

NS R&D Forum 2014

Leveraging small-scale tidal COMFIT Projects to Maximize Local SocioEconomic Benefits

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- Between 2000 & 2005, The Province of Nova Scotia witnessed the rise of both the CEDIF Program and community energy initiatives including the network of companies referred to as the “Scotian WindFields”.
- Digby County proponents the first to establish a CEDIF and erect a wind turbine
- ***Meanwhile on Brier & Long Islands, Digby County, Nova Scotia....***

The Impetus

- A core group of local community and business leaders ponder the challenge of stimulating the local economy severely impacted by the decline of the fishery and its population.
- Dwindling population. Seasonal businesses. Youth leaving to find work. Heavy reliance on fossil fuels for industry, transportation and heating.
- How do we bring our kids home? How do we attract new residents and visitors? How do we keep essential health, community and educational services? How do we create year-round employment for existing businesses and attract new ones?
- What are our strengths and what do we need to turn things around? What will grow our population and economy once again?
- But what was the Enabler, the juggernaut that could perhaps create the demand for all the other socioeconomic "Bigger Picture" benefits the community aspires to?

The Challenge

- The vision for the Community is complex and all encompassing which must be understood and embraced to be successful:
 - ❖ Sustainable Transportation
 - ❖ Local Food Supply & Agriculture
 - ❖ EcoTourism & Recreation
 - ❖ Cultural & Heritage
 - ❖ Health & Wellness
 - ❖ Public Infrastructure
 - ❖ Real Estate Developments
 - ❖ Sustainable Energy

The Bigger Picture

- If Digby County and the Islands could become a hub for tidal energy research , development, and generation...maybe the rest of the Bigger Picture could follow:
 - ❖ Local community-owned Tidal Projects would create opportunities for local supply chain and profits back to community
 - ❖ Ongoing operations & maintenance would create new jobs
 - ❖ The amount of R&D required to achieve our goal would bring many new people and new skills to the Islands
 - ❖ Establishing ongoing testing and demonstration infrastructure, services and educational opportunities would attract industry and academia from around the world
 - ❖ Becoming world leaders and applying our expertise and resources to larger initiatives in the Bay of Fundy, and those around the world, would bring further opportunities back to the community

The Enabler

- Fundy Tidal was established on Brier Island in 2006 as a result of local interest to generate marine renewable energy from the tidal currents of the Outer Bay of Fundy, Nova Scotia including Digby Gut, Grand Passage and Petit Passage.
- Fundy Tidal's focus is small-scale tidal energy projects that involve community ownership and local benefits.
- Fundy Tidal's vision is to proactively create opportunities in the emerging marine energy sector with a focus on locally-owned and operated ventures to insure economic development opportunities that benefit local communities and businesses.
- Established as a Community economic development corporation and currently developing 5 small-scale tidal COMFIT projects in Nova Scotia and engaged in numerous R&D initiatives with industry and academia.

Fundy Tidal Inc. (Fundy Tidal)

- Tax Base
- FTI Staff
- University Researchers
- Providers of Turbines, Ancillaries & Equipment
- NS & Local Supply Chain: Hospitality & Service Industry, Professional Services, Local boats and crew, manufacturing & assembly, engineering and technical services
- Debt & Lease Providers
- Shareholders (if profitable!)
- New full & part-time residents
- Many interesting visitors. On the map, internationally!

- ***20 years of O&M for COMFIT PPAs alone. What is the longevity of a marine energy or community energy systems test site?***

SocioEconomic Benefits?

- Spend as much of the budget locally and leverage these expenditures wherever possible to generate further R&D initiatives
- Establishing ongoing research and demonstration facilities both onshore and offshore across all locations
- Expanding R&D efforts with industry and academia such as Environmental Monitoring Systems, Engineering Challenges, Community Engagement & Development
- Working with multiple turbine and technology partners and designing systems that can be serviced by local supply chain
- Insuring the community is adequately prepared to take advantage of new activities and opportunities
- Establishing the Digby Community Energy Trust to insure benefits accrue back to community and ongoing stimulus is created focused on marine and community energy systems.

Leveraging the COMFIT Opportunity

- 3 MW of “small-scale” tidal developments in Digby County (~\$30 million)
- ~20 MW of “large-scale” developments at FORCE (~\$125 million)
- Ongoing O&M (20+ years)
- Undetermined amount of R&D funding, infrastructure funding, etc..
- ***How much will be spent “locally”? How many new jobs will be created? How many jobs will be retained or expanded? Where will the project benefits accrue?***

The Next 3 Years

- SocioEconomics Scoping Study for Tidal Power in the Bay of Fundy (FERN)
- Strategic Environmental Assessments & Statement of Best Practices (NS DOE)
- Community Engagement Strategies & Community & Business Toolkit (ATEI)
- NS Marine Renewable Energy Strategy & FITS in place (Province of NS)
- Value Proposition for Tidal Energy Development in Nova Scotia, Atlantic Canada & Canada (OERA)

Building Blocks

- Another 44 MW of capacity at FORCE available with current infrastructure. Expansion of COMFIT projects a function of increasing local load or implementing advanced storage and smart-grid solutions
- Possible expansion of services and activities at both FORCE and Fundy Tidal test sites.
- All rely on how well we do in the next 2-3 years, on many fronts.
 - *We have placed a lot of hopes, time & resources in developing the marine renewable energy industry in NS with the aim of benefitting Nova Scotians, generating direct and indirect employment, contracts for supply and service and growing an industry that can participate in global opportunities.*
 - *Moving beyond the next few years will require adequate evidence to stakeholders, both public and private, to merit further support and investment.*
- ***How will we qualify, quantify and measure our success? What analysis, research and studies are required?***

What follows?

Thanks