

sustainable energy solutions



Energy shift



Photo: Greg Brown, OneSky

Pembina Energy Analyst, Tim Weis, in front of a gas flare in Nigeria that has been burning since 1968. Pembina has provided capacity-building training to communities around the world and was in Nigeria to provide renewable energy software training at the “Energetic Solutions” conference.

In October 1982, Canada’s largest industrial accident — the Lodgepole sour gas blowout near Drayton Valley, Alberta — inspired a small group of local residents to press for stronger safety standards in the oil and gas industry. This group went on to found the Pembina Institute in 1985.

Today, the Pembina Institute is a national not-for-profit organization working to shift our society away from a dependency on conventional fossil fuels to a more sustainable energy future that uses the vast energy potential of the sun, wind, earth and water.

We envision a world where sustainable

communities take creative action to protect the natural beauty and ecological health of the planet, allowing other species to flourish and future generations to live satisfying and healthy lives.

The Pembina Institute’s role within this vision is to help society make the transition to a sustainable energy future.

Our multidisciplinary team of staff and volunteers work collaboratively with youth, communities, corporations and government to find practical solutions to environmental challenges related to the way we produce and consume energy.

Creating sustainable energy solutions

Our annual report highlights some examples of progress we made in 2004 to shift to a more sustainable energy future.

Photo: David Dodge, the Pembina Institute



Education

Engaging Youth and Public in Creating Change

More than 400,000 sets of renewable energy teaching materials were downloaded from Re-Energy.ca, and 250 educators signed up for teacher-approved materials from Greenlearning.ca within six months of the launch. **More information on pages 6 and 7.**

Photo: Tim Weis, the Pembina Institute



Sustainable Communities

Supporting Community Development in Canada and Internationally

The Hupacasath First Nation developed their own low-impact hydro facility. The Aboriginal and Northern Community Action Program now wants to replicate this kind of project throughout the province and the country. **More information on pages 8 and 9.**

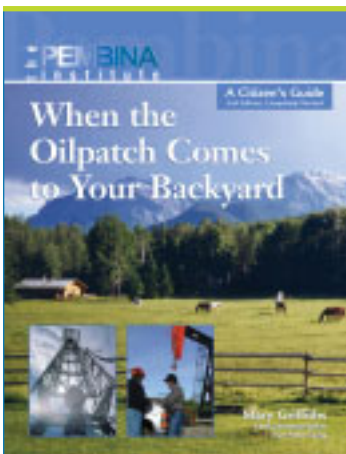


Corporate Eco-Solutions

Working Directly with Business Leaders to Find Solutions

More than 1300 corporate employees committed to reducing their annual emissions by a total of 4,600 tonnes. **More information on pages 10 and 11.**

Photo: David Dodge, the Pembina Institute



Energy Watch

Minimizing the Impacts of Conventional Energy

Our book *When the Oilpatch Comes to Your Backyard* brings concerned Albertans the information they need. **More information on pages 12 and 13.**



Green Policy

Changing the Way Governments Approach Environmental Challenges

When the *Government is the Landlord* drew record media attention and discussion on whether the government is earning a fair financial return for public oil and gas resources. **More information on pages 14 and 15.**

People and passion fuel Pembina

I have come to realize there are two important ingredients necessary for change in this world — people and passion. The Pembina Institute brings together the best of both.

We have continued to attract and retain bright and dedicated staff. Their hard work and enthusiasm drive our quest to find solutions leading to energy conservation and efficiency, increased use of renewable energy sources, reduced impacts from the use of conventional energy and reduced greenhouse gas emissions.



Photo: David Dodge, the Pembina Institute

Dr. Marlo Reynolds is the Executive Director of the Pembina Institute.

The Pembina Institute's central focus is figuring out how we shift from a fossil fuel-based economy to a healthier low impact renewable energy system. To find the solution, we work in a collaborative and professional manner by evaluating options, designing solutions and encouraging the public, government and companies to think with ingenuity and imagination.

We are especially proud of our progress in 2004 and invite you to read about how we, and you, through your support of our work, made a difference.

We are partnering with more and more other not-for-profit organizations to work together on projects and

As a board, we encourage and support the work of our staff. Board members bring together diverse perspectives on environmental priorities, business administration and societal responsibility. In 2004 we added three new members: Robert Hornung, President of the Canadian Wind Energy Association and past Climate Change Director of the Pembina Institute, David Armour, CEO of the Canadian Medical Foundation, and Janice McDougall, consultant and partner with Goodman, McDougall & Associates Ltd.



Photo: David Dodge, the Pembina Institute

Grace Gruber is President of the Board and trustee for Parkland School Division.

We truly believe we have the right people in place to realize the ambitions of the Pembina Institute.

Leading the energy shift

campaigns. Governments seek ideas and analysis from us, and companies engage in constructive dialogue with our team. We plan to expand our education program to both British Columbia and Ontario once we secure funding. A doubling of media coverage, thousands of document downloads and expansion of our funders' and donors' base confirm the strong public support and interest for our work.

Looking ahead

Although 2005 is sure to be an exciting year for the Pembina Institute, we face many challenges. At the time of writing this report, the federal government had just released the 2005 Kyoto Plan for Canada. It is clear that implementation of our national plan will be a major challenge, and as an organization we will do everything possible to help improve the plan and ensure its rapid implementation. The oil sands development in Alberta is accelerating at an

unprecedented pace raising significant environmental concerns. Ontario faces a major energy challenge that we will continue to work on. Through professional research, relationship building and creativity we will provide practical and smart solutions to meet these challenges in the best interests of the public.

On behalf of the Pembina Institute, I would like to thank all the supporters and clients who helped make 2004 a success. Working together, we can solve the complex environmental challenges we face today. We owe this to future generations.

P.S. Should you have any questions or comments about the work we do, please contact me. Listening to our stakeholders is critical to improving the work we do. I am best reached by e-mail at marlor@pembina.org or by phone at 403-269-3344 Ext. 113.

Outcomes and objectives



Photo: David Dodge, the Pembina Institute

Our efforts are specifically aimed at achieving four long-term outcomes:

- A continual shift in the Canadian corporate sector towards sustainable energy production and consumption.
- Implementation by Canadian federal and provincial/territorial governments of policies and programs that result in sustainable energy production and consumption.
- Empowerment of today's youth with the skills, knowledge and attitudes to accelerate the shift towards sustainable energy production and consumption.

- An increased shift by Canadian communities and developing countries towards sustainable energy production and consumption.

To achieve these long-term outcomes, we seek to:

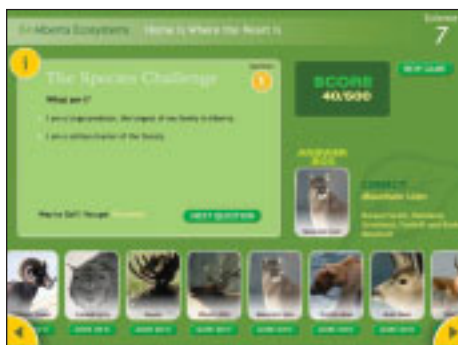
- Minimize negative environmental and human-health impacts from conventional energy.
- Maximize energy conservation and efficiency.
- Maximize low-impact renewable energy.
- Minimize greenhouse gas emissions.

Engaging youth and public in creating change

Our innovative public outreach and education programs are taking the principles of sustainability to tens of thousands of students, teachers and other Canadians.



Makin' the Juice, learning about where energy comes from in Alberta in Greenlearning.ca's Science 24 Unit.



The **Species Challenge** helps students learn about species and ecosystems in Greenlearning.ca's Science 7 Unit.

Providing teacher-approved learning materials at Greenlearning.ca

Greenlearning.ca is an innovative e-education program that puts curriculum first. It provides a one-stop Internet source for teachers, students, community organizations and citizens interested in the latest and best on clean energy solutions, energy efficiency, climate change and pedagogically sound learning units.

Greenlearning.ca Alberta has completed the following units of study:

- Science 5: Electricity All Around Us (25 lesson plans and activities)
- Science 7: Real World EcoSystems (18 lesson plans and activities)
- Science 24: Real World Energy (19 lesson plans and activities)

- Social 20: Quality of Life and Sustainability (18 lesson plans and activities)
- Extensive Climate Protection section including Onelesstonne.ca.
- EnerActions: Lights Off — an engaging on-line tool for students and teachers to take action, conserve energy, reduce emissions and save money in schools.

Within the first six months of the launch, more than 250 teachers had registered for Greenlearning.ca and more than 1,000 teachers had subscribed to *Greenlearning News*.

With the success of Phase I in Alberta, Pembina has already lined up first-rate educators and project managers to begin work on [Greenlearning](http://Greenlearning.ca) British Columbia and Ontario in 2005.



Grade 5 students working on Greenlearning.ca's Science 5 Learning Unit.

I found this Web site on the weekend, and my students were on it today! They loved it and are very excited about our upcoming unit. Thank you for all your hard work to create such a fabulous Web site! It's awesome!

