

Fossil fuel fallout

Take a drive west along the lakeshore, past the Darlington generating stations, and you can witness the most urgent environmental problem of our age. No, it's not the nuclear reactor, shrouded in concrete – it's the car you're sitting in to get there.

The nuclear power industry accumulates bundles of spent fuel. That's bad. Other energy industries don't. That's worse.

For decades we've worried about how to deal with the stores of high level radioactive waste building up next to nuclear reactors. Meanwhile, other energy industries don't have a similar disposal problem, because they don't collect and store their wastes. Coal-fired generators, gas furnaces, internal combustion engines – they just do their work, and then spew the by-products into the air.

We have made strides, to be sure, in reducing harmful emissions from our fossil fuel appliances. But we don't store what's left, because what's left is vast and unstorable. The greenhouse gases emitted in Canada alone amount to over 800 *million* tonnes each year.

By contrast, nuclear reactors emit no greenhouse gases, and the high level waste which has built up from all the reactors in Canada, over the past fifty years, amounts to only about 20 *thousand* tonnes.

But seriously, can we compare nuclear waste and greenhouse gases? The former is composed of powerfully toxic substances, some of which never existed in nature, and which will remain lethal even in minute quantities for thousands of years. Fossil fuel emissions include perfectly natural substances like carbon dioxide, which are creating problems in the last century only because of the unprecedented quantities we are suddenly releasing into the atmosphere.

Powerfully unnatural, and as common as the air we breathe. Okay, that's one difference. Here's another: while nuclear wastes have the *potential* to kill people, fossil fuel emissions *do* kill people, in the tens of thousands every year, and they are already wreaking havoc on the climate of the whole planet.

The Ontario Medical Association estimates that smog causes about 1800 premature deaths each year in this province alone. The most important components of smog, from a respiratory point of view, are automobile emissions. Add the emissions from diesel engines, coal-fired electrical generators, and of course all the industry south of the border,

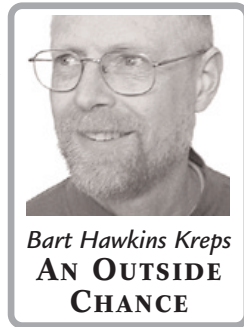
and you get the clouds of pollution that spread far into cottage country each summer. These clouds are just the most obvious manifestation of the change we are engineering in the planet's atmosphere.

The public has awoken to the dangers of fossil fuel emissions, and this awareness has given the nuclear industry new hope. A Canadian Nuclear Association workshop in Ottawa last month drew a big crowd, and participants were eager to portray nuclear power as an environmentally friendly technology which can step in at a time of global crisis. Keynote speaker John Ritch, director of the World Nuclear Association, predicted that half the world's population will face a shortage of fresh drinking water in the next generation. Meeting the most basic needs of an expanding population, through projects such as desalinization of water, will unleash "a torrent of energy consumption," more energy in the next 50 years than we've used in history to date.

"I find the environmentalist case about global warming compelling," Ritch said, and he called for an equal degree of scientific realism in evaluating solutions. A persistent theme at the seminar was that it's wishful thinking to count on a sufficiently explosive growth in renewable energy production. Ritch argued that if we want to meet basic human needs, while also cutting greenhouse gas emissions dramatically, "the need for clean energy cannot conceivably be met without a sharp upturn in nuclear power." Today the world has 440 nuclear power plants, but by mid-century we should have 5,000, Ritch said.

Five thousand reactors, all slowly accumulating used nuclear fuel – that's a scary thought. It would be nice to imagine that someday, we will be technologically advanced enough to recycle that used fuel, so that coming generations of humans don't have to worry about our toxic legacy. It would also be nice to imagine that someday, we will be so technologically and socially advanced that we can get to work, or to the grocery store, without firing up an internal combustion engine and releasing a stream of greenhouse gases.

While we in North America enjoy historically unprecedented prosperity, we also face unprecedented environmental challenges, and that includes dealing with nuclear waste. But if we make nuclear reactors the symbol of evil, we run the risk of ignoring the more destructive machines in our own driveways.



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