Watts Up?

PURE

Newsletter of PURE - the Power Up Renewable Energy Co-operative

Renewable Energy and Conservation for Dufferin County and the Headwaters Region

www.powerupenergy.ca

WELCOME!

Hello and welcome to the newest Co-Op in the Dufferin County and Headwaters Region.

Power Up Renewable Energy (P.U.R.E.) is a newly founded co-operative geared toward a community-based interest in renewable energy and energy conservation. The Co-op is hoping to achieve significant goals for Dufferin county and surrounding area. With a wide assortment of knowledgeable individuals on the membership roster, the support and recognition of other organisations and co-ops, and of course the overwhelming response from the community itself, PURE is certain to be a success. ☺

PURE Tee-Shirts!
We got 'em - you want 'em.
See inside for details

Calendar of Events

➶ **On Earth Day! April 22nd**, PURE will be on Rogers Cable Television for a ½ hour session of live information and call in questions. So set your VCR's, your DVD recorders or your live feeds on your computers and record this landmark session that will be on Rogers Cable (channel 63). Richard Procter and Don Hayward will be on the panel, don't forget to think up some good questions to call in and ask!

➶ **On Saturday, April 24th**, Visit the **PURE** Booth, at the Caledon Hills Bruce Trail Club **Earth Day Expo** event, held at St. John's Anglican Church Hall, on the south side of Hwy. 9, just 2 km east of Hwy. 10

➶ **Also in April**, the PURE **Education Committee** will be visiting various schools in the area with their amazing PURE display, with hopes of starting up poster contests and essay contests, and raising awareness about renewable energy. Prizes will vary, with one of the best prizes being (of course) a PURE Tee shirt!

➶ Our Board of Directors meets approx. every 3 weeks, usually Thursdays, in Shelburne. Check our website for details. Members and the public are invited to attend. ☺

Coming to a School Near You -PURE Power!

The PURE Co-operative is proud to announce that it has commenced the initial phases of implementing an exciting, community-based long-range educational demonstration project for renewable energy at CDDHS - Centre Dufferin District High School in Shelburne.

The proposed project involves the installation of a commercial-scale combination **solar photo-voltaic and wind powered renewable energy system**, located on the grounds of CDDHS. Students at the school will be invited to assist in all phases of the project, and be part of the maintenance and education team associated with the project for years to come. Students will be asked to monitor the energy system on an ongoing basis, conduct tours for other students - both local and throughout the region, collect data and gain valuable hands-on experience with a working renewable energy system.

PURE Board member and Dufferin resident **Matthew Fairlie**, former Chief Technical Officer of hydrogen energy company Stuart Energy, is coordinating the effort, along with PURE Education and Technical Committee members, and **Mr. J. Wellman**, head of the Physics Department at CCDHS. PURE's objective in the project is not only to generate electricity - but to generate awareness of energy issues and renewable energy among Dufferin-area high school students and the community at large. [...continued Page 3►]

What is Renewable Energy? ...see inside for details

Membership Has Its Rewards

We encourage all residents of Dufferin County and the Headwaters Region to get involved with PURE Co-op.
...find out why, on Page 4►

Wisconsin Turbines
This wind farm, located on flat agricultural land near Green Bay, was installed in 1999, and produces enough power for about 3600 homes.

Why a Co-op?

PURE has chosen the Co-operative business model, as our means of achieving its objectives. Why? Because it has been shown in numerous examples throughout the world that there must be community "buy-in" for renewable energy projects to get off the ground. Experience in countries such as Denmark and the UK, shows that the centralized, top-down imposition of large-scale renewable energy projects (mostly wind) will largely fail. Communities will fiercely resist change, when there is no obvious direct benefit to the community, and no community consultation or involvement occurs.

Here's an excerpt from the latest edition of "**Alternatives Journal**" magazine - winter 2004, and an article entitled "Blowing in the Wind" by David MacLeod, who is the treasurer of Windshare - "Canada's first green power co-operative, which is now project developer for TREC's wind power projects".

"...More than 85% of Denmark's wind power capacity is owned by private individuals or wind co-operatives and more than 100,000 families own shares in a turbine. The same phenomenon can be seen in Germany, the world's largest wind producer, where as much as one-third of all wind capacity has been built by associations of local landowners and nearby residents. In addition to the environmental benefits, these co-ops have provided a significant financial return, generating yields in the neighbourhood of seven percent or more. This new "cash crop" has proven to be very important for the ongoing viability of farming operations in the region."

"In contrast, wind development in the UK experienced major setbacks when large privately owned projects were proposed. Many of these faced fierce opposition from local residents who viewed the projects as being imposed on them by "outsiders". The local citizens were not involved, did not benefit and saw no reason why they should have to accommodate the wind projects. In the latter part of the 1990s, 80 to 90 percent of wind farm proposals were rejected by local councils and today the UK has only 500 megawatts of wind power. Similarly, in more populous areas of Ontario, several projects have been shelved or scaled back due to local opposition...."

He goes on to say that according to Can-WEA, Canada could easily develop 10,000 MW of wind power by 2010. Canada currently has 300 MW installed, and Denmark has 3000 MW installed, in a country with less than 1% of the landmass of Canada.

