



**econext**

Accelerating Clean Growth  
Newfoundland & Labrador

Recommendations for a  
Newfoundland and Labrador  
**Renewable Energy Plan**

November  
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## Executive Summary

Nations and industries worldwide are facing growing pressures to reduce their greenhouse gas emissions. Intensifying global discussions around concepts like energy transition, decarbonization, net zero, etc. are accelerating the demand and development of clean energy resources.

Newfoundland and Labrador has what the world needs; its vast untapped clean energy resources provide for substantial renewable electricity, hydrogen, and clean fuels development



prospects. This presents the province with significant opportunities to grow and diversify its economy.

*econext* sees four different drivers of renewable energy development emerging in the province. First is the possibility of using renewable energy in the support of new future 'green' heavy industrial operations (e.g., mining or manufacturing at net zero with the use of local clean

energy resources). Second is the development of renewable energy in support of decarbonizing existing industrial operations in the province. Third is the opportunity for clean energy in the province to help other provinces – and even countries – reach net zero by the year 2050 via the export of electricity or clean fuels. And fourth is the need over time to increase the reliability, resilience, and capacity of the domestic electricity grid.

*econext* is making 36 recommendations for the Government of Newfoundland and Labrador to consider in the development of a new renewable energy plan. These recommendations are based on the barriers that must be addressed and the enablers that must be put in place to meet the renewable energy opportunities presented by these four drivers. The recommendations are grouped into five categories: (1) eliminating regulatory and policy barriers; (2) enacting regulatory and policy supports; (3) stimulating and supporting growth; (4) fostering innovation; and (5) leveraging partnerships.

A thread that runs through the recommendations is the importance of opening the door to greater participation in the sector by private industry. Industry can bring a wealth of national and international experience to the table, and competition will allow for greater efficiency, effectiveness, and innovation. Industry involvement in renewable energy development can attract new investment into Newfoundland and Labrador and accelerate economic growth and diversification.

To accomplish this, amendments to public policy and regulation will be required. Change can be difficult, but *econext* believes that the 36 recommendations it is making are in the best interests of Newfoundland and Labrador and will help it achieve its renewable energy potential.

The opportunities before the province are substantial. Newfoundland and Labrador is blessed with a wealth of resources that could help it become a global leader in the energy transition and provide good green jobs within the province for many years to come. It is time to think big and take bold action to secure that future.



*econext* hopes that the Provincial Government finds value in the recommendations it is putting forward. *econext* and its members stand by to help in whichever way that they can to finalize and implement a new renewable energy plan for Newfoundland and Labrador.

## Introduction and Context

### Background

On October 14, 2021 the Government of Newfoundland and Labrador began public and stakeholder engagements towards the development of its Renewable Energy Plan. The creation of this plan presents an important opportunity for the province to set the stage for the

#### Consultations Begin on the Development of a Renewable Energy Plan

Industry, Energy and Technology  
October 14, 2021

The Provincial Government is inviting input from stakeholders and the public on the development of a renewable energy plan to provide a sustainable long-term vision for Newfoundland and Labrador to maximize its renewable energy future.

Beginning today, and until Thursday, November 4, 2021, feedback can be provided during this virtual consultation process at [engageNL.ca](https://engageNL.ca). This will include an online questionnaire and the option of providing a written submission.

The plan will be guided by public input, industry expertise and the unique perspective of stakeholders. It will be finalized and made public by the end of 2021.

**Quote**  
"Newfoundland and Labrador has an abundance of developed and undeveloped renewable energy resources. Through consultation

growth and diversification of Newfoundland and Labrador's economy. To reach this potential, it is essential that the policies developed as a result of this plan are strategic and focused.

*econext* is hopeful that its contributions in this regard will be helpful. The actions that are being recommended were developed through a comprehensive engagement and consultation within *econext's* membership and partners. This network included technology developers, project developers, utilities, and suppliers with global renewable energy project experience.

*econext* is an association of businesses that accelerates clean growth in Newfoundland and Labrador. *econext* works on behalf of over 200 members to foster environmentally sustainable economic development. To achieve this, *econext* focuses its activities and initiatives in six areas by providing: a support framework for entrepreneurs and start-ups; networks to help increase productivity and competitiveness; tools to encourage and foster innovation; export and international business development programming; training and professional development opportunities to build capacity; and leadership on policy and advocacy issues.

Through these activities, *econext* has benefitted from exploring renewable energy in Newfoundland and Labrador, considering both the opportunities and challenges associated



with development. It is a fact that the province has immense clean growth potential; its vast untapped clean energy resources provide for substantial renewable electricity, hydrogen, and clean fuels development prospects. As nations and industries move to meet their Paris Agreement and subsequent international greenhouse gas (GHG) reduction commitments, Newfoundland and Labrador has what the world needs.



But the policy and regulatory framework, as it stands today, is a barrier to success. To reach its potential, the province must remove the obstacles that are in place and do more to enable and support the renewable energy industry.

Some of the recommendations that *econext* is putting forward represent substantial shifts in public policy. Change is difficult. But to seize the opportunities before the province, bold action is required. The recommendations *econext* are making are all in the interest of helping Newfoundland and Labrador meet the economic and environmental potential associated with its clean energy assets.

## Vision

*econext* has a vision for the future of the provincial economy. *econext* envisions a Newfoundland and Labrador where...

- A vibrant, diverse, and sustainable economy is driven by renewable energy development and is inclusive of and shaped by the interests of our Indigenous communities.
- Its vast renewable energy resources, including onshore wind, offshore wind, hydro, wave, and tidal, are being developed.



- The local economy is decarbonized and supportive of the renewable energy and clean fuels industries which it is home to.
- 100% of the province's electricity needs are provided by clean energy sources and technologies.

- Transmission infrastructure on land and subsea is in place that allows the province to help other jurisdictions meet their energy transition and emissions reduction objectives.
- The province is positioned as a global leader in enabling the most environmentally sound industrial activity on the planet – from mining, to oil and gas, to heavy manufacturing.
- Clean fuels like hydrogen and ammonia are produced at a grand scale and exported to globally through our ports to help the world fight climate change.
- Meaningful employment opportunities and ‘green jobs’ are in abundance related to the development, maintenance, and operations of renewable energy projects – attracting talent from all over the world to this great province.

## Focus of Recommendations

Though Newfoundland and Labrador is well positioned to achieve this vision, much has to transpire in order to realize it. *econext* sees four drivers for renewable energy development in the province that should be explored and supported:

### 1. Renewable energy in support of future ‘green’ heavy industrial operations

Growing pressures from investors, shareholders, and customers are forcing global industries to improve their environmental performance and re-think their operations. Natural



resource extraction industries like mining and oil and gas are increasingly viewed through the lens of GHGs associated with production. Newfoundland and Labrador, with its rich cache of untapped clean energy resources, can help these industries operate in a more environmentally sustainable way. This is of particular importance to the mining industry, where many of the elements foreseen as being crucial in the energy transition (e.g., nickel for battery technologies), are found in this province. These



elements can not only be extracted using minimal GHGs – but can be further processed right here in the province using readily available clean energy and the avoidance of the shipping of raw materials (e.g., 'green' steel production via iron ore). From mining to manufacturing, Newfoundland and Labrador can be positioned as a global enabler of green heavy industry.

