



**Environment
Northeast**

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On behalf of Environment Northeast, I appreciate the opportunity to submit to the Government of Prince Edward Island written comments in regards to the provincial energy strategy discussion document.

Environment Northeast (ENE) is a nonprofit research and advocacy organization focusing on the Northeastern United States and Eastern Canada. Our mission is to provide credible research and compelling advocacy for environmental policy solutions in the Northeastern US and Eastern Canada.

ENE's project areas include: Energy Policy, Climate Change, Transportation, and Forest Practices. We have offices in Maine, Massachusetts, Connecticut, Rhode Island, and Prince Edward Island, Canada.

We look forward to working with the province and interested stakeholders to adopt and implement a sustainable energy policy in PEI.

Thank you for your consideration of these comments.

Sincerely,

/s/Leslie Malone

Leslie Malone
Policy Associate – Canada

CONTEXT

As fuel prices rise and jurisdictions work to mitigate climate change, momentum is building toward clean energy systems that reduce carbon emissions while improving local economic development. A comprehensive energy strategy that reflects the realities of the global market and current policy trends will reward Prince Edward Island by improving the cost competitiveness of local business, reducing costs for residents, propelling innovation, and advancing environmental commitments.

The province's commitment to address climate change must be a primary focus of the energy strategy. In June 2007 the Conference of New England Governors and Eastern Canadian Premiers (NEG-ECP) reaffirmed its 2001 commitment to reducing greenhouse gas (GHG) emissions by unanimously adopting Resolution 31-1. As part of the NEG-ECP climate action commitments, states and provinces have agreed to reduce GHG emissions by 10 percent below 1990 levels by 2020 and 75-85 percent below 2001 levels by 2050.¹ These targets are consistent with targets being announced by scientists and government leaders or in proposed legislation around the world.

Table 1: Regional & national GHG emissions reduction targets, proposed targets (Lieberman-Warner), and science-based recommendation (IPCC) for industrialized countries

	Mid-term Target	Long-term Target
NEG-ECP	10% below 1990 by 2020	75-85% below 2001 by 2050
Western Climate Initiative	15% below 2005 by 2020	80% below 1990 by 2050
European Union	20% below 1990 by 2020*	-
Canada	20% below 2006 by 2020	60-70% below 2006 by 2050
Lieberman-Warner (US)	19% below 2005 by 2020	71% below 2005 by 2050
IPCC**	25-40% below 1990 by 2020	80-95% below 1990 by 2050

* This target shifts to 30% below 1990 levels by 2020 under an international agreement with comparable targets for developed countries.

** The IPCC targets are the recommended target for industrialized countries in order to stabilize atmospheric concentrations of CO₂eq at 450 parts per million (ppm)

It is widely recognized that if we are to meet our long-term emission reduction target and avoid dangerous climate change we must establish a price on carbon. Cap-and-trade programs and carbon taxes are two mechanisms being employed by jurisdictions around the world to value carbon (or the absence of carbon) emitted to the atmosphere. In North America, the Regional Greenhouse Gas Initiative cap-and-trade program will be operating in the Northeast U.S. in 2009, a U.S. federal cap-and-trade program called Lieberman-Warner is progressing through Congress, and the Government of Canada has released a *Regulatory Framework for Industrial Greenhouse Gas Emissions*. Even if PEI does not participate directly in a framework that regulates carbon, the province will be impacted by these developments to the extent that it relies on carbon-based fuels.

The process of developing and implementing an energy strategy offers an opportunity to transform the planning and procurement process for energy resources in PEI. By actively promoting investment in cost-effective energy efficiency, demand response, Combined Heat and Power (CHP) and renewable energy, the government will be advancing the underlying objectives of the new energy strategy. Carbon regulations are inevitable, and they will result in higher prices for carbon-intensive energy supplies. Beginning to streamline the Island economy now will allow the province time to

¹ *Resolution 31-1: Resolution Concerning Energy and the Environment*. Adopted at the 31st Conference of New England Governors and Eastern Canadian Premiers, June 26, 2007.

transition to and be more competitive in a carbon constrained world. Utilizing clean, local, sustainable energy resources will allow Islanders to reclaim the lost energy dollars that are currently leaving our provinces and garner new, innovative economic development opportunities.

In 2006, ENE released its *Climate Change Roadmap for New England and Eastern Canada*. The *Roadmap* highlights the greenhouse gas sources of greatest concern and the opportunities, outlined in Table 2, below, for greatest emission reduction organized into the broad sectors of Energy, Transportation, and Sequestration. The full 240-page *Roadmap*, as well as the Executive Summary can be found at: www.env-ne.org. ENE seeks to offer the *Roadmap* as a supplemental reference to this submission.

