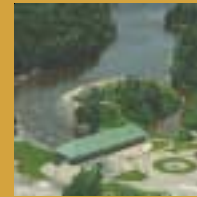


Green Power in Canada

Workshop Series



Workshop #2: Technology Development and Resource Potential

Commission for Environmental Cooperation
393, rue St-Jacques Ouest, Bureau 200
Montréal, Québec

November 3–4, 2003

Presented by
Pollution Probe
Summerhill Group

Presenting Partners

Pollution Probe is a Canadian environmental organization that defines environmental problems through research; promotes understanding through education; and, presses for practical solutions through advocacy. **Pollution Probe** is dedicated to achieving positive and tangible environmental change. **Pollution Probe** has five major programmes — air, water, climate change, energy and indoor environments — and several special programme areas, such as mercury and environmental policy development.

www.pollutionprobe.org



The Summerhill Group is a company dedicated to transforming markets to achieve sustainability. It builds partnerships among corporations, governments, foundations, and non-governmental organizations to deliver market-based sustainable solutions related to air quality, climate change and renewable energy. **The Summerhill Group** has been providing these services for more than ten years in the North American marketplace.

www.summerhillgroup.ca



Green Power in Canada

Objectives

Pollution Probe and Summerhill Group, in cooperation with leading energy companies and governments, are coordinating a series of five progressive workshops to discuss the requirements for the development and promotion of green power in Canada. The workshop series, to be offered from October 2003 to March 2004, will bring together government representatives, policy experts, investors, developers, marketers and other stakeholders in the green power/renewable energy industry. The objectives of this workshop series are:

- (1) To engage a diverse range of energy sector experts;
- (2) To present and discuss recent developments in technology, policy and business investments pertaining to green power; and,
- (3) To build a vision and strategy for the development of green power in Canada.

Rationale

The development and diversification of a nation's green power/renewable energy portfolio provides an opportunity for countries to reduce emissions of greenhouse gases and other pollutants of concern associated with traditional sources of energy.

Green power development in many countries is flourishing as national and provincial governments provide effective incentive strategies to promote implementation of these technologies (e.g., the United States, Australia, the Netherlands, Denmark and Germany). Although Canada is a world leader in terms of waterpower development, with more than 60 per cent of electricity supply provided through such facilities, Canada lags behind most OECD countries in its development of green power/low-impact renewable energy technologies. Approximately 1.2 per cent of the nation's electricity sources are currently derived from such sources.

It is timely for Canada to explore in depth the role that green power can play in both complementing and providing alternatives to traditional electricity supplies. The Green Power Workshop Series is designed to identify the range of options for, and the steps Canada can take to promote, green power in Canada. The workshops are also designed to help build consensus around a vision and strategy for green power development in Canada.

Workshop Themes and Locations

Workshops will highlight regional energy supplies and perspectives and introduce major themes and important considerations for discussion. Each workshop will bring together government, industry, non-governmental representatives and other key stakeholders to build support for a vision and strategy for green power development in Canada.

Workshop 1: Current Status and Challenges

Objective: This workshop will provide an overview of low-impact renewable energy in Canada, outline perceived barriers to development, and introduce subsequent topics for exploration. Dialogue will focus on the needs and perspectives of developers, investors and governments.

Location and Timing: Halifax, October 1, 2003

Workshop 2: Technology Development and Resource Potential

Objective: This workshop will review the state of low-impact renewable energy technologies and the feasibility of application to the Canadian market. The potential for implementation in Canada and key development requirements will be examined to identify the most applicable technologies and the technical support infrastructure needed for successful development.

Location and Timing: Montreal, November 3–4, 2003

Workshop 3: Creating Markets for Investments in Green Power

Objective: This workshop will examine the key market drivers for green power in Canada, including costs of traditional energy sources, costs of green

power, and existing government incentive programs designed to overcome market barriers. Regulatory and voluntary incentives, consumer choice programs and greenhouse gas emission offsets will be among the areas examined to identify the most effective incentives to encourage investment and uptake of green power. Discussions will evolve around the challenge of combining emerging market mechanisms and pricing strategies.

Location and Timing: Toronto, December 8–9, 2003

Workshop 4: National and International Policy Incentives for Green Power Development

Objective: This workshop will look in depth at Canadian and international policies and regulatory and market incentives supporting green power development. Recent developments in Canada will be compared and contrasted with policy/incentive advancements in the United States and Europe, with careful consideration given to regional energy profiles. The harmonization of provincial and national incentives in promoting green power will be examined, with an eye towards determining the most effective combination of voluntary, regulatory and financial incentive policies for Canada.