## 2. Renewable energy in support of current industrial operations

Industrial and commercial operations that already exist in Newfoundland and Labrador are seeing either increasing pressures or emerging opportunities for the incorporation of more clean energy into their operations. From ports that are aiming to provide



electrification or clean fuels services, to large commercial operations that are looking to fuel switch, to remotely located industries that are not connected to the grid, the interest in access to clean energy is growing. Though the province will soon boast an electricity grid that is almost

entirely 'clean', there is not an abundance of unused capacity available; this future demand for energy cannot be met by existing production and infrastructure. It is in Newfoundland and Labrador's best interests to allow for (and help) industrial and commercial operations within the province to be as internationally competitive as is possible.

## 3. Helping Canada and the world to reach net zero by 2050

Nations around the world have committed to achieving net zero by the year 2050 – including Canada. Accomplishing this will require substantial decarbonization efforts which will in turn need to be backed by significant new clean energy development for the purposes of the production of either electricity or clean(er) fuels. Newfoundland and Labrador has the vast clean energy resources that can support the global energy transition. The province's ability to export its clean energy has traditionally been

constrained by demand and the electricity transmission infrastructure. These circumstances are changing due to two factors. First, as the demand for clean energy grows throughout North America, there is an increasing appetite for Eastern Canadian provinces to collaborate on renewable energy electricity projects. Second, the accelerating interest in the use of clean fuels (e.g., hydrogen, ammonia produced via clean energy) to displace fossil fuels opens new doors for renewable energy developments that bypass electricity transmission constraints.



#### 4. Increasing the reliability and resilience of the electricity grid

The electricity grid, as it stands today, may face capacity constraints. Given that the most populous area of the province will be serviced (in part) by an asset that is over 1,000 km of electricity transmission infrastructure away, reliability and resiliency challenges may also arise. Meanwhile, the demand for energy means that new generation capacity will be required sooner rather than later and the aging Holyrood thermal generating station and its oil burning furnaces must be retired.

The recommendations that *econext* is putting forward are based on the barriers that must be addressed and the enablers that must be put in place to meet the renewable energy opportunities presented by these four drivers. The recommendations are grouped into five categories: (1) eliminating regulatory and policy barriers; (2) enacting regulatory and policy supports; (3) stimulating and supporting growth; (4) fostering innovation; and (5) leveraging partnerships.

## Guiding Principles

*econext's* recommendations range from amending legislation to issuing expressions of interest, and have a broad range of different focuses and applications. However, throughout engagement and consultation with its member and partners, *econext* found that the following themes consistently emerged – and thus formed the basis for the recommendations that were subsequently developed:



- Newfoundland and Labrador is a small place with just over 520,000 residents. The province is not an expert in renewable energy development, and recent history has shown that ‘going it alone’ can have serious consequences. The sector is highly restricted and has been dominated by government and crown corporation decision-making. To reach its renewable energy potential, the province must be open to new ideas and new perspectives.
- This means opening the door to greater participation by the private sector. Industry can bring a wealth of national and international experience to the table, and competition will allow for greater efficiency, effectiveness, and innovation within the sector. Industry involvement can attract new investment into Newfoundland and Labrador and

accelerate economic growth and diversification. Today the message to industry is that the province is not open for business; this must change.

- This also means being open to partnership – not just partnerships with private industry but also partnerships with other governments and jurisdictions. Newfoundland and Labrador must let go of old arguments and move forward objectively to meet its potential. This invariably will mean partnerships with neighbouring provinces to share resources, opportunities, risks – and rewards.
- There is a degree of urgency to Newfoundland and Labrador's activity in and around renewable energy. There are substantial advantages to being an early entrant into an industry or being among the first to deploy certain strategies. The renewable energy development prospects for the province are clear and present, and the opportunity is now.
- It is important to 'think big'. The Renewable Energy Plan should open new doors in the short term – but set the province up for long term growth and prosperity. The opportunities before Newfoundland and Labrador are substantial, and the government should be bold in the vision that it lays out for the province to attract interest and inspire action. The Renewable Energy Plan should extend to the year 2050 and include important stage-gates such as the Churchill Falls agreement expiration in 2041.

*econext* believes that the following 36 recommendations are in the best interests of Newfoundland and Labrador and will help it achieve its renewable energy potential.



## Implementation

### Recommendation 1 – Provide a Clear Implementation Strategy

In its plan, the Government of Newfoundland and Labrador should clearly outline: (a) short, medium, and long-term objectives; (b) targets and timeframes to track success of actions and deliverables; and (c) details on who will be responsible for overseeing its implementation. *econext* recommends that an independent working group with participation from government(s), industry, Indigenous communities, and academia be established to guide the implementation of the Renewable Energy Plan. Such oversight will ensure that decision-makers are being informed by a variety of experts with different perspectives. This more holistic, progressive approach to renewable energy development in Newfoundland and Labrador is needed to provide objective and informed guidance in a sector that has traditionally been dominated by governments and utilities.



## Eliminating Regulatory and Policy Barriers

Newfoundland and Labrador’s electricity sector is highly regulated and restrictive. The province cannot meet its renewable energy development potential without addressing the substantive regulatory and policy barriers that currently exist.

### Recommendation 2 – Amend the Electrical Power Control Act

Section 14.1 of the *Electrical Power Control Act* gives Newfoundland and Labrador Hydro (NL Hydro) the exclusive right to supply, distribute and sell electrical power or energy – forbidding industry operators from engaging renewable energy developers to supply and sell electricity to them to exclusively meet the demands of their own operations. The regulatory framework makes it very difficult for industrial operators to develop clean energy resources to meet their



emissions reduction objectives (sometimes driven by international forces) or to meet electricity needs even if off-grid (e.g., a hydrogen producer who does not require grid tie-in). Yet these are exactly the types of developments that present the province with substantial economic growth potential. Currently NL Hydro has the exclusive right to supply and

sell electricity, but the ability for NL Hydro to meet new electricity demand is limited with capacity issues being foreseen during peak periods even in the near term. Making systems-wide investment decisions and getting approval from the regulator based on fluctuating future demand (based on any number of requests with varying certainty and timelines) is extremely complex and time consuming. Thus, maintaining the status quo where NL Hydro has exclusive rights will delay major projects, obstruct emissions reduction initiatives which industry needs to meet ESG commitments, and stifle renewable energy activity in Newfoundland and Labrador at a time when growth and investment in renewable energy is rampant worldwide. Allowing for private sector involvement in distributed energy development – under specific conditions that stipulate that such investments are in clean energy and that ratepayers are not

burdened with new costs or risk – will attract new investment for Newfoundland and Labrador, accelerate economic growth and development, and help create an electricity grid that is more resilient. To achieve these outcomes the *Electrical Power Control Act* must be amended. The *Public Utilities Act* may also require amendment, as renewable energy developers selling to one industrial customer need not be subject to the same rules and regulations as those that are selling more broadly to the grid.