Table 2: Policy priorities and recommendation from Environment Northeast’s *Climate Change Roadmap for New England and Eastern Canada* (2006)

Energy	Transportation	Sequestration
<p>Priority 1 – Invest in Energy Efficiency Resources</p> <p>1.1 Reform Utility Planning and Procurement</p> <p>1.2 Establish Minimum Investment Levels for Energy Efficiency Programs</p> <p>1.3 Align Utility Revenue Incentives with Promotion of Efficiency</p> <p>Priority 2 – Increase Energy Efficiency of Buildings</p> <p>2.1 Adopt and Enforce Latest Building Energy Codes</p> <p>2.2 Promote Use of Energy Performance Standards to Exceed Building Energy Codes</p> <p>2.3 Provide Operations & Maintenance Training</p> <p>Priority 3 – Increase Energy Efficiency of Appliances</p> <p>3.1 Set Minimum Efficiency Standards for Appliances and Commercial Equipment</p> <p>3.2 Require Government Procurement of High-Efficiency Models</p> <p>Priority 4 – Reduce Emissions from Large Stationary Sources</p> <p>4.1 Implement a Greenhouse Gas Cap-and-Trade Program</p> <p>4.2 Improve Greenhouse Gas Inventories and Registries</p> <p>Priority 5 – Commercialize and Deploy No-Carbon and Low-Carbon Energy Sources</p> <p>5.1 Commercialize and Deploy More Renewable Energy</p> <p>5.2 Promote Clean, High-Efficiency Fossil Electric Generation</p> <p>5.3 Improve Grid Access for Clean Distributed Generation</p> <p>5.4 Establish Environmental and Safety Standards for Permitting New Power Plants</p> <p>5.5 Provide Public Support for Clean Energy System Commercialization and Deployment</p>	<p>Priority 6 – Transition to No-Carbon or Low-Carbon Transportation Fuels</p> <p>6.1 Establish a Declining Net Greenhouse Gas Fuel Standard</p> <p>6.2 Explore Pathways to Develop Low-Greenhouse Gas Biofuels in the Region</p> <p>6.3 Explore the Expansion of Electric Mobility Infrastructure</p> <p>Priority 7 – Reduce Greenhouse Gas Emissions from Light-Duty Vehicles</p> <p>7.1 Implement Emission Standards for all Light-Duty Vehicles</p> <p>7.2 Improve fuel economy standards in the U.S. and Canada</p> <p>7.3 Reduce Vehicle Miles Traveled (VMT)</p> <p>Priority 8 – Reduce Emissions from Heavy-Duty Vehicles</p> <p>8.1 Reduce Black Carbon Emissions from In-Use Diesel Engines</p> <p>8.2 Promote Improved Efficiency of Heavy-Duty Vehicles</p> <p>8.3 Improve the Efficiency of the Region’s Freight Transportation System</p>	<p>Priority 9 – Sequester Carbon in Terrestrial Sinks</p> <p>9.1 Improve Inventory and Accounting Tools to Better Quantify and Track Forest Carbon</p> <p>9.2 Promote Forest Management Strategies that Sequester Additional Carbon</p> <p>9.3 Minimize Carbon Loss from Land Conversion</p> <p>Priority 10 -- Capture and Store CO₂ from Energy and Industrial Sources</p> <p>10.1 Build a Regional Framework for Long-Term Carbon Capture and Storage</p>

