

Charlottetown Initiative

Maritime Sustainable Energy Transition



Priorities for Action

The *Charlottetown Initiative on the Maritimes' Sustainable Energy Transition* took place on February 18 & 19, 2016. The *Initiative* provided an avenue for sustainable energy and climate thought-leaders from each of the Maritime provinces to contemplate the regional implications of, and opportunities offered by, recent UN climate negotiations in Paris, and the election of a federal government committed to a new model of climate action in Canada.

The *Initiative* brought together 33 individuals representing the business, academic, and civil society communities of Prince Edward Island, New Brunswick, and Nova Scotia.

Together, we aimed to:

- seek opportunities to build on successful climate change prevention and mitigation efforts implemented in the region in the last decade
- find the incentives required to take action that has yet to be initiated
- identify barriers to continued progress in the region
- contribute to positive national momentum on climate action and sustainable energy development
- lay the foundation for long-term communications between meeting attendees and ongoing regional collaboration - and engagement with regional governments - on climate/sustainable energy objectives.

Participants agreed to continue to work together through an informal network that will share resources and seek opportunities to support the ongoing transition to a sustainable energy economy in the Maritimes.

As a network, we hold that the Maritimes' energy transition must satisfy the social, environmental and financial dimensions of sustainability. As such, we consider it important that as we build a 100% renewable energy system in the coming decades, we do so in a way that strengthens our local communities and First Nations by providing opportunities for local jobs and community ownership, and by addressing energy poverty and impacts of industrial transitions on workers¹.

This briefing paper serves as the introduction to an evolving regional dialogue the network will facilitate in coming months and years. It outlines the four priority actions identified at the *Charlottetown Initiative*, which we see as immediate opportunities for action by Maritime Premiers and Energy Ministers.

¹ We acknowledge the work of the [Green Economy Network's One Million Climate Jobs campaign](#) as providing critical research on the need to couple just job transition with energy system transformation.



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Summary of recommendations

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- 1.1. Each of the Maritime provinces should launch a public process to determine their provincial fair-share contributions to the global 1.5°C target
- 1.2. An agreement to phase out coal-fired electricity by 2030 and fully decarbonize our electricity systems as soon as possible
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Grid Modernization

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- 4.1. Decarbonize automobile transport through electrification and emission standards
- 4.2. Integrate, expand and electrify regional public transport
- 4.3. Decarbonize heating by focusing on storage and heat pumps

For the current list of signatories supporting these recommendations, see

www.ecologyaction.ca/CharlottetownInitiative



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1 - Renew our long-term climate plans

The Maritime provinces have done good work reducing greenhouse gas emissions in the last decade². Canada's commitment to the Paris target of limiting average global warming to 1.5 degrees Celsius means we need to build on our success and increase the ambition of our provincial climate plans.

The Maritime provinces share emissions reduction targets of 10% below 1990 levels by 2020 and 35-45% below 1990 levels by 2030. While Prince Edward Island has already met the 2020 target and Nova Scotia is on track to do so, New Brunswick will likely miss the 2020 target by a significant margin³. Provinces have no comprehensive plans in place to close the gaps to the 2020 target where they exist or to meet 2030 targets⁴. Further, it is clear that the current targets for 2030 and beyond are not in line with our new global commitments.

An ambitious climate plan that includes comprehensive and legislated targets is an essential tool for good decision-making on greenhouse-gas-intensive projects like Energy East, the Donkin coal mine, offshore drilling, and proposed liquified natural gas facilities. These projects must be assessed once the Maritime provinces and federal government have developed a climate test that **evaluates projects against local climate targets** that are in line with the global 1.5°C limit.

1.1. Each of the Maritime provinces should launch a public process to determine their provincial fair-share contributions to the global 1.5°C target

In early March 2016, federal and provincial governments will launch discussions on options for meeting greenhouse gas reduction requirements under the Paris Agreement. First Ministers will meet again in September 2016 to advance negotiations toward a national climate action plan. There is an attractive opportunity for Maritime provinces to come to this conversation with an offer to establish their own process for updating climate targets within no longer than a year. A made-in-the-Maritimes approach can help provinces partner effectively with each other, the Federal Government, as well as with other provincial jurisdictions and New England. Such an approach can also help Maritime provinces make the best use of available funding and other federal support. Provincial processes can be tailored to support continued job creation in sustainable industries across the region.

² "Canada's Second Biennial Report on Climate Change", Environment and Climate Change Canada, 2016.

³ Ibid.

