5. There's no connection to nuclear weapons, is there?

Nuclear power plants produce radioactive material that can be used in "dirty bombs", or to manufacture traditional nuclear weapons. The Candu reactor creates plutonium 239 as a by-product – this is fuel for nuclear bombs. The Non-Proliferation Treaty, which was supposed to prevent the spreading of nuclear weapons to other countries, has been found to be unenforceable. Have you noticed some nervousness among westerners about nuclear power development in countries such as North Korea and Iran? The potential for diversion of nuclear materials for weapons use is clearly recognized. No proven method exists for preventing incorporation of Canadian uranium into military applications. "Depleted uranium", the residue remaining after enrichment of refined uranium for reactor use, has been widely used in military hardware in recent wars. This results in long-lived, biologically harmful radioactive debris being scattered across the landscape, where it will remain indefinitely.

6. But aren't we running out of other options?

In the long term, central nuclear and fossil-fuelled power plants are not alternatives to each other. Rather, they are both part of an environmentally unsustainable approach to the electricity system. There are cleaner, safer, alternatives that are both technically feasible and economically sustainable. In a sustainable energy future, end-use efficiency, co-generation and renewable energy will be phased in at a pace that will ensure an orderly transition as our fossil power plants are phased out. The technological transition will be based on the phenomenal advances already taking place in energy efficiency of buildings and all manner of energy-using equipment, and on the rapidly expanding wind, solar and other renewable technologies that are now globally outpacing the growth rates of all other types of power generation.

Saskatchewan's huge renewable energy potential allows for diversity, flexibility and resilience in our power supply. It also provides the basis for increased, and more widely distributed, employment. This should be the basis of a green economic strategy for our province. Nuclear power would only divert precious resources into an unsafe, unsustainable, unnecessary scenario.

For more information see:

www.nirs.org (Nuclear Information Resource Service)
www.greenpeace.org/canada
www.rmi.org (Rocky Mountain Institute)
www.environmentalsociety.ca

or, contact:

Saskatchewan Environmental Society
PO Box 1372
Saskatoon, SK S7K 3N9

ph 306.665.1915
email info@environmentalsociety.ca
online www.environmentalsociety.ca