Reprinted courtesy of Alternatives Journal: Canadian Environmental Ideas and Action, 30:1 (2003). Annual subscriptions $25.00 (plus GST) - www.alternativesjournal.ca

PURE Tee-Shirts

It's a great fundraiser - and a good way to spread the word!

Our newly-created T-shirt is of high-quality, pre-shrunk, with the front bearing our windmill logo; the back will have our Website address. So far the colours are black logo on green. PURE members can purchase any size shirt for only $15.00. Contact Aurora Hayward, 519-925-1455, mherton@aol.com for details or to place your order.

Power Up Renewable Energy Co-op - Contact List

Title or Committee...	***Please contact...***
Board President	Don Hayward - (519) 925-3286
Vice President/Political	Rob Strang - (519) 941-9013
Secretary/Networking	Jeff Gold - (519) 942-3978
Treasurer/Finance	Goetz Koechlin - (519) 942-4724
Education	Theresa Sauren - (519) 942-2075
Education	Aurora Hayward - (519) 925-1455
Networking	Matthew Fairlie - (519) 925-0521
Purchasing	Andrew Gilbert - (705) 466-6920
Technical	Rick Dewsbury - (519) 925-6528
Technical	Roger Petit - (519) 925-0026
Newsletter	Doug Wall - (519) 923-9789
Newsletter/Media	Richard Procter - (705) 434-1175

WWW.POWERUPENERGY.CA

Power Up Renewable Energy Co-operative
5 Fead Street, Orangeville, Ontario, L9W 1A6
tel: (519) 925-3286 (Don Hayward - President)
email: info@powerupenergy.ca

Our Mission and Goals

Power Up Renewable Energy Co-operative is a non-profit group with a mission to create a "community based energy system" in Dufferin County, established on the principles of encouraging sustainable and responsible energy generation and use. Our Goals include:

***** Contribute to the development of Dufferin County and the surrounding areas as a sustainable society and economy through the development of community based renewable energy projects.

***** Promote renewable energy through education, advocacy and project development.

***** Develop a framework with the government and energy utilities where efforts to reduce energy consumption and increase renewable energy are measured and rewarded.

***** Identify and develop local energy resources (such as wind, solar and micro-hydro) in Dufferin County and the surrounding areas in co-operation and collaboration with the community.

***** Enable individuals and businesses to invest in sustainable energy projects that yield a stable and reasonable economic return.

***** Advocate market and legislative changes that will facilitate the implementation of our objectives.

***** Promote local energy solutions that are consistent with the environmental standards recognized by the Co-op and which bring economic benefit to the community.

What is Renewable Energy? -Let's compare renewables vs. conventional sources-

Energy comes from many sources. Renewable energy comes from sources which are essentially unlimited (unlike, for example, fossil fuels, of which there is a finite supply). Renewable sources of energy include hydroelectric power (falling and moving water), wood, waste, geothermal, waves and tides, wind, solar photovoltaic, and solar thermal energy. Passive solar orientation and design, energy-saving design, landscaping etc. are also part of the renewable energy equation. Conservation of energy is the key to balancing renewable supplies with demand.

"Alternative Energy" is another term often used for renewables because they are alternatives to conventional sources such as coal, gas and nuclear power. Hydroelectric power is a conventional source with some renewable aspects to it.

Conventional Energy	Renewable Energy
fuel source is limited; extracted from underground resources	fuel source is virtually unlimited or "free"* (wind, sun), or from agricultural sources
fuel extraction has a huge environmental footprint (eg. mining, forest and marine habitat destruction)	fuel is free, or fuel extraction (if any) can be done sustainably (eg. wood harvesting)
fuel extraction causes many "downstream" effects (eg. oil spills, air pollution, CO2, radioactive waste and leaks)	fuel extraction (if any) does not cause massive downstream side-effects
energy and materials are not cycled; fuel makes a one-way trip from source to sink	energy and materials are used in cycles (eg. CO2 -> trees -> energy -> CO2)
vast energy is spent to extract the fuel; and fuel must continue to be extracted	fuel costs are minimal or zero (wind, sun); system cost is mostly "up-front", ie. at project installation time
vast amounts of waste (CO2, NOx, mercury, highly-radioactive materials, etc.) are created and dumped into air, water and land	little or no waste is created; CO2 (if any) is re-absorbed by next fuel cycle
huge government subsidies are needed to prop up uneconomic industries (fossil fuel and nuclear industries receive billions in direct subsidies or tax breaks)	little or no government subsidies are needed or available; systems are typically smaller, more decentralized, and don't require huge infrastructure costs
typically delivered by vast, subsidized centralized agencies with little local accountability; links between producers and consumers are vague	projects can be scaled from one household to whole communities; decentralized structures are a key feature; much more direct linkage between producers and consumers; enhanced accountability
few choices exist for power production methods (eg. burn coal or gas; nuclear reactor); few options for location and distribution; suitable only for high-demand applications	a vast diversity of options is available to produce power so renewables are suitable for any situation, location, demand, etc.
full life-cycle costs are typically ignored (eg. fuel extraction, waste disposal, environmental damage, etc.)	full life-cycle costs are typically well understood and accounted for; environmental impact is minimized
seems "cheap" compared to renewables, but only because the prices are heavily subsidized, and full life-cycle costs are typically not accounted for (ie. add ALL costs over a 30-year period for installation, fuel, waste, etc.)	seems relatively expensive compared to conventional, but not so if subsidies and full life-cycle costs are properly accounted for; without a level-playing field - renewables cannot compete against subsidized megaprojects
conservation of energy is often minimized or overlooked due to the above distortions	conservation is very important, because initial costs seem high - but are in fact, reflecting true, life-cycle costs

