



# IMPLICATIONS OF IMPACT ASSESSMENT APPROACHES ON TIDAL ENERGY DEVELOPMENT IN ATLANTIC CANADA

Presented by:

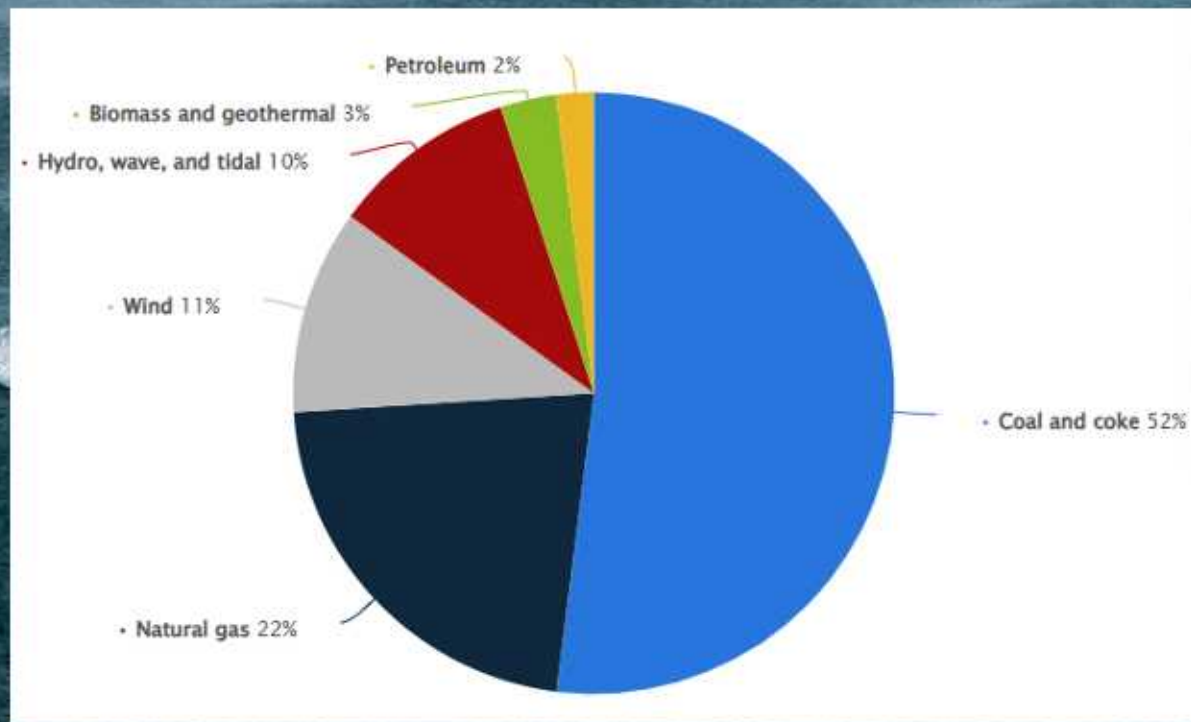
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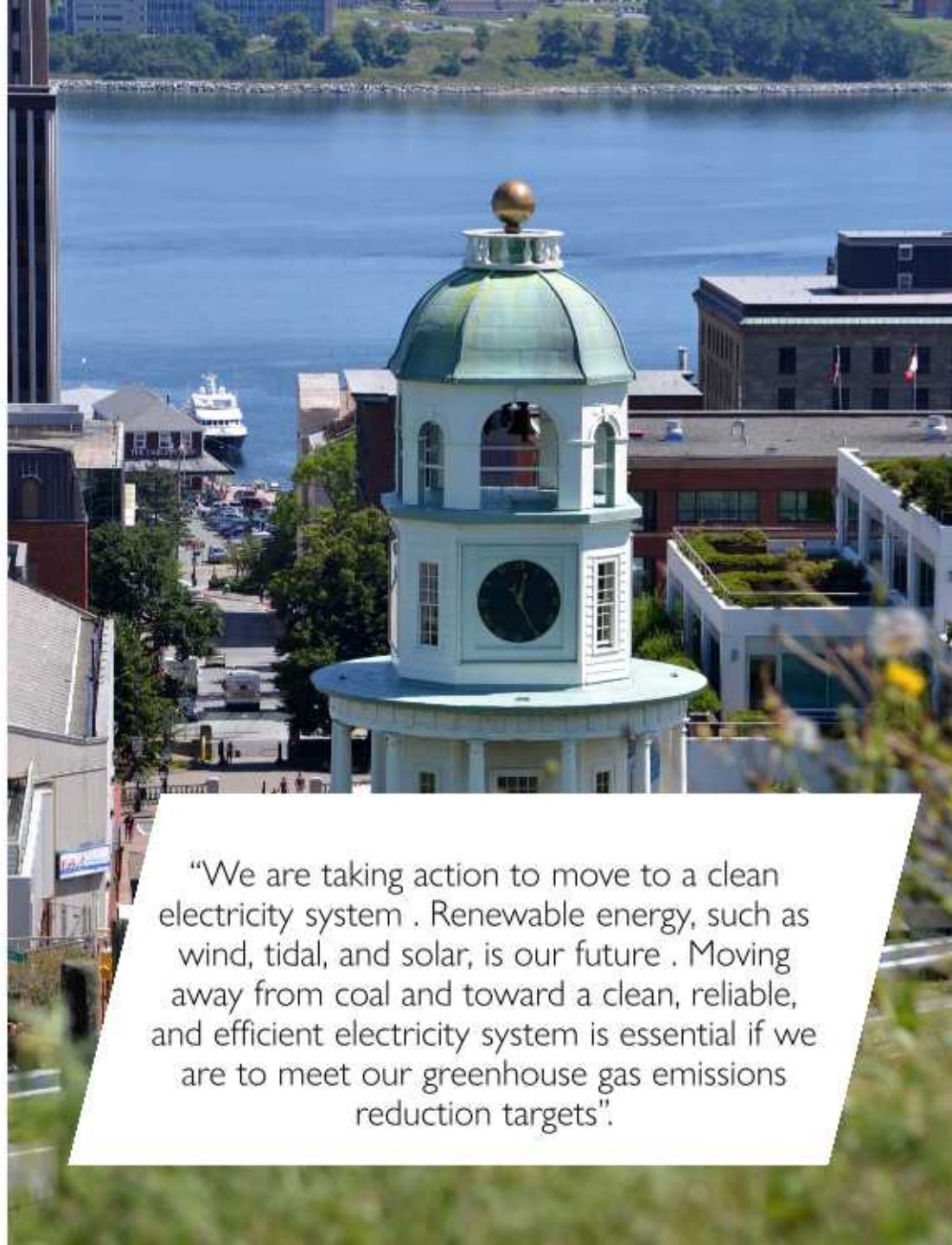