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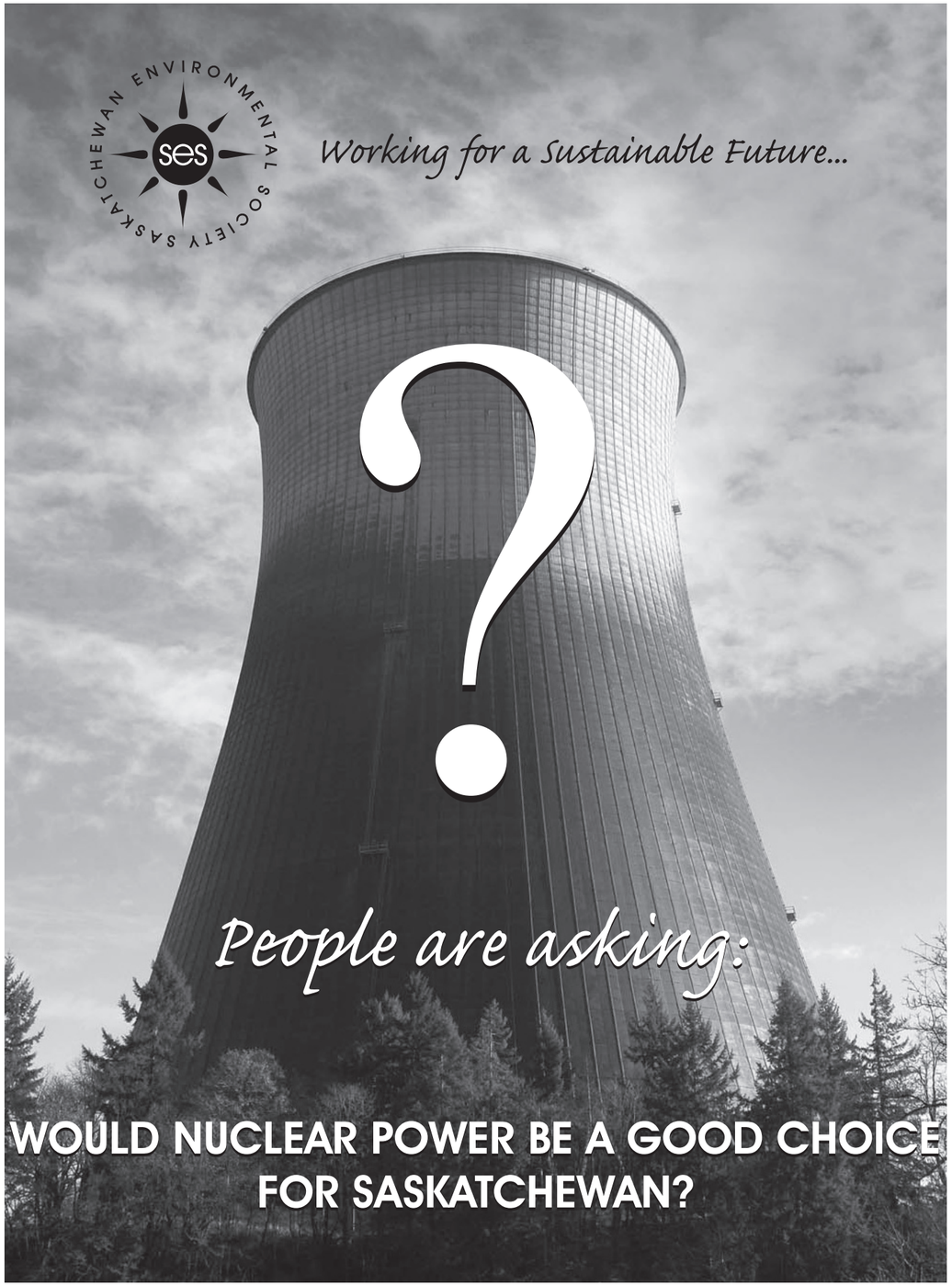

1. Does nuclear power makes economic sense?

"Nuclear power, once claimed to be too cheap to meter, is now too costly to matter".
–The Economist, May 19, 2001

New nuclear plants deliver electricity at far higher cost than end-use efficiency, distributed cogeneration and many renewables (RMI Solutions, summer 2005). Any new nuclear plants will have to face the major issue of their high cost in the context of a competitive electricity market. Nowhere, according to the Rocky Mountain Institute, do market-driven utilities buy, or private investors finance, new nuclear plants. Nuclear power can compete with other options only when it is generously supported by disproportionate government subsidies. Canadian Government subsidies to Atomic Energy of Canada Ltd. from 1953 to 2002 totalled $17.5 billion ($2001).

The experience of Ontario is instructive. Ontario Hydro's massive debt and liabilities of $38 billion were largely incurred through its nuclear program. (This figure includes some provision for the future liabilities associated with the radioactive waste management and decommissioning of reactors). Reactor construction and maintenance costs drastically exceeded expectations.

A British economics consultancy group says that the meager returns on the estimated 8.6 billion pounds sterling needed to replace the UK's aging nuclear power stations will deter the power industry from investing in nuclear energy. So any new reactors will have to be paid for by the tax-payers. Add on the costs of managing wastes, insuring nuclear power stations and protecting them from terrorists, and you have an economically unsustainable picture.

Under Canada's Nuclear Liability Act, a reactor owner's liability in the case of an accident is extremely limited. A serious accident could end up costing several billions of dollars in damage – most of this cost would be billed to the taxpayer. No insurance company is willing to carry the entire risk (note that your homeowner insurance does not cover nuclear damage), so, without this tax-payer bail-out, the industry would not be able to operate. Costs of nuclear power are going up as uranium prices rise and operational safety requirements are tightened, in contrast to the costs of renewables, which are falling rapidly. The cost of wind power fell by 50% over the past decade, that of photovoltaic by 30%. So nuclear doesn't look like a smart choice economically.