Location and Timing: Calgary, February 9–10, 2004

Workshop 5: Next Steps – A Vision and Strategy for Green Power in Canada

Objective: The final workshop will provide a synthesis of the materials provided in the previous workshops and focus on the elements, mechanisms and approaches for a shared vision and strategy to develop green power in Canada.

Location and Timing: Vancouver, March 2004

Workshop #2 Agenda

Commission for Environmental Cooperation, 393, rue St-Jacques Ouest, Bureau 200, Montréal, Québec

Monday, November 3

Optional Site Tour (9:00 am – 12:00 pm) — Tour of the **Canmet/VARENNES research laboratories**.

This tour will provide an overview of RETscreen technology, 20 KW photovoltaic site and Solarwall.

Wind Energy Mapping Workshop (9:30 am – 11:30 am) — The workshop on wind energy mapping will be hosted by Natural Resources Canada and Environment Canada.

1:00 **Welcome and Opening Remarks** — Ken Ogilvie, Executive Director, Pollution Probe and William Vincent Kennedy, Executive Director, Commission for Environmental Cooperation

1:15 **Ministerial Address — Perspective on the Development of Green Power in Québec** — Monsieur Thomas Mulcair, Ministre de l'environnement (*invited*)

1:45 **Green Power in Québec** — Yves Guérard, Senior Advisor, Hydro-Québec

2:05 **Emerging Renewable Energy Potential in Canada** — André Filion, Directeur Adjoint, Natural Resources Canada

2:30 **Coffee Break**

2:45 **Session 1: Resource Potential (Panel Discussion)**

Moderator/Chair: Melissa Felder, Summerhill Group

Panelists:

Small Hydro — Jean-Marc Carpentier, Journaliste indépendant (*invited*)

Wind/Solar — Robert Morris, Environment Canada

Biomass — Dr. David Layzell, Research Director, BIOCAP

Tidal Stream/Wave Energy — Michael Richard Tarbotton, P. Eng., Triton Consultants

Geothermal — Kenneth MacLeod, Western GeoPower

4:00 **Discussion**

4:45 **Adjourn and Overview of Day 2** — Mary Pattenden, Pollution Probe

Reception — Hosted by the Clean Air Renewable Energy (CARE) Coalition (5:00 pm – 7:00 pm) in the **Lobby of the Commission for Environmental Cooperation** (393, rue St-Jacques Ouest, Bureau 200, Montréal, Québec).

Workshop #2 Agenda continued

Tuesday, November 4

8:15 **An Overview of Renewable Energy Technology Potential in Canada** — Vicky Sharpe, President and CEO, Sustainable Development Technology Canada

8:45 **Session 2: Renewable Energy Technologies (Panel Discussion)**
Moderator/Chair: Suzanne Alfano, Senior Program Manager, Canadian Standards Association
Panelists:
Landfill Gas — Hubert Bourque, Vice-président, Intersan
Wind — Daniel Charette, Sales Area Manager, NEG Micon/Director, CanWEA Board
Biomass — Dr. Eric Bibeau, Associate Professor for Alternative Energy, University of Manitoba
Solar — Dr. Andreas Athientis, Buildings Department, Concordia University
Ocean — Martin Burger, President and CEO, Blue Energy

10:00 **Discussion**

10:30 **Coffee Break**

10:45 **Breakout Groups — Resource Potential and Technologies**
Moderator/Chair: Jim Abraham, Director, Environment Canada, Meteorological Research

12:30 **Lunch and Luncheon Address** — Peter Jansen, Department of Energy Systems, TNO-MEP, Netherlands

1:45 **Reports from Breakout Groups**

2:45 **Session 3: Stakeholder Perspectives (Panel Discussion)**
Moderator/Chair: Robert Noël de Tilly, Secrétaire Général, Ministère de l'Environnement
Panelists:
Claude Descôteaux, Executive Director, Québec Association of Promoters of Renewable Energy (*invited*)
Philip Raphals, Vice President, Helios Centre
Myriam Truchon, Director Environment, Hydro-Québec

3:45 **Coffee Break**

4:00 **Discussion**

4:45 **Next Steps and Adjourn** — Ken Ogilvie, Pollution Probe

Workshop Sponsors

National Sponsors:

Government of Canada (Environment Canada and Natural Resources Canada)
Climate Change Central
Hydro-Québec
Suncor Energy

Regional — Montreal Workshop — Sponsors:

Hydro-Québec
Intersan

Supporting National Sponsors:

Canadian Standards Association
Clean Air Renewable Energy Coalition
Commission for Environmental Cooperation
Consulate-General of the Kingdom of the Netherlands: Toronto-Montreal-Vancouver
National Round Table on the Environment and the Economy
Sustainable Development Technology Canada

A special thank you to the Government of Canada (Environment Canada and Natural Resources Canada), Climate Change Central (Alberta), Hydro-Québec and Suncor Energy for sponsoring the full workshop series.

