

A VISIT TO THE FUTURE OF CLEAN ENERGY

During last week's power crisis, I hope that tips from previous Clean Air Clean Energy columns helped Caledon residents to reduce their power consumption in easy ways. These articles were:

- Clean Pool, Clean Air: Reduce smog due to your pool
- Cool house, Clean Air: Air Conditioners
- Reduce Smog with Efficient Appliances
- Mow Down Pollution with a Lawnmower Rebate
- Clean Laundry, Clean Air
- Reduce Window Drafts and Air Pollution
- Fresh Coffee, Fresh Air
- Save Water and Reduce Smog
- 6 Easy Ways to Lose a Tonne (of Air Pollution)
- Reforestation: See the Forest and the Trees
- Clean Air, Quieter Roads 2: Other Ways to Reduce Driving
- Clean Air, Quieter Roads 1: Transit Options in Caledon
- Wind Energy Part 2: Clean Wind Power Available in Caledon
- Wind Energy Part 1: The Answer to Smog is Blowing in the Wind
- Idle Threat to the Environment?: Vehicle idling
- Computers: High tech with low emissions
- EnerGuide for Houses Professional Audit: A house call from the energy doctor
- Energy Efficient Light Bulbs: a bright idea for the environment
- Painless steps we can all take to reduce smog and climate change

As a bonus, your energy conservation means that our families breathe less smog - and we've had 28 unhealthy smog days in Ontario this year. If you would like a copy of any of the previous articles, please contact us at greenenergy@woodrising.com or 519-927-0548, or read them at www.woodrising.com/cca/stepup.htm.



This summer I got a glimpse of the future of clean energy during a visit to Iceland. Iceland is highly volcanic, with hot springs and glacier-fed rivers almost everywhere. Virtually all of their electricity, hot water and residential heat comes from clean sources like river-run hydro and geothermal energy.

We visited the Nesjavellir geothermal power plant where they tap a mixture of steam, superheated water, hot gases and brine from boreholes spread over several kilometers on a mountain. The steam is used to generate 120 MW of power, then the remaining heat in the mixture is used to warm cool water. This is added to de-ionized hot water from underground and pumped 30 km through a huge insulated pipe to the capital city, Reykjavik. There it provides heat to all the buildings, as well as hot water for washing. They do not have hot water tanks, just instant hot water out of their hot taps.

Icelanders pay about 10 cents per kWhr, which is low by European standards. They make profit on the clean power, which the government invests in education and healthcare. Compare that with our artificially low price for dirty power (4.3 cents) in Ontario, which leads to a \$1 billion annual deficit and encourages excessive energy use.

We also visited the clean fuel station of the future. Iceland has the world's first hydrogen gas station where hydrogen is made onsite from clean electricity and tap water, and stored in pressurized tanks. The hydrogen fills from a nozzle similar to a gasoline pump - in fact, it is at a regular Shell station! One car is using it now and the hydrogen will be used to run pollution-free fuel cell buses this fall. There are plans to begin fuelling private cars and the Icelandic fishing fleet. Iceland is aiming to use clean power exclusively by 2050, and may become a big exporter of hydrogen.

Let's hope that pollution-free hydrogen from clean power will eventually be available in Canada so that our air can be as smog-free as Iceland's!

Step Up To Kyoto. Future generations will thank you a tonne. For more information about this or other topics in the Caledon Clean Air Clean Energy Program, you can reach us at greenenergy@woodrising.com or 519-927-0548, or visit <http://www.woodrising.com/cca/stepup.htm>



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