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http://**www.mcginniselectric.ca**/pages/articles/cfl.html - 13k

The Truth About Compact Fluorescent Lights - Part One

Instead of saving our environment CFLs are destroying it.

Here is the truth about Compact Fluorescent Lights.

CFLs increase your carbon footprint in a 'cradle to grave' analysis. Full costs to make and safely dispose of a CFL have never been published. We could save a lot more energy, for a lot less money, in other areas. Residential lighting takes up only 0.8% of energy consumption in Canada.
CFLs contain harmful amounts of mercury. Hundreds of millions of bulbs will end up in our landfills and poison our environment.
CFLs emit harmful levels of Electromagnetic Radiation. Thousands of people are made ill from exposure each year.

CFLs, aka, "Chronic Fatigue Lights", use more energy than a regular light bulb, they threaten your health with mercury and electromagnetic radiation, and your government is forcing you to use them. Starting in the year 2012, regular incandescent bulbs, the ones invented by Thomas Edison over 100 years ago, will be banned in Canada. The electrical industry, the government and environmental groups such as the Suzuki Foundation and Greenpeace have formed an unholy alliance, promoting CFLs, while ignoring irrefutable environmental and health risks.

What it boils down to is that CFLs are toxic technology. Let's not forget the mercury contamination, the ultraviolet radiation, the radio frequency radiation and the dirty power a compact fluorescent creates when in use. Multiply that by one billion CFL's thrown into landfills worldwide and we have a perfect recipe for a global environmental catastrophe

Meanwhile in the land down under: the New Zealand Government, citing concerns about CFLs lack of efficiency and safety, has lifted its ban on incandescent bulbs. Hopefully our government will see the wisdom in this decision and follow suit.

A ban on regular light bulbs will mean we will have no alternative but to use CFLs almost exclusively. Evidence shows the compact fluorescent light is an energy hog and is one of the most dangerous technologies to be foisted upon consumers since the cellular telephone.

Industry, government and environmental groups, Los Tres Amigos

Someone once said: "The environment is too important to be left solely to the environmentalists." This is a case in point where we have left environmental organizations that are at best ill informed, or at worst corrupt, to make decisions for us regarding the energy savings and safety of compact fluorescent lights. Environmental Groups like the Suzuki Foundation and Greenpeace are being used by CFL producers to provide third party endorsements to create a favourable image of a potentially toxic product. Our health and safety officials seem to be asleep at the switch, oblivious of the hazards, while manufacturers and sellers of CFLs are laughing all the way to the bank. With impunity "los tres amigoes" are leaving misled consumers to deal with the aftermath of a potential environmental catastrophe.

The Truth About Compact Fluorescent Lights - Part Two

Using CFLs will Increase your Carbon Footprint, not Decrease it

What is the real energy cost of a CFL? What does it cost to Mine, Manufacture, Package, Ship, Sell, Operate, Dispose and Remediate the Environment? Moreover how do you put a cost on destroyed lives and human health?

Reducing your carbon footprint is the CFL's raison d'etre. But before you decide to switch over to compact fluorescent lights it would be wise to first review an overall-- from cradle to grave—analysis of the carbon footprint of a CFL, compared to an incandescent bulb, to be sure you are doing the right thing. One study conducted in Denmark,examined some carbon footprint factors, but not all, showed it took 1.8 Kwh of electricity to assemble a CFL compared to .11 Kwh to assemble an incandescent bulb. That means it took 16 times more energy to produce a CFL.

See these tests: Link1>> Link2>>

This study did not include the fact a CFL is much heavier and is more dangerous to handle will thus cost more to package, to ship, and to sell. This research also did not calculate the energy required to safely dispose of a CFL. If they had, common sense tell us it would take hundreds of times more energy than an incandescent bulb.

Also, to be fair, we must factor in the costs of removing the mercury from our landfills and the cost in destroyed lives, illnesses, and lost human potential. If such a study could be done that took in all the above factors, it would show that a CFL has a massive carbon footprint, one that would dwarf a regular incandescent light bulb and that would also show CFLs leaving a wake of environmental destruction to boot.

