

**RENEWABLE ENERGY PROMOTION IN ATLANTIC CANADA:
A KEY COMPONENT OF A SUSTAINABLE ENERGY STRATEGY
MAY 19 & 20, 2005 WORKSHOP, HALIFAX, NS**

**WORKSHOP REFLECTIONS – WHAT WAS PRESENTED? WHAT WAS ASKED?
WHERE DO WE GO FROM HERE?**

This workshop, funded by the Ocean Management Research Network (OMRN), and organized by the Marine & Environmental Law Institute at Dalhousie Law School, in cooperation with Ecology Action Centre and the School for Resource and Environmental Studies, was the first in what is planned as a series of regulatory design workshops aimed at building knowledge and capacity for developing sustainable energy policies within Nova Scotia and Atlantic Canada, more broadly. The workshop was attended by about 40 invited participants. A complete list of invited participants is included at the end of this report.

The primary objective of the workshop series is to provide a forum in which specific aspects and elements of sustainable energy policies can be considered in detail. This workshop was intended to encourage learning and constructive dialogue between industry, community, government and researchers about experiences elsewhere in Canada and in other countries developing and implementing sustainable energy strategies and how they may apply to Atlantic Canada.

The workshop examined policy approaches and the effects of different regulatory tools, which can be adopted to encourage a transition to renewable energy development in Atlantic Canada. A panel discussion was organized on Thursday evening. It was an open event which provided the general public with information about key issues and which also laid out the broader context for the workshop participants with the broader context for the workshop. The sessions on Friday were structured to allow detailed discussions to evolve. Invited participants included provincial and federal government departments, industry representatives from the renewable energy sector representing wind, solar, biodiesel, and geothermal energy, as well as energy purchasers, and representatives from regional organisations and environmental NGOs.

Public Panel – Thursday May 19th

The workshop began with a public panel on Thursday evening. Approximately 75 participants heard presentations from specialists on a number of key topics such as: Renewable Energy Law and Policy in Europe (Preben Maegaard, World Wind Energy Association, Denmark); Renewable Energy across Canada (Kenneth Ogilvie, Pollution Probe, Canada); and, Nova Scotia's Perspective on Renewable Energy (Scott McCoombs, NS Department of Energy).

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Based on his experiences from working in Europe, **Preben Maegaard** provided a detailed description of law and policy tools used to encourage sustainable energy development. He launched his presentation by illuminating some key environmental aspects of exploiting fossil fuel and nuclear energy both of which pose threats to the atmosphere and the global climate and cause pollution of waters. Obstacles to the implementation of decentralized energy forms were described, such as, the lack of fair competition in the international energy market, which is prevented by direct and indirect subsidy schemes in place within the conventional energy industry. Key reasons for the development of Renewable Energy (RE) were depicted and include: the need to reduce carbon dioxide emissions and the dependence on imported energy sources, and the development of a sustainable economy upon which renewable energy plus efficiency are the foundation. The success of the price ART and RPS systems vs. quota system was described along with other examples of instruments used to promote RE within the EU. The fixed price system was described as a political price requirement that focused largely on the equipment market while the quota system is a political amount required that focuses on the electricity market. Key supporters of a quota system within Europe include England and France, while Germany, Spain and Denmark have employed a fixed price system and have a greater quantity of electricity generated by RE. Overall, Mr. Maegaard remarked that the creation of a successful RE market requires a level playing field where the cost gap is closed, sufficient investment can be secured, access to the grid is made possible and there is a high rate amongst local residents. He envisions a future in which RE is greeted by a 'POOL' attitude (Please On Our Land) instead of the current NIMBY (Not In My Back Yard) syndrome.

"The Germans have a vision to have 20% of electricity from RE by the year 2020 – they are doing this, not only to improve their energy system and make their country independent from supply from the outside, but also to develop new industries. More than 250 years ago, the steam engine was invented – the UK believed that if they developed the steam engine they would be the leading industrialized country; many others didn't believe in the technology or vision. We're seeing a similar attitude today in Germany with respect to RE. There is a huge market in the future for RE products. Germany is positioning themselves to be the country to supply these technologies."

Ken Ogilvie, Executive Director, of Pollution Probe - one of Canada's oldest ENGO's (environmental non-governmental organizations) walked participants through Pollution Probe's recent green power activities, particularly the Canada-wide Green Power Workshop series. Some of the work done as a precursor to the workshop series includes a report published in November 2002, entitled *Promoting Green Power in Canada* (the report describes the evolution of policies surrounding green energy by taking a look around the world to see what has happened with green power development). A primer on Green Power technologies was also provided and found to be very popular with the public - this led Pollution Probe staff to believe that the public is looking for solutions. The model for the workshop series was based on balancing interest groups; experts were invited along with a wide range of stakeholders. A background document was prepared in advance of the series and was updated after every workshop.