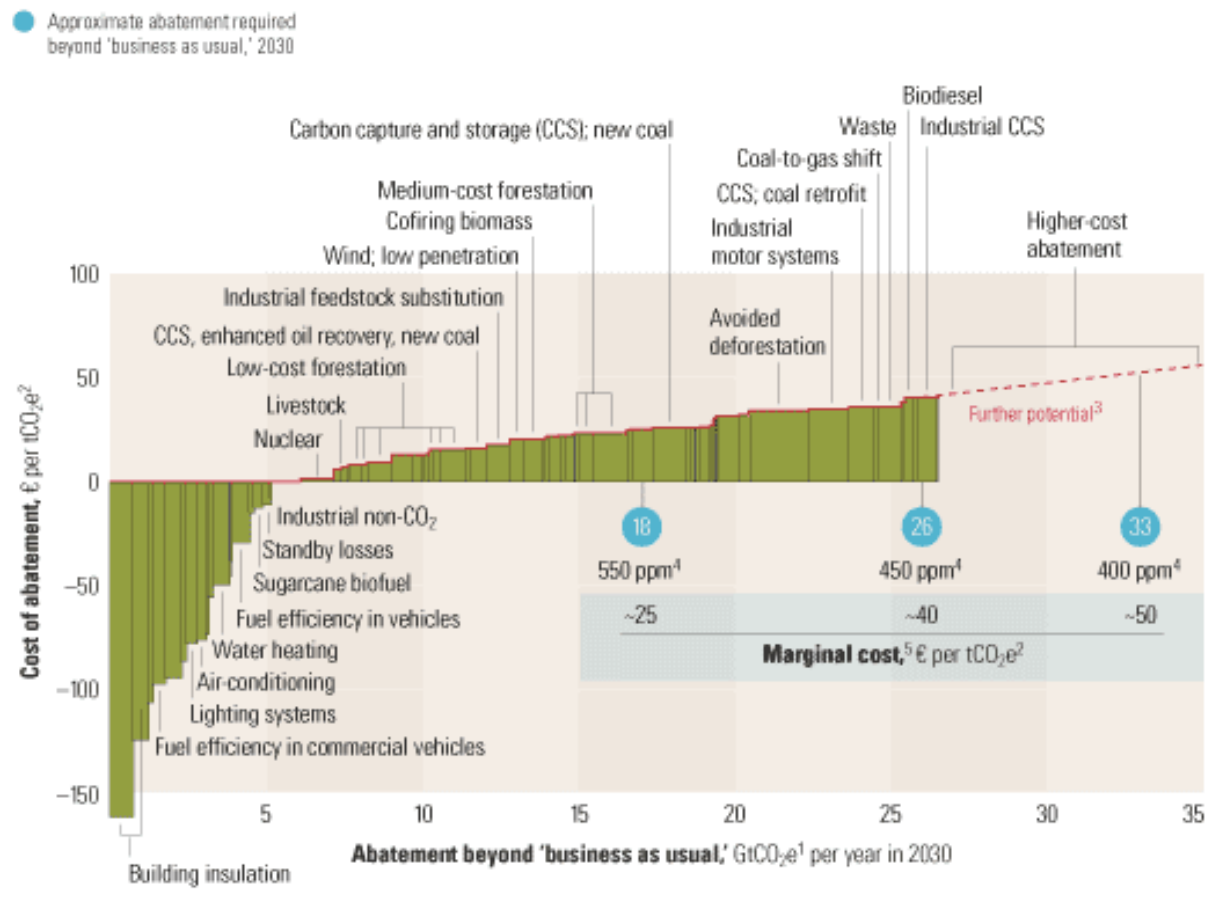
ENERGY EFFICIENCY

Energy efficiency is an abundant local energy resource and investing in energy efficiency will result in significant economic as well as environmental benefits.

In terms of actions to mitigate climate change, energy efficiency has been recognized by the International Panel on Climate Change (IPCC), the Stern Review on the Economics of Climate Change, the McKinsey Global Institute, and many others as the most cost-effective option for reducing greenhouse gas emissions.

In the McKinsey cost curve (below), measures that improve the energy efficiency of buildings, appliances, equipment, and vehicles fall at the low end of the curve and have negative abatement costs. It is therefore appropriate that the first “Cost-conscious” recommendation of the report is to “Ensure strict technical standards and rules for the energy efficiency of buildings and vehicles.”

Global cost curve for greenhouse gas abatement measures beyond 'business as usual'; greenhouse gases measured in GtCO₂e¹



¹GtCO₂e = gigaton of carbon dioxide equivalent; “business as usual” based on emissions growth driven mainly by increasing demand for energy and transport around the world and by tropical deforestation.

²tCO₂e = ton of carbon dioxide equivalent.

³Measures costing more than €40 a ton were not the focus of this study.

⁴Atmospheric concentration of all greenhouse gases recalculated into CO₂ equivalents; ppm = parts per million.

⁵Marginal cost of avoiding emissions of 1 ton of CO₂ equivalents in each abatement demand scenario.

Source: McKinsey Quarterly; *A cost curve for greenhouse gas reduction*

In Prince Edward Island, the recently released *Energy Efficiency Initiative Design and Potential Study for PEI* asserts that there is a significant amount of cost-effective energy savings that can be accessed by investing in energy efficiency initiatives. In fact, the study suggests that all of the projected energy growth (forecasted to 2017) in the Residential, Commercial & Institutional (C&I), and Transportation sectors could be offset by investing in cost-effective energy efficiency initiatives.

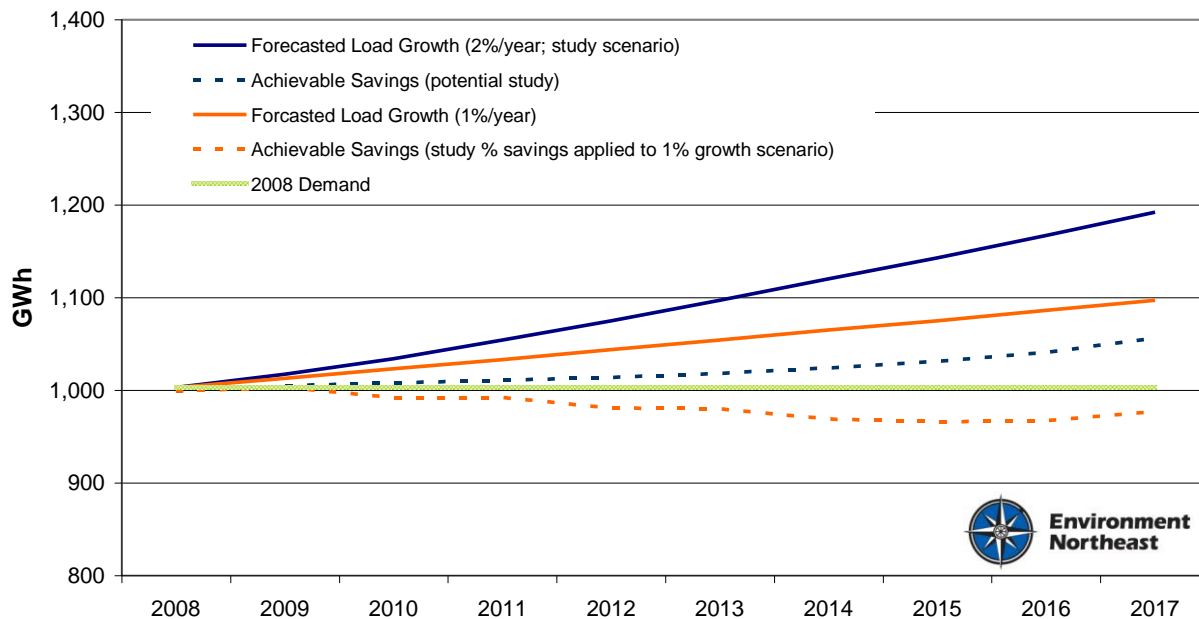
The study found that for every \$1 spent by an energy efficiency program, the Island economy would experience \$2.50 in economic benefits. Net benefits from investments in the Residential and C&I sectors are \$151 million and 148,000 tonnes of greenhouse gas emissions avoided.