### **Recommendation 3 – Amend the Public Utilities Board’s Decision-Making Criteria**

The Public Utilities Board (PUB) is mandated to regulate the electric utilities in the province to ensure that the rates charged are just and reasonable and that the service provided is safe and reliable. This mandate is applied when future investments into Newfoundland and

Labrador’s are considered; approval by the PUB for such investments by utilities is contingent on them being the most safe, reliable, and cost-effective solution. ‘Environmental impact’ is not among the decision-making criteria, creating a scenario where future electricity generation investments for the province will conceivably be highly polluting as



long as the other criteria are met. Newfoundland and Labrador is about to feature an electricity grid that is near 100% clean energy. At a time when the world is aggressively moving towards renewable energy with the province primed to play an important role in supplying it, making domestic investments into fossil-fuel based electricity generation would be highly damaging – to both Newfoundland and Labrador’s reputation and its environment. To date utilities have also faced significant challenges with the PUB related to investing in electrification initiatives such as electric vehicle infrastructure. This is despite such investments being in line with the environmental and economic (electrification / rate mitigation) priorities of the province and the fact that such utility-led investments are common practice in North America. The PUB must be provided the leeway to take additional factors into consideration in its decision-making. These additional factors should include environmental and economic development impacts, and be in alignment with the objectives of the Renewable Energy Plan.



#### **Recommendation 4 – Amend NL Hydro’s Mandate**

NL Hydro is mandated with providing electricity to its customers in the safest, most reliable, and least-cost manner possible. While these are very important factors for the people of the province, similar to the PUB this means that the utility responsible for the province’s electricity generation is not prioritizing greenhouse gas emissions (GHGs) or other environmental impacts in its decision making. Continuing with this mandate will create a situation where the Government of Newfoundland and Labrador is actively seeking to develop its renewable energy industry (vis-à-vis the strategy these recommendations seek to inform), while at the same time its own crown corporation could conceivably be making recommendations to the PUB that favour fossil-fuel based investments. The Government of Newfoundland and Labrador, the mandate of NL Hydro, and the decision-making criteria employed by the PUB must all be consistent in their support of renewable energy growth in the province.



#### **Recommendation 5 – Embrace Private Sector Experience and Ingenuity**

Newfoundland and Labrador is a small jurisdiction with a population just over 520,000. At this point in time the province is not an expert in renewable energy development; while our experience in hydroelectricity development and maintenance is significant, recent history (e.g., Muskrat Falls) has shown that attempting to ‘go it alone’ is a mistake. The province must be



open to learning from regional, national, and international renewable energy development experts. NL Hydro should focus on the maintenance and upgrades of existing facilities and the transmission of electricity – very substantial responsibilities in their own right and key to the future success of our province. However, when it comes to adding new capacity, Newfoundland and Labrador should allow for the private sector to do what it does best – deliver projects on time and on cost. This will shift the risks associated with new developments and the burden of reliable and efficient electricity production away from the ratepayer and taxpayer and onto business. As electricity production has traditionally been such a highly regulated sector in the province, communications and the flow of information has been guarded. Allowing for more private sector participation within the sector will create a more efficient, competitive, innovative, and open environment – and will help build back public trust in a sector which has been under a great deal of scrutiny for a number of years. The provincial government does not mine nickel, operate fish farms, or lead operations in our offshore; nor should it be the primary developer and operator of our renewable resources. But, just as it does in each of these other industries, the province can have interests in these activities and play a crucial supporting and enabling role.

### **Recommendation 6 – Eliminate the Ban on Wind Energy**

At present, not only is it prohibited to develop onshore wind in Newfoundland with over 1 MW generation capacity, but environmental assessments for such projects are not even allowed to



be registered to be undertaken. This moratorium on wind development was established in 2006 through Order in Council OC2006-026 and was province-wide until Labrador was removed from it in 2019 in Order in Council OC2019-092 (in anticipation of future community-scaled developments to address isolated diesel systems). Newfoundland and

Labrador boasts world-class onshore wind potential, and very clear and present opportunities for their development are emerging. This ban must be lifted immediately.

**Recommendation 7 – Ensure that Wind Capacity Factors are Considered in Decision-Making**

Wind is an intermittent source of energy; it is understood that it cannot be depended on at all times for production. However, it would be overly conservative to take the position that adding wind resources to a grid introduces new energy but not capacity to the grid. Taking this approach unfairly skews decision-making against wind energy investments. Evidence from Newfoundland and Labrador’s St. Lawrence and Fermeuse wind farms has shown these resources to have excellent capacity factors. Decision-makers should consider this evidence in their assessments and take into account the multiple storage options that exist that can be paired with wind energy to stabilize loads (e.g., battery, pumped hydro, hydro, hydrogen). These technologies and/or approaches are progressing rapidly and are expected to be highly cost competitive. Further, new wind energy development in different geographic areas would positively impact overall capacity; while the wind may not be blowing in one location, this is highly unlikely to be the case in multiple disparate geographic areas at the same time.

**Enacting Regulatory and Policy Supports**

Beyond the elimination of barriers, there are many actions that the provincial government can take from a policy and regulation perspective to proactively support renewable energy development.

**Recommendation 8 – Entrench Renewable Energy Mix in Policy**

The Government of Newfoundland and Labrador should enact a policy that it must maintain its 98% renewable energy mix (post Muskrat Falls) and continuously pursue 100%. Where the status quo must be maintained (e.g., *possibly* in rural and remote communities), the burden of proof for decision makers should be on why renewable energy solutions are not being selected, not vice-versa as it is today.

**Recommendation 9 – Align Other Government Policies with Renewable Energy Priorities**

Actions and decisions taken throughout the public sector can play a significant role in supporting the province’s renewable energy objectives. As such, a whole-of-government



approach must be taken with respect to developing and implementing policies across multiple departments. For example: short, medium, and long-term procurement decisions have the potential to play a significant supporting role in the development of renewable energy in Newfoundland and Labrador. The province owns and operates hundreds of school busses and manages the contracts for hundreds more. The province owns, operates, and/or manages contracts for marine transportation (e.g., ferries). The province can play a strong role in the future infrastructure of public transportation providers like Metrobus. Creating policy that stipulates that future purchases utilize zero-emissions technologies will increase domestic demand for clean energy via either electrification or clean fuels. Similarly, building codes, municipal acts, etc. should be reviewed and amended appropriately to demand or incentivize electrification or the use of clean fuels. These are just a select few examples that would impact domestic demand for renewable energy developments; taking a long-term whole-of-government approach could yield substantial new demand over time. Support and finance programs should be aligned appropriately, and this could include the TakeCharge programming of which NL Hydro is a contributor. Other major government initiatives should also be in lockstep, including its forthcoming efforts on net zero and offshore industry recovery.

This whole-of-government approach to renewable energy policy should be a commitment in the Renewable Energy Plan and be acted on without delay.

### **Recommendation 10 – Increase the Attractiveness of Net Metering Programs**

At present, distributed renewables are perhaps viewed as a threat to the existing electricity rates and rate mitigation efforts. But with potential grid capacity challenges emerging in the near term, allowing electricity customers to do more to provide for their own electricity needs through the adoption of renewable

energy technologies can help in a number of ways. First, it can increase the overall resiliency of the grid by decentralizing infrastructure. Second, it may help delay or reduce the need for major new capital expenditures. Third, it shifts some infrastructure investments costs from the utility to the customer(s) in



question. The 100 kW limit currently in place for net metering programs should be revisited. The current net metering program also requires that installations are specific to a single meter; residential or commercial operations with multiple meters are not considered in aggregate. In reality, the locations of energy generation and energy use potential are not always attached to the same meter. Requiring generation and subsequent use to be behind the same meter makes it difficult for medium to large sites to pursue renewable energy projects. This should be changed to be on an account basis unless site specific grid system requires upgrading at which point it that upgrade could be cost-shared. A specific example of this issue is with respect to the re-use of landfill gas to offset energy used at other locations, and to support demand response and/or power outage response. With this type of activity being restricted, the province misses the opportunity to turn an environmental liability into an economic resource.



