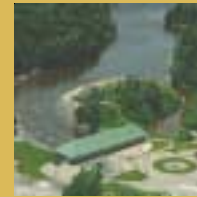


Green Power in Canada

Workshop Series



Workshop #4: Policies and Incentives for Green Power Development

Hyatt Regency
700 Centre Street SE
Calgary, Alberta

February 9–10, 2004

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 close to 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 provided an overview of low-impact renewable energy in Canada, outlined perceived barriers to development, and introduced subsequent topics for exploration. Dialogue focused 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 reviewed 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 was 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 examined 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 were among the areas examined to identify the most effective incentives to encourage investment and uptake of green power. Discussions evolved around the challenge of combining emerging market mechanisms and pricing strategies.

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

Workshop 4: Policies and 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, April 3, 2004

Workshop #4 Agenda

Hyatt Regency, 700 Centre Street SE, Calgary, Alberta

Monday, February 9, 2004

8:00 **Registration**

8:30 **Welcome and Opening Remarks** — Ken Ogilvie, Executive Director, Pollution Probe and Peter Love, Principal, Summerhill Group

9:00 **Keynote Address** — John Walter, Senior Director, Standards Development, Canadian Standards Association

9:20 **Questions and Answers**

Regional Presentations

Moderator: Art Bonertz, Mayor, Pincher Creek, Alberta

9:30 **Renewable Energy Developments in Alberta** — Allan Amey, President and CEO, Climate Change Central

9:50 **Investing in Renewables in Alberta** — Gord Lambert, Vice President, Sustainable Development, Suncor Energy Inc.

10:10 **Coffee Break**

10:25 **Where Renewable and Alternative Energy is Heading in Alberta** — Shannon Flint, Senior Advisor, Alberta Environment

10:45 **The Developer's Outlook: Ensuring a High Quality Product** — Jason Edworthy, Managing Director, External Relations, Vision Quest Windelectric Inc.

11:05 **Questions and Answers**

11:45 **Lunch**

The International Experience (Panel Discussion)

Moderator: Tara Preston, Acting Head, Clean Development Mechanism and Joint Implementation Office, Department of Foreign Affairs and International Trade

12:45 **Renewable Energy Policies in Europe** — Emiel van Sambeek, Administration Studies, Energy Research Centre of the Netherlands

1:05 **Renewable Energy Policies in the United Kingdom** — Gaynor Hartnell, Policy Director, UK Renewable Power Association

1:25 **The US EPA Green Power Partnership** — Kurt Johnson, Director, Green Power Partnership, US EPA

1:45 **Renewable Energy in the United States: Federal and State Policies** — Alan Noguee, Clean Energy Program Director, Union of Concerned Scientists

2:05 **Questions and Answers**

2:45 **Coffee Break**

Developing a Vision for Canada

Moderator: Melissa Felder, Research Manager, Summerhill Group

3:00 **A Vision for Green Power in Canada** — Dianne Humphries, Manager, Sustainable Development, Suncor Energy Inc., on behalf of the Clean Air Renewable Energy Coalition

3:20 **Comments on the Vision (Panel Discussion)**
Robert Hornung, Executive Director, Canadian Wind Energy Association
Representative from Canadian Solar Industries Association (*invited*)
Doug Bradley, Board Member, Canadian Bioenergy Association
Niels Nielsen, Manager, Sustainable Energy Solutions, Embryonic Wave Power Association