In the electricity sector, PEI could offset two-thirds of forecasted electric load growth in 2017 by investing in cost-effective energy efficiency initiatives (if demand grows at a rate of 2% per year from 2008-2017). If electric demand grows at a more modest rate of 1.3% per year from 2008-2017, Environment Northeast estimates that the same investment in energy efficiency could level load growth (i.e. all forecasted load growth in this period would be offset).

The study also notes that in 2017, the annual peak demand savings are equal to 17.8 MW (~ 8% below 2007 peak demand). ENE notes that this represents almost \$1 million in capacity savings for Maritime Electric and its ratepayers.

Cost-Effective Electricity Savings in PEI Compared to Forecasted Electric Load Growth, 2008-2017

(Residential & Commercial/Institutional Sectors)



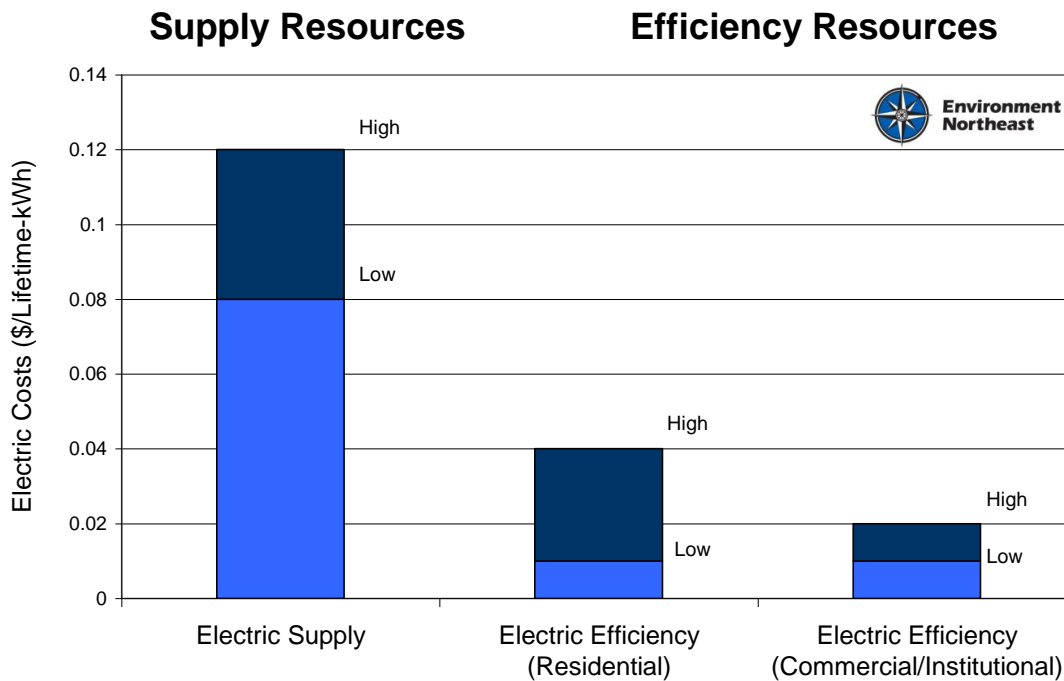
Based on 2% (PEI potential study forecast) and 1% annual growth scenarios & an achievable savings potential of 11% of electricity demand in 2017 (study projection).

Electric Energy Efficiency

The provincial goal should be to level electric load growth as soon as possible and then by 2017 reduce demand by 1% annually thereafter.

Demand side resources such as energy efficiency are widely viewed as reliable, low-cost energy resources. As an illustration, in the Independent System Operator of New England (ISO-NE)’s first Forward Capacity Market (FCM) auction (February 2008), 1,188 MW of the 1,813 MW of new resources chosen were demand-side resources such as energy efficiency. The chosen FCM supply- and demand-side resources will be used to meet electric demand in the region in 2010-2011.

The provincial government should require electric utilities to increase investment in energy efficiency and demand resource programs for all customers by mandating that all demand side resources proven to be cost-effective and cheaper than supply are captured. The procurement of all cost-effective energy efficiency will reduce consumers’ energy bills, reduce emissions, and reduce reliance on imported fossil fuels.