⁴ See leaked government document describing policy/regulatory approaches to 2020 targets for all provinces here: ["New Brunswick Lags on Greenhouse Gas Emissions Target", CBC News, 2015](#)



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1.2. An agreement to phase out coal-fired electricity by 2030 and fully decarbonize our electricity systems as soon as possible

Thus far, Maritime provinces have made the most progress in moving our electricity systems away from fossil fuel dependence by developing renewable energy and investing in energy efficiency. It makes sense, therefore, for our updated climate targets to begin with an agreement to phase out coal fired electricity by 2030 and fully decarbonize our electricity systems as soon as possible.

Other targets to consider are:

- **100% renewables for all purposes**
- **Greenhouse gas neutrality**
- **Phase-out of home heating oil**
- **Electrification of transport**
- **Protecting carbon sinks in our forests and agricultural lands**

1.3. Explore how carbon pricing can work for Maritime provinces, using a regional approach

Carbon pricing is the new norm in Canada with five provinces, representing almost 90% of the country's population, committed to a carbon tax or cap and trade system. The federal government is clear about its intentions to work with provinces as they design carbon pricing policies⁵. Clearly some form of carbon pricing is coming to the Maritime provinces.

It is recommended that regional governments take advantage of the present political momentum and relatively low oil prices to design a carbon pricing system tailored to this region's particular circumstances and needs. Failure to do so may result in hasty adoption later, amid increasing pressure from the federal government and nearby jurisdictions with their own systems. The resulting carbon pricing system may be less suited to the regional context and will not be customized to provide maximum regional benefit.

Carbon pricing is an important element of a comprehensive climate plan. The network notes its support for Maritime governments coming together to develop a regional implementation strategy for carbon pricing. We are open to a number of different models. It is essential to use some of the revenue to ensure low income households and communities are more energy secure and to invest in social goods that reduce GHGs and improve social equity (e.g. transit). The key is to implement a model that is effective and part of an integrated and comprehensive approach: climate change cannot be solved with carbon pricing alone.

⁵ "A New Plan for A Strong Middle Class", Liberal Platform, 2015. "Minister of Environment and Climate Change Mandate Letter", Office of the Prime Minister, 2015.



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2 - Enable local, distributed, community energy

A key element of the transition away from carbon-intensive electricity generation is to support distributed energy projects owned and operated by First Nations and community groups, which in turn benefit the local economy, including rural economies, and aid youth retention and the small business sector. If done effectively, with proper consultation, decentralization of electricity generation can minimize the rate impact of taking large-scale generators offline before their projected end of life.

Our regulatory regimes need to be improved to allow community-scale actors to contribute to power generation, and the physical electrical grid needs to be modernized. Regulatory and grid limitations currently present significant hurdles to a Maritime sustainable energy transition.

Supportive Regulatory Regimes

The Maritime provinces have implemented several innovative policies and regulations to date. We believe that, at this point, building on our success necessitates a period of information-gathering.

2.1. Initiate a formal consultation process with renewable energy (RE) proponents, First Nations and local communities to identify regulatory, policy or perceived barriers to the continued growth of the Maritimes' sustainable energy supply

In each province or federally, the consultation process should:

- Ensure that decisions on regulation and policy that will impact RE industry, First Nations & community groups, will incorporate knowledge from those stakeholders.
- Ensure that barriers to First Nation and community ownership are addressed.
- Explore creative solutions to keeping rates stable and encouraging development.
- Share best practices and work towards coordinating policies and regulations that promote growth of RE across the region.

Key areas to investigate include:

- Incentives for individual, business and municipal investment in local renewable energy, such as Nova Scotia's CEDIF (Community Economic Development Investment Funds) and PACE (Property-Assessed Clean Energy) programs.
- A shift to 'true' net-metering, which pays system owners for contributions to the grid which are in excess of their own consumption.

2.2. Quantify the benefits of the Renewable Energy industry

We believe that decisions about energy policy should be made with consideration of the full suite of benefits that renewable energy development produces, on regional economic development, electricity rate stabilisation, jobs and income, energy security, and quality of life.



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We want to ensure that decisions about energy development in our region are considering the short- and long-term opportunities for the economy of the renewable energy industry:

- Rural and urban economic benefits for local communities and First Nations
- Local investment opportunities
- Impacts on poverty
- Direct and indirect jobs
- Small business opportunities
- Export impacts

Grid Modernization

Distribution capacity limits how much distributed renewable energy can be accommodated on the electricity grid in certain regions. Modernizing our grids includes regional cooperation on power pooling, smart grids (allowing real-time, bi-directional communication between utilities and customers), and integrating storage technologies. We see a time-sensitive opportunity to leverage federal funds and support for this purpose.