Stephanie Gordon, Grade 5 teacher, Monterey Park Elementary School, Calgary, AB

Keep up the awesome work! This is the only site like it!

Mike Bobbitt, high school teacher
Edward Milne Community School, Sooke, BC

The students found it enlightening; they will think more about their fuel consumption in the future.

Kimberlee Bawolin, Centre High School, Edmonton, AB

Creating “Build and Learn” lesson plans at Re-energy.ca

Re-energy.ca, our wildly successful renewable energy and sustainable transportation education Web site, allows visitors to download construction plans that teach them how to build working small-scale models of wind turbines, solar cars, micro-hydro generators, solar ovens and biogas generators.

In 2004, the monthly average for Web site visitors grew to more than 30,000 totalling more than 350,000

annual visitors who downloaded more than 400,000 sets of learning materials.

The Web site reaches audiences in Canada and the United States as well as Peru, Australia, the United Kingdom and India.

Teaching youth about climate change

Youth need to understand climate change so they can learn to take action to minimize emissions of greenhouse gases.

Taking action on Climate Protection

The Climate Protection section at Pembina’s Greenlearning.ca is one of our most popular resources. It is a comprehensive educational resource on the science and policies of climate change. Climate Protection also provides access to the Pembina Institute’s Onelesstonne.ca on-line tool to assist Canadians in committing to actions to reduce their greenhouse gas emissions.

Sharing the Climate Change Awareness and Action Kit

The Climate Change Awareness and Action Kit is a leading climate-change education resource in Canada. More than 75 Canadian teachers received the kit through workshops and conference sessions in 2004.

| Re-energy.ca top downloads for 2004: | | |
|--|--------|--------------|
| Build Your Own Wind Turbine | 78,273 | 89% increase |
| Build Your Own Hydroelectric Generator | 61,553 | 96% increase |
| Build Your Own Biogas Generator | 18,224 | 11% increase |



Dave Mussell, one of Pembina’s staff teachers, on a classroom visit.



The renewable energy light goes on when students build a micro-hydro generator.



The biosphere bottle is a concrete example of the greenhouse effect.

Photos, left to right: Jillian Scrimger, the Pembina Institute; David Dodge, the Pembina Institute; Dave Mussell, the Pembina Institute

Supporting community development in Canada and internationally

The Pembina Institute's Sustainable Communities Group supports ongoing community development efforts in Canada and around the world through the introduction of sustainable energy technologies and services, and the implementation of supportive energy policies.

Working with Canadian communities on energy strategies

Community Energy Planning investigates opportunities to improve energy systems, often through the use of alternative energy technologies and implementing policy changes that support these efforts. Our team focused on the implementation of community improvements in 2004.

Working with Driftpile First Nation to heat homes and to provide energy from waste wood.

The Pembina Institute completed a community energy plan with Driftpile First Nation that led to a project in conjunction with the Alberta Forestry Research Institute for a local biomass gasification cogeneration project. This project proposes to use waste wood from local sawmills to produce heat and electricity for the community.

Providing ideas to support an exemplary community small-hydro facility.

In 2004, we began our energy planning work with the Hupacasath First Nation that resulted in the construction of a 6 MW run-of-river hydro facility. The Aboriginal and Northern Community Action Program now wants to replicate this kind of project throughout the province and the country.

Overcoming barriers to energy efficiency in Canada

Barriers to energy efficiency contribute to making Canadians among the least efficient users of energy in the world. In 2004, the Pembina Institute continued to work on innovative ways to overcome these barriers. Pembina is a member of the National Advisory Council on Energy Efficiency and the Canadian Energy Efficiency Alliance.

"It's quite an impressive and diverse team that this project has assembled. This project reflects innovation and partnership from Canada, India, Kenya on one level, and NGOs, universities, consultants, interns, etc. on the other."

Reference to CDM Small Projects Facility - Kenya from a member of the Kenyan Project Team



Photo: Tim Weis, the Pembina Institute

Pembina's work with the Driftpile First Nation led to plans for a cogeneration project that uses wood waste to produce heat and electricity for the community.

“Using Local Improvement Charges to Finance Building Energy Efficiency Improvements.” This study looked at using municipal local improvement charges to finance energy efficiency features in new and existing buildings. The concept shows considerable promise as a new policy tool that municipalities could use to meet their climate-change goals and help their citizens save money. A national study of how it can be piloted and applied in each province is underway in 2005.

Working with rural communities globally to implement sustainable energy practices

Sustainable energy practices reduce communities’ dependence on fossil fuels, reduce vulnerability to climate change and contribute to poverty alleviation. Pembina’s International

Program promotes sustainable technologies and the development of supportive energy policies.

Developing best practices. Pembina manages the Rural Energy Initiative (REI) in collaboration with the Latin American Energy Organization (OLADE). In 2004 we completed a series of international rural energy case studies to inform the roll out of the REI.

Using the Clean Development Mechanism (CDM) for sustainable energy projects

With the Kyoto Protocol in force, Canadian companies and the federal government will be using the protocol’s CDM to meet our international commitments. Through targeted work in developing countries, Pembina seeks to ensure that small-scale community-based renewable energy projects can access financial resources through the mechanism.

Working with small enterprises to develop community-based energy projects. In 2004, our innovative and successful CDM Small Projects Facility concept was introduced in Kenya. Our team helped local NGOs and small enterprises identify potential project developers and prepare small-scale CDM proposals.

Offering solid CDM advice to government. Pembina’s CDM experience continues to be recognized by Canadian industry and governments. We have undertaken extensive research and assumed monitoring and technical advisory roles to Canadian development projects. We also participate in the multi-stakeholder advisory committee for Canada’s CDM/Joint Implementation Office.

Photo: Hugo Arriaza, LAC Consultant



Ellen Francis, a member of Pembina’s sustainable communities team, makes tortillas in Sepoc El-Porvenir, Guatemala, the first of four Latin American countries to participate in the rural energy initiative.



Tim Weis, part of Pembina’s sustainable communities team, presents sustainable energy planning tools to participants in the “Energetic Solutions” conference workshop in Nigeria.

Photo: Tim Weis, the Pembina Institute

Shifting business leaders to a more sustainable future

The Pembina Institute believes the corporate sector has significant resources and talented people who can play an important role in implementing practical solutions for sustainability.

“Good exercise to understand interrelationships of triple-bottom-line decisions and the risks and opportunities related to different options.”

LCVA Training workshop participant

“The LCVA process and report, coordinated by the Pembina Institute, provided BP and its partners with a useful tool to analyse our waste management options in a remote area of Canada and was extremely helpful in educating our various stakeholders on the alternatives for waste handling. The LCVA tool is one I would use again.”

Cynthia Pyc, Senior Project Manager, BP

Our Corporate Eco-Solutions team works directly with select companies, providing tailor-made advisory services on sustainable business practices. Our team helps business leaders make changes within their companies to realize financially, environmentally and socially sound solutions to complex challenges.

Helping businesses make environmentally sound decisions using Life-Cycle Value Assessment (LCVA)

LCVA is a tool that puts into practice the concept of sustainability. It ensures that the major environmental, economic and social impacts or “triple bottom line” of a company’s operations and processes are considered throughout the life cycle of a product, production or operations system. The Pembina Institute

completed 15 LCVAs for four companies in the energy sector in 2004.

Finding better designs for business.

A multidisciplinary team of Sunoco employee tested its current design standards and explored new design ideas using our LCVA approach. More than 125 design ideas were generated including materials recycling, thermally efficient glass for the car wash and reduced water usage. Twenty top ideas were selected for incorporation into Sunoco’s design standards.

Reducing impacts on rivers. Suncor applied an LCVA approach to ensure that triple-bottom-line considerations were accounted for when selecting a river crossing location and method. The LCVA assisted in determining and confirming the best course of action with the least cost and lowest environmental and social impact.

Both photos: David Dodge, the Pembina Institute



Ruben Nelson, President of the Creating Tomorrow Foundation, media commentator, social activist and strategist, participates in Pembina’s 2004 scenario-planning workshop.

“Application of LCVA served as a powerful tool to rank multiple options and facilitate sustainable development dialogue among industry proponents.”

Project Manager, Suncor Energy

Implementing LCVA thinking in business practices. More than 50 people participated in LCVA workshops in 2004. Workshop participants left with a solid understanding of how to apply systems thinking to decisions affecting their organizations triple bottom line.

Facilitating scenario planning for businesses with long-term vision

Scenario planning integrates long-term thinking with immediate demands, resulting in decisions that make sense today, as well as in tomorrow’s world.

This includes planning for how environmental impacts or legislation may affect businesses. In 2004, our team worked with both CNRL and Suncor to develop long-term scenarios.

Helping businesses integrate sustainability concepts

The Pembina Institute finds unique and practical ways of integrating sustainability into corporate systems and practices.