If cost-effective energy efficiency competes with supply options to meet demand then energy efficiency programs should be ratepayer funded. A System Benefit Charges (SBC) one way to fund efficiency programs, however SBCs can have the effect of establishing an artificial funding ceiling. To overcome this barrier and to institutionalize energy efficiency in a utility’s resource procurement process, least-cost procurement mandates have been adopted in a number of New England states.

To note, the concept of least-cost procurement was included in recommendations adopted in Resolution 31-1 by the Governors and Premiers at the 2007 Conference of New England Governors and Eastern Canadian Premiers (NEG-ECP):

The Governors and Premiers instruct regulators and crown corporations to prioritize energy efficiency through planning and acquisition processes that let efficiency compete with supply and capacity and ensure that cost-effective and practical energy efficiency opportunities that are cheaper than prices bid for conventional supply or capacity are procured. This extends beyond electricity to include all forms of energy.

A least-cost procurement mandate establishes a minimum energy efficiency savings target that can be met through a flexible resource planning process aimed at securing all cost-effective electric efficiency resources. Once a budget necessary to capture all cost-effective energy efficiency is established (preferably through an open stakeholder process), the appropriate amount is assessed in utility rates to fund the efficiency programs.

Utilities could administer the energy efficiency programs or a portion of the efficiency monies could be placed in a dedicated fund to be used by the provincial Office of Energy Efficiency. Regardless of what entity administers the electric energy efficiency programs it is critical that an accountability framework is established to ensure that the funds are spent efficiently and effectively. To this end an annual reporting process that includes a variety of accountability indicators should be established and reviewed by an independent third-party.

It is also critical that efficiency programs have full cooperation from the utility. In order to align utility incentives with the goals of this least-cost planning and procurement process, the province should consider reforms to the way utilities are compensated for the services they provide. Unless utility profits are decoupled from their volumetric sales, successful efficiency programs (and provincial policies that reduce electricity use) will hurt utilities because as customers use less energy, utilities' profits decrease. Implementing a decoupling mechanism is very helpful in aligning utility incentives with the opportunity to increase energy efficiency investments and lower customers' bills.

Under the current system, IRAC determines in a rate proceeding how much revenue a utility is allowed to collect for its fixed costs. This sets the rates the utility is allowed to levy on customers. Once rates are set, the utility has an incentive to maximize sales between rate cases. To remove this powerful disincentive for investment in energy efficiency and distributed resources, the following year the actual revenues received by the utility would be "trued up" to the amount agreed upon by IRAC. If utilities received too much money they would be required to return it to consumers as bill credits. If they collected too little, they would be allowed to recoup the under-collection with modest charges.

By removing the disincentive for utility investment in energy efficiency through decoupling, utilities become economically neutral to efficiency investments. To fully realize all cost-effective efficiency opportunities, utilities will need economic incentives to make efficiency investments. Incentives must be based on the level of the utility's performance in achieving customer savings. A performance-based incentive plan would be established through an IRAC proceeding.

To note, utilities should recover reasonable and prudent costs incurred in implementing an energy planning and procurement process. As mentioned, all additional incentives must be tied to performance.

ENE Recommendations – Electric Energy Efficiency

1. Establish a target to level electric load growth by 2017 and to reduce load by 1% per year thereafter.
2. Establish a planning process that prioritizes energy efficiency and direct utilities to procure all cost-effective energy efficiency, through investment in energy efficiency programs, when it is cheaper than conventional supply or capacity resources.
3. Direct regulators to consider the financial risks associated with fossil fuel-fired electricity in an era of greenhouse gas emissions regulations. Regulators should take into account the value of avoided emissions in determining reliable, low-cost options to meet demand.
4. Establish a new Energy Efficiency Stakeholder Board composed of consumer, environmental, and provincial government representatives. The Board will work collaboratively with utilities and the IRAC to identify all cost-effective investments in efficiency as well as planning and designing programs. The Stakeholder Board will increase accountability in efficiency programming and raise public awareness of energy efficiency needs and opportunities, while leaving final regulatory approval of electric energy efficiency procurement with IRAC.
5. Amend Section 6 of the Renewable Energy Act by repealing the current provisions and replacing them with a directive to invest in all cost-effective energy efficiency that is cheaper than supply (see ENE policy proposal).
6. Review decoupling initiatives in jurisdictions across North America and develop, through a stakeholder process, recommendations on how to eliminate utility disincentives to support energy efficiency and conservation.

Multi-Fuels Energy Efficiency

Approximately 75 percent of Prince Edward Island's energy mix is liquid petroleum products. Therefore, a provincial energy efficiency strategy and programs must take a multi-fuel approach. Programs should address heating oil, biomass, Combined Heat and Power (CHP), on-site renewable energy, and transportation fuels.