## Recommendation 11 – Develop Regulatory Frameworks for Foreseeable Development Scenarios

The timeline to develop regulations and their associated guidelines should not be underestimated. It typically takes years to develop regulations, followed by years to develop their supporting guidelines. Waiting until projects present themselves to develop regulatory



frameworks around them will result in substantial delays for developers and threaten their advancement. Thus, Newfoundland and Labrador should begin to proactively develop regulatory frameworks for foreseeable future renewable energy scenarios. These scenarios could include, but not be limited to:

- Off-grid and grid-connected green heavy industry (e.g., green steel production, net zero mining)
- Offshore wind developments
- Wave and tidal energy developments
- The incorporation of marine renewable energy production into offshore oil and gas assets
- Clean fuels (e.g., hydrogen, ammonia) production and transportation
- Port electrification and clean re-fueling services
- In situ marine vessel electric charging stations (e.g., offshore)
- Increased application of subsea and subsurface electrical cables, possibly spanning multiple jurisdictions
- The use of grid infrastructure (transmission lines) to transport independently produced electricity from one location to facilitate the decarbonization of industrial operations in another

Some of these developments would be impacted by a variety of provincial policies and regulations, including (but not limited to) the Electrical Power Control Act, the Public Utilities Act, the Environmental Protection Act, the Municipalities Act, the Lands Act, the Water Resources Act, etc. Some of these development scenarios involve multiple jurisdictions (e.g., provincial and federal) or are regulated by third-party organizational structures (e.g., the Canada-Newfoundland and Labrador Petroleum Board, PUB) which creates an additional layer of complexity. Where the authority to regulate and guide developments is not strictly within Newfoundland and Labrador's jurisdiction, the province should immediately pursue MOUs with the appropriate parties focused on developing regulations and guidelines. Proactive regulatory measures should be prioritized for development; the government can lean on the expertise of industry to begin this work as businesses in Newfoundland and Labrador are working worldwide on these types of projects.

### **Recommendation 12 – Work with Post-Secondary Institutions to Prepare Workforce**

Much of the discussion around workforce development and renewable energy revolves around energy transition concepts and the movement of labour from non-renewable industries (e.g., offshore oil and gas) to renewables.

While it is true that the skills required for oil and gas operations are highly transferable to clean energy projects, the likelihood for Newfoundland and Labrador is that its offshore industry will sustain itself and possibly grow for the foreseeable future. With the introduction of new renewable energy activity within the province, this presents



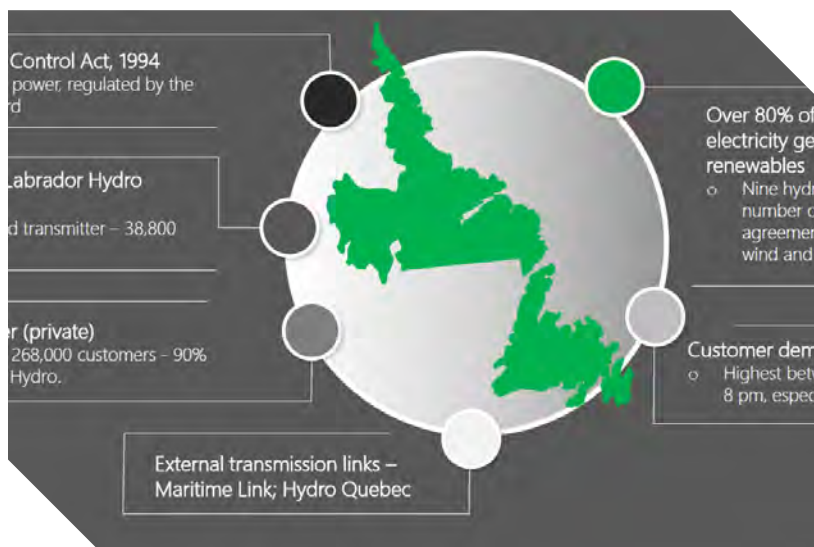
an entirely different problem that would have been difficult to imagine just a year ago: a shortage of skills, talent, and experience to service the success of both industries simultaneously. Government, industry(s), and post-secondary institutions must explore how they can prepare current and future workers to work interchangeably between renewable and non-renewable industries – taking a more holistic approach to energy. *econext* has begun preliminary work on the concept of 'green jobs' which has relevance in this context and will be happy to share its findings with government officials in December 2021.

## Stimulating and Supporting Growth

The provincial government has the ability to generate significant excitement and interest in its renewable energy resources which can lead to development and economic growth. In many cases this can be accomplished by engaging openly with industry on the opportunities.

### Recommendation 13 – Create an Investment Attraction Strategy

Newfoundland and Labrador should develop investment attraction strategies around desired renewable energy development and activities. For example, if the Renewable Energy Plan identifies the prospect of ‘green’ heavy industry (as outlined in the introduction of this document) as being a priority, the province needs to: (1) gain an understanding of what the enabling conditions for such activity would be, (2) prioritize and implement what enabling conditions that it can; and (3) actively promote, communicate, and engage with potentially



interested parties to attract them to the province. At present the message to investors and developers – on the surface – is that Newfoundland and Labrador is not open for business when it comes to renewable energy. An investment attraction initiative should include identifying development pathways and providing clear direction to interested parties (via online

materials and specifically identified individuals available to field further questions); this will focus subsequent inquiries and filter out developers whose plans are not aligned with the priorities and/or possibilities. Some of the elements that should or could be included in these investment attraction activities are included in the recommendations below. The Department of Industry, Energy, and Technology likely requires new resources to engage this proactively in investment engagement activities; alternatively, partnership with *econext* presents an opportunity to build this capacity.

### **Recommendation 14 – Create Renewable Energy Development Pathways**

While investment attraction should be a continuous activity, Newfoundland and Labrador's rich cache of clean energy resources is already attracting attention from developers and industry worldwide. In the absence of a Renewable Energy Plan, interested parties are unsure about what opportunities truly exist in the province and have had difficulty understanding the complex regulatory framework that is currently in place. This lack of clarity is a deterrent for investors. The Renewable Energy Plan should clearly outline for stakeholders what types of new projects are desired, and what pathways investors should take to pursue these developments. Questions asked and answered for developers should include: what renewable energy projects is the province prioritizing? What will be required of prospective developers in order to fast-track their progress (e.g., committed energy customers, economic benefits and/or jobs data)? What demands will be placed on developers (e.g., resource leases, local benefits agreements, avoidance of cross-subsidization of costs to rate-payers, impacts on grid capacity and required grid investments, etc.)? How can crown lands be accessed for resource assessment purposes and then development? Equally important to developers is understanding what the province is *not* entertaining. Are there areas in the province that are not open for development for environmental or strategic reasons? A map that outlines developable (and/or undevelopable) areas would be helpful. Similar approaches to resource development have been taken in both oil and gas and mining industries with great success in attracting investment. Providing this kind of guidance to decision-makers up front will increase certainty and reduce risk for developers, while reducing the burden on public sector and utilities staff who are repeatedly answering the same questions from prospective developers of all shapes and sizes.

