



cumberland

ENERGY AUTHORITY

May 11, 2018
Ray Hickey

NSFM 2018
Spring Workshop

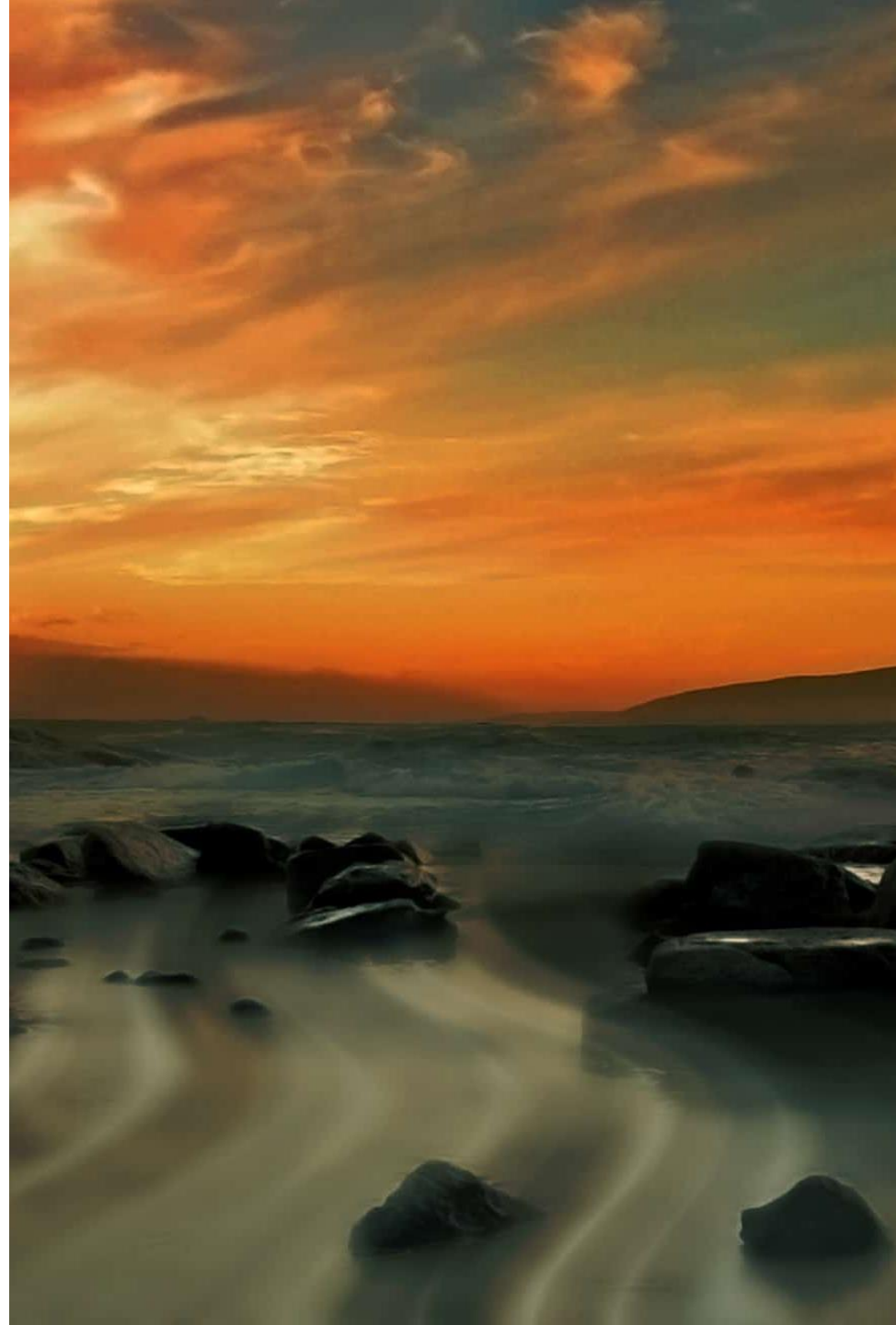


What is it?

The **Cumberland Energy Authority** is a wholly-owned corporation of Municipality of the County of Cumberland.