In addition to funding energy efficiency measures through an electric least-cost procurement mandate, multi-fuel efficiency programs should be supported through a dedicated funding mechanism. A carbon levy at the point of import (terminal) or wholesale distribution is especially suitable for transportation and heating fuels. The proceeds from the fund should be put in a trust fund administered by the Office of Energy Efficiency. The majority of the funding should go to energy efficiency programs although a portion could be set aside for strategic energy and climate change initiatives. It is important to note that a carbon levy program could be designed in a way that does not unduly burden low-income individuals.

The funding should go to projects that result in cost-effective, verifiable energy savings and greenhouse gas emissions reductions. To ensure that the funding is used effectively and efficiently and to ensure accountability, criteria should be established for accessing the funding as well as for measuring results.

ENE Recommendations – Funding Multi-Fuel Energy Efficiency

1. The proceeds from the carbon levy should be placed in a trust fund (e.g. Maine's Energy and Carbon Savings Trust) as opposed to entering general revenues. The trust fund could also be used to keep, for example, funding for electric demand side management.
2. To ensure that the proceeds derived from the carbon levy result in concrete greenhouse gas emissions savings, eligibility criteria should be established to evaluate programs and projects applying to the Trust. The criteria should be based on cost-effectiveness and equity across consumer sectors. Accountability indicators should also be established to monitor GHG emissions reductions and other benefits to ensure effective use of the funds.
3. The majority of the funds from the Trust should be used to direct major new investment in quality programs to capture cost-effective energy efficiency across all fuels. The remainder of the funds should be invested in strategic clean energy projects such as distributed generation, R&D, as well as climate change adaptation measures that meet the eligibility criteria.
4. The province should allow for an increase the carbon levy as is deemed appropriate in the future.

Stakeholder Participation

An Energy Efficiency Stakeholder Board would help ensure that residential ratepayers, business consumers, environmental interests, and provincial departments have meaningful input and “buy in” for the development, design, and oversight of efficiency programs. The Board would provide guidance to the utilities, IRAC and the government in developing short term (3 year) and longer term energy resource plans, including especially the development of quality energy efficiency and conservation programs for all fuel types.

The stakeholder advisory board should have access to data and information and an opportunity to express their views on energy resource planning and procurement in a timely and meaningful fashion. The Board should also have access to adequate funding and be authorized to contract for independent consultants to provide staffing of Board activities and necessary expertise in energy efficiency programming. In other jurisdictions that have pursued an institutionalized role for stakeholders, government and regulators have benefited from informed feedback, sharing of best practices, and a greater sense of “buy in” to the resulting policy and program choices.

The Board could be appointed by the Minister of Environment, Energy and Forestry and should consist of one representative from each of the following organizations: (1) a manufacturing association, (2) a business association, (3) a chamber of commerce, (4) residential customers, (5) low income customers, (6) an environmental organization knowledgeable in energy efficiency programs, (7) the Department of Environment, Energy and Forestry, (8) the Office of Energy Efficiency, and (9) the Attorney General. Utilities and IRAC will be ex-officio, non-voting members of the Board.

If the government chooses not create a stakeholder advisory board, it is recommended that a mechanism be established in legislation that allows for public interveners, including their consultants, to be fairly compensated for their time and commitment in future regulatory board processes.

ENE Recommendation – Stakeholder Participation

1. Establish an Energy Efficiency Stakeholder Board to provide guidance to utilities, IRAC and the government in developing short and longer-term energy procurement plans and to influence the development of quality energy efficiency and conservation programs for all fuel types.

Building Energy Standards

Improving the energy efficiency of new homes and buildings and major renovations should be a key component of the provincial energy strategy.

The largest, most cost-effective energy savings will be realized at the point of design and construction/renovation. After this point, most of the long-term energy-use for the building has been determined and only appliance, artificial lighting and some insulation upgrades may be practical and economically feasible.

