dense air when rotating, the turbine must always be completely under water. Scaling up the size of the turbine can only be done by increasing the length of the blades. That requires the turbine to be in deeper and deeper water, which in turn requires the site to be further and further offshore. This requires ships, barges, purpose-built equipment, and even commercial divers. In addition, the long distances offshore increase the cost of cabling, with commercial turbines in the Bay of Fundy requiring up to two kilometers of cabling at a cost of about \$4 million.

Soluna Energy's Technology:

Soluna Energy's approach is to use a vertical axis turbine with low profile blades radiating from a central shaft connected to a generator housed in a concrete base. Because it can be scaled in size by extending the blades horizontally it can be sited at the low tide mark next to shore. The siting allows for twice-daily, water-free access at low tide for installation, maintenance, and eventual decommissioning. This access eliminates the cost of ships, barges, and other costs of working in deep water. In addition, because tidal passages have steep embankments from millions of years of water erosion, the distances from shore to the turbine at the low tide mark is in the order of about 50 meters, drastically reducing the cost of electrical cabling.

The current Levelized Cost of Energy (LCOE) of offshore tidal is about 53-cents per kilowatt-hour, making it uncompetitive with wind energy at about 4-cents per kilowatt-hour. Soluna Energy's approach is functionally equivalent to wind energy, if most activity is carried out during the water-free low tides. This could allow our pilot project to enjoy fifteen years of guaranteed revenue of 53 cents/kilowatt-hour (as mandated by the Nova Scotia Utilities Review Board) while bearing costs in the range typical of wind power production. (Alberta buys electricity from wind power producers at 3.7 cents per kilowatt-hour.)

Progress to Date:

Soluna Energy has been testing its technology since 2014 when it was funded by the Nova Scotia Government under a voucher program that supports collaboration between private companies and universities in the province. Soluna Energy has worked with Dalhousie University, Memorial University, and the Nova Scotia Community College. The company has also received support from the Federal Government's Industrial Research Assistance Program and from AIRO (Annapolis Investments in Rural Opportunities) a local investment fund. Total funding from these sources totals about \$59,000, all of which was spend on project expenses.

Since 2014 we have fabricated two prototypes and tested the second in the Tow Tank at Memorial University in St. John's and at Dalhousie University's Ocean Sciences Centre. Three engineering reports have been prepared by Dr. Sue Molloy, of Dalhousie University's Engineering Department.

Soluna Energy has located a suitable site on Digby Gut near Victoria Beach for a tidal power demonstration project. The property, which belongs to the Canadian Coast Guard has good access, has an attached legal water lot down to the low tide mark, and is within a short reach of a three-phase power line. Coast Guard management in Halifax has given conditional approval to use the site under a permit available at a nominal fee. The Department of Fisheries and Oceans has reviewed our tentative plans and has cleared the project as being of no significant threat to endangered species.

Recent indications the Annapolis Royal Tidal Power Plant could be decommissioned by Nova Scotia Power Inc. and the property returned to the Province of Nova Scotia creates possibilities of reusing the site as a location for an array of tidal turbines. The above turbine design has already been assessed by the Department of Fisheries and Oceans as not posing a threat to marine life, which should allay public fears of continuing the fish kills caused by the existing plant.

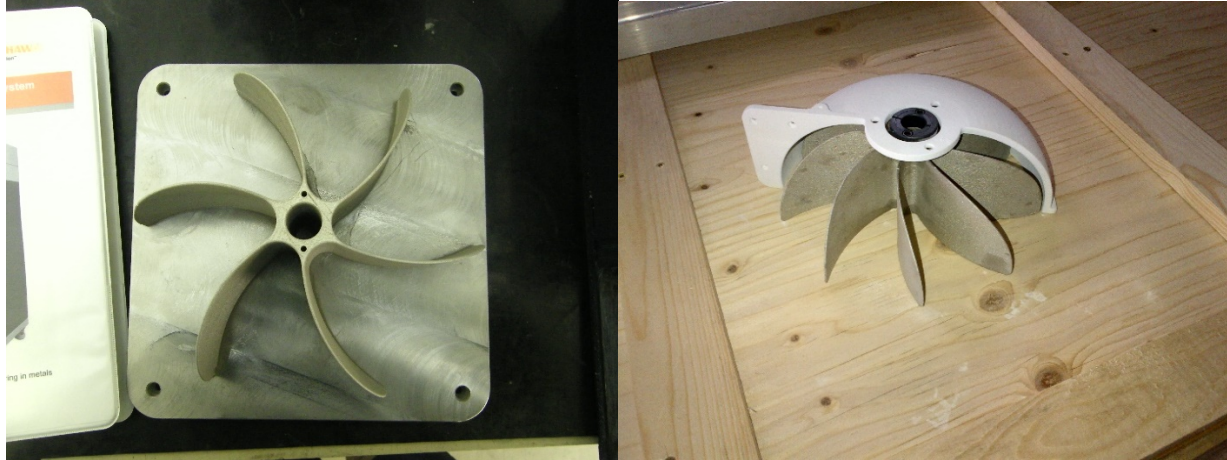
If the location could be used for a cheaper, more efficient, safer tidal energy system, the Town of Annapolis Royal would be the logical municipality to creating its own Utility Department to run it and enjoy its benefits.