- Need for continued advancement of renewable energy and promotion of Blue Economic growth has led to increased attention on marine renewable energy.
- Assessing the impact of new energy projects has been largely on the impact on fisheries (habitat, ecosystem relationships etc.).
- Engagement of fishers is a priority.
- But clean energy development addresses broader environmental, social and economic issues.

# NOVA SCOTIA ENERGY

- Nova Scotia's primary source of electricity generation is coal, accounting roughly 51% of the province's total generation. Nova Scotia also produces electricity from oil, natural gas, hydro, wind, and biomass.





"We are taking action to move to a clean electricity system . Renewable energy, such as wind, tidal, and solar, is our future . Moving away from coal and toward a clean, reliable, and efficient electricity system is essential if we are to meet our greenhouse gas emissions reduction targets".

# GOVERNMENT POLICY & PROGRAM

- There remains a heavy dependence on fossil fuels, despite public desire and government policy to reduce use of fossil fuels.
- Nova Scotia has an ambition plan to reduce GHG production in the energy sector - Our Climate, Our Future: Nova Scotia's Climate Change Plan for Clean Growth.

# TIDAL ENERGY IN NOVA SCOTIA

## Bay of Fundy Tides

- The Bay of Fundy is known for the highest tides in the world.
- The Minas Passage in the inner Bay of Fundy is estimated to have **7,000 megawatts of energy potential**, roughly equal to the power needs of 2 million homes (all of Atlantic Canada).
- Home of the Fundy Ocean Research Center for Energy (FORCE), Minas Passage, Bay of Fundy, which is a not-for-profit research centre for in-stream tidal energy.

## FORCE

- Test site for tidal energy research and development, hosting various tidal turbine prototypes and demonstration projects. The FORCE project was assessed under a joint Canada-Nova Scotia Environmental Assessment (EA) review process in 2009, updated in 2021.
- Collaborative platform for industry, academia, and government to advance tidal energy technologies and assess their environmental and socio-economic impacts.
- Participating test projects fall under the EA conditions. Individual projects at the FORCE site must complete an EEMP for near field effects for DFO authorization in accordance with EA conditions.
- November 2020, FORCE received \$28.5 million from the federal government with an aim to deliver power to Nova Scotia Power in phases starting in 2022.

# TIDAL ENERGY DEVELOPMENT PROJECTS

The Cape Sharp Tidal project faced public confidence issues, technical challenges and operational issues.



The Black Rock Tidal Power project face delays progressing through the development and regulatory process.

The MTP project faced regulatory challenges and delays, and its future development is uncertain.



The Uisce Tapa project faced continued delays due to a protracted regulatory process. Project planning is continuing with a “staged approach” as per the Report of the DFO Task Force on Sustainable Tidal Energy Development.