"Canada could put 150 TWh on the grid by 2025. This vision is completely achievable - if Canada wanted to do it, Canada could do it".

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The Green Power Series commenced in Halifax (September 2003) and explored the current status and challenges related to Green Power development in Canada. In Montreal (October 2003) technology development and resource potential across Canada was investigated. In Toronto they talked about investments - asking questions such as, what does it take to sell green power to the commercial sector and public? Policies and incentives to green power development were discussed Calgary (February 2004) with invited experts from around the world. This was done in order to understand which previously implemented policies were working and why others had failed. Elements of a national vision were assembled in Vancouver (April 2004). Pollution Probe staff recognized the need at a national level – the vision was to the country in an effort to promote cooperation and to cut costs. Ken Ogilvie noted that Canada is far behind other jurisdictions in developing RE based on our resource potential. He stressed that it is very important for government to recognize the benefits associated with green power – this is not just about greenhouse gases, it's about economic issues and security. To conclude, a few key priorities within the published Strategy were touched on, including: the need to level the playing field in order to reduce the price gap between renewable technologies and other technologies (some principle ways to go about doing this are through the renewable portfolio standard (RPS) and the advanced renewable tariff (ART) approaches), money needs to be in place to support innovative technologies, access to the power grid must be made possible, and engaging the public, through outreach and education, is crucial in order for them to understand the value of the shift in energy generation.

The Nova Scotia Department of Energy (NSDOE) has released an Energy Strategy for the Province. **Scott McCoombs, Energy Engineer, of the Department of Energy**, focused on the electricity sector by providing a brief review of the process Nova Scotia has gone through to develop its current strategy on renewables. He then provided a review of elements of the energy strategy and the governance mechanism established to oversee the strategy. The goal of the electricity sector as announced in the energy strategy is to ensure reliable, competitively priced, and environmentally acceptable electricity supplies. It is a balancing act to try to marry these three objectives. Key elements of the Strategy include the establishment of an EMGC (see below), the introduction of competition within the wholesale market in Nova Scotia, the establishment of a voluntary target of 50 MW of new RE generation produced by independent power producers, and emission reductions of sulfur dioxide, mercury and nitrogen oxides. An Electricity Marketplace Governance Committee (EMGC) was created to make recommendations to the Nova Scotia Minister of Energy regarding the development, implementation, structure and rules for the future of Nova Scotia's electricity sector. The EMGC met for a period of 18 months and produced two interim reports in December 2002 and March 2003, and a final report in autumn of 2003. The recommendations put forward by the committee involve issues surrounding market scope, transmission, capacity acquisition, renewables, green energy programs and net metering. The government publicly accepted all 89 recommendations in November 2003 and has since introduced an Electricity Act in the fall of 2004 - this Act is not yet ratified. A

"By end of 2005 NS Power expects to have in excess of 100 MW of new renewable energy generation in Nova Scotia since 2000."

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mandatory RPS is included with the act. In the absence of legislation, NS Power has entered into Power Purchasing Agreements including one with a firm in Pubnico Point - the windmills total capacity is 30 MW and the firm is contracted to supply NS Power with 100 GWh per year. Other smaller contracts are being put in place with Independent Power Producers – these include non wind projects.

Workshop Session - Friday, May 20th

To kick off the workshop, **Minister Jamie Ballem**, from Prince Edward Island's (PEI) Department of the Environment, Agriculture and Forestry, motivated participants with an account of the path PEI has taken to establish itself in Canada and North America as a RE leader. PEI is working hard to get others onboard as fast as they want to go in order to develop, demonstrate and implement leading-edge RE technologies. Historically, the bulk of the province's energy mix has been petroleum based and has required the majority of expenditures to be made outside of their provincial economy. Therefore the question became – “what can PEI do in the province to keep the money at home while keeping a reliable energy supply?” Meetings with the public were held in order to decide the path forward. The public was asked what they wanted in regards to energy requirements – did they want more renewables and did they expect government involvement? The public response was for more indigenous RE development orchestrated by their government. By June 2004, the province had released its Energy Framework, which was met with a fair amount of press and resulted in a high level of public awareness and buy-in. However, the province recognized that despite the wind potential in the province, many limitations continue to hinder RE development, including: existing transmission infrastructure, penalties by the utility due to intermittent generation, and the cost competitiveness of small-scale wind generation. A Renewable Energy Act was passed in PEI that helped to address some of these limitations. The Act includes a Renewable Portfolio Standard, Net Metering, Feed-In Tariff Regulations (in development), Designated Wind Development Zones, and Demand-Side Management among other components. Minister Ballem concluded with a perspective of projects and technologies employed within PEI. A few of these include: the Atlantic Wind Test site operating in North Cape, a 30 MW wind project in eastern PEI, development of possible biodiesel projects, exploring the possibility of collecting methane from compost facilities, and developing a wind hydrogen partnership over the next few years with the goal of taking an entire community in the western part of PEI off the traditional electricity grid. Minister Ballem made it clear that PEI is sending the message to the world that they are open for business (“we’re small enough to be affordable and big enough to be commercial”).