2.3. Enhance regional transmission capacity

- Strengthen electrical transmission connections across the region, from Quebec and Labrador through the Maritimes and into New England, to allow all generators to trade renewable energy across northeastern North America.
- Create an Atlantic Power Pool, based on the New England Power Pool model⁶, to allow utilities to maintain their independence while expanding the balancing region, so that each province is able to incorporate more intermittent renewable energy.
- Seek out federal support in the form of loan guarantees for larger investments.

2.4. Make the grid smarter to enable greater uptake of renewables

- Facilitate smart meter installation to enable time-of-use rates for load shifting.
- Enable Vehicle-To-Grid (V2G) integration to increase stability of grid.
- Federal support in the form of direct investments in smart grid projects and loan guarantees for larger investments.

2.5. Forge partnerships with the federal government to invest in research and development of energy storage systems

The development of energy storage technologies can become a key enabling factor in the transition of the electricity sector in Atlantic Canada. Energy storage - including integration of Electric Vehicles - will help smooth out the variable supply and demand on the electricity system. Research and development in energy storage also offers global development and export opportunities, as people in many regions around the world are looking for solutions to similar energy storage issues.

⁶ New England Power Pool. <<http://www.nepool.com>>



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3 - Focus on energy efficiency

The cheapest⁷ and most sustainable energy is the energy that we don't use. Efficiency is widely recognised as the 'low-hanging fruit' in any sustainable energy system. The Maritimes can leverage the federal government's offer of sustainable infrastructure and transportation funding to prioritise building insulation, electrical efficiency and public transport for demand-reduction, administered through provincial energy-efficiency agencies.

As we transition from carbon-intensive suppliers, we recognize that electricity rates are a concern for individuals, families and businesses. With a focus on energy efficiency, monthly consumer bills can decrease even if electricity rates increase, protecting the most vulnerable members of our community. Common targets across the Maritime region can provide a strong signal to encourage cross-provincial industry development with supportive policies and policy certainty.

3.1. Establish ambitious targets for building energy efficiency

Primary energy reduction targets for all buildings⁸:

- Reduce the total primary energy consumption of buildings by 80% by 2050.
- Intermediate target: 20% reduction in primary energy consumption levels by 2025.

Implementation guidelines:

- All buildings (government/institutional, residential and commercial/industrial) will meet the Passive House⁹ standard or equivalent* by 2050.
- Intermediate, by 2020:
 - 3% of existing buildings will be fully retrofitted to the Passive House standard or equivalent* each and every year.
 - All new buildings will be built to the Passive House standard or equivalent*.
- 3-4 year program ramp-up for the development of local capacity & education rather than outsourcing to international firms.
- Must include measures to ensure that low-income homeowners and tenants are not excluded from retrofitting initiatives.

*A cost-effective building standard reducing whole building energy consumption by 80-90%.

⁷ *Energy Efficiency in MA*. 2015. 23 Feb. 2016 <http://acadiacenter.org/wp-content/uploads/2015/08/MA-EE-Summary_08102015_Final.pdf>

⁸ Neuhoff, Karsten, et al. *Thermal Efficiency Retrofit of Residential Buildings: The German Experience*. CPI Report. Climate Policy Initiative. 2011. <<http://climatepolicyinitiative.org/wp-content/uploads/2011/12/Policies-Supporting-Thermal-Efficiency-in-Germanys-Building-Sector.pdf>>

⁹ Mekjian, Sarah, ed. *Active for more comfort: Passive House – Information for property developers, contractors and clients*. International Passive House Association. 2014. <[http://www.passivehouse-international.org/upload/download_complete PH Brochure.pdf](http://www.passivehouse-international.org/upload/download_complete_PH_Brochure.pdf)>



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3.2. Upgrade energy efficiency section of the National Building Code

Work with the federal government, all Canadian provinces, the domestic building industry and incorporate international building science-based best practises, to align the National Building Code with Passive House or equivalent* standards and building practices by 2020.

3.3. (Re-)Establish independent provincial Energy Efficiency Agencies^{10 11}

Primary goal:

- Introduce/reestablish customer-funded, independent Energy Efficiency agencies, subject to third-party oversight and with third-party verified results.

