

## January 21<sup>st</sup> 2019 BRIEFING NOTE FOR Municipal CAO's in the Western Region:

### UPCOMING WESTERN REN ENERGY PROJECT

#### PURPOSE

The purpose of this briefing is to notify CAOs in the Western region about an upcoming project of the Western Regional Enterprise Network (Western REN) titled the “Western Regional Energy Investment Plan (WREIP).” The Western REN applied for funding for this project through the Low Carbon Communities program offered by Nova Scotia Department of Energy and Mines<sup>1</sup> and has been awarded **\$55,000** towards this project (**total project cost is \$165K** – \$110K cash, \$55K in-kind). The Western REN is currently working on securing additional funding.

#### BACKGROUND

The electricity transmission lines along the Valley corridor and into the Western region are the weakest in Nova Scotia at 69kV and are understood to be at or near capacity. **This dated infrastructure is impeding investment attraction.** There have been two recent energy events in the region that included a range of stakeholders, which helped to identify the extent of this issue and potential partial solutions.

With a shift towards green energy across Nova Scotia, and wind, solar, biomass, and tidal energy generation opportunities within the Western Region, the region has the potential to lower its greenhouse gas (GHG) emissions, alleviate pressure on the grid, and find opportunities for efficiencies to save municipalities, businesses and residents money.

The Department of Energy and Mines intends for the Low Carbon Communities program to highlight some potential green energy projects that would be eligible for Infrastructure Canada's Building Canada Fund. The fund contains streams for green energy projects that increase the availability and reliability of green energy, improves air quality, and reduces GHG emissions. Funding applications were received between September 10<sup>th</sup> and October 12<sup>th</sup>, 2018.

#### CURRENT SITUATION

The Western Region is presently generating a fair amount of green energy, and has buy in for the energy stream at various levels of government, as well as with businesses and institutions. For example, there are:

- Fourteen wind energy farm sites in the Western Region, with a combined fifty-two turbines, generating seventy-four megawatts of power; and
- Three hydro sites, generating a combined thirty-nine megawatts of power.

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<sup>1</sup> <https://novascotia.ca/news/release/?id=20180910003>

The Western REN's Value Proposition work has identified three growth areas for the region; Fisheries, Forestry, and Renewable Energy. Examples of identified opportunities are green transition potential for the Fisheries Industry, with a largely diesel fueled fleet; and the Forestry industry requirement for markets for its low valued wood, such as the utilization of biomass for heat and electricity generation<sup>2</sup>.

The Town of Bridgewater has found success in their Community Energy Investment Plan by taking a baseline of the energy consumption and GHG emissions within the town, as well as identifying future targets and potential solutions to meet them. This process estimated the total cost of energy for the Town and thereby the amount annually that was leaving their local economy<sup>3</sup>.

The Western REN is building on the sustainability and energy successes developed by the Town of Bridgewater (ToB) to launch a new initiative called the Western Regional Energy Investment Plan (WREIP) that will accelerate the transition of the Western Region and surrounding area into a sustainable energy future. Western REN staff have worked closely with experts from the ToB to identify lessons learned, and opportunities in a scaled approach. Efficiencies have been developed by their consultants, which should translate to reduced costs, which will also benefit from economies of scale at the regional level.

#### **NEXT STEPS**

The WREIP aims to reduce GHG emissions, energy spending at the municipal unit, institutional, business and household level, and reduce the load on the power grid thereby reducing the impact of this barrier to economic and population growth. **Portions of this process may require limited staff hours from employees of the municipalities of the Western Region, such as Economic Development Officers, Directors of Finance, Building Inspectors, etc.**

The steps are as follows:

1. **Release a Request for Proposals (RFP) for a consultant to provide technical support.**
2. **Create a baseline of energy consumption, identifying opportunities for efficiencies, and energy performance benchmarking**
  - a. Provides a starting point for the region to track improvements in efficiencies over time and set targets for the cost-effectiveness of energy consumption at the municipal, business, and household level.

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<sup>2</sup> [https://uploads-ssl.webflow.com/5add667710eb1178f1aa9149/5afed97edf02526624155b04\\_WREN\\_Brochure\\_EG\\_APR19%20cover.pdf](https://uploads-ssl.webflow.com/5add667710eb1178f1aa9149/5afed97edf02526624155b04_WREN_Brochure_EG_APR19%20cover.pdf)

<sup>3</sup> <http://www.energizebridgewater.ca/>

- b. Innovative technologies and approaches will help meet targets with the added benefit of reducing GHG emissions.
  - c. Regional data collection and analysis would benefit from economies of scale, as would any future investments in technology.
3. **Identify areas that would benefit from local energy storage from locally generated green energy facilities**
- a. Local energy storage from local green sources will reduce the utilization of coal and natural gas generated electricity from elsewhere on the grid, minimizing transmission losses of as much as 6%.
4. **Identify opportunities for district energy and heating models**
- a. The Western Region has many clusters of government facilities, business parks, and seafood processing, manufacturing, and cold storage. Clusters can benefit from redistributing waste heat.
  - b. Larger clusters may benefit from locally generated electricity and heat from biomass sources, such as local waste woods, creating new markets for local waste wood, increasing woodlot value, and reducing the travel distance for processing.
  - c. Cost savings in clusters can be reinvested in the businesses, institutions, and municipalities.