New Testing:

Vertical axis turbines are inherently less efficient than horizontal axis turbines, but there are design features that can close the gap and allow vertical axis turbines to generate a lower LCOE than their horizontal axis rivals.

In the photo (left) below, the six bladed drive head of the turbine prototype is shown in an aerial view. In operation, the water flow of the tidal stream would come down from the top of the photo exerting pressure on all blades at the same time. Because the blades are curved, the drive head will rotate clockwise since the blades on the right of the axis will capture more energy, while the blades on the left of the axis will simply create drag. The net rotation is just the difference between the forces on both sides. This is the source of the less efficient performance of vertical axis turbines compared to horizontal axis turbines.

One of the ways this offside drag can be reduced is to deflect the flow of water away from the left side using a half-cover as illustrated (right) below.



In tow tanks and flow tanks the deflector worked well with a three bladed drive head, but lost power when used with six and nine bladed heads. The deflector appears to set up a pumping effect when the tolerances between the blades and the cover are tight. We expect to eliminate the problem by redesigning the cover. This issue is dealt within the available Dalhousie engineering reports.

A further method of increasing the rotational speed of vertical axis turbines has been identified by researchers at Stanford University. They found that when placed in staggered arrays, vertical axis turbines concentrate water flows in their wake that strike downstream turbines with ever greater force producing ten times as much power as horizontal axis turbines. It's an effect seen in nature with the schooling of fish and in flying flocks of birds. We would also like to test this effect as part of a pilot project.

If we succeed in increasing the rotational speed of our vertical axis turbine with this testing, the LCOE could become so low that our approach will become a disruptive technology meeting the Pilot Project Program's goal of accommodating "transformative, best in class municipal projects."

Project Milestones:

Monitor possibility of the Annapolis Royal Tidal Power Plant being decommissioned and made available as a test site.

Secure permission to use the Canadian Coast Guard property at Victoria Beach, Annapolis County, N.S.

Confirm with Fisheries and Oceans that the project can still proceed.

Develop three new, 1 metre diameter prototypes.

Prepare test site and install 3 prototypes.

Complete R&D testing to improve rotational speed of prototype by altering design of deflector and test the effectiveness of an array of three or more prototypes.

Determine LCOE (levelized cost of electricity) for technology.

Secure intellectual property through patent applications.

Demonstrate site operation to wider community.

Look at feasibility of establishing a Town owned Tidal Power Turbine Array at the Annapolis River Causeway site.

Project Budget:

Salaries	\$350,000
Test site acquisition	2,000
Prototypes (three)	60,000
Cabling and Battery Storage	20,000
Testing Instruments and equipment	8,000
In tank testing at Dalhousie University	50,000
Travel and Accommodation	10,000
Total	\$500,000

Smart Grid Development:

The successful application of this technology will encourage the development of smart grid interconnections among smaller coastal communities. The smaller scale and less complicated servicing and maintenance of our turbine will allow smaller municipalities to own and operate a renewable energy tidal array. The predictable, stable, but intermittent nature of the tides will be ideally compatible with a smart grid. Communities operating utilities with a tidal component would be able to meet their own needs during active power production, share power with other communities on the grid when they have a surplus, and rely on a larger regional grid in times of shortage. Community level power production would lead to the return to community-owned and operated electrical utilities as we now have in Berwick, Antigonish, and Mahone Bay.

Replication and Widespread Adoption:

This tidal energy technology has been developed to take advantage of an under-utilized sector of the marine environment. Large scale tidal turbines are confined to large, deep tidal streams, locations that are relatively rare around the world. Our turbine is compatible with tidal streams with only a few feet of range, of which there are millions of sites worldwide.

In addition, the turbine need not be used exclusively in tidal water. With some adaptation to allow it to be removed from the water for servicing, the turbine can serve as a river turbine. There are a great many communities, especially in Northern Canada and in the Prairie Provinces, that were established on rivers because water transportation was, and often still is, the only means of transportation.

The turbine design may also be able to make use of wave energy by capturing the streaming water in "rip tides" or "rip currents." On beaches, swimmers often drown trying to swim against the current, not realizing it is a narrow stream channeled out of a depression where waves cause an accumulation of water. Our tidal turbine may be able to capture useful energy in a rip current, broadening the opportunities to produce renewable energy.