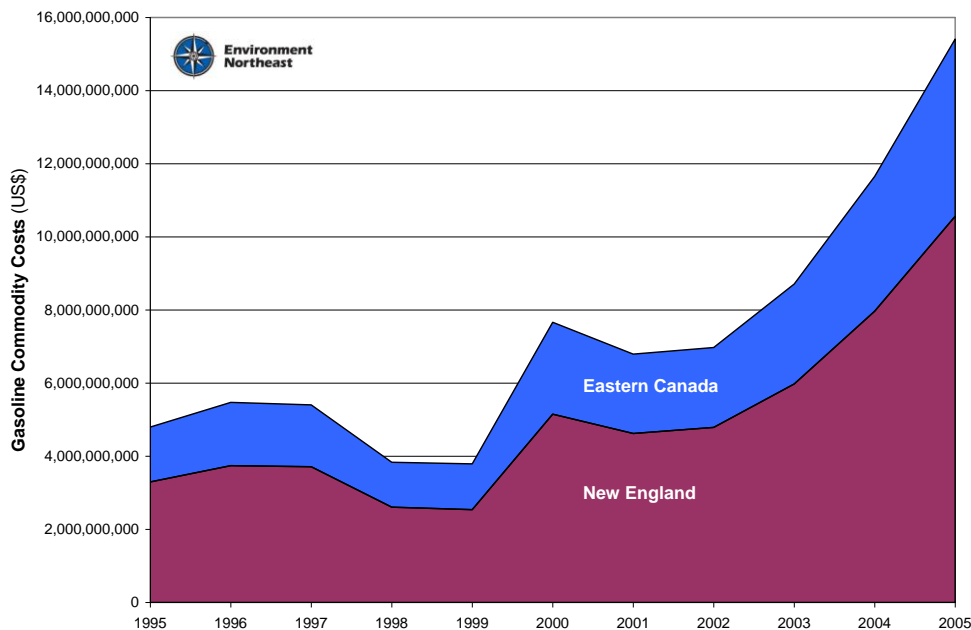
ENE Recommendations – Buildings

1. Prince Edward Island should adopt a province-wide mandatory energy code for construction of new commercial and residential buildings. New houses should be required to meet EnerGuide 80 in the short-term, increasing to EnerGuide 90 by 2020. Other elements of the building code must be reviewed and amended as necessary to ensure that they accommodate and support the energy code.
2. Prince Edward Island should adopt a mandatory Energy Performance Standard (EPS) for all publicly funded new construction and major renovations. Initially the EPS target should be 30% more efficiency than a reference case (e.g. the Model National Energy Code for Buildings - MNECB). After 2010, the EPS target should increase to 50% more efficient than the reference case.
3. A tiered EPS for private sector construction and major renovations (e.g. 20% & 50% more efficiency than the MNECB) should be established. A tiered rebate system administered by the Office of Energy Efficiency to promote the EPS could be used.
4. Monitoring and enforcing energy standards and building codes will be critical. The province should explore opportunities to overcome institutional and financial barriers so that there are an adequate number of well trained inspectors and that sufficient inspections are performed to ensure full compliance.
5. The province should consider a mandatory point-of-sale home and building labeling program to aid consumers in purchasing (and banks in financing) both new and existing buildings. The energy labels would provide the energy rating of the home or building and could recognize best practices and best-in-class.

Transportation Efficiency

Improving vehicle fuel economy and emissions standards is an important aspect of improving the efficiency of the transportation sector. PEI should work with other eastern Canadian provinces to ensure that progressive vehicle efficiency standards are adopted.

However, in addition to improving the per kilometer performance of vehicles, it is also important to address the number of kilometers vehicles are driven, commonly referred to as Vehicle Miles Traveled (VMT). As the following figure shows, expenditures on gasoline in the region increased sharply from 2002-2005. This is due to rising gasoline prices but also an increase in the number of VMT.



VMT can be addressed through land use planning that focusses on compact, smart growth developments that are conducive to and promote active transportation alternatives. Also, access to public transportation can reduce the number of single occupancy vehicles and the number of kilometers driven. Prince Edward Island should work toward levelizing VMT in the medium-term (2020) and then reducing VMT to help the province meet its 2050 GHG emission reduction goal.

This will take coordinated planning between government departments and with municipalities to develop and implement land-use plans. It will also require significant new investments to promote alternative transportation options. As previously mentioned, the revenues from a carbon tax could be used for non-electric energy efficiency initiatives and strategic energy and climate initiatives. To note, Québec will use a portion of the approximately \$200 million in annual proceeds from its carbon levy for public transportation.

The province should also require all new major (building, subdivision) developments and major transportation infrastructure proposals to quantify the estimated GHG impacts of the project (from vehicles, building energy use, and land conversion) and of alternatives to the project.

ENE Recommendations –

Land-use Planning

1. The Government of PEI should develop a comprehensive model land use policy and work with municipalities to implement the policy in all Island communities. The policy should promote compact, transit accessible, pedestrian-oriented, and mixed-use development patterns. The land use policy should take into account climate considerations including GHG emissions and adaptive capacity.
2. The land use development policy should require a GHG assessment for all new large developments requiring a permit and should apply to development in the residential, commercial/institutional, industrial, and transportation sectors in PEI. The GHG assessment should evaluate and present alternatives.
3. The Government of PEI should conduct its own GHG assessment for any publicly funded development. Based on its assessment, the government should implement or require modifications based on best practices (as outlined in the evaluation of alternatives to minimize GHG emissions).

Vehicle Efficiency Standards

1. PEI should work with other jurisdictions to adopt the most up-to-date and progressive (in terms of fuel economy and emission intensity) vehicle standards.

BIOFUELS

Locally produced biofuels (biomass, biogas, liquid fuels) have the potential to reduce Prince Edward Island's dependence on fossil fuels, increase the province's energy independence, create local jobs, and reduce greenhouse gas emissions. Furthermore, the use of biofuels on PEI could reduce energy costs for homeowners and reduce input costs for businesses and farmers; increasing returns.

It is understood that the production of biofuels on PEI is attractive for economic as well as environmental reasons. However, biofuels should only be supported if they result in net environmental benefits, including a net greenhouse gas (GHG) benefit. In other words, we do not need policies that support the development of biofuels; we need policies that support the development of low-carbon biofuels.

The full lifecycle impacts of biofuels production, including impacts from land use change, must be considered in order to ensure new policies do in fact deliver a net reduction in GHG emissions. To inform this position, a summary of recently published studies regarding the direct and indirect impact of land use change are attached.² It should be noted that at this time, Environment Northeast is not aware of a lifecycle analysis tool that incorporates all aspects of land use change.