Guidelines for the agency:

- Implement cost-effective energy upgrade incentives and programs to meet energy targets.
- Prioritise local economic development and employment.
- Provide education and training to the public, building owners, building contractors & professionals.
- Record progress towards goals and annually report to the provincial regulators.
- Collaborate regionally, sharing knowledge, processes and best practices.
- Ensure low-income homeowners and renters, and other vulnerable groups are provided with access to high-quality, energy efficient housing
 - Until low-energy-use housing is available, provide measures to alleviate household energy burdens, such as the Ontario Electricity Support Program.^{12 13}

3.4. Mandatory Building Performance Certificates & energy modelling

- Require mandatory and high-quality Building Performance Certificates (also known as labelling) for all buildings, when a building is sold, when there is a new tenant, when major renovations are undertaken, or on a voluntary basis.¹⁴
- Building permits for new builds and major renovations to require a high-quality energy model.
- Implement a database for Building Performance Certificates and energy modelling data. Use a graphical energy modelling system that is easily updated (without repeating the energy audit from scratch) as buildings are upgraded.

¹⁰ *White Paper on an Energy Efficiency System for New Brunswick* 2012. 23 Feb. 2016 <<http://www2.gnb.ca/content/dam/gnb/Departments/en/pdf/Publications/2004EfficiencyWhitePaper.pdf>>

¹¹ *Clean Industry Report - Massachusetts Clean Energy Center*. 2015. 23 Feb. 2016 <<http://images.masscec.com/2015MassCleanEnergyIndustryReport.pdf>>

¹² "Best Practices: Low-Income Rate Affordability Programs." 2014. 29 Feb. 2016 <http://www.fsconline.com/downloads/Papers/2007%2011%20BestPractice_RateAffordability.pdf>

¹³ *Ontario Electricity Support Program*. 2015. 29 Feb. 2016 <<https://ontarioelectricitysupport.ca/>>

¹⁴ Arcipowska, Aleksandra, et al. *Energy Performance Certificates across the EU*. Buildings Performance Institute Europe. October 2014. <http://bpie.eu/uploads/lib/document/attachment/81/BPIE_Energy_Performance_Certificates_EU_mapping_-_2014.pdf>



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4 - Decarbonize & electrify heat and transport

After efficiency initiatives have achieved their maximum-possible impact, we recommend the following actions to displace fossil fuel use in heat and transport. We suggest these as areas towards which federal infrastructure spending could be directed. Reducing fuel reliance will boost local economies by cutting expensive fuel imports.

4.1. Decarbonize automobile transport through electrification and emission standards

- Support the establishment of a network of electric vehicle charging stations, by introducing policies and incentives which have had success in other jurisdictions.¹⁵
- Provide equitable incentives for the purchase of electric vehicles by individuals. We recommend looking at Ontario's incentive system¹⁶ as a socially-equitable model.
- Set ambitious and appropriate targets for electrification of the national fleet, and for rapid improvements in emission standards for all combustion vehicles sold.¹⁷
- Require gradual increases in the percentage of electric vehicles within government & business fleets, leading change ahead of overall provincial targets.¹⁸

4.2. Integrate, expand and electrify regional public transport

- As an efficiency initiative, build a coherent regional public transit network for the Maritimes by building upon existing bus and shuttle service networks (public and private), and coordinating their use through a consolidated booking system.
- Build support for public transit via communication and social marketing campaigns.
- Invest in pilot projects to demonstrate the feasibility of electric transport, for example, electric (municipal) ferries, school buses and transit buses.
- Explore the development of high-speed passenger rail links across Canada, possibly alongside a trans-Canada electric transmission link. Current low-speed rail services are not a convenient alternative to road or air travel for large numbers of travellers.

4.3. Decarbonize heating by focusing on storage and heat pumps

- Promote widespread installation of systems for storing excess renewable energy in electric or thermal systems (eg: batteries, hot water or ceramic bricks).¹⁹ Supported by time-of-day pricing, this also enables greater grid-penetration of renewables.
- Support development of innovative cold-climate heat pump technology.
- Encourage conversion of building heat systems through incentives such as PACE.
- Require replacement of oil heating systems in renovations and new buildings.²⁰

¹⁵ See the [Climate Group \(2012\)](#) and the [Electric Vehicle Initiative](#) for international EV policy research

¹⁶ See the [Ontario Ministry of Transport](#) for equitable EV incentives

¹⁷ In determining appropriate targets, we recommend the German [DLR Institute of Vehicle Concepts](#), and [WWF-Canada's 2025 Outlook Report](#) as starting points for research.

¹⁸ See the [2012 'Project EVAN' study](#) on the financial benefits of electric cars for fleet owners.

¹⁹ The [City of Summerside](#) provides an easily-replicable example of heat storage.

²⁰ Both [Denmark and Germany](#) are regulating transitions away from oil heating systems.



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