CFLs: Hundreds of millions are spent trying to save a fraction of our

energy consumption.
To put your lighting energy consumption into perspective, lets look at the Sector Sustainability Tables listed in the Government of Canada website. Our homes consume 16% of all the energy used in Canada, with our lights using 5% of that. When you do the math you find residential lighting represents .8 percent of the total energy consumption in Canada. Wow! We are spending billions of dollars in the wrong place, in a fruitless effort to reduce a fraction of our energy consumption. It would be much 'power smarter' to focus on water heating than light bulbs. Your electric hot water tank consumes five times as much electricity as your lights. If we made our hot water heating 10% more efficient by using inexpensive technology already available, we would save as much energy as we would by switching completely over to compact fluorescent lights. It would be cheaper, simpler, and have less detrimental environmental effects. These are simple observations that have seemed to have eluded our sustainable energy gurus.

Lighting is a fraction of all our overall energy consumption and has a limited potential for energy savings. Nevertheless, we should be conserving wherever we can. At the same time we should not forget that switching our incandescent bulbs to compact fluorescent lights poses a whole range of negative environmental and health impacts with very little, if any, real energy savings.

Residential lighting takes up 0.8% of energy consumption in Canada

CFLs have energy losses during operation which you are not told about; losses that eliminate any energy savings over an incandescent light.
An incandescent light has a power factor of 1. On average a CFL has a power factor of 0.6. That means there are 40% energy losses in operating the CFL. This does not show up on your power bill, but the power company has to supply 40% more power than what the bulb is rated for. This translates into higher electrical bills for everyone as the power company spreads out their losses to recoup their lost revenue. CFLs could take twice as much energy to operate than what is on the label, and still be listed as an energy star product.
This is something their promoters have neglected to tell us and this is never added to their energy consumption calculations.

Vancouver Sun, Feb 17, 2009. BC Hydro; "Energy efficient bulbs increase greenhouse gases. Because they burn cooler, they cause home heating to rise," utility reports.

Hydro also states that "lighting regulations (banning incandescent lights) will increase GHG emissions in Hydro's service territory by 45,000 tons due to cross effects of a switch to cool-burning bulbs."

The 'cross effect' BC Hydro is referring to is the loss of heat from hotter incandescent bulbs when we switch over to cooler burning CFLs. To make up for the lost heat we now have to turn up our electric heat, or worse,

our oil or gas furnace which will leave us consuming more energy sometimes creating more green house gases than before we made the switch. In the summertime because of our longer days both lighting and heating are used much less so the general rule still applies.

For the moment let us just consider a CFL's carbon footprint during its operation. When you take in losses due to the lower power factor, as well as the heating energy losses in colder climates, using compact fluorescent lights will not reduce your carbon footprint when compared to a regular light bulb. In fact there is good evidence that shows that using CFLs will increase your carbon footprint.

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Mercury in CFLs poison workers, consumers and their environments.

More than 60,000 children are born each year in the United States with neurodevelopment impairments caused by exposure in the womb to methylmercury compounds, according to new estimates by an expert panel convened by the National Academy of Science's Year 2000.

Each compact fluorescent lamp contains about 5 milligrams of elemental mercury as well as other poisonous gases. When mercury enters water, biological processes change the chemical form to methylmercury, which is the organic, more toxic form found in fish. Methylmercury bioaccumulates through the food chain and once in the body can affect the fetal and adult nervous systems.

Don't count on methylmercury staying down in landfills or staying in one place, as it easily gets transported through the water table. Beware if you break a CFL. Each broken lamp is a toxic spill and much care should be taken cleaning them up. Throwing hundreds of millions of them into landfills will contaminate the soil, the water table and eventually the air.

The manufacturing of CFLs also exposes workers to toxic levels of mercury. They are made mostly in China with virtually no health, safety, or environmental protection regulations. Ironically, most of the electricity used to manufacture CFLs comes from very dirty coal fired generators. As things stand today, mercury exposure to workers, to electricians and installers, to consumers, to water, and to the living environment, goes almost unchecked.