2. But even if it's expensive, isn't it a nice safe, clean energy source?

Nuclear power stations don't produce black smoke or ash, and they don't smell bad. But they do routinely release radioactive tritium, and they create extremely hazardous, highly radioactive waste used fuel. Moreover, production of nuclear electricity leaves behind in northern Saskatchewan a terrible legacy of uranium mine tailings. These materials will constantly, over the millennia, continue to generate alpha-radiating decay products that will inevitably eventually find their way into the ecosystem. Although alpha radiation doesn't penetrate very far through material barriers, once these alpha-emitters get inside the body, they can cause drastic biological damage.

The safe operation of nuclear reactors depends on keeping them cool. During France's heat wave in 2003, engineers told the government they could no longer guarantee the safety of the country's 58 nuclear plants. This kind of problem will likely become more common with climate change. In addition, the risk of human error is likely to increase as pressures to cut costs rise in a competitive global energy market. Nuclear power stations are recognized as prime potential targets for terrorism. An airborne attack on a nuclear plant, similar to the one that destroyed the World Trade Center, could result in a catastrophic radiation release.

3. Hasn't the waste problem been solved?

World-wide, experts have been seeking a way to keep high-level used nuclear fuel safely confined over the tens of thousands of years over which it remains hazardous. There are no proven ways of doing this. Although the level of radioactivity decreases very significantly over the first 500 years, some components of the waste have half-lives in the order of tens of thousands of years. The Nuclear Waste Management Organization's proposed, staged approach - probably the best of a bunch of bad options - still requires the extraordinarily dangerous used fuel to remain in temporary storage at the various reactor sites for decades after removal from the reactor. So, as long as we continue to generate more used fuel, we will have these scattered waste sites beside each power station, vulnerable to terrorist attack or accidental leakage.

Although some countries do have plans for "permanent disposal", there are no final waste repositories in operation anywhere. Because it's hard to predict how effectively the wastes can be prevented from escaping into the environment over the millennia, the burden of monitoring and maintenance of the high level wastes associated with a few years of electricity use during our lifetimes will have to be carried by future generations. Who do we think we are, to impose this burden on our grandchildren, our great grandchildren and their great grandchildren? Doesn't it make sense to stop creating more of these wastes until we know how to handle them?

4. But there's the climate change issue. Isn't nuclear the best response?

We all recognize the absolute necessity of drastically reducing the use of fossil fuels in order to minimize the elevation of greenhouse gas levels in the atmosphere. But nuclear energy is an inefficient, expensive and dangerous way to approach the problem. The arguments against nuclear are as valid today as they were 20 years ago. The technology still remains so costly that massive government subsidies are required. It is still vulnerable to terrorism, can feed nuclear weapons proliferation, and produces tonnes of hazardous waste with no satisfactory long-term storage solution. Moreover, nuclear power is not free of greenhouse gas emissions – significant amounts of fossil fuel are used in the full cycle of uranium mining, milling, refining, enrichment and transportation, the construction and decommissioning of facilities, and the processing, transport and storage of wastes. The amount of fossil fuel used per kilowatt hour of nuclear energy generated will only increase as the richest uranium ores are exhausted.

The real solutions to climate change lie in the area of energy efficiency and renewable energy. If we were to provide the same level of support for these options as we have done for the nuclear industry, we could move much faster into the sustainable, low-carbon energy economy which is where the future lies. It's notable that in 2004, small-scale renewables added almost 6 times as much net generating capacity world-wide and nearly three times as much electricity production as nuclear power did. By 2010, renewable energy is projected to outstrip nuclear power's energy output by 43% globally. Rocky Mountain Institute's Amory Lovins points out that every dollar spent on costly nuclear power instead of on cheaper emission reduction options buys less coal displacement. For example, if a new nuclear plant delivered a kilowatt hour (kWh) of electricity for three times the cost of saving a kWh through improved efficiency, then, for the cost of your one nuclear kWh, you could have saved three kWh, tripling your carbon reduction for the same cost.