### **Recommendation 15 – Issue EOI for the Evaluation of Crown Land Resources**

In many cases prospective developers have access to resource information which would give them a good indication of resource potential in a given area. This is the case with onshore wind. Newfoundland and Labrador can approach its resources on crown lands in the same manner it approaches offshore oil and gas resources. In any given year, the province can issue an EOI for a specific geographic area that it considers ripe for renewable energy development. The winning bidder would gain the exclusive right to better define the resource in question – e.g., place meteorological towers to assess wind resource – over a 24-month period. The winning bidder would have the first right of refusal to pursue development, but only within a



very defined period of time. This approach can generate new revenues for the province; sums would likely be relatively small, but at the same time would be enough to tangibly advance its investment attraction efforts.



### **Recommendation 16 – Identify Competitive Advantages, Barriers - and Explore Solutions**

An investment attraction initiative should also include identifying the competitive advantages that exist with respect to renewable energy / clean fuels development in Newfoundland and Labrador. These advantages could include the resources themselves, the numerous port assets and accessible shipping routes to both Europe and the United States, the skilled and experience workforce, etc. Simultaneously, it is important to have a good understanding of the competitive disadvantages or barriers to renewable energy development. Many of these barriers can be addressed by investors themselves if they are serious enough about development. But in some areas, it may be in Newfoundland and Labrador's interest to proactively explore how these barriers can be overcome. For example, a clear barrier to

renewable energy development in the province is the export of the energy produced to jurisdictions that need it. It may be valuable to identify jurisdictions that are looking for renewable energy sources (e.g., Europe, U.S., Maritimes) and build case studies that evaluate concepts that might be deployed to get energy to these markets. Subsea cables? Pipelines? Shipping? This preliminary work could be then used to attract private investment to further develop these concepts towards the development of Newfoundland and Labrador renewable resources. A similar approach was used by econext, Noia, and OilCo with funding from the provincial and federal governments in 2020-21 when offshore electrification via subsea cable and in situ offshore wind was explored. This baseline research has already resulted in attracting new investor interest and resulted in millions of investment towards follow-on projects.

### **Recommendation 17 – Introduce Special Electricity Rates for Desired Projects**

The production of clean fuels (such as hydrogen, ammonia, etc.) or new 'green' mining/manufacturing activities vis-à-vis clean energy present clear and present opportunities for the development of renewable energy resources in Newfoundland and Labrador. But the investment environment is highly competitive, and the province faces challenges in this regard. The transportation of goods and services to the province and its high labour costs will stretch the economics of such projects. Thus, the province should be aggressive in providing what supports that it can to help

developers make projects cost competitive in Newfoundland and Labrador. One such action would be for the province to introduce special economic development electricity rates for clean fuels or green mining/manufacturing projects. These rates can give producers favourable rates in their



formative years and escalate to normal industrial rates over a defined period of time. This approach is being used in other provinces to stimulate hydrogen projects. For example, in British Columbia a 20% discount is being provided from normal industrial electricity rates for

developments that result in clean fuels (hydrogen or ammonia) production; this rate continues for 5 years and normalizes at the year 2037.

### **Recommendation 18 – Implement Other Incentives for Desired Projects**

Other actions should be explored that will incentivize desired renewable energy activity. Such action could include tax incentives, job creation incentives, fast-tracked regulatory approvals dependant on environmental reputation, etc. In addition, Newfoundland and Labrador can play a strong coordinating and supporting role in infrastructure development and upgrades that may be required for specific projects (e.g., transmission, transportation, shipping infrastructure). Such infrastructure investments that enable renewable energy developments can be approached in partnership with the Federal government and Indigenous communities. The *Premier's Economic Recovery Team Report* recommended the establishment of a Future Fund from 50 percent of annual oil and mineral royalties and from the monetization of assets. Future Fund resources can be used as the provincial portion of such investments. Related to *Recommendation 9*, government policy and legislation (such as the Mining Act) can be amended to encourage and incentivize developments that include renewable energy development.

### **Recommendation 19 – Collaborate with Other Jurisdictions**

Unless the 'customer' for clean energy is within Newfoundland and Labrador, any export of energy – whether that be in the form of electricity or fuel – will require a degree of collaboration with other provincial jurisdictions. This is evident when considering Labrador's various hydro resources and with respect to the *Atlantic Loop* concept, but is also important with other concepts such as clean fuels exports or new subsea transmission. Newfoundland and Labrador has a history of 'going it alone' or approaching economic growth opportunities within its own silo. Collaboration and expansion outside of the province will be a key to success. Looking at the renewable energy development possibilities before us as a province in independence of our neighbours will only result in lost opportunity, duplication, and minimizing the scale of opportunities. It is time to let go of old interprovincial disagreements and approach renewable energy opportunities in collaboration. This will mean the sharing of benefits – but it also means the sharing of the risk, the opportunity to benefit from the experience and expertise of others, and increased economic resiliency for our province.



**Recommendation 20 – Issue EOI for the Use of Excess Grid Energy**

While NL Hydro may not have excess capacity during peak periods, it is expected that there will be excess electricity available – particularly during the warmer months of the year. The inability for NL Hydro to sell this as ‘firm’ power means that this energy is sold at ‘spot’ or cheap rates. There may be alternative uses for this intermittently available energy that can provide a better return to the people of Newfoundland and Labrador. The province should



issue a *Request for Expressions of Interest* for the use of this excess energy to attract new interest and potentially investment, economic growth, and a better rate of return. EOI responses should be reviewed by an independent and objective body.

**Recommendation 21 – Issue EOI for the Use of Maritime Link Bandwidth**

The Maritime Link is in service with energy transmission commitments established between Newfoundland and Labrador and Nova Scotia. However, the full bandwidth of this 500 MW interconnector is not being utilized. While it is understood that the available ‘space’ on the link will be variable and that ‘firm’ energy transmission potential may be limited, this underutilized asset still presents an economic growth opportunity. The province should issue a *Request for Expressions of Interest* for the use of the available bandwidth to attract new interest and potentially investment and economic growth. The EOI process will attract new international interest and provide decision-makers with new ideas, perspectives, and possibilities from which future decisions can be made. A consideration for the EOIs should be that responses require an identified ‘customer’ for the energy and have done some preliminary economic modeling; this will filter out proposals which are less than realistic. EOI responses should be reviewed by an independent and objective body.



### **Recommendation 22 – Issue EOI for the Development of Gull Island**

Gull Island and its potential 2,250 MW generation capacity has been described as North American’s best undeveloped hydropower asset. The province should issue a *Request for Expressions of Interest* for the development of this enormous clean energy asset to understand what the potential benefits for Newfoundland and Labrador might be. Any development scenario should include the consideration of Indigenous community interests and have minimal associated taxpayer / ratepayer risk. A fundamental of business is knowing the value of what it is that you are selling. The EOI process will attract new international interest and provide decision-makers with new ideas, perspectives, and possibilities to evaluate. This will help the province understand the scale of the opportunity before it – and gain leverage in future discussions with prospective developers and partners. EOI responses should be reviewed by an independent and objective body.



### **Recommendation 23 – Issue EOI for the Use of Upper Churchill Electricity**

In 2041 Newfoundland and Labrador gains majority control over the Churchill Falls hydroelectric generating station and its 5,428 MW generating capacity. In addition, it is known that the wind energy potential in the surrounding area is significant – presenting opportunities to supplement the hydro resource with the integration of new wind energy development(s). The province should issue a *Request for Expressions of Interest* for the use of this asset and further development of the area to understand what the potential benefits for Newfoundland

and Labrador might be should it pursue alternatives over and above the status quo. Any development scenario should include the consideration of Indigenous community interests and have minimal associated taxpayer / ratepayer risk. The EOI process will attract new international interest and provide decision-makers with new ideas, perspectives, and possibilities to evaluate. This will help the province understand the scale of the opportunity before it – and gain leverage in future discussions with prospective developers and partners. EOI responses should be reviewed by an independent and objective body.