How many Resources and Pollutants does it take to make a light bulb? More than it should. The reality is, even energy-efficient products don't always come from energy-efficient beginnings. Consider for a second what goes into producing, powering and transporting products around the world like...energy efficient light bulbs. Until they're manufactured in a carbon-neutral way, transported on low-emission vehicles and powered in our homes by cleaner energy—green products will never be as green as they can be." World Wild Life Fund, MacLean's Jan 19/09.

Most mainstream environmentalists ignore these facts and instead claim that CFLs have less mercury than what would have been launched into the environment via a smoke stack to create the additional electricity for regular light bulbs. This is not true. If all electricity was generated by dirty- burning coal fired plants this might be possible, but this is really an irrelevant point when you consider coal fired power plants could operate with 80% less mercury emissions. The problem is that there are no regulations to force the industry to clean up its act. In any event, it does not apply to BC where 85 % of our electrical power comes from hydroelectric dams. In Canada, 58% of electrical generation is from hydro and 19% from coal.

To repeat, what this all adds up to is that CFLs are toxic technology. Let's not forget the mercury contamination, the ultraviolet radiation, the radio frequency radiation and the dirty power a compact fluorescent creates when in use. Multiply that by one billion CFL's thrown into landfills worldwide and we have a perfect recipe for a global environmental catastrophe

CFLs emit harmful levels of electromagnetic radiation

CFLs emit electromagnetic radiation, a type of energy that can make us very sick. Many people have reported skin rashes and irritation due to UV Radiation. Radio frequency radiation is even more of a concern. The effects of exposure to radio frequency radiation, as well as to high voltage spikes and transients, all known to cause illness, are virtually ignored by environmental groups and green building consultants.
There has been a 'rash' of health problems associated with exposure to electromagnetic radiation such as that emitted by CFLs. In Sweden, according to polls, up to 290,000 people or more than 3% of the population have reported suffering symptoms of EHS when exposed to electromagnetic radiation. Symptoms range from joint stiffness, chronic fatigue, headaches, tinnitus, respiratory, gastric, skin, sleep and memory problems, depressive tendencies, to Alzheimer's disease and all classes of cancer.

Form cradle to grave, CFLs pose a danger to people's health and well-being, as well as adding even more toxicity to our beleaguered earth. They do not reduce our carbon footprint, and may even increase it in some situations. To make matters even worse they emit harmful levels of electromagnetic radiation.

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Hope for the future

Other than the World Wildlife Fund almost all the major environmental groups have ignored these warnings of harmful effects. This could greatly diminish these groups' credibility, as the public questions what sort of

perhaps unsavoury relationships they have with big business.
The New Zealand government has changed its mind and has lifted its ban on incandescent lights due to concerns about safety and energy efficiency of the CFLs. The fact that Germany has already restricted the use of fluorescent lighting in public places and has banned fluorescent lights in hospitals, shows us that this issue is too great to be shrugged off and ignored.

In North America it appears we are headed in the opposite direction. The Canadian Federal government plans to ban all incandescent lights before year 2012. For Wal-Mart business is booming. They sold 100 million compact fluorescent lights in the first 9 months of 2007.

Soon, prices of LED lighting will start to come down and new OLED light fixtures will be introduced. There are incandescent light bulbs on the market right now that last longer than CFLs and are 80% more efficient than a regular bulb. In 2010, surprisingly just as the market gets saturated with CFLs, General electric is coming out with a new high efficiency incandescent bulb. They claim it will be twice as efficient as a regular bulb.

If they live up to their claims these new incandescent lights will rival CFLs for energy consumption, but will not have all the other environmental problems. Then another buying craze will begin and the producers will be laughing all the way to the bank again. Then CFLs may begin to be phased out, leaving behind a long-term problem of mercury disposal, remediation, and a so far untold toll on human health.
In the meantime, the best way for you to reduce your carbon footprint is to follow your mother's advice and turn the lights off when you leave the room.

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