Using SWOT to assess progress. We have launched our “Sustainability Strengths, Weaknesses, Opportunities and Threats” (Sustainability-SWOT) services. This service allows businesses to assess their progress towards sustainable practices and shows how their performance rates according to industry benchmarks, ethical and sustainable development indices, and the assessment of selected environmental organizations.

Sharing expertise on buying and building green. We delivered advice, tools and expertise to companies looking for ways to reduce impacts associated with construction and purchasing practices.

Engaging corporate employees in climate change action

Using the Pembina Institute’s onelesstonne.ca tool, with support from the Government of Canada’s Climate Change Action Fund, the One Tonne Corporate Challenge successfully encouraged more than 1,000 employees to commit to reducing their greenhouse gas emissions.



Onelesstonne.ca was the centerpiece of the Corporate One Tonne Challenge, a pilot program to encourage employees to commit to reducing greenhouse gas emissions.



Anita Burke, former advisor for Shell International, and other high level CEOs, authors and sustainability experts participated in Pembina’s 2004 scenario-planning workshop.

“We started up Shell’s One Tonne Challenge in October 2003 and invited employees to commit to reducing their personal greenhouse gas (GHG) emissions by one tonne. Indeed they have done better than that. The average reduction per registrant was 1.53 tonnes, equalling an average energy savings of \$538 per year. Just imagine what could be achieved if 10 million Canadians did the same.”

Dr. J. Ashley Nixon, Sustainable Development Advisor and One Tonne Challenge Coordinator for Shell Canada Limited.

Minimizing the impacts of conventional energy

The Energy Watch program team works to ensure that human and environmental health are protected. We make sure energy developers use the most environmentally sound practices possible.

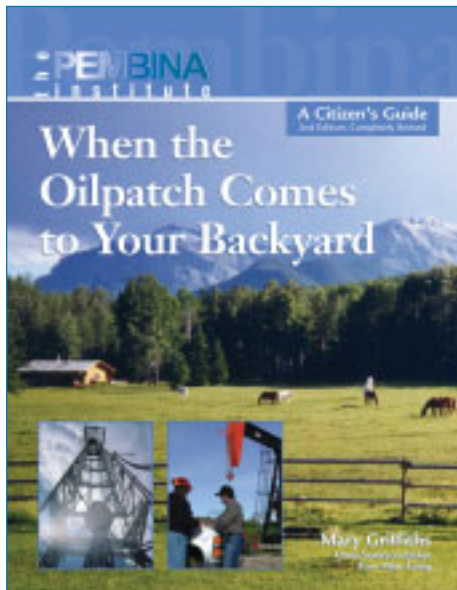


Photo: David Dodge, the Pembina Institute

First print run of 1,000 copies sold out.

Nov 26 2004. **Book helps landowners deal with oil exploration**, Hannake Brooymans, *The Edmonton Journal*.

With the Alberta landscape beginning to look like an oilfield pincushion, landowners are welcoming the latest edition of a book that helps them protect their land.

We collaborate with policy makers to improve environmental regulations and standards. And we produce information resources to assist people directly affected by energy developments to protect the environment and themselves.

Keeping citizens informed of their rights

The Pembina Institute produced a revised and updated edition of its popular book *When the Oilpatch Comes to Your Backyard: A Citizens' Guide* in response to concerns about record levels of oil and gas activity in Alberta. The guide gives Albertans living near oil and gas developments the information they need when dealing with the oil and gas industry. We have received a nearly overwhelming number of requests to speak about landowner rights from citizen groups all over the province. The book has also received praise from landowners, government and industry. More on this book on page 20.

Oct. 23, 2004. **Oilpatch escapes ban on water use: Panel compromises on industry practice of injecting water into oil wells**, Gordon Jaremko and Ron Chalmers, *The Edmonton Journal*.

... An 18-month review of industrial water use by the group's 15 ... representatives ended in a compromise calling for gradual introduction of conservation measures over the next 10 years.

... "It's a start in the right direction," said the committee's environmentalist co-chair, Mary Griffiths.

Tackling coalbed methane and water issues

In 2004, our staff was asked by the oil industry to give over a dozen presentations on the environmental impacts of coalbed methane and the use of water by the industry. In addition, we were invited to participate in the Alberta Environment Advisory Committee on Water Use Practice and Policy and the Alberta Energy Multi-stakeholder Advisory Committee on Coalbed Methane/Natural Gas in Coal.

Helping Northerners better understand the impacts of oil and gas development in their communities

Renewed interest in developing the oil and gas resources in the Far North prompted Northerners to learn more about how development would affect their lives and communities. In response, the Pembina Institute set up a series of workshops and



Photo: Peggy Holroyd, the Pembina Institute

Workshops help Northern residents better understand and prepare for the impact of oil and gas development in their communities.

“As a biologist, the industrial side of oil and gas has always been an unknown to me. Armed with the knowledge presented in this course, I feel better prepared to deal with the recently filed EIS [Environmental Impact Statement] for the Mackenzie Valley Pipeline.”

Bruce MacDonald, Head, Western Arctic Section, Canadian Wildlife Service, Environmental Conservation Branch, Prairie and Northern Region

published a series of books that give communities quality information and allow them to make decisions about their long-term future. This project was made possible by the Walter and Duncan Gordon Foundation.

Providing Northerners with valuable information. More than 300 hard copies of the *Environment and Energy in the North Primer Series* were distributed in 2004 to government offices, aboriginal organizations and regulatory bodies. Individuals downloaded more than 10,000 electronic copies. More on this series on page 20.

Bringing workshops to organizations and communities. Over the past three years, the Energy Watch team has delivered nine successful week-long Northern Oil and Gas Capacity-building workshops to members of northern-based organizations and communities.

Minimizing the impacts of oil sands development

Alberta's oil sands regions cover approximately six million hectares of northeastern Alberta, an area equal to that of Scotland. Extracting and transforming oil sands into transportation fuel is an extremely energy intensive process that requires huge tracts of land to be stripped. The Energy Watch team strives to prevent or minimize environmental damage from individual oil sands projects while also building environmental management systems to ensure impacts from this industry stay within the ecological limits of the region.

Participating in regulatory reviews. In 2004, the Energy Watch team conducted intense research and participated in consultations with companies applying for projects. We recommended specific commitments aimed at reducing the projects' environmental

impacts and, if necessary, participated in regulatory hearings.

Developing environmental management systems. The Pembina Institute has contributed substantial time to advance the work of the Cumulative Environmental Management Associate (CEMA), a multi-stakeholder forum of industry, government, aboriginal and environmental group representatives charged with developing environmental management systems for the Wood Buffalo (Athabasca Oil Sands) Region.

Providing perspective to the media. Increasingly, the media is soliciting our environmental perspective of oil sands development. We have received more than 30 media inquiries from outlets across North America and even China, as awareness of the scale of the development and the magnitude of its environmental impacts slowly becomes evident.



More than 300 books and 10,000 electronic PDFs of the *Environment and Energy in the North Primer Series* have been distributed.



Two-storey tall caterpillar trucks with a 360-tonne capacity haul oil sands at Albian Sands Muskeg River Mine. The majority of the oil produced from the oil sands is exported to the United States.

Photo: Peggy Holroyd, The Pembina Institute

Changing the way governments approach environmental challenges

The Policy Group seeks creative and effective policy solutions to encourage a transition towards sustainable energy and the protection of environmental and human health.



Photo: Lori Chamberland, the Pembina Institute

The Pembina Institute has persistently lobbied for a credible and effective national climate change plan.



The Pembina Institute produced the incentives and rebates database to assist Environment Canada in implementing the one-tonne challenge.

Ensuring Canada meets its Kyoto obligation

The Pembina Institute has produced cutting-edge Internet tools that help individuals contribute to Canada's Kyoto effort. These tools — the financial incentives database available at climatechange.gc.ca and onelesstone.ca — were produced with the support of Environment Canada.

Sharing recommendations with government and industry. The Pembina Institute is also a national leader in working for a strong, fair system of mandatory emission reduction targets for "Large Final Emitters" — industrial facilities responsible for half of Canada's greenhouse gas emissions. In 2004, Pembina was prominent in advocating such a system in national media and meetings with parliamentarians, ministers, their staff and officials. This work was made possible by the Hewlett Foundation.

Working with other organizations to help clear the air

Our continued work as a member of the Clean Air Renewable Energy (CARE) coalition paid off with the recent federal budget commitments to expand the federal government's Wind Power Production Incentive (WPPI) from 1,000 to 4,000 MW.

Pembina, as a member of the Clean Air Strategic Alliance (CASA) has continued active participation in forums to develop program specifics to support renewable energy, efficiency and conservation; establish a NO_x and SO₂ emissions trading system; and implement commitments to reduce mercury emissions by 2009.

Planning for sustainable communities in Ontario

Our report series *Building Sustainable Urban Communities in Ontario: Towards Implementation?* assessed

Easy ways to reduce GHGs, and save money at same time, Paul Hanley, *The Star Phoenix*.