**Recommendation 24 – Intervene in PUB Deliberations on Southern Labrador Diesel Investment**

In July 2021 NL Hydro submitted a proposal to the PUB which includes a major investment into new diesel power generation for Southern Labrador. Such a substantial fossil fuel-based solution (a) eliminates one of the most clear and present opportunities for clean energy development in the province, and (b) will tarnish the province's efforts to position itself as a



leader in renewables development and the energy transition. It is understood that this proposal is intended to address pressing infrastructure concerns in the region and is designed to appeal to the current decision-making criteria of the PUB (as referenced in *Recommendation 3*). However, the timing of this proposal - directly preceding the development of a provincial renewable energy plan -

is not ideal and has not allowed for extensive engagement with Indigenous communities who are critical stakeholders. An interim (and less expensive) short term option to address reliability concerns should be employed to allow the Government of Newfoundland and Labrador to develop and implement its renewable energy plan in coordination with Indigenous communities. *econext* members believe that other options exist for the provision of safe, reliable, and cost-efficient electricity for these isolated areas and an independent analysis of the possibilities is warranted. As the PUB proposal calls for a decision in late 2021 to allow for

investment decisions in early 2022, the Government of Newfoundland and Labrador should intervene immediately to give stakeholders an opportunity for sober second thought before Southern Labrador is committed to diesel as a fuel source for many more decades.

### **Recommendation 25 – Issue EOI for Near Term Capacity and Generation Needs**

Even with Muskrat Falls in full operation, Newfoundland and Labrador's grid may face capacity challenges at peak periods of electricity use. While continued economy-wide electrification is an important pursuit for rate mitigation and environmental purposes, it will exacerbate the capacity issue at peak demand periods. Meanwhile, it is believed that new generation will be required sooner rather than later. One of the key arguments made for the Muskrat Falls development was that it would allow for the retirement of the Holyrood Generating Station.

This 50-year old facility historically generated, on average, 15-25% of Newfoundland's electricity – burning up to 18,000 barrels of oil per day during the winter heating season. There is concern that



this facility may continue operating beyond its currently scheduled 2022 decommissioning and serve as a backup power source, with maintenance, operations, and even upgrade costs associated with this. Newfoundland and Labrador's Renewable Energy Plan should chart a course for the province for which fossil-fuels based electricity generation will play no role. The province should issue a *Request for Expressions of Interest* for any capacity and generation needs it foresees, even in the near term. The EOI process will attract new international interest and provide decision-makers with new ideas, perspectives, and possibilities from which decisions can be made. It is understood that some existing assets are upgradable (e.g., the Bay d'Espoir and Cat Arm hydroelectric stations) and these should be considered – among other options – through this process. EOI responses should be reviewed by an independent and objective body.

## **Recommendation 26 – Explore Pairing Carbon Offset Opportunities with Renewable Developments**

The Federal Greenhouse Gas Offset System is currently under development to encourage cost-effective domestic GHG emissions reductions and removals from activities that are not covered by carbon pollution pricing and that go beyond legal requirements. It is generally understood that in order for Newfoundland and Labrador heavy industries (e.g., offshore oil and gas mining) to meet net zero by 2050, the availability of offsets is going to be a requirement. It is in the province's best interests to ensure that investments that occur as a result of these offset purchases take place in Newfoundland and Labrador. Furthermore, there may be opportunities to attract national and international investments into local offset projects. The province should explore how specific renewable energy developments – that will enable and achieve GHG reductions – can be financed through the selling of offsets associated with their future operations.

## **Recommendation 27 – Do Not Delay Action with a Resource Assessment**

A question posed in the province's stakeholder engagement survey was around the need for an assessment and definition of Newfoundland and Labrador's renewable energy resources. This is something that *econext* has advocated for in the past. However, much has changed since this recommendation was originally made. The prospects for renewable energy development in the province have risen considerably with increased national and international focus being placed on accelerating decarbonization of the economy. In addition, projects funded by the offshore portion of the Emissions Reduction Fund will provide new and detailed resource information. It is felt that information publicly available through the Wind Atlas and government's own understanding of its hydro resources and potential is presently enough to entice prospective developers. While further delineation and granularity of resource data would certainly have value, engaging in the acquisition and analysis of this information is much less important at this point in time than addressing the policy and regulatory barriers that presently inhibit renewable energy development. From an investment attraction perspective, enough information is already available to create a compelling case for prospective developers. With this said, potential marine renewable resources are less known. In this sub-sector, the government could support more in-depth resource assessments, site characterization (to identify the best locations for development), and initial environmental baseline studies or



compilation of existing data (with much of the data already existing from work done in the offshore oil and gas industry).

### **Recommendation 28 – Ensure Ports are an Important Focus**

Ports play an important enabling role in the clean growth economy. As almost all industries require the import and/or export of goods and services, in the island and coastal context this means ports are hubs of industrial activity. As such, the services and operations of ports have a direct impact on the environmental performance of a wide variety of different industries at



the same time: from offshore oil and gas, to mining, to fisheries and aquaculture, to forestry, and so on. If a port cannot provide clean electricity or clean fuels for modernized marine vessels, this has a direct impact on an industry's ability to influence its upstream and/or downstream GHGs. The importance of this line of thought was accentuated by a commitment between Canada and 18 other nations at COP26 to develop net-zero shipping lanes. With the eastern-most ports in North America, what role will Newfoundland and Labrador play in decarbonizing the marine transportation sector? Ports must have the policy support and regulatory freedom from a renewable energy perspective to position themselves strategically.

### **Recommendation 29 – Pursue International Business Development Opportunities**

Though not crucial in supporting domestic renewable energy development, how Newfoundland and Labrador’s existing expertise and assets can be internationalized could be explored. What expertise have our utilities and supply chains developed through the development of Muskrat Falls? Is this expertise in demand internationally? With the emergence of an offshore wind industry on the east coast of the United States, is there more that the province could be doing to benefit from that industrial activity? Do we have assets here that are unique enough to be of benefit to the industry, and should we be marketing them? Engaging in such international activities will help the supply chain get primed and develop important partnerships to facilitate future domestic renewable energy development. This could first be explored at a high level to identify any opportunities that may exist.

### **Fostering Innovation**

Including a focus on innovation will allow for new technology, processes, and expertise to be developed right here in Newfoundland and Labrador – that can be exported worldwide.