Various studies have concluded that programs to abate GHG emissions through liquid biofuels are relatively expensive. Furthermore, that renewable transportation fuels offer low GHG mitigation effects compared to renewable power and heating alternatives.³ As GHG abatement measures, green power applications (such as biogas and straw pellets) and heating applications (such as switchgrass pellets) are more efficient options than transportation fuels made from ethanol and biodiesel.

ENE Recommendations – Biofuels

1. Prince Edward Island should utilize the most robust lifecycle evaluation metrics for carbon, environmental, and economic impacts of biofuels. The Province should exercise caution in developing biofuel policies before full lifecycle assessment models and standards are developed.
2. Only biofuels that result in a significant reduction in GHG emissions should qualify for market influencing policies (e.g. tax exemptions or blending requirements). To be considered “significant” a fuel must achieve, at a minimum, a 50% reduction in lifecycle GHG emissions.¹
3. Fuels and feedstocks must be sustainably harvested. To be considered “sustainably harvested”: (1) the land on which the biomass was harvested must not be converted to a use that prevents regrowth of a new generation of biomass, and (2) the harvest methods must ensure future regrowth of an equivalent amount of biomass in a reasonable time period and avoid significant depletion of carbon in the forest soils.

² Searchinger, T., et al. (2008), “Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land Use Change”; Fargione, J., et al. (2008), “Land Clearing and the Biofuel Carbon Debt.” Available in *Science*'s February 2008 *Scienceexpress Report*, www.sciencexpress.org

³ See for example, a report by Resource Efficient Agricultural Production (REAP) – Canada to the federal Standing Committee on Agriculture and Agri-Food in response to Bill C-33 (http://www.reap-canada.com/library/Bioenergy/AAFC_Standing_Committee_Briefing.pdf)

RENEWABLE ENERGY DEVELOPMENT

PEI has been a leader in promoting grid-scale wind energy. The RPS of 15% by 2010, which was met three years ahead of schedule, the implementation of a feed-in tariff that enabled this to be accomplished, and the public development model are commendable. So too is the institutional support for this resource and the province's financial commitment to research and development through the Wind Energy Institute of Canada.

Prince Edward Island can now explore the next opportunities for additional renewable energy development. ENE encourages the province to consider promoting both central/grid-scale power as well as smaller-scale, distributed resources.

In terms of grid-scale power, the government has a role to play in exploring advances in balancing intermittent renewables in order to maximize their contribution to the overall electric supply. This can be supported through further research, development and deployment of energy storage technologies and practices. The province should also work with other jurisdictions in the region to identify and improve perverse market rules so that the market system do not impose barriers to renewables and can in fact drive their development. Finally, PEI should continue to work toward better interconnection and planning with adjacent grids.

As was previously mentioned, the province should be praised for its work in promoting larger wind developments. The government can now play an important role in promoting the development of small-scale, distributed resources (distributed generation, Combined Heat and Power (CHP), etc.). The energy strategy should establish a mandate to explore the best mix of policy and program tools to promote distributed resources on PEI. For example, CHP could be promoted through an appropriately designed community advanced renewable tariff and/or a RPS that established demand for CHP (and other small-scale renewables).

A 'Loading Order' for electricity could also be an interesting tool and could be developed in a manner that prioritized distributed resources (alongside energy efficiency, grid-scale renewables and in advance of conventional fossil-fuel supply options). For example, the government could prioritize all cost-effective energy efficiency (which should be done through a least-cost procurement mandate), followed by renewable energy (potentially with a carve-out for Island community power), followed by fossil fuel-fired supply options. The availability and economics of the resource options would be assessed through an electric energy and environmental planning process.

The above energy strategy mandate should also include an analysis of existing and potential barriers to small-scale renewable energy as well as means of overcoming them (e.g. reduced risk and access to capital through a long-term power purchase agreement with a fixed-price guarantee and/or a fund that gives community projects access to grants and loans).

If the province does not continue to develop the wind resource on PEI, a royalty regime should be considered. The revenues could be dedicated to a Community Energy Fund to be used to support the development of distributed resources. Furthermore, if Island resources are developed by the private sector, the government should explore mechanisms to ensure that Island consumers and businesses have access to low-cost energy options.

ENE Recommendation – Renewable Energy

1. Support advances in balancing intermittent renewables in order to maximize the integration of renewable resources. This should be done through research, development and deployment of energy storage technologies, working with jurisdiction to improving market rules, and better interconnection with adjacent grids.
2. Establish a mandate in the energy strategy to explore the best mix of policy and program tools to promote distributed generation and the barriers (and solutions) to small-scale, community energy systems.



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Environment Northeast is a nonprofit research and advocacy organization focusing on the Northeastern United States and Eastern Canada. Our mission is to address large-scale environmental challenges that threaten regional ecosystems, human health, or the management of significant natural resources. We use policy analysis, collaborative problem solving, and advocacy to advance the environmental and economic sustainability of the region.