Alberta's Pembina Institute has developed a clever web-based tool to help Canadians reduce greenhouse gas emissions.



Photo: Tim Weis, the Pembina Institute

Our lobbying efforts helped to expand the WPPI from 1,000 MW to 4,000 MW.

the Ontario government's performance on urban sustainability issues against widely accepted smart growth principles and its own October 2003 election platform commitments. The Pembina Institute is frequently called upon by provincial media as a credible source of information on smart growth policies and we have contributed to extensive reforms of Ontario's land-use and infrastructure-planning systems to promote more sustainable, less automobile-dependent urban communities.

Our work on smart growth was supported by the George Cedric Metcalf Foundation, the McLean Foundation and the Richard Ivey Foundation.

Building a sustainable electricity system for Ontario

Our publication *Power for the Future* was published in response to Ontario's looming energy shortage. It showed

how Ontario could save approximately \$14 billion between now and 2020 by choosing energy conservation over building new nuclear power plants. We thank the EJLB Foundation, the Toronto Atmospheric Fund and the Richard Ivey Foundation for their support of these projects. Read more on the report on page 20.

Helping governments support green business

Changing our tax system to reach environmental objectives. In 2004, a database of ecological fiscal reform (EFR) policies from around the world was added to Canada's only site dedicated solely to facilitate tax and expenditure programs to be more consistent with environmental objectives (www.FiscallyGreen.ca).

Investigating the use of fiscal policy for renewable energy. The EFR team completed a research project for the National Roundtable on the Environment and the Economy related to the

use of fiscal policy for advancing hydrogen and fuel cell development in Canada. We also completed a study for Industry Canada on policies related to bioproducts. The purpose of the work was to identify specific policy options for stimulating market-place demand for bioproducts in Canada.

Getting fair compensation for the extraction of our non-renewable resources. *When the Government is the Landlord* questioned whether or not the government is earning a fair financial return for public oil and gas resources. This publication, produced thanks to the Gordon Foundation, provoked unprecedented media attention, receiving over 100 mentions in media across Canada, and helped spur debate during the Alberta provincial election on the current royalty regime in Alberta.

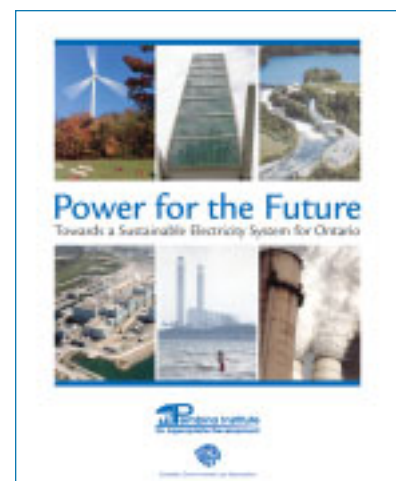
More on this report on page 20.

July 25, 2004. **Abandon nuclear option, Ontario,** Linda McQuaig, *Toronto Star*.

A recent study by the Alberta-based Pembina Institute backs [adopting available technologies for more energy-efficient appliances and lighting systems] up, and sets out in detail how Ontario could use efficiency gains to wean itself off both nuclear and coal-fired power plants.

August 25, 2004. **Oil and gas sold too cheap; governments shortchange taxpayers on energy revenues: Pembina Report,** John Cotter, *Canadian Press*.

Governments in Western Canada are shortchanging their citizens by selling off rich oil and natural gas deposits to corporations too cheaply, says a new report.



Pembina's report showed how Ontario could save \$14 billion by choosing energy conservation over new nuclear plants.

Partners, clients and supporters

The Pembina Institute gratefully acknowledges the support and engagement of the following organizations in 2004. Their support for a sustainable energy future and interest in enacting positive change makes our work possible.

Partners and Clients

The Pembina Institute works with a host of organizations and corporations as partners and on a fee-for-service basis to help find innovative ideas and solution to help us all find a path to a sustainable energy future.

AgCert Canada
Alberta Association of Surface Land Agents
Alberta Ecotrust Foundation
Alberta Energy
Alberta Energy and Utilities Board
Alberta Environment
Alberta Environmental Network
Alberta Human Resources and Employment
Alberta Research Council Inc
Alcan Inc.
Arctic Energy Alliance
Association of Professional Engineers, Geologists and Geophysicists of Alberta
BASF Canada
BC Hydro
BC Ministry of Energy and Mines
BP North America Inc.
Burlington Resources
Calgary Zoo
Canadian Arctic Resources Committee
Canadian Bioenergy Association
Canadian Council for Human Resources in the Environment Industry (CCHREI)
Canadian Energy Pipeline Association
Canadian Environmental Grantmakers' Network
Canadian Environmental Law Association
Canadian Environmental Network
Canadian International Development Agency (CIDA)
Canadian Natural Resources Ltd
Canadian Society for Unconventional Gas
Canadian Standards Association
Clean Air Strategic Alliance
Cumulative Environmental Management Association
Helios Centre
CH₂M HILL Canada Ltd.
Climate Change Action Network
Climate Change Central
Community Energy Association
ConocoPhillips Canada Resources Corp.
Canadian Parks and Wilderness Society – NWT Chapter
Canadian Parks and Wilderness Society – Yukon Chapter
Canadian Petroleum Products Institute
Department of Foreign Affairs & International Trade (DFAIT)
Dogwood Initiative
Dow Chemical Canada Inc.
Driftpile First Nation
Ecology North
Edmonton Journal
EnCana
Environment Canada
First Nations (Alta) Technical Services Advisory Group
GreenhouseGasMeasurement.com
Group de Recherche Appliquee en Macroecologie
Husky Oil Operations Limited
Inside Education
Independent Power Producers Society of Alberta
Ka:yu:k't'h'/Che:k'tles'yet'h' First Nations
Komex International Ltd.
Little Red River Cree Nation
Mackenzie Valley Environment Impact Review Board
Manitoba Teachers Society
Materials Efficiency Research
Max Bell Foundation
McGill University
Mount Royal College
Mountain Equipment Co-op
National Energy Board
National Round Table on the Environment and the Economy
Natural Resources Canada
Naut'sa mawt Tribal Council
Nexen Canada Ltd.
Parkland Institute
Petro Canada Resources

Pollution Probe
Public Policy Forum
Rife Resources
Shell Canada Ltd.
Suncor Energy Inc.
Sustainable Development Technology Canada
Taylor Operations Company Inc.
Texas Centre for Policy Studies
The Canadian Institute
Toronto Atmospheric Fund
Toxics Watch Society of Alberta
Toyota Canada Inc.
TransCanada Pipelines
Transport Canada
Trident Exploration
Tsay Keh Dene First Nation
United Nations Framework on Climate Change
University of Alberta
University of Calgary
University of Regina
Vancouver City Savings Credit Union
Vision Quest Windelectric (a div. of TransAlta Energy Corp)
West Central Airshed Society
West Coast Environmental Law
Weyerhaeuser Canada Ltd.
Wood Buffalo Environmental Association
York University – Schulich School of Business

In Partnership with the GAIA Foundation for Earth Education:

Alberta Environment
Alberta Municipal Affairs
BP Canada Energy Company
Enbridge Pipelines Inc.
Nexen Inc.
Petro-Canada
Shell Canada Limited
Suncor Energy Foundation
TransCanada Pipelines Limited
Weyerhaeuser Company Limited
George Cedric Metcalf Charitable Foundation
Oak Foundation
The EJLB Foundation
The J.W. McConnell Family Foundation
The McLean Foundation
The Richard Ivey Foundation
The William and Flora Hewlett Foundation
Vancouver Foundation
The Walter & Duncan Gordon Foundation

Supporters

The following organizations and individuals have contributed to the Pembina Institute through our Wind Power program or by making donations directly or in partnership with the GAIA foundation.