Registration Form

Green Power in Canada – Workshop Series Workshop #2: Technology Development and Resource Opportunities

November 3–4, 2003

Email Registration Form to nnanda@pollutionprobe.org
or Fax to 416-926-1601

Name _____

Company _____

Address _____

City _____ Prov/State _____ Postal/Zip Code _____

Country _____ Phone _____ Fax _____

Email _____

Please indicate which of the following sessions you plan to attend:

- Workshop** — Monday, November 3, 2003 (1:00 pm – 5:00 pm) and Tuesday, November 4, 2003 (8:00 am – 5:00 pm) — **Commission for Environmental Cooperation** (393, rue St-Jacques Ouest, Bureau 200, Montréal, Québec)
- Reception** — Monday, November 3, 2003 (5:00 pm – 7:00 pm) — **Lobby of the Commission for Environmental Cooperation** (393, rue St-Jacques Ouest, Bureau 200, Montréal, Québec) — The reception, hosted by the Clean Air Renewable Energy Coalition, will provide a good opportunity to meet and mingle with workshop participants. There will be light refreshments served and a cash bar.
- Site Tour** — Monday, November 3, 2003 (9:00 am – 12:00 pm) — Tour of the **Canmet/VARENES research laboratories**. This tour will provide an overview of RETscreen technology, 20 KW photovoltaic site and Solarwall.
- Wind Energy Mapping Workshop** — Monday, November 3, 2003 (9:30 am – 11:30 am) — The workshop on wind energy mapping will be hosted by Natural Resources Canada and Environment Canada. Please register early as space is limited.

Workshop #1 Agenda

Presentations from Workshop #1 are available online at
www.pollutionprobe.org/Happening/Index.htm

Wednesday, October 1, 2003

- 8:30 **Welcome and Opening Remarks** — Mary Pattenden, Pollution Probe and Melissa Felder, Summerhill Group
- 8:45 **Ministerial Addresses**
Hon. Cecil P. Clarke, Nova Scotia Minister of Energy
Hon. Bruce Fitch, New Brunswick Minister of Energy
- 9:15 **Global Perspective on Green Power — *Energy Needs, Choices and Possibilities: Scenarios to 2050***
— Charles Slagorsky, Shell Canada Limited
- 9:45 **Status and Challenges of Green Power in Canada — *Overview*** — Steve McCauley, Director, Oil, Gas and Energy, Environment Canada
- 10:15 **Coffee Break**
- 10:30 **Technical Development and Perspectives on Green Power (Panel Discussion)**
Robert Hornung, Executive Director, Canadian Wind Energy Association
Pierre Fortin, Executive Director, Canadian Hydropower Association
Robert McMonagle, Project Manager, Canadian Solar Industries Association
Bruce McCallum, President, Canadian Bioenergy Association
- 11:45 **Lunch**
- 1:00 **Regional Development and Perspectives on Green Power (Panel Discussion)**
Don Barnett, Assistant Deputy Minister, New Brunswick Energy
Joan McDougall, Manager, Green Power Program, Nova Scotia Power
Bill Borland, Director, Environmental Affairs, JD Irving
Wayne MacQuarrie, Chief Executive Officer, Prince Edward Island Energy Corporation
- 2:15 **Discussion**
- 2:45 **Coffee Break**
- 3:00 **Stakeholder Perspectives on Green Power (Panel Discussion)**
Angela Griffiths, Executive Director, Clean Nova Scotia
David Coon, Policy Director, Conservation Council of New Brunswick
Will Apold, Chair, Renewable Energy Industries Association
Larry Hughes, Professor, Department of Electrical and Computer Engineering, Dalhousie University
- 4:00 **Discussion**
- 4:45 **Next Steps and Adjourn** — Mary Pattenden, Pollution Probe and Melissa Felder, Summerhill Group