Workshop #4 Agenda continued

- 4:00 **Group Discussion**
- 5:00 **Adjourn** — Melissa Felder, Research Manager, Summerhill Group and Mary Pattenden, Director, Climate Change Programme, Pollution Probe
- Reception** — Hosted by the Clean Air Renewable Energy Coalition (**5:00 pm – 6:30 pm**) at The Hyatt Regency (700 Centre Street SE, Calgary, Alberta).
- Public Forum on Green Power** — Co-hosted by Climate Change Central, the National Round Table on the Environment and the Economy and Pollution Probe, this forum is open to members of the public and will present information on local and international renewable energy policies. The **Public Forum on Green Power** will be held at the Hyatt Regency (700 Centre Street SE, Calgary, Alberta) from **7:00 pm – 9:00 pm**.
- Tuesday, February 10, 2004**
- 8:00 **Opening Remarks** — Ken Ogilvie
- 8:05 **Keynote Presentation — The Integration of Federal and State-level Policies in Texas** — Michael Sloan, Founder and President, Virtus Energy Research Associates (VERA), Inc.
- Policies and Best Possible Incentives in Canada (Panel Discussion)**
Moderator: Jean Bélanger, National Round Table on the Environment and the Economy
- 8:30 **An Ideal Portfolio of Strategies** — Thomas Marr-Laing, Acting Executive Director, Pembina Institute
- 8:45 **Experiences in Policy Design in Canada and the US: What Would Work for Canada** — John Dalton, Managing Director, Navigant Consulting
- 9:00 **Looking Forward: Charting a Path from the Perspective of Utilities** — Ted Quade, Planning, Environment and Regulatory Affairs, SaskPower, on behalf of Canadian Electricity Association
- 9:15 **Approaching Provincial Consensus on Targets and Definitions** — Theresa Howland, Clean Air Strategic Alliance (CASA) Renewable and Alternative Energy Project Team
- 9:30 **Questions and Answers**
- 10:00 **Coffee Break**
- 10:15 **Breakout Groups** — Attendees will be asked for their input on the vision statement(s) presented on Day 1 and appropriate federal and provincial strategies to achieve objectives, given information presented over the two days of the workshop. The reports from the breakout groups will be incorporated into the Pollution Probe/Summerhill Group report for the Vancouver workshop, and will form the initial framework for pulling together a national vision and strategy for green power in Canada.
- 12:45 **Lunch**
- 1:30 **Luncheon Address — The Evolution of a Western Tradable Renewable Certificate System** — Brock John, Western Renewable Energy Generation Information System
- 2:00 **Reports from Breakout Groups**
- 3:00 **Coffee Break**
- 3:15 **Reflections on Proceedings (Panel/Group Discussion)**
- 4:30 **Adjourn and Wrap-up** — Peter Love, Principal, Summerhill Group

Workshop Sponsors

National Sponsors:

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

Regional — Calgary Workshop — Sponsors:

Climate Change Central
Enbridge Inc.
EnCana
Macleod Dixon

Supporting National Sponsors:

Canadian Energy Efficiency Alliance
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 #4: Policies and Incentives for Green Power Development

February 9–10, 2004

E mail 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, February 9, 2004 (8:30 am – 5:30 pm) and Tuesday, February 10, 2004 (8:00 am – 4:30 pm) — **The Hyatt Regency** (700 Centre Street SE, Calgary, Alberta)
- Reception** — Monday, February 9, 2004 (5:00 pm – 6:30 pm) — **The Hyatt Regency** (700 Centre Street SE, Calgary, Alberta) — 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.

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

Workshop #2 Agenda

Presentations from Workshop #2 are available online at
www.pollutionprobe.org/Happening/Index.htm

Monday, November 3, 2003

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.

Optional Wind Energy Mapping Workshop

(9:00 am – 12:00 am) — The workshop on wind energy mapping will be hosted by Natural Resources Canada and Environment Canada.

1:00 **Welcome** — Ken Ogilvie, Executive Director, Pollution Probe

1:10 **Opening Remarks** — William Kennedy, Executive Director, Commission for Environmental Cooperation

1:30 **Green Power in Québec** — Yves Guérard, Senior Advisor, Hydro-Québec

2:00 **Emerging Renewable Energy Potential in Canada** — André Filion, Deputy Director, Programs, Renewable and Buildings Program, Natural Resources Canada

2:30 **Coffee Break**

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

Moderator/Chair: Melissa Felder, Research Manager, Summerhill Group

Panelists:

Small Hydro — Jean Trudel, Vice President, Finance, Innergex Inc.

Wind/Solar — Robert Morris, Chief, National Archives and Data Management, Environment Canada

Biomass — Dr. David Layzell, Research Director, BIOCAP

Tidal Stream/Wave Energy — Michael Richard Tarbotton, Consulting Engineer, Triton Consultants

Geothermal — Kenneth MacLeod, President and CEO, Western GeoPower

4:00 **Discussion**

4:45 **Adjourn and Overview of Day 2** — Mary Pattenden, Director, Climate Change Programme, 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, 2003