Wind Power Participants

Alberta Council for Global Cooperation
Alberta Ecotrust Foundation
Alberta Federation of Labour
Amaranth Whole Foods Market
Bow River Basin Council
Canfor Pulp and Paper
CH₂M Hill Canada Ltd.
Citizens for Renewable Energy
Climate Change Central
Cowie & Fox Creative
Crystal Springs Dairy
David Suzuki Foundation
DIRTT Environmental Solutions
Fort Air Partnership
Globescan
Goodman, McDougall & Associates
Innisfail Self Storage
Inspired Value Inc.
James Hoggan + Associates
Michael Jantzi Research
Millwoods Bottle Depot
Mountain Home Bed and Breakfast

Net Effect Communications
New Data Enterprises Ltd
Organic Express
The Delphi Group
Southern Alberta Institute of Technology – Construction Department
Western Canada Wilderness Committee
Wild Canada.net
C. Banack
C. Barlow
G. Beach
D. Beatty
J. Benoit
H. Benson
W. Bertow
J. Cameron
M. Chilton
N. Dalton
S. De Roode
C. Elliot
M. Fougberg
C. Garvey
G. Gibson
M. Griffin
E. Heineman
R. Henderson
I. Hopfe
P. Johnston
K. Klatt
J. Lewis
P. Lingl
J. MacMillen
J. Manson
H. More
P. Morrow
W. Mullen
S. Rankin
N. Richards
J. Robin
D. Ross
B. Sheehan
S. Sheen
G.E. Smith
R. Sperling
M. Van de Pitte
C. Webster
H. Whiteley
J. Young

Arctic Circle (\$10,000 +)

Anonymous

Eco-Leader (\$3,000 - 4,999)

Anonymous

Eco-Member (\$1000 - 2,999)

Rob and Lori Macintosh

Eco-Associate (\$500 - 999)

R. Page
R. Turner
R. Zeaton
BC Hydro
GlobeScan
RXO Energy

Eco-Partner (\$100 - 499)

Aurum Experience Ltd.
Mahlon Beach
Martha Bell
Charles Bryant
Therese D'Amour
Michael de Pencier
Orloff Dorion
Albert Gamble
Ian Gardner

Gordon Garratt
Madeline Hamelin
Richard Hinners
Edward Hogan
Marion Kingston
Eric Kipping
Paul Lawson
Helen McAninch
Patrick McEneaney
Anna McFerran
Hazel Menzie
Madelaine Meredith
Lillian Messinger
Charles Neill
Miriam Nichol
Emmie Oddie
Douglas Page
Gerry Pierce
Martin Prentice
Rosemary Preuss
Leo Rustin
Ian Scott
N.L. Shuttleworth
Shayna Stott
Edward Stubbs
Kathleen Thomas
Mark Townsend

Eco-Friend (\$50 - 99)

Margaret Abbott
Helen Anderson
Murray Anderson
Myrleen Anderson
Stewart Anderson
Fred Andrew
John Arnup
Brenda Baker
Joan Baker
Lloyd Baker
Kathleen Ball
Libby Barlow
Jane Barr
Caroline Bartel
Julie Bauer
William Baylis
Alan Beckwith
Mark Bell
Henry Benson
Lorna Berlinguette
Glenna Blakely
Constance Bland
Harry Blundell
Blanche Boorman
R. Bradford
Trent Brady
D. Brannigan
Dudley Bristow
Louis Broten
Alice Brown
Charles Bryant
Virgil Burnett
Frances Burrows
Douglas Campbell
Jenny Carter
John Cartwright
Phyllis Chalklin
M. Chalmers
Orval Chapman
Marilyn Chester
Barbara Chilcott
Daniel Chisholm
Eva Cinnamon
Clarence Collins
Sheila Couture
Joan Craknell
J. Cranford
David Crombie
M. Cruickshank
Bessie Dalrymple

William Daly
Therese D'Amour
D. Davidson
Susan De Roode
Carol Dersch
Irene Desjarlais
Judith Deutsch
Florence Dickson
Irene Dickson
Elaine Dietrich
L. Dulmage
Wilfred Edwards
Judy Eising
Philip Elder
Magnus Eliason
Vera Ellaschuk
Lila Engberg
John Fairlie
Gertrude Fellner
George Ferinands
Faith Fernald
Michael Flanagan
Margaret Fougberg
Gordon Fox
Birgit Friedenstab
Garth Fryett
Jay Fudge
Judith Fuller
Terence Galvon
Nancy Gardiner
Catherine Garvey
Gail Gates
John Gaul
David Gehl
Ann Gibson
Constance Gibson
Ian Gilmour
Goodman, McDougall
& Associates Ltd
Kenneth Goodwin
Sylvia Gorchynski
Christopher Gosselin
Susan Gottheil
Donald Gray
Jean Grieve
J. Griffen
Douglas Gruner
Diane Halbert
Helen Hanna
Martin Hasse
Ethel Healy
Tom Hegan
Gertrude Hehner
Craig Hellquist
Ruth Henker
Patricia Henry
Richard Henson
Gordon Hepburn
Verna Higgins
Andrew Hildred
Linda Hoad
Jean Horne
Barbara Hourston
Donald Houston
M. Ince
Stewart Jeffray
Calvin Johnson
Janette Johnston
Edgar Jones
H. Jones
Margaret Keefe
Donald Kerr
Gregory Kerr
Dennis Kershaw
Tibor Kiss
Johannes Klein
Harold Koehler
Helga Krushen
George Kurian
Richard Lambert
Mike Law
John Lawson
Alan Levy
Alice Lewis
Walter Lloyd Smith
Valerie Loewen
Jeffrey Logan
Alison Longson
Bill Longstaff
Margrith Loretz
Harry Lumsden
D. Lyall

Robert MacDonald
Barb MacIntosh
Ann MacLennan
Gord Macmahon
Marjorie Madill
Tim Magee
Barbara Maheu
Margaret Maier
Catherine Marr
Evelyn Mason
Beryl Maxwell
Margaret McAuley
Barry McCashin
Audrey McClellan
Gwen McConkey
Stewart McElrath
Margaret McInall
M. McIntyre
Alex McKeague
Audrey McLaren
Jan McMillan
Birgitte Michie
M. Michkofsky
Peter Miller
John Milton
John Milton
Netty Morren
Dorothy Mosey
James Moyer
Francis Muldoon
Helen Murray
Dagmar Myhill
Arnold Oslinger
Peggy Palmer
Mary Jane Patterson
Inge Pechlaner
Dorothy Peebles
Jennifer Penny
June Pinkney
Andre Piver
Jerilynn Prior
David Rainham
Kenneth Rawling
Jacob Regehr
Marjorie Robertson
Richard Robertson
Katherine Robinson
Anne Romanuik
Olivia Rousseau
John Rowe
Heather Ryerse
Leonard Sampson
Paul Sanborn
Willard Schreiter
Cornelia Schuh
David Scott
Lilly Selby
Charlotte Senay
Herbert Sills
Dorothy Simpson
Geoffrey Singer
Jean Sloan
Howard Smith
Douglas Soles
Colin Soskolne
Jim Stelfox
Susan Stratton
Dave Sutherland
Jerry Sykes
Edward Tait
Fred Tarlton
Shirley Tattle
Allan Taylor
Yvonne Templin
Jeannette Tidman
Kevin Tod
Mary Toplack
G. Topp
Trimont Holdings Ltd
Mary Trudeau
Allan Tye
Geraldine VanTighen
Rumaria Veldhuisen
Stephen Vineberg
George Waddell
Ted Walker
Delmer Weber
Barrie Webster
Charles Webster
Gordon Webster
Elizabeth Weston
Alice Wickey

Roberta Wiebe
Albert Wilkinson
Mary Wilson
Norman Wingrove
W. Wislon
John Wright
Joan Wyllie
Gustave Yaki
Hugh Young
Dorothy Zarski
Ruth Zeaton

Eco-Supporter (\$1-49)

Peter Abrams
Mary Aitken
Patricia Alcock
Anton Audretsch
Margaret Auld
Rick Axon
Karl Backhaus
T. Bailey
Ada Balcer
Phyllis Baldwin
Peter Miller
Kelly Baxter
Barbara Beaton
Anne Becker
Stella Bedard
Robert Bell
Larry Benge
Joanna Benninger
Eric Betteridge
Jacquie Bolten
C. Bourgeois
Helen Bowen
Elizabeth Bowman
Jean Boyce
Isabelle Boyer
James Bradley
Paul Breil
Quentin Brown
Charles Bryant
Robert Buck
Anne Burke
Don Burton
Helen Burton
Pauline Busby
Charles Cahn
G. Calvert
Emma Campbell
Malcolm Campbell
June Caskey
Ruth Caspell
Tom Chauvin
Clive Clark
Gordon Clark
Richard Clayton
Frances Cleave
Richard Collier
June Comeau
Shirley Copp
Michael Crawford
Robert Cuny
Diana Dainty
Richard D'Alquon
Theresa Davies
John Davis
Ann Day
Thomas Deakin
Yvette Debain
Oscar Denys
Shirley D'Estrube
Peter Diephuis
Frederic Dixon
Jonathan Dostrovsky
Jennifer Drake
Hugh Dundas
Robert Dunlop
Rosie Edgson
Elisabeth Eldridge
Clifford Elliott
David Etherington
Gary Fabris
John Fairley
Katherine Fawcett
Rita Filanti
Douglas Fish
E. Foden
Keith Foley
Shirley Forbes
Mona Fox
Roland Gagnon