“We don’t have to do the big fix. We can do small scale projects and make a significant difference.”

“PEI will have 15% of electricity coming from renewable sources by 2010 and 100% capability by 2015.”

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In order to provide a framework for the moderated interactive discussions, presentations were made by advocates of what are seen as the two main approaches used to encourage the development of renewable energy sources: Advanced Renewable Tariffs (ART) and Renewable Portfolio Standards (RPS). Both approaches have been used elsewhere, alone or in combination, and each has different strengths and weakness and implications, from a regulatory policy perspective.

Paul Gipe, a leading US expert on renewable energy policy explained that an Advanced Renewable Tariff is a rate paid to a RE producer for every kilowatt-hour (kWh) generated by a renewable source of energy. A political process generally determines the price. ARTs currently exist in Australia, Brazil, France, Germany, Spain, the Netherlands and a handful of other countries. The uptake of ARTs in Canada has been slow. PEI has regulations pending while ARTs are currently being proposed for Ontario. European countries that have experienced the most success with RE have established both strong public involvement and an ART process. By creating acceptance amongst the general public and getting people involved locally, communities tend to prosper due to creation of jobs. The ARTs process tends to diversify the players in the RE market, such as farmers, co-ops and first nations due to price stability. Mr. Gipe cited the RE economy in Germany as prime evidence of the benefits of ARTs. The results of ARTs in Germany include 135,000 generators including wind turbines, photovoltaic installations, and biomass and hydroelectric plants. Mr. Gipe concluded by stating that ARTs are compatible with RPS targets since they provide a method for meeting the standards. Paul asserted that the best mechanism to develop RE is via an ART mechanism. A RPS is just a target – it is not a way to move the political agenda forward. Whereas ARTs deliver more capacity - more quickly - in a more equitable fashion.

“The main reasons that Germany and Denmark have been so successful in developing RE is because they have established a great deal of public involvement. Public involvement is enabled by using ARTs - 16 countries in Europe now use this mechanism for RE development. Public Involvement enables community power, which increases acceptance, enables more RE to be developed more quickly, involves more people locally, generating more money flowing through the local economy which in turn creates more jobs within the local community.”

Jeff Deyette (Union of Concerned Scientists), provided a broad overview of a Renewable Portfolio Standard (RPS), shared some experiences that the US has had with RPS and described key components of successful initiatives. RPSs require a gradually increasing amount of an electric suppliers’ retail load to come from eligible energy sources. Jeff described RPSs as a floor, not a cap system – a way to set the bar at a certain level but allowing increased production above that point. Key advantages of a RPS include: the guaranteeing of demand for a known quantity of renewable energy the ability to lower the cost of achieving a target by giving primary market flexibility and the ability to apply RPSs in restructured and regulated markets. Jeff

“Texas has experienced notable success with the RPS policy with more than 1100 MW of wind power installed since 1999. They are poised to meet their 2009 target ahead of schedule.”

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acknowledged disadvantages to the policy such as having a complex policy design, the lack of flexibility to support specific RE sources and the uncertainty surrounding cost impacts. Key issues driving the development of a RPS policy are the high price of natural gas, and an increasing acceptance at the state level that RE is an important piece of the solution basket to address climate change. Most RPS systems in the US have been passed in the past few years and therefore long-term experience is not available. However, key decisions that influence the success of an RPS policy is the structure (who will the RPS be placed on, what tiers are established, percentages, which renewables are eligible), whether existing or only new energy sources are included, does the energy have to be developed in the state to gain local benefits, how will it be administered, and how will it interact with other policies? Mr. Deyette concluded by saying that overall, the RPS approach has been an effective long-term driver in the US. The success of driving the development of RE seems less to do with the policy itself but rather how the policy is implemented. Jeff stressed that if one pays careful attention to the details during the design and implementation phase, common pitfalls can be avoided.

In the afternoon, participants were split into two groups to discuss key barriers to greater renewable energy implementation. Participants were also asked to identify which barriers were actionable now and what was preventing them from being overcome. The final question involved prioritizing key barriers requiring further research. The efforts of both groups are combined below in Table 1.