An Inter-Municipal Agreement was formed between the Municipality of the County of Cumberland, the former Towns of Parrsboro and Springhill in 2012.

In 2010 a study was established "Regional Energy Strategy for Cumberland County" which showed large alternative and renewable energy opportunities thus showed the need for such a partnership in our communities.



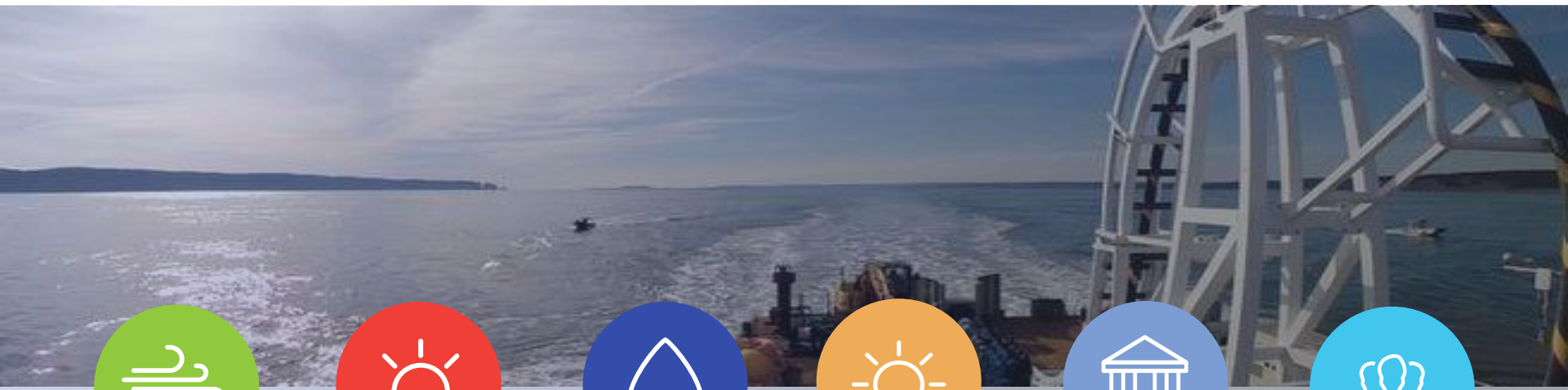


Mission

Setting the standard of leadership in local government for the development of renewable energy, support of the progressive energy industry and the encouragement of a sustainable future for our communities.

Strategic Priorities

for implementing the Regional Energy Strategy



**Development
of Wind Energy**



**Development of
Geothermal Energy**



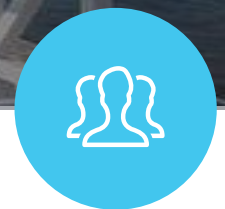
**Development
of Tidal Energy**



**Development
of Solar Energy**



**Municipal
Sustainability
Practices**



**Strategic
Organization**



Tidal Energy

The Bay of Fundy

The contains the power of 30 nuclear power plants.

Research and Development

Harnessing the power of the tides is still in the early stages of discovery.

A Significant Investment

One of the largest research projects in Canada.

Tidal Energy

Our Role in Tidal Development

Coordinate efforts with various stakeholders including developers, community groups, local businesses, and other levels of government.

Advantages

- Proximity to FORCE (10 kilometres west of Parrsboro)
- Existing available infrastructure
- Access to grid
- Skills & services
- Tertiary industry