* Note: "free" is deceptive - there are still large installation costs for both renewables and conventional energy projects, and only so much real estate is available and appropriate for some projects - therefore energy conservation and efficiency is still a high priority for any solution. ☺

PURE Co-op Needs You! - Get involved with PURE - Come to one of our meetings -
Join one of our exciting committees: Educational, Technical, Political, Media, Purchasing, Networking

Power Up Powers School Energy System *(continued from Page 1)*

The system consists of a little over 0.5 kW in PV panels, a 1.5 kW wind turbine on a 25 foot tilt tower, and associated monitoring equipment. The project has received tentative approvals at several levels including the Upper Grand School Board. **Stay tuned to the PURE website for breaking news**. If all goes well, the group expects to make a major announcement soon and perhaps host an on-site **project kick-off event** - tentatively scheduled for Earth Day, April 22.

PURE Committees and Objectives

PURE's organizational structure consists of an 11-person Board of Directors, and several focused Committees. Below are the primary committees, and a brief summary of the objectives for each. (See page 2 for contact info.)

Education Committee
- Research and provide information on all forms of renewable energy, including general concepts, and recommended products, contractors, and suppliers
- Facilitate workshops, projects, displays and presentations, in order to educate the community about energy conservation and efficiency
- Measure the progress and achievements of PURE to ensure success in its objectives

Technical Committee
- Co-ordinate the collection of accurate technical data on all forms of renewable energy and conservation
- Co-ordinate and facilitate energy projects undertaken by PURE
- Provide a focal point for members with interests in the production of alternative energy

Political Committee
- Ensure political representatives in Dufferin County are aware of PURE and its objectives
- Encourage and assist municipalities, and provincial and federal governments to develop policies, programs and by-laws that facilitate the development of renewable energy
- Work with municipalities to ensure that PURE projects proceed with their cooperation

Networking Committee
- Liaison with other renewable energy co-operatives and community based initiatives in Ontario, Canada, and the rest of the world, in order to share experience and learn from the experience of others
- To work with other organizations such as OSEA, Independent Power Producers, OPG, Hydro One, etc. to promote the PURE agenda

Media Committee
- Create and distribute timely information releases for local media
- Help co-ordinate outreach opportunities with local media and other groups
- Maintain PURE website

Purchasing Committee
- Conduct research among PURE members and in general, to determine target products and services, including bulk discounts, delivery, maintenance, and warranty issues
- Execute advertising campaigns to inform PURE members of purchasing options and coordinate group purchasing

What Projects Will PURE Tackle?

PURE's project list will depend on you, the members, and on our imaginations and efforts. So far, PURE members have discussed large and small-scale wind power projects; education campaigns for energy conservation; and advocacy campaigns to bring about the fundamental shifts needed for our objectives.

Will PURE membership mean a cheaper cost for your energy bills? Possibly yes, in the long term, but not immediately - much hard work is needed first. If the Co-operative can produce its own power and sell that power at reasonable market rates, members and shareholders will reap the dividends. In the meantime, homeowners and businesses will benefit directly from our conservation efforts if they take advantage of our programs. Whatever the outcome, from a community approach, our efforts will mean long-term benefits to the entire province, including ecological benefits for everybody, and stability in the supply of energy and the economics of the energy industry. ☺

Get Involved! ↗ Bring Us Your Ideas!

Membership Has Its Rewards

We encourage all residents of Dufferin County and the Headwaters Region who take an interest in Ontario's energy future to get involved with PURE. But **why should you become a Co-op member?** In a nutshell, if you support our mission and objectives, then your membership states your support in a tangible and effective way.

Some of the less tangible, but no less important benefits of PURE membership will also include:

↗ Participation in a centralized knowledge base - we live in an age of information, and we must all share that information to succeed

↗ Access to education resources - our group will conduct seminars and workshops, teaching individuals and businesses how to reduce their energy demands, and save money

↗ Enhancement of the renewable energy and energy conservation marketplace - your membership shows businesses and energy providers that the markets for renewable energy consumers and conservation efforts are growing; PURE will help build the linkages between all players in these markets

↗ Co-operative buying power, on energy-efficient lightbulbs! or other items such as efficient appliances or solar panels or energy-saving services

↗ A collective voice - in order to achieve our objectives, significant shifts in the way governments and the energy industry do business must be made; your voice will add weight to these discussions and make our advocacy campaigns more effective ☺