John Gill
Richard Gilman
Randal Glaholt
Colin Graham
Eliazabeth Graham
Karen Green
Hamish Greenland
Terry Gunter
Lawrence Guthro
F. Hall
M. Halladay
Alexander Hamilton
Jeremy Hammond
Rioux Hanne
Manfred Harpe
Frederick Harris
Elaine Harrison
Josh Harrower
Chris Harvey
H. Haskett
Gordon Haakedal
Clifford Havig
Pauline Heinonen
Nina Hillier
Helena Holierhoek
Marsha Holland
Pamela Honre
David Hughes
Jean Hunter
Shelagh Huston
Viki Inskip
Rouben Ishayek
Janine Jevne
Calvin Johnson
Clara Johnston
I. Johnstone
David Jones
Jeanne Kadowaki
Archie Kassirer
Myles Keleman
Elizabeth Kennedy
Donald Kerr
Beverly Kine
Siegfried Kleinau
Avril Kullman
Eva Kushner
John Kwasnica
Jean Laflamme
Lucene Lafrance
Claire Lalonde
Pierre Langlois
Elvira Le Gros
Maureen Leblanc
Victor Lehotay
Richard Lowery
Ruth Ludwig
Eileen Lund
Lois Lund
Scott MacRitchie
Kathleen Mann
Mary Mantieffel
Luc Many
Shirley Marion
Barry Marks
Inge Martin
Nora Martin
Sophia May
Ernest Maynes
Shirley McColman
Beatrice McCreary
Patrick McEaney
Patricia McEwan
Pegasis McGauley
George McLean
Erna McLintock
Susan McMurray
Irene Messenger
Allan Millar
Gifford Mitchell
Kathryn Moffat
Matilda Molley
Helen Moore
Robert Moore
E. Morgenstern
Hugh Morrell
Gladys Morrison
Mary Morrissey
Marilyn Morton
J. Munro
M. Naidu
Adelaide Nelson
F. Nelson

Harold Neth
Robert Oldham
Harold Olson
Dorcas Outhet
Gary Palmer
Noel Palmer
Sarah Paltiel
Dorothy Pape
Bonnie Park
Myrna Pearman
Peter Peters
Paul Pinto
Gerald Piprell
Peter Poettcker
Cyril Powles
Arthur Preston
Enid Reed
Doug Reese
Jacob Regehr
Evelyn Reid
James Richards
C. Rickard
Brian Roach
J. Roberts
Eric Robinson
Veronica Rochford
Jean Rogers
Catherine Russell
James Sanjana
Candice Schachter
Prof. Schlepp
Rodolf Seefuss
Dr. Sowards
Diane Sheikh
Frank Sheridan
Jean Sloan
Robert Smith
Sandy Smith
Julie Sousa
Tine Steen-Dekker
Rhoda Sterling
Harvey Stevens
L. Stirling
Judith Stockdale
Diana Stott
Dave Sutherland
Greg Tamblin
Nigel Tappin
Margaret Taylor
Yvonne Templin
Darell Thierman
John Thompson
Shirley Thompson
Rodney Tomlinson
D. Toole
Mary Toplack
Dallas Totenhofer
Garnet Trivett
Rumaria Veldhuisen
Cyndy Verhoef
Rose Villa
Frank Wagner
Frances Walbridge
Robert Waldie
Patricia Wallis
David Walsh
Donald Warren
Marilyn Warren
Mary Webb
Judy Weisgarber
L. Welch
Florence West
Vivian White
Andree Williams
Cully Wilson
Richard Wing
Max Winkler
Susan Wodlinger
Maryanne Wong
George Wood
Martha Wood
Bill Woolverton
J. Wright

Frank Young
Fred Yurichuk
David Zell
Edward Zietlow

**Energy Watchers
– (Monthly Donors)**
Rodney Anderson
Fred/Melody Baker
Joan Baker
Tyson Bartel
Barbara Bemrose
Werner Bertow
David Boag
Carol Bonderud
F. Booth
Helen Brink
Maria Brown
Charles Bryant
Flora Bush
John Cartwright
Dale Chandler
Patricia Cook
Rosemary Cornell
Patsy Cotterill
Carol Cranston
Elly De Jongh
Alison Dinwoodie
Elizabeth Edwards
Helen Faunt
Philip Field
Jean Finley
David/Susan Fish
John Fulton
Kristin Goa
Edith Gulland
Dorothy Halkett
Howard Hampton
Andrea Harris
Claire Hawes
Erin Heineman
Kelly Henig
Gordon Hepburn
Joy Ifill
Barbara Jack
C.P. Johnson
A.R. Johnstone
Luisa Kara
Lionel Kearns
Linda Kruus
Bill Lamond
Clara Lewis
A.M. MacLennan
Janet MacMillan
Roderick Manson
Ernest Marr
Paul McArthur
David McKee
Virginia McLean
Prudence Moore
Edwin Pennington
Alvin Percy
Richard Piper
Larry Pogue
Stephen Pope
Ambrose Raftis
Edward Rasmussen
Paul Redfern
Jane Rideout
Erline Ritchie
C.M. Robson
Bill Sands
Mary Skeith
Ruth Smalley
Mike Stinie
Alex Taylor
Allan Taylor
Michal Urednick
Linda Vaxvick
Gordon Vickruck
Daniel Vokey
Mary Waldvogel
Donald Warne

Thanks also to our volunteers
and staff who donate countless
hours of their time.

The team behind the work

Board of Directors

Experience and diverse perspectives characterize the Pembina Institute's Board of Directors

The primary role of the Pembina Institute's Board of Directors is to provide governance, support and operational strategic direction for the organization. Our board meets regularly throughout the year and is comprised of experienced and insightful professionals who bring to the table diverse perspectives on environmental priorities, business administration and societal responsibility. [Learn more about our board. Visit: \[www.pembina.org/staff.asp\]\(http://www.pembina.org/staff.asp\)](#)

- Grace Gruber**
Trustee, Parkland School Division
- David Armour**
CEO of the Canadian Medical Foundation
- Elizabeth Dowdeswell**
Executive Director of the Nuclear Waste Management Organization
- Robert Fugere**
University Professor and ENGO consultant
- Robert Hornung**
President, Canadian Wind Energy Association
- Janice McDougall**
Partner and Consultant, Goodman, McDougall & Associates Ltd.
- Harrie Vredenburg**
Professor of Strategic Management, Haskyne School of Business, University of Calgary

Staff

Passionate and innovative staff are the Pembina Institute's greatest asset.

More than 40 people work for the Institute in Calgary, Edmonton, Drayton Valley, Vancouver, Toronto and Ottawa-Gatineau. Our highly diverse and qualified team of scientists, researchers, engineers, lobbyists, policy analysts, teachers, accountants, business administrators, writers, editors, communications strategists and fundraising experts have earned us a reputation for finding sound and practical solutions to some of the most pressing and complex environmental concerns of our time.



The Pembina Institute honours Phil Lulman's contributions to making the world a better place. Phil passed away on December 17, after a courageous battle with cancer.



Pembina Institute staff at the 2004 assembly.

Both photos: David Dodge, the Pembina Institute

Staff and core contractors Jan. 1 to Dec. 31, 2004

Danielle Berthelette
Development Assistant, BA

Sylvie Boustie
Co-Director, Corporate Eco Solutions, MA

Matthew Bramley
Director, Climate Change, MA, PhD

Bev Broks
Director, Finance & Administration, BSc

Carol Brunt
Director, International Program, MIR

Lori Chamberland
Manager, Public Outreach and Media, BSocSci

Paul Cobb
Community Project Analyst, BEng (Mech)

David Dodge
Director, Communications, BScF

Mary Drader
Accounts Receivable Administrator

Ria Forster
Sales Co-ordinator, Receptionist

Ellen Francis
Environmental Policy Analyst, BSc, MEDes

Christy Goertz
Grants & Special Project Administrator

Mary Griffiths
Environmental Policy Analyst, PhD

Nancy Hammer
Director of Development

Nicholas Heap
Senior Planner, MA (Planning)

Tara Henderson
Development Officer

Randee Holmes
Writer/Editor, MES

Peggy Holroyd
Environmental Policy Analyst, BA

Matt Horne
Community Project Analyst, BEng (MRM)

Alison Jamison
Eco-Efficiency Analyst, BEng (Chem)

Darryl Kaminski
Production Web Developer & IT Support Officer

Nicole Kitson
Development Officer, BA

Anya Knechtel
Policy Analyst, BA

Cheryl Lepatski
Education Officer, BEd, EdDipl

Tom Marr-Laing
Policy Director, BEng

Matt McCulloch
Co-Director, Corporate Eco Solutions, PEng

Dave Mussel
Education Specialist, BSc, EdDipl

Derek Neabel
Eco-Efficiency Analyst, BEng (Mech)

Roger Peters
Senior Technical and Policy Advisor, PEng

Steven Peters
Eco-efficiency Analyst

Marlo Reynolds
Executive Director, MM, PhD

Jesse Row
Director, Sustainable Communities, BEng (Mech)