### **Recommendation 30 – Encourage Utilities to Support Tech Sector**

In any industry, the participation of actors at all levels of the supply chain is an important aspect in pursuing innovation. Entrepreneurs, start-ups, and research and development-focused SMEs provide new perspectives, new ideas, and the willingness to create new technologies and processes. The end users, or those on the ‘top’ of the supply chain play an important role in identifying challenges or needs, communicating opportunities to innovators, and providing a forum for new technologies and processes to be demonstrated, piloted, and ultimately adopted. The current structure of the electricity sector in Newfoundland and Labrador places two utilities at the top of the supply chain. The business community needs these utilities to engage more with its suppliers (and potential future suppliers) in order to

stimulate more research, development, and innovation in Newfoundland and Labrador in and around renewable energy. NL Hydro is a crown corporation, and thus can be mandated to do so. Newfoundland Power is privately held but faces restrictions with the PUB in terms of how



much it can invest in and financially support such efforts. NL Hydro faces these same restrictions, and as a result it is very difficult for the utilities to engage in sizeable demonstration and pilot projects (or other activity in support of innovation) in a meaningful way. Regulatory barriers must be removed

that prevent utilities in the province from being more active in supporting innovation, and incentives should be in place to encourage them to do so when they are able.

### **Recommendation 31 – Create an Innovation Sandbox with Targeted Areas of Focus**

One approach to creating an environment that is more conducive to innovation in and around renewable energy is to create an ‘innovation sandbox’. Resources from the utilities, governments, industry, the regulator, and the start-up community can be pooled to support the research, development, demonstration, and adoption of new technologies and processes. Such a structure would create a more collaborative and open environment and a ‘safe’ space that encourages experimentation and innovation for all levels of the supply chain. The sandbox should focus on supporting the development of new technologies and processes that relate to areas of expertise and interests domestically. Possible focus areas could include: increasing grid resilience; enhanced conservation and demand management; HVDC installation and management; energy storage; electrification; remote operations and service delivery; hydrokinetic energy and off-grid applications; and/or clean fuels production via intermittent sources of clean electricity. Whatever focuses are decided on by participants in the sandbox, they should all commit to being disciplined in building expertise and specializations in specific strategic areas. The technologies and processes developed will not only help address domestic challenges and opportunities, but create substantial opportunities for export and job



growth as we have seen through the experience of Mysa. The innovation sandbox can be Newfoundland and Labrador’s response to the *Premier’s Economic Recovery Team* Report recommendation to “Create a centre of excellence for green economy transition to attract expertise, establish global networks, learn from other countries, monitor progress, and identify gaps and opportunities.” It would also be entirely complementary to the Oil and Gas Industry Recovery Task Force’s recommendation for the establishment of centres of excellence in renewable energy, hydrogen, and digitalization. The innovation sandbox should be housed at the forthcoming *Innovation Centre* to facilitate cross-sectoral collaboration and the sharing of ideas and resources between non-renewable and renewable energy sectors. The general thematic focus of the *Innovation Centre* (digitalization and clean remote operations) aligns well with activities that would emanate from the sandbox. Resources from the aforementioned Future Fund could be utilized for the creation and operations of the innovation sandbox.

**Recommendation 32 – Create a HVDC Centre of Excellence**

One area of particular opportunity is with respect to the installation and management of HVDC. Newfoundland and Labrador has developed interesting experiences and expertise in this space through the Muskrat Falls project, and it is foreseeable that the technology will play an important role in the future of the province’s energy industry (both renewable and non-renewable). The establishment of a HVDC centre of excellence should be considered as a pillar of the innovation sandbox. This centre of excellence would have the potential to allow for students and innovators to test HVDC operations in a virtual environment. The creation of a ‘digital twin’ of existing production and transmission infrastructure could stimulate new research, development, and innovation that ultimately could strengthen the resiliency and efficiency of Newfoundland and Labrador’s grid and systems. This would also align extremely well with investments currently being made into other ‘digital twin’ initiatives in the province, including





the Digital Offshore Canada project funded by Canada's Ocean Supercluster and the power generation systems project for Hibernia supported by the Emissions Reduction Fund. Technology assets that can assist in creating this HVDC centre of excellence can be placed within the forthcoming *Innovation Centre*.



### **Recommendation 33 – Create a Feed-In Tariff for Targeted Research & Development Projects**

A feed-in tariff (FIT) is a long-term price that is set by the government for anyone who wants to feed renewable energy into the supply. Utilities are required to allow grid access and pay the set price to anyone who can produce renewable power. A major challenge for renewable energy innovators is finding opportunities for the piloting and demonstration of their technologies. This challenge is particularly prevalent in Newfoundland and Labrador where the electricity sector is highly restrictive from a policy and regulatory perspective. Yet there are emerging applications for clean energy in Newfoundland and Labrador – such as with isolated communities, remote industrial operations, or paired with offshore activities – where the province could emerge as an area of international interests for the research, development, and adoption of new technologies. The province should encourage this type of innovation by

creating a FIT that can be accessed in specific, targeted and competitive circumstances that will not unduly impact the grid-at-large or its customers.

## Leveraging Partnerships

Meeting the potential of renewable energy development in Newfoundland and Labrador is a daunting task. The government should not take this on in isolation; the province has partners in the industry and even in other jurisdictions that can play important supporting roles.

### **Recommendation 34 – Position Provincial Opportunities with Federal Priorities**

Since the 2016 Paris Agreement Canada's federal government has made a number of international commitments that have resulted in a series of domestic clean growth initiatives and priorities. Newfoundland and Labrador should position its Renewable Energy Plan to align, where possible, with these federal priorities. For example, understanding and indicating where the province's objectives are synergistic with the climate finance, remote communities, net-zero shipping, and other commitments Canada recently made at COP26 will be mutually beneficial for both levels of government. A number of federal departments – e.g., Natural Resources Canada, Environment and Climate Change Canada, and Fisheries and Oceans Canada – have a series of established clean growth priorities that should be reviewed by the province for congruency. Such efforts to achieve alignment open the door to accelerated partnership and support.

### **Recommendation 35 – Utilize Federal Supports**

The federal government through its departments, agencies, and partners has been aggressively supporting clean growth activities throughout the country for a number of years. These financial supports vary in their application, from supporting R&D to the adoption of existing technologies. To date, Newfoundland and Labrador has not been effective in taking advantage of these limited-time opportunities for financial support. It is anticipated that these types of supports will continue to emerge, and that many will be highly relevant to the province's renewable energy objectives. Eligibility for these supports also varies; sometimes the funds are directed to the private sector, research institutions, communities and

municipalities, not-for-profit organizations, or even provincial governments. In all cases the Government of Newfoundland and Labrador (and its utility) has substantial convening power and needs to take an active role in pursuing (or helping others pursue) these opportunities when they align with its priorities and interests.

**Recommendation 36 – Consider *econext* a partner**

Whatever form the Renewable Energy Plan takes, the Government of Newfoundland and Labrador can consider *econext* a valuable partner in its implementation of objectives of mutual interest. *econext* brings with it substantial economic development and growth expertise, the knowledge and insight of its membership and broader network, experience navigating Federal programming (and building coalitions of partners to pursue them), and a proven track record of delivering on independent research, strategy, and capacity building projects. *econext* has demonstrated this capability in the offshore oil and gas industry through our **Net Zero Project** initiative, and the organization is eager to do what it can to advance the province’s renewable energy interests. Reaching the province’s renewable energy potential will take an enormous effort and it is beyond the capability of any one partner to achieve success in isolation. *econext* is ready, willing, and able to bring its resources forward in an effort to grow Newfoundland and Labrador’s renewable energy prospects.



## Conclusion

*econext* appreciates the opportunity to contribute to the development of a Renewable Energy Plan for Newfoundland and Labrador. It is hoped that the recommendations that have been put forward in this document will be considered by decision-makers for inclusion in the strategy.