- 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 Athienitis, Department of Building, Civil and Environmental Engineering, 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
Biomass, Landfill Gas and Geothermal — Facilitator: David Layzell, Research Director, BIOCAP Canada and Notetaker: Martin Tampier, Researcher
- Small Hydro, Tidal and Wave** — Facilitator: Murray Paterson, Manager, Green Energy Project, Ontario Power Generation and Notetaker: Melissa Felder, Research Manager, Summerhill Group
- Wind and Solar** — Facilitator: Jim Abraham, Director, Meteorological Research, Environment Canada and Notetaker: Mary Pattenden, Director, Climate Change Programme, Pollution Probe
- 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
Richard Legault, President, Helimax Energie Inc.
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, Executive Director, Pollution Probe

Workshop #3 Agenda

Presentations from Workshop #3 are available online at
www.pollutionprobe.org/Happening/Index.htm

Monday, December 8, 2003

Optional Site Tour (9:30 am – 12:00 am) — A tour of the TREC wind turbine at Exhibition Place.

Optional Workshop on Renewable Energy Certificates (9:30 am – 11:30 am) — The workshop, hosted by the Commission for Environmental Cooperation and Environment Canada, will review the current status of green power certification, outline how the markets for green power are developing in Canada, describe Renewable Energy Certificates and their evolving marketplace, and bring people up to date on the status and role of the proposed North American Association of Issuing Bodies.

1:00 **Welcome and Opening Remarks** — Ken Ogilvie, Executive Director, Pollution Probe and representative from Summerhill Group

Keynote Presentations: Focus on Investing

1:15 **Investing in Green Energy: An Overview of Government Support** — Matthew Bramley, Director of Climate Change Program, Pembina Institute

1:40 **Investing in Green Energy: Recent Developments** — Elisabeth DeMarco, Partner, Macleod Dixon

2:05 **Investing in Green Energy: An Investors Perspective** — Robert McLeese, President, Access Capital Corp.

2:30 **Questions and Answers**

2:45 **Coffee**

3:00 **Session 1: Creating Markets for Investors (Panel Discussion)**

Moderator: Gregor Robinson, Director, Conservation, Energy Efficiency and Renewables, Ontario Ministry of Energy

Panelists:

Stephen Probyn, President and CEO, Clean Power Income Fund

Henry Vehovec, President and Member, National Angel Organization

Vicky Sharpe, CEO and President, Sustainable Development Technology Canada

Nicholas Parker, Chairman, Cleantech Venture Network

Bob Page, Vice President, Sustainable Development, TransAlta

4:15 **Discussion**

5:25 **Overview of Day 2 and Adjourn** — Ken Ogilvie, Executive Director, Pollution Probe

Reception — Hosted by the Clean Air Renewable Energy Coalition (5:30 pm – 7:30 pm) at **The Westin Harbour Castle** (1 Harbour Square, Toronto, Ontario).

Workshop #3 Agenda continued

Tuesday, December 9, 2003

- 8:15 **Towards a North American Tracking System** — Veronique Robichaud, Program Manager, Environment, Economy and Trade, Commission for Environmental Cooperation
- 8:45 **Session 2: Creating Markets for End-Users (Panel Discussion)**
Moderator: Brian Kelly, Friends of the Earth
Panelists:
Theresa Howland, Manager, Green Energy Marketing, Vision Quest Windelectric Inc.
John Sawler, Manager, Green Power Marketing, Ontario Power Generation
Keri Bolding, Marketer's Marketers Group, US Centre for Resource Solutions
Jane Rigby, Associate Vice-President, CO2e.com
- 9:45 **Discussion**
- 10:15 **Coffee Break**
- 10:30 **Breakout Groups**
Breakout Group #1: Risk Capital Investors (Brokers, Venture Capitalists, etc.)
Breakout Group #2: Energy Sector Investors (Owners, Operators, Developers, etc.)
Breakout Group #3: Green Power Marketing
Breakout Group #4: NIMBY, Education, Regional Perspectives
- 12:15 **Working Lunch**
- 1:30 **Reports from Breakout Groups**
- 2:30 **Session 3: Regional Perspectives (Panel Discussion)**
Moderator: Melissa Felder, Research Manager, Summerhill Group
Panelists:
Patrick Gillette, Vice President, Acquisition and Corporate Affairs, Canadian Renewable Energy Corporation
Jake Brooks, Executive Director, Independent Power Producers Society of Ontario
Peter MacGowan, President, Blue Highlands Citizens Coalition
Volker Thomsen, CEO and President, St. Lawrence College
- 3:45 **Coffee Break**
- 4:00 **Discussion**
- 5:00 **Next Steps and Adjourn** — Peter Love, Principal, Summerhill Group