Chris Severson-Baker
Director, Energy Watch Program, BSc

Jillian Scrimger
Greenlearning.ca Web site coordinator

Jennifer Sipkens
Development Officer/Executive Assistant/
Office Manager

Amy Taylor
Director, Ecological Fiscal Reform, BSc, MRM

Krista Tremblett
Eco-Efficiency Analyst, BSc, MEDes

Sandra Urkevich
Accounts Payable & Payroll Administrator

Tim Weis
Community Project Analyst, MSc

Johanne Whitmore
Climate Change Policy Analyst, MSc

Niki Wilson
Policy Analyst, BSc, MEDes

Mark Winfield
Director, Environmental Governance, PhD

Kathy Worobec
Education Director, BEd

Dan Woynilowicz
Environmental Policy Analyst, BSc

The Pembina Institute welcomes new staff in the first half of 2005

Kevin Ablett
Wind Power Marketing Coordinator, BComm

Kristin Berg
Community Energy Planning Analyst, BSc

Paulina Cjzkowski
Eco Efficiency Analyst, BEng (Syst)

Gordon Harrison
Green Learning Ontario, BA, EdDipl

JP Jepp
Environmental Policy Analyst, BSc
Environmental Science

Adam Levine
Community Energy Planning Analyst, MSc

Michael Preston
Environmental Policy Analyst, BSc

Diane Simpson
Green Learning BC, MEd, BEd, BES

Ed Whittingham
Co-Director, Corporate Eco-Solutions
Program, MBA

Our philosophy

Sustainability begins at home

The Pembina Institute incorporates the principles of sustainability in our own policies and practices by

Collaboration We encourage collaboration across program areas and among staff, as well as through partnerships with other stakeholders.

Participatory decision making We practice this by applying a consensual decision-making model and encouraging all staff to participate in major organizational decisions.

Equal opportunity We are an equal opportunity employer, encouraging applicants from all ethnicities, gender orientations and spiritual beliefs to join our team.

Diversity We invite input from a range of external perspectives and by proposing sustainability solutions that respond to diverse interests.

Work-life balance We regularly discuss personal sustainability and support each other through tough times. We also provide a high level of flexibility for staff in where they choose to work, the hours they keep and when they take leave.

Transparency Our decision-making practices are transparent, enabling staff and partners to understand how and why decisions are made.

Balanced budgeting We embrace balanced budgeting as a principle of sustainability by not taking on significant financial debt or risk. Our operational facilities are modest, allowing us to concentrate our resources on program activities.

Zero-footprint Pembina strives to achieve the zero-footprint principle by teleconferencing, purchasing green power, and promoting car-pooling and alternative transportation.

Long-term thinking Among other activities, Pembina uses scenario-planning exercises to conceive the future and plan our activities for maximum effectiveness.

Laughter We promote a positive attitude by regularly socializing, sharing humour and enjoying the outdoors together.



Matthew Bramley, Pembina's climate change director, takes a moment to relax at the 2004 staff assembly.



Pembina staff act out possible future scenarios at the 2004 staff assembly.

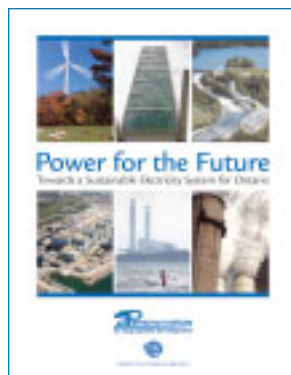


Pembina staff share ideas with high level CEOs, authors and sustainability experts at Pembina's 2004 scenario-planning workshop.

All photos: David Dodge, the Pembina Institute

Solutions for a sustainable world

Our publications examine environmental problems, stimulate new thinking on sustainability and provide solutions to complex environmental challenges. Here are examples of some of our key work published in 2004. Complete lists can be found under Publications at www.pembina.org.



Power for the Future: Towards a Sustainable Electricity System for Ontario

Authors: Mark Winfield, Matt Horne, Theresa McClenaghan, Roger Peters

Publication date: May 2004

Pages: 185

This publication describes how Ontario can phase out coal and nuclear power and save \$14 billion. More than 10,000 copies

of the report were downloaded from our Web site. Printed copies were distributed directly to key parliamentarians.



When the Government is the Landlord

Authors: Amy Taylor, Chris Severson-Baker, Mary Griffiths, Mark Winfield, Dan Woynilowicz

Publication date: Sept. 2004

Pages: 153 (report plus regional appendices)

This stimulating publication attracted record media attention — more than 100 mentions in media across Canada and 5,500 downloads within the first month

of publication. The report evaluated whether or not the government is earning a fair financial return for public oil and gas resources.



Environment and Energy in the North Primer Series

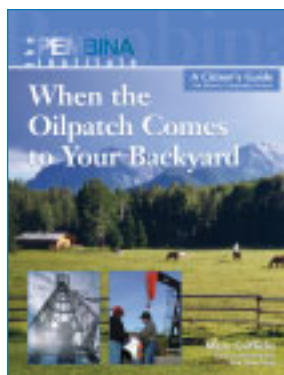
Authors: Chris Severson-Baker, Niki Wilson

Publication date: July 2004

Pages: 544 (total series)

The *Environment and Energy in the North* was designed to help Northerners effectively participate in managing the

environmental impacts associated with oil and gas development. More than 300 copies of this eight-part series were distributed at workshops held in Northern communities, and almost 13,000 electronic copies of the nine guides were downloaded since its publication in July.



When the Oilpatch Comes to Your Backyard: A Citizens' Guide, 2nd Edition

Authors: Mary Griffiths, Chris Severson-Baker, Tom Marr-Laing

Publication date: Nov. 2004

Pages: 172

Record levels of oil and gas well drilling in Alberta in 2004 prompted the need to completely revise this best selling book.

The guide gives Albertans living near oil and gas developments

the information they need when dealing with the oil and gas industry. The book received well over a dozen mentions in the media and the first printing sold out in just a few weeks. In just two months, Web site visitors downloaded over 3,700 copies of the sample chapter.



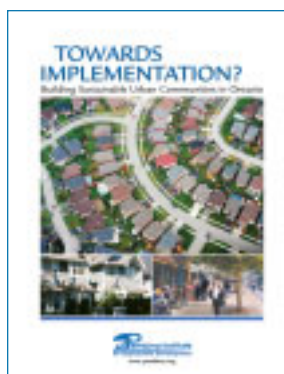
Green Power Programs in Canada — 2003

Authors: Johanne Whitmore, Matthew Bramley

Publication date: Sept. 2004

Pages: 80

Within just four months almost 7,000 copies of Pembina's comprehensive survey of green power programs had been downloaded. The survey reviews and describes government policies and private sector initiatives to support and market low-impact renewable electricity in Canada.



Building Sustainable Urban Communities in Ontario: Towards Implementation?

Author: Mark Winfield

Publication date: July 2004

This report assesses the Ontario government's performance on urban sustainability issues against widely accepted smart growth principles and its own October 2003 election platform commitments.

Pembina's top-rated Web sites inform, inspire and engage us all to help create a more sustainable world...



Greenlearning.ca Launched July 2004

Greenlearning.ca is one of the first environmental education programs to feature entire units of study in science and social studies. In just over a year, teachers from 68 of the 77 school

districts in Alberta have registered to use the program. Teachers, students, community organizations and citizens can explore energy efficiency, climate change and pedagogically sound learning units.



Re-energy.ca Launched Nov. 2001

Re-energy.ca features do-it-yourself plans to construct working renewable energy models including a solar car, solar oven, wind turbine, small-scale hydro generator and a biogas

generator. More than 31,000 people from all over the world visit Re-Energy monthly. In 2004, almost 500,000 sets of materials were downloaded.



OneLessTonne.ca and Unetonneenmoins.ca Launched Nov. 2003

The One Less Tonne tool was created to help meet the challenge contained in Canada's Climate Change Plan. Both public

and corporate versions of this on-line e-tool have been created. To date more than 3,000 individuals have pledged to take action to reduce greenhouse gas emissions by over 12,000 tonnes.



Fiscallygreen.ca Launched May 2003

Fiscallygreen.ca is Canada's first Web site dedicated solely to ecological fiscal reform.

It is a one-stop resource for information on fiscal policies for environmental objectives in Canada and around the world.

LCVA.ca Launched July 2002

The LCVA Clearinghouse is a subscription-based Web site used as a reference library and analytical tool to aid corporations in the completion of life-cycle value assessments.

Climatechangesolutions.com Launched Dec. 1999

Climatechangesolutions.com is an award-winning site offering a host of interactive tools, resources and success stories on actions Canadians can take to reduce greenhouse gas emissions. Climatechangesolutions.com receives an average of 19,000 visitors per month and has had over 750,000 visitors since its launch.

Pembina's E-publishing program continued to soar in 2004 with the launch of the new Greenlearning.ca environmental education Web site. E-publishing continues to grow and attract new and larger audiences thanks to innovative content and good design. Electronic promotion strategies such as Web site optimization, reciprocal links campaigns and promotion of Web site content using our electronic newsletters ensure people read and use Pembina materials.



Pembina.org: our main Web site houses an archive of media releases, publications and information about our many programs. Almost 9,000 subscribers receive timely, informative and free electronic newsletters.