Table 1: Key Barriers to Greater Renewable Energy Implementation

Key Barriers	Actionable in Short Term	Actionable in Longer Term (Further Research Required)
Lack of education and training opportunities (at all levels, including technical, corporate and political)	<input checked="" type="checkbox"/>	
Lack of understanding of the full potential of renewables	<input checked="" type="checkbox"/>	
Challenging long-term renewable energy targets are lacking	<input checked="" type="checkbox"/>	
Insufficient political leadership	<input checked="" type="checkbox"/>	
Lack of regional approach (partnering)	<input checked="" type="checkbox"/>	
Lack of voluntary domestic markets		<input checked="" type="checkbox"/>
Need for financing, lack of long-term, low cost, accessible financing	<input checked="" type="checkbox"/>	

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Technical and business problems, lack of case study models		<input checked="" type="checkbox"/>
Funding gap for high-profile / low-profile R&D	<input checked="" type="checkbox"/>	
Level playing field (i.e. subsidies for nuclear energy)	<input checked="" type="checkbox"/>	
Access to the grid / updating the grid		<input checked="" type="checkbox"/>
Conservation/Culture – a lack of understanding about conservation	<input checked="" type="checkbox"/>	

Participants agreed to give further consideration to the steps identified to continue the discussion on how to enhance the development of renewable energy in Atlantic Canada. Participants are therefore encouraged to comment on the list developed at the workshop, suggest additions, and continue the discussion on how to move forward.

To conclude the workshop activities, four participants agreed to provide their reflections on the day and a half dialogue.

Jose Etcheverry, from the David Suzuki Foundation, recognized some prevailing themes that he deemed extremely important in order to move forward in making RE more prominent in the Maritimes. Firstly, Mr. Etcheverry feels that there is a clear need for a regional approach to RE in order to achieve the full potential of our resources. An RPS can provide targets for RE development but it is not a policy mechanism to promote RE. ARTs, however, are an instrument with many advantages. Jose noted that Preben invented a new acronym (POOL – please on our land) during the workshop! Jose feels that there is a clear need for putting policies in place to address other bottlenecks as RE grows (i.e. need for education, training, and public awareness). Lastly, Jose encouraged participants to remember that they are becoming part of the solutions to RE challenges.

Peter Doig, from Nova Scotia Power Inc., heard a great deal of diverse views with respect to RE development and expressed that there is a tremendous opportunity to continue this dialogue. He feels that, NS and PEI in particular, have made a good deal of progress in the field of RE in recent years. PEI's wind test sites, hydrogen village, and view to have 100% capability by 2015 are indicative of these efforts. NS has increased its RE capacity by 25% over a 3 year period. A good deal of headway has been made in these two provinces and they're doing a lot of things that should be done. One thing that NSPI is always cognizant of is customer relations. On one side, developers are looking to figure out how to build a healthy and sustainable energy sector while keeping in mind the needs of thrifty customers! The idea of a regional approach is a hot topic – there is a need and a timely opportunity to work better as a region and take advantage of each others strengths. Peter stressed the need for political leadership, public awareness, and recognition of obstacles, in order to move forward in developing RE. Mr. Doig found the discussion surrounding the importance of making citizens more aware of what the tradeoffs and opportunities are for our society to become cleaner and more sustainable to be particularly rich. Peter believes that it is incumbent on all of us to continue this discussion, organize others, and to share our views of what is possible in the days, weeks, and months ahead.

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Mary Pattenden, from Pollution Probe exclaimed that the three morning presentations were some of the best she's had the opportunity to partake in! Ms. Pattenden declared that although we focused on Nova Scotia when we identified barriers to RE development, the list can be applied to other places within Canada. When Pollution Probe ran their workshops, they uncovered a variety of needs that required simultaneous action. The engagement of Canadians was identified as a key issue both during this workshop and the cross-country series. Mary encouraged participants to acknowledge that a great deal of progress has been made. A year and a half ago energy Ministers didn't have much to talk about in terms of RE – now they do. She feels it is important to recognize the opportunities within this progress. As an example, the Atlantic Electricity Working Group is considering an RPS for the region along with a regional wind assessment. Things are happening but stakeholders are left out of this group and others. Mary believes that as stakeholders we should be paying attention to figure out how to be part of the process. One of the things Pollution Probe is doing in the autumn is taking the strategy document out to various regions to offer an opportunity for regions to meet together, to provide a chance to focus on their own regions. Pollution Probe is trying to eventually link working groups across the country to ensure an awareness of what is happening in other regions in Canada. Furthermore, a new alliance has been formed across Canada, made up of NGOs, in order to pool resources. Pollution Probe is working with the Pembina Institute, David Suzuki Foundation, OCEA, and the Ecology Action Centre, to build expertise across country. Mary reinforced the feeling that there is currently tremendous momentum surrounding renewables and encouraged us all to recognize these opportunities.

Preben Maegaard concluded the day by describing RE as an 'easy to start' technology without many technological barriers. Preben challenged participants to become more creative in developing solutions to RE problems. He used the analogy of playing music – you need instruments, instrument makers, musicians and composers! If developed pragmatically, we can use RE as the backbone of our economy and remove old energy sources such as atomic energy. After all, we didn't run out of coal or wood – we found something better!