# BAY OF FUNDY ENVIRONMENTAL CONCERNS

- Each Tidal Energy initiative has undertaken public engagement as part of the Environmental Assessment and permitting process. DFO requires an Environmental Effects Monitoring Plan (EEMP) for near field and far field impacts.
- Despite EA/IA approvals EEMP approvals have become increasingly evasive due to public response.
- DFO has recently released the Report of the Task Force on Sustainable Tidal Energy Development on the Bay of Fundy.





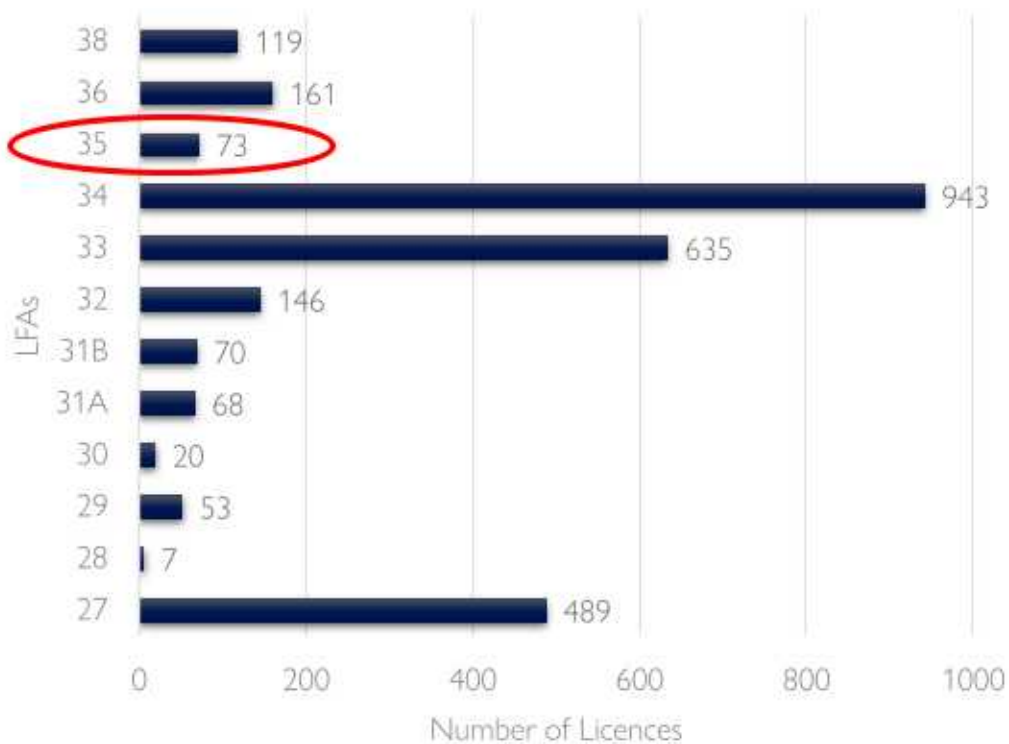
# FISHERIES IN NOVA SCOTIA

- Historically dependent on groundfish, significant reductions in biomass, and in some cases collapse of stocks, there has been an increasing dependence on lobsters for fishery livelihood and income in Nova Scotia.
- Over \$1.0 billion in landed lobster value (2021) and increasing.
- Nova Scotia accounts for 46% of the lobster volume (metric tonnes), with higher average prices for Nova Scotia lobster (\$20.97 per kg) than the other provinces. Lobster represents nearly half (48%) of the landed value for all commercial fishery species in the region.



## 2021 LFA 35

Volume kg	Value \$
1,557,674.628	\$3,5491,852.99



# NOVA SCOTIA LOBSTER FISHERY

- Inner Bay of Fundy (LFA 35) Contribution to fishery:
  - Effort (73 licenses)- 2.6% of total lobster fishery
  - Landings (1,558 MT)-1.4% of total lobster fishery



# PUBLIC PERCEPTION



“[Cape Sharp Tidal] collected their so-called social license by surveying 500 people and that’s how they moved forward with the project. We have over 40,000 names saying we’re concerned and this is wrong,” Porter said (Source: Global News January 24, 2017)


# RESPONSES & IMPLICATIONS

- IA have not included the “global” or broader regional impacts/benefits that equitable address concerns of the broadest population.
- Long delays in regulatory permitting following completion of IAs have been driven by concerns and perceptions of fishing industry which has mobilized popular support (politicizing).
- Delays have eroded investment confidence.
- Implications
  - To meeting GHG reduction targets (broad socio-ecological implications)
  - To energy security/energy transition
  - Innovation
- Fisheries and Oceans Canada has recently completed a task force study on Sustainable Tidal Energy Development in the Bay of Fundy. Includes a paragraph on “Considering climate change in decision making and growing the clean economy”.





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**CONTACT  
INFORMATION**

# THANK YOU

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