If manufactured with light weight composite materials our turbine could also be put into service as a wind turbine. The horizontal axis wind turbine with its long blades, heavy steel tower and massive base are often incompatible with certain locations. Urban locations rarely include wind turbines because they require too much space and where high real estate prices make them uneconomic. A light, low profile wind turbine could be acceptable as a way of capturing wind energy on urban rooftops. Even in wide open areas that have good wind exposure, many people consider the horizontal axis wind turbine an eyesore. Our turbine with its low profile, no tower, and relatively small base may be a more acceptable alternative to those who value a less obstructed view plane.

Greenhouse Gas Emission Reduction:

As a renewable energy source tidal power's principal benefit is the displacement of fossil fuels and its attendant reduction of greenhouse gases, primarily carbon-dioxide and methane.

On the assumption that the production of one kilowatt-hour of electricity from a fossil fuel fired power plant will generate a little over one pound of carbon-dioxide, we can expect a tidal turbine of 50-kilowatts will displace 50 pounds of carbon-dioxide for every hour it is generating power. Tidal streams stop flowing four times a day at "slack" tides, two low tides and two high tides. In the Bay of Fundy these slack tides last about two hours each, leaving about 16 hours available for full production. Under ideal conditions, a 50- kilowatt turbine running at full power for 16 hours would displace about 800 pounds of carbon-dioxide per day.

This technology is designed to fill a void in the availability of tidal power for smaller coastal communities by keeping size and costs within their financial capabilities. But it doesn't mean the amount of greenhouse gas emissions reduction must remain modest since scaling up can be achieved by installing arrays of multiple units as communities gain confidence in their use. A corresponding reduction in greenhouse gas emissions would be achieved with each new turbine, allowing for a substantial contribution to the fight against climate disruption.

Other

More detailed information is available in three confidential engineering reports from Dalhousie University's Engineering Department which are available to the Town's councillors and staff as required.

The topics in this draft have been addressed to meet the requirements of the FCM's Green Municipal Fund application guidelines, which would have to be met in any formal, joint submission.

TAB 1b - Developmental Tidal Feed-in Tariff Program

From <https://energy.novascotia.ca/renewables/programs-and-projects/tidal-fit>

[Home](#)

Renewables

- ▶ Wind Energy
- ▶ Hydro-electricity
- ▶ Geothermal Energy
- ▶ Solar Energy
- ▶ Bioenergy
- ▶ Marine Renewable Energy
- ▶ Energy Storage
- ▼ Programs and Projects
 - Enhanced Net Metering
 - ▶ COMFIT
 - Competitively-Sourced Commercial Renewables
 - Developmental Tidal Feed-in Tariff Program**
 - Maritime Link/Lower Churchill Hydroelectric Project
 - Innovacorp Demonstration Centre for the Resource-Based BioEconomy
- Events
- Resources and Publications

Energy Efficiency

Oil and Gas

Geoscience and Mines

Electricity

Industry Development

Career Development

Featured Stories

State of emergency declared. See [Novel Coronavirus \(COVID-19\) updates](#) and check for location, program and service [closures, cancellations and changes](#).

Developmental Tidal Feed-in Tariff Program

The Developmental Tidal Feed-in Tariff (FIT) program is similar to the Community Feed-in Tariff (COMFIT) program as it encourages the development of specific renewable energy projects by guaranteeing a rate per kilowatt hour for the energy the project feeds into the province's electricity grid. It is different as it is designed to incent tidal energy developers to test and deploy their large-scale in-stream tidal energy projects in Nova Scotia. This tariff applies to in-stream tidal single device projects or arrays greater than 0.5 megawatts (500 kilowatts). There are no limits on ownership.

In May 2015, the Nova Scotia Utility and Review approved the Power Purchase Agreement (PPA) for the Developmental Tidal FIT program. View the decision on the Board's [website](#) (Matter ID: M06793).

Five developers have received approval through the Program for a total of 22.0 megawatts (MW) of electricity:

- Minas Energy, 4.0 MW
- Black Rock Tidal Power, 5.0 MW
- Atlantis Operations Canada, 4.5 MW
- Cape Sharp Tidal Venture, 4.0 MW
- DP Marine Energy, 4.5 MW

The Utility and Review Board sets rates for developmental tidal projects. The Board developed two rates-- Developmental and Testing--in a declining block structure. The rates are:

- Developmental (15 year term): \$530 per megawatt hour (MWh) for projects producing ≤16,640 MWh per year OR \$420 for projects producing >16,640 MWh
- The Testing rate has two 'paths.'
 - Path I is offered for 3 years: \$575 for projects ≤ 3,330 MWh OR \$455 for projects > 3,330 MWh
 - Path II is offered for 15 years and follows Path I: \$495 for projects ≤ 16,640 MWh OR \$385 for >16,640 MWh

View the complete [Board decision](#) regarding the FIT rates.

For information about tidal energy opportunities in Nova Scotia, click [here](#).