Mine Water Geothermal Energy



CEA'S Role in Geothermal Development

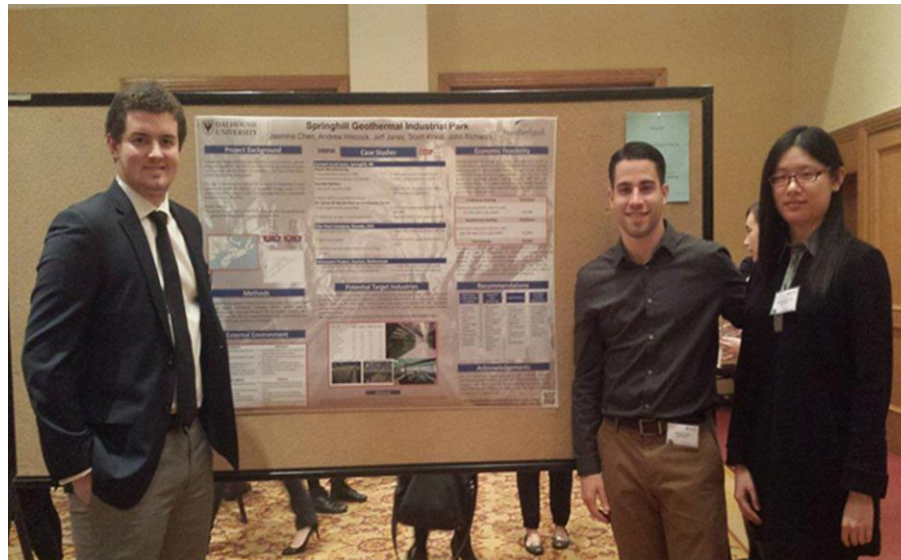
Springhill was the original world leader in championing the use of groundwater from flooded coal mine workings for heating and cooling buildings (since 1989), with many other attempts world-wide to follow the lead of Springhill.

The planning, development, construction, and operation of Geothermal Mine Water resource in Springhill.

Mine Water Geothermal Energy

Geothermal Development Work to Date

- Geothermal Research Report (Verschuren Centre)
- Management Without Borders Program (Dalhousie University)
- Geothermal Energy Use Study (Efficiency One)
- GIS Analysis & Deep Mine Water Exploration Program



Energy Use Study



- Produced by Efficiency One
- Studied existing businesses using Geothermal Heat in Springhill
- Compared with traditional heating systems
- Examined other potential areas of savings

Energy Use Study - Findings

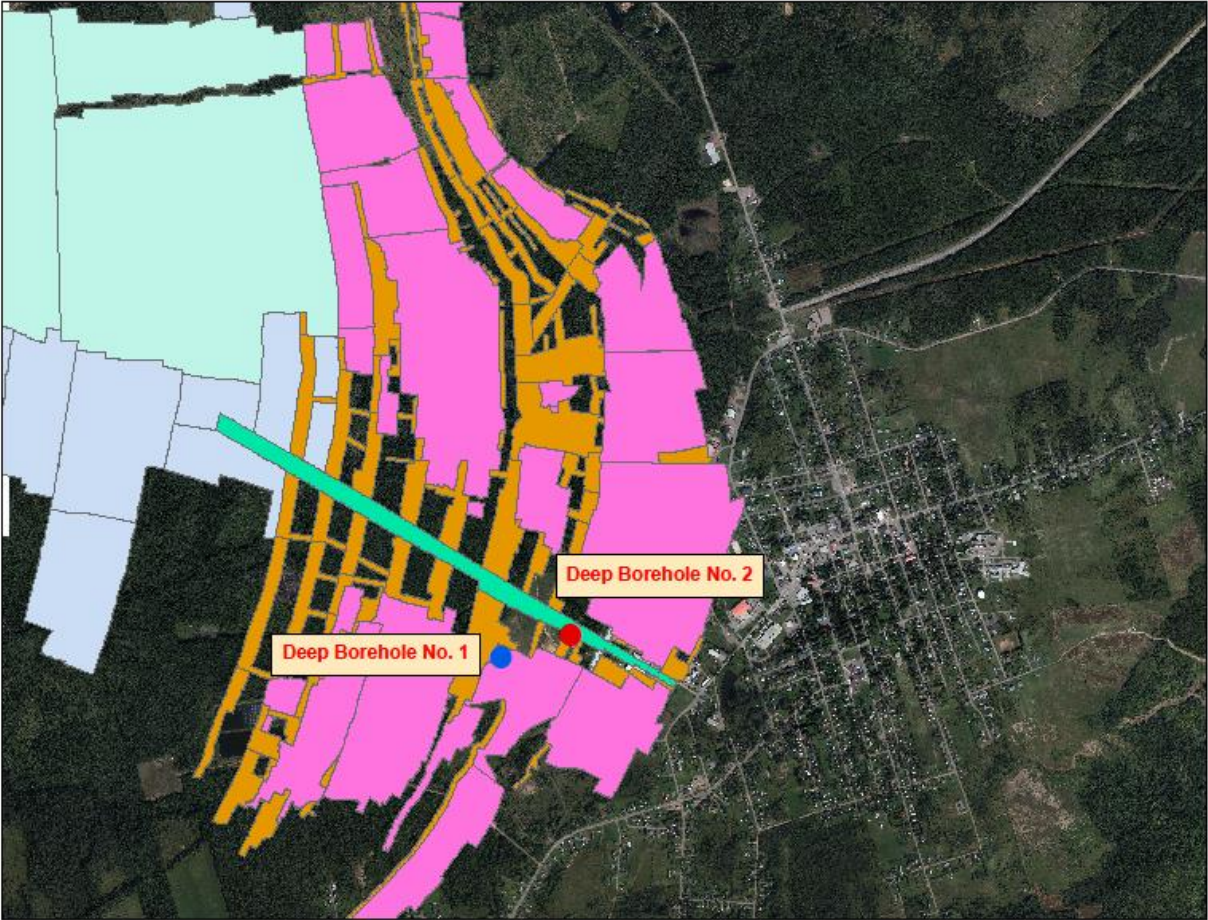
Facility	Energy Savings vs Conventional Heating/Cooling
Community Centre	48-56%
BYWAY Packaging	63-78%