It is *econext's* belief that actioning these recommendations will help Newfoundland and Labrador meet the enormous economic growth and diversification potential that is associated with renewable energy for this province. Key to unlocking that potential is allowing for more participation in the electricity sector, and this will require substantial public policy and regulatory modernization.

*econext* looks forward to working with the Government of Newfoundland and Labrador in the finalization – and ultimately implementation – of its Renewable Energy Plan.



## Appendix A: Development Scenarios

The following are theoretical development and/or investment scenarios that help to illustrate the opportunities associated with renewable energy development in Newfoundland and Labrador – and also the barriers that are presently in place that challenge or inhibit them.

The purpose of these development scenarios is to explore the policies and regulations that are relevant should similar opportunities materialize in the real world. The scenarios do not consider technical and economical feasibility; these factors will evolve over time and policy and regulation should account for that.

### Scenario 1 – Green Heavy Industry and New Renewable Energy Development

A mining company is looking to set up a new mine. The site for this mine is not connected to (or near) the electricity grid. The mining company wishes to work with a renewable energy developer to help them achieve net zero in their extraction activities. Achieving net zero will position the mine and its products favourably on the global marketplace, and help the developer attract investments. The renewable energy company will develop the resource (not onshore wind based) and sell the mine the electricity produced at an agreed upon price that satisfies both parties. No interconnection with NL's electricity grid is required. Barriers to this scenario include:

- The Electrical Power Control Act prohibits any entity, other than NL Hydro, from selling electricity (see *Recommendation #2*)
- The act of selling electricity would also make the developer a 'public utility' under the Public Utilities Act and make it subject to all of the associated regulations which would not have much relevance in this scenario (see *Recommendation #2*)

### Scenario 2 – Hydrogen Production and New Renewable Energy

A hydrogen producer is looking to develop a new production facility. The company plans to produce its own electricity through a new renewable energy development that is not onshore wind. The company would also like to tie into the electricity grid to stabilize its access to electricity and will require a connection at a voltage of 66 KV. The development adequately

addresses any issues associated with the cross-subsidization of any infrastructure by ratepayers, and the electricity is available. Barriers to this scenario include:

- Requiring voltages of 66 KV or greater would make the hydrogen producer an 'industrial customer' as defined under the Electrical Power Control Act, and would thus prohibit this scenario (see *Recommendation #2*)
- Regulations associated with the production and transportation of hydrogen may not yet exist (see *Recommendation #11*)

### **Scenario 3 – Existing Industrial Operations and Improving Environmental Performance**

A port is planning to position itself as a location of choice for low-carbon commercial activity. It would like to provide electric 'fueling' stations for stationary marine vessels, decarbonize all of its heavy equipment and heating activities on-site, and produce hydrogen nearby for customers that desire it. It wishes to work with a renewable energy developer to help augment their access to grid electricity, as they have been informed that the grid alone cannot handle the additional electricity that the port will require. The renewable energy company will develop a wind farm on port-owned land and sell the port the electricity produced at an agreed upon price that satisfies both parties. The port is interconnected with NL's electricity grid, but the development adequately addresses any issues associated with the cross-subsidization of any infrastructure by ratepayers. Barriers to this scenario include:

- The Electrical Power Control Act prohibits any entity, other than NL Hydro, from selling electricity (see *Recommendation #2*)
- The act of selling electricity would also make the developer a 'public utility' under the Public Utilities Act and make it subject to all of the associated regulations which would not have much relevance in this scenario (see *Recommendation #2*)
- Order in Council OC2006-026 prohibits the development of – or even environmental assessment associated with – onshore wind farms with over 1MW generation capacity (see *Recommendation #6*)

### **Scenario 5 – The Use of Existing Transmission Infrastructure for New Activities**

An offshore wind developer has agreed to provide energy to an offshore oil and gas asset at an agreed upon price that satisfies both parties. The offshore wind farm will be situated such that electricity will be brought to shore and then subsequently directed offshore via subsea cable infrastructure. Access to existing terrestrial transmission lines will be required to get

electricity from the producer to the consumer to bring this project to fruition. Barriers to this scenario include:

- Regulations associated with offshore wind farm development offshore NL do not yet exist (see *Recommendation #11*)
- Regulations associated with the electrification of offshore oil and gas activities with renewable energy sources may not yet exist (see *Recommendation #11*)
- Regulations associated with the use of electricity grid transmission infrastructure for this purpose may not yet exist (see *Recommendation #11*)

### **Scenario 5 – Net Metering and NL Grid Resiliency**

A municipality is operating a landfill and has the ability to capture methane emissions produced from it. The municipality's overall electricity consumption is substantial, but is metered at a number of different locations. The electrical use at each individual meter is quite small. Instead of continuing to allow methane escape into the atmosphere, the municipality wishes to capture it at its source and produce electricity from it. The municipality wishes to engage in a net metering program. Understanding that the net metering program is capped at 100 kW, the municipality has plans for the electricity produced over and above the approved limit. The excess electricity produced for these plans can be redirected at any time, providing NL with additional capacity at peak periods should it be required. Barriers to this scenario include:

- The net metering program currently stipulates that renewable energy installations are specific to one meter, meaning that the electricity generated from methane capture could only offset the electricity costs associated with a single meter (see *Recommendation #10*)

### **Scenario 6 – Environmental Impact and Decision-Making Criteria**

It is determined that an investment must be made into new electricity generation to satisfy increasing energy demand. An argument can be made that the cheapest option to provide this electricity is via the installation of a new oil burning furnace at the Holyrood Generating Station – infrastructure that will last for 30 years. There is no argument that the environmental impact of this investment would be substantial, and that this decision will negatively affect the province's ability to market itself as a leader in renewable energy and the energy transition. Reliability and safety factors are well known because gas turbines were invented in 1903. An

alternative solution has been proposed that is based on clean energy and storage technologies that have proven to be safe and reliable in their deployment in other similar circumstances internationally. The proposal's environmental impact is substantially less than the diesel alternative, but it is marginally more expensive. The proposal will create three permanent new jobs for operations and maintenance and result in new economic activity through the construction period. Barriers to this scenario include:

- Adhering to its legislated mandate, NL Hydro will propose the diesel option because it is seen as the least cost choice and the utility calculates that it will encounter less resistance with the PUB (see *Recommendation #4*)
- Adhering to its legislated mandate, the PUB will make a decision based on reliability, safety, and cost. Neither environmental impact nor economic development will be important factors in the decision, and as such the likely choice will be the diesel solution (see *Recommendation #3*)

### **Scenario 7 – Investing in Demonstration Projects and Innovation**

A utility would like to make a \$75,000 investment into piloting the use of a new technology, developed locally by a company from the province, that has the potential to significantly help the province address electricity loads at peak demand. If the pilot project is successful, broader application of the technology has the potential to help the province avoid millions of dollars in future infrastructure costs. Simultaneously, by virtue of successfully demonstrating their new technology with a utility, the local company's ability to export its product and create new local jobs is vastly improved. Barriers to this scenario include:

- Utilities are subject to PUB scrutiny on their investments and are limited in the size of the investments that they can make into R&D and other initiatives. \$75,000 would exceed this threshold and thus such an investment would be prohibited despite the substantial advantages (see *Recommendation #30*)

The above scenarios focus on policy and regulation directly related to renewable energy. It is understood that the scenarios would also need to adhere to other legislation such as the Environmental Protection Act, the Municipalities Act, the Lands Act, the Water Resources Act, etc.