Pembina eNews: published monthly, this newsletter provides subscribers with the latest information about new Pembina publications and activities. **Subscribe: www.pembina.org**

Pembina Education: published periodically to announce new education materials and updates to Re-Energy.ca. **Subscribe: www.re-energy.ca**

GLO: published periodically to announce updates to the Web site and special GLO projects and programs. **Subscribe: www.greenlearning.ca**

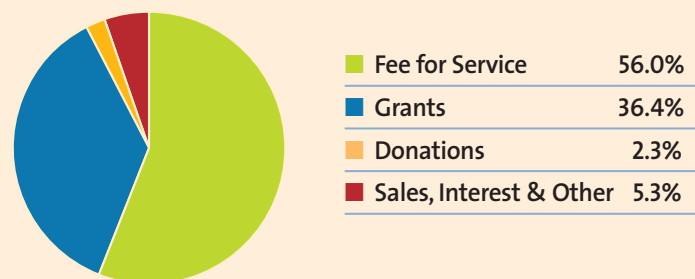
CCS News: published periodically to announce updates to climatechangesolutions.com **Subscribe: www.climatechangesolutions.com**

Financial data

Revenue 2004

The Pembina Institute advocates for change through fee-for-service contracts, foundation and government grants, and support from organizations and individuals.

| | | |
|--|---------------------|-------------|
| Fee for Service | 1,428,628.00 | 56.0% |
| <small>Revenues received for completing research and advisory services for NGOs, government, First Nation communities, and corporate clients.</small> | | |
| Grants | 926,889.00 | 36.4% |
| <small>Revenues received from granting agencies to complete specific projects. Pembina currently does not receive core funding from any granting agency.</small> | | |
| Donations | 58,710.00 | 2.3% |
| <small>Gifts to support the Pembina Institute.</small> | | |
| Sales, Interest & Other | 135,184.00 | 5.3% |
| <small>Revenues from the sales of publications and Wind Power Certificates and interest from investments.</small> | | |
| Total Revenue | 2,549,411.00 | 100% |

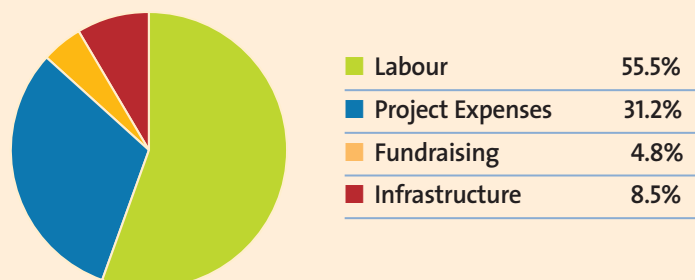


Expenses 2004

Project labour includes the expertise, skills and research required to develop, implement, communicate and evaluate the projects that help us all move towards a more sustainable energy future.

| | | |
|---|---------------------|-------------|
| Labour | 1,333,769.00 | 55.5% |
| <small>Represents wages, wage costs and staff benefits for 29.5 FTE staff to design, develop, deliver and manage our projects.</small> | | |
| Project Expenses | 750,148.00 | 31.2% |
| <small>Hard costs including contractor services, travel, project materials and communications incurred to deliver our project work.</small> | | |
| Fundraising | 116,367.00 | 4.8% |
| <small>Hard costs for raising funds.</small> | | |
| Infrastructure | 203,280.00 | 8.5% |
| <small>Overhead costs including offices, telecommunications, staff development, accounting and equipment incurred in the day-to-day operations of the organization.</small> | | |
| Total Expenditures | 2,403,564.00 | 100% |
| Total Revenue | 2,549,411.00 | |
| Net Revenue | 145,847.00 | |

Net revenue is held for future programming of the Pembina Institute.



Statement of Operations

The Pembina Institute for Appropriate Development
Year ended December 31, 2004

| | 2004 | 2003 |
|------------------------------|------------------|------------------|
| Revenue | | |
| Consulting fees | \$1,225,829 | \$1,439,309 |
| Program cost recovery – | | |
| GAIA agency agreement | 561,389 | 472,521 |
| Grants | 365,500 | 239,582 |
| Reimbursed expenses | 149,013 | 206,214 |
| Publications and sales | 133,621 | 42,086 |
| Donations and fundraising | 58,710 | 76,183 |
| Speaking and board honoraria | 53,786 | 73,003 |
| Interest | 1,563 | 1,550 |
| | 2,549,411 | 2,550,448 |

Expenses

| | | |
|-------------------------------------|------------------|------------------|
| Wages and wage costs | 1,333,769 | 1,303,416 |
| Contractor services | 433,301 | 427,021 |
| Staff travel | 163,410 | 226,153 |
| Project materials and supplies | 81,332 | 55,661 |
| Amortization | 79,158 | 80,092 |
| Office rent | 55,149 | 48,590 |
| Advertising and promotion | 54,680 | 65,928 |
| Postage and courier | 41,596 | 60,635 |
| Telephone and utilities | 38,046 | 50,005 |
| Office | 23,932 | 26,145 |
| Insurance | 22,094 | 22,548 |
| Equipment rental | 14,935 | 14,930 |
| Computer support | 12,121 | 14,170 |
| Professional fees | 10,444 | 18,543 |
| Web site hosting and development | 9,795 | 7,770 |
| Staff development | 8,155 | 5,966 |
| Property repairs | 6,366 | 1,331 |
| Library purchases and subscriptions | 5,845 | 2,779 |
| Property taxes | 3,592 | 3,503 |
| Bank charges | 2,484 | 1,479 |
| Interest on long term debt | 1,995 | 2,999 |
| Equipment repairs | 1,365 | 5,099 |
| Bad debts | – | 24,288 |
| | 2,403,564 | 2,469,051 |

Excess of Revenue Over Expenses \$145,847 \$81,397

Supporting the work of the Pembina Institute

The Pembina Institute welcomed a new Director of Development in 2004 to broaden its support. Our new strategy for raising funds incorporates research, cultivation, stewardship and value-based messaging.



Tom Brown, DIRTT Environmental Solutions, and Ann Hill, CH2M Hill, announce the purchase of wind power to cover 100% of their computers, while Marlo Reynolds, Pembina, and Jason Edworthy, Vision Quest Windelectric, take questions from media.



Nancy Hammer, the Pembina Institute's Director of Development, has created Giving Clubs to ensure donors receive the very best in care and recognition for their support.

Both photos: David Dodge, the Pembina Institute

Wind Power by Pembina

In November, Pembina launched its *20,000 Computers Campaign*. The program enables individuals and businesses to purchase enough wind power for their desktop or laptop computer for a three-year period and support the Pembina Institute's sustainable energy work. Each wind certificate displaces electricity that would have been generated by conventional fossil fuels such as coal or natural gas. Wind Power program participants are acknowledged on page 16.

Individual Donors

In the fall of 2004, Pembina took the Wind Power message to its list of more than 3,000 individual donors and reached 98% of our campaign goal! Late in the year we also developed Pembina Giving Clubs to ensure donors get the very best in care and recognition for their support.

Gala 2005

Pembina began planning Gala 2005 in 2004, and before the end of the year corporate donors, led by Petro-Canada and supported by Alcan, Encana, Nexen, Shell, Suncor, Trident Exploration and Weyerhaeuser, had contributed towards the 2005 event.

Next Stop the Annual Fund

Over the next three to five years, Pembina's Fund Development program will focus on the Annual Fund, which includes direct response marketing, events, major gifts, *Wind Power by Pembina* and corporate support through sponsorship and grants. The Annual Fund will be the basis of recurring gifts and provide a steady level of income to support the operating budget of the Pembina Institute.

New Director of Development

Pembina welcomed Nancy Hammer as its new Director of Development in 2004. Her professional experience and approach is already evident in the growing sophistication of Pembina's support programs. Watch for a new donor section at the Pembina.org Web site in 2005.

Your support is important to us. Contributions ensure that the Pembina Institute continues to find solutions for a healthy, sustainable world, now and for the future.

For those wishing more information on how to make a contribution or sign up for *Wind Power by Pembina* please visit our Web site at www.pembina.org or call our Fund Development office in Calgary AB, at 403-269-3344 ext. 111.

On-line donations are secure and easy to use. Visit www.pembina.org/donate_home.asp.



This report was published on Forest Stewardship Council (FSC)-certified paper. The FSC promotes environmentally appropriate, socially beneficial and economically viable management of the world's forests.

Calgary Office
200, 608 7 St SW
Calgary, AB
T2P 0Z2

Drayton Valley Office
PO Box 7558, Stn Main
Drayton Valley, AB
T7A 1S7

Ottawa-Gatineau Office
164 Wellington St
Gatineau, QC
J8X 2J4

Vancouver Office
Suite 606, 55 Water St
Vancouver, BC
V6B 1A1

Edmonton Office
2nd Floor, 2830 Parsons Road
Edmonton, AB
T6N 1H3