- Extremely Significant Energy Savings
- Similar reduction in Carbon Footprint
- Ideal for industries with high heating and cooling demands such as Greenhouses or Data Centres

Deep Mine Water Exploration

- Examination of the deeper mine workings
- Just completed March 31, 2018
- Expectation of warmer water at greater depth
- Brian Herteis will provide in-depth results

Springhill Mine Water Geothermal



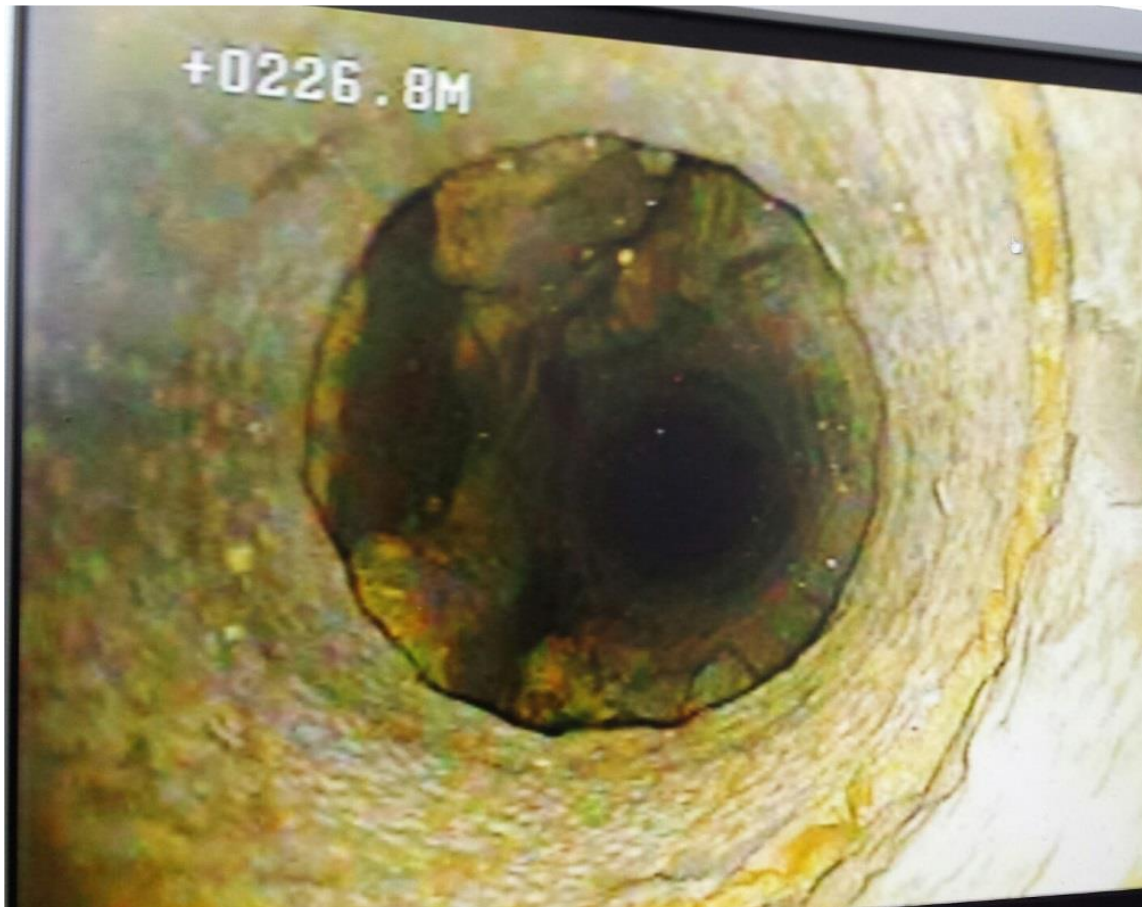
Springhill Mine Water Geothermal



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Springhill Mine Water Geothermal

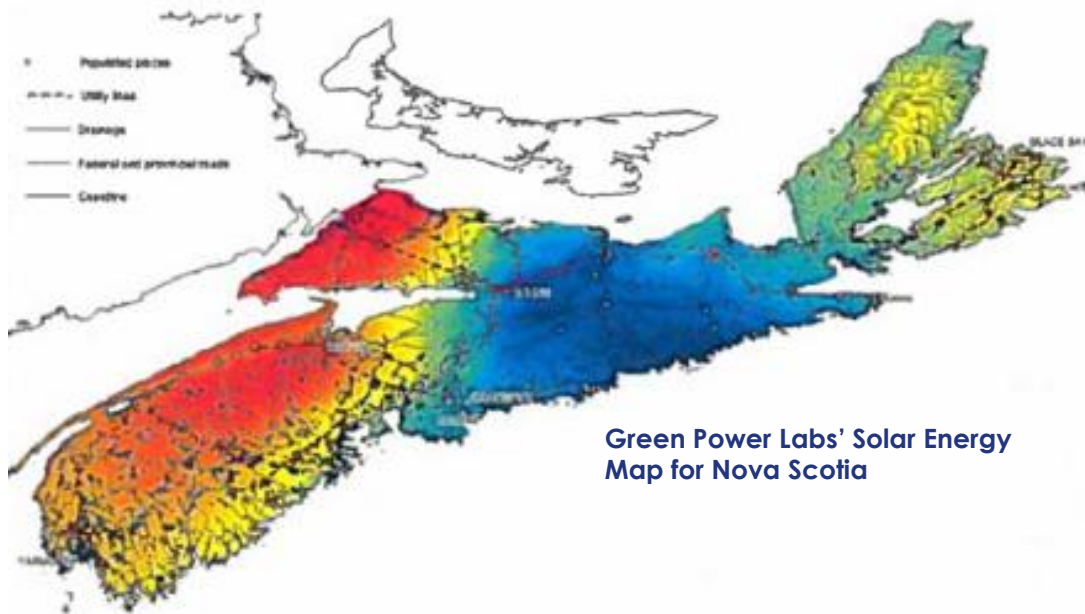


Mine Water Geothermal Energy

CEA'S Next Steps

- Further testing of the future park lands
- Business Park and District Energy System design
- Comprehensive Marketing Plan
- Aggressive Business Attraction
- Construction

Other Projects



- Renewable Energy Literacy Program (Clean N.S)
- Capitalize Solar Energy for Cumberland County residents (PACE)
- Extensive Wind Development in Cumberland County & Potential

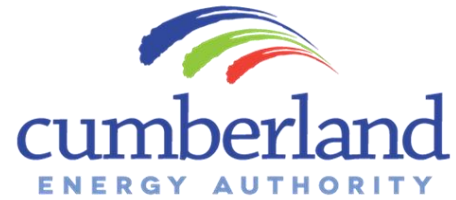


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Conclusion

Combating Climate Change and developing Renewable Energy are key strategic priorities of the Municipality of the County of Cumberland.





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