



I've Heard this Song Before!

By

Rosalie Bertell, Ph.D, GNSH &
Alexei V. Yablokov, Ph.D

(See last 2 pages for biographical information.)

So many times nuclear power has put forth its ugly head as the savior of the world! Remember the discovery of *ACID RAIN*? Nuclear power was not the most likely culprit in this dramatic loss of trees and lakes. Therefore it was touted as the savior technology! It was soon clear that even though nuclear power did not emit sulfuric acid or its precursors, it did emit beta particles which reacted with the nitrogen in the air causing nitric acid. In fact, the atmospheric nuclear testing may well have been the original culprit bringing about the acid rain crisis. Certainly during those years the pH of our lakes was shifted toward acid, and the many industrial processes and automobiles then added to the disaster.

Next the nuclear power stepped forward in the 1970s to save us from *OPEC and high gas pricing*. The crisis quickly went away, not because of nuclear power, but because the people learned to conserve energy.

Now we have nuclear power standing front and center to save us from the horrors of *climate change and global warming!* The thinking is again faulty, as so many have shown, but this time the hype and PR is somewhat more overwhelming. Is nuclear power REALLY our only sane choice, or is this a LAST DITCH STAND for a failed industry?

These claims for nuclear power are at best specious, at worst disastrous. Take carbon emission. There is a blithe notion that nuclear power is clean. It emits no CO₂ and therefore does not contribute to global warming. This argument has been systematically taken apart over the past five years by two independent experts, Jan Willem Storm van Leeuwen and Philip Bartlett Smith. One is a chemist and energy specialist, the other a nuclear physicist, who between them have several lifetime experiences in the nuclear industry. What they have done is look at the

entire life cycle of a nuclear power station from the mining of the uranium to the storage of the resulting nuclear waste. Their conclusions make grim reading for any nuclear advocate.

They say that at the present rate of use, worldwide supplies of rich uranium ore will soon become exhausted. Perhaps within the next decade, nuclear power stations of the future will have to rely on second-grade ore, which requires huge amounts of conventional energy to refine it. For each ton of poor-quality uranium, some 5,000 tons of granite that contains it will have to be mined, milled and then disposed of. This could rise to 10,000 tons if the quality deteriorates further. At some point, and it could happen soon, the nuclear industry will be emitting as much carbon dioxide from mining and treating its ore as it saves from the so called clean power it produces thanks to nuclear fission.

At this stage, according to an article in Prospect magazine by the energy writer David Fleming, nuclear power production would go into energy deficit. It would be putting more energy into the process than it could extract from it. Its contribution to meeting the world-s energy needs would become negative! The so-called reliability of nuclear power, which its proponents enthuse over, would therefore rest on the growing use of fossil fuels rather than their replacement.

Even worse, the number of nuclear plants required to meet the world-s needs would be colossal. At present, about 440 nuclear reactors supply about 2 per cent of demand. The Massachusetts Institute of Technology calculates that 1,000 more would be

needed to raise this even to 10 per cent of need. At this point, the search for new sources of ore would become critical. Where would they come from? Not friendly Canada, which produces most of it at present, but places like Kazakhstan, hardly the most stable of democracies. So much for secure sources of energy! We would find ourselves out of the oil-producing frying pan, right in the middle of the ore-manufacturing fire.

These arguments have to be met before other, more searching questions are answered about what the society suffers from routine emissions of radioactive materials into air and land, where we intend to store waste, what we are going to do to prevent unexpected radioactive leaks, and how we should protect nuclear plants against terrorism. The truth is that this form of energy is, in the end, no more safe, reliable or clean than the others. That may well mean turning our backs on it; and confronting reality rather than myth. Some good, however, may come from the debate. The decision to go nuclear will, ironically, make the case for renewable energy stronger rather than weaker.

There has been a growing sense that the Government has lost faith with wind, wave and tidal power, on the grounds that the public has turned against them and that their efficiency is doubtful. Wind turbines in particular have been subjected to sustained local campaigns and derisive columns from the pro-nuclear lobby. They have one great advantage however they are **genuinely renewable**, and they are reversible. A wind turbine, unlike a nuclear reactor, can be removed once it has come to the end of its natural life. A wave machine can simply be towed away.

Nor, in comparison to nuclear power, are they gravely inefficient. Of course a wind farm depends on wind, which may or may not blow, and a wave machine similarly is weather-dependent. But both need to be part of the world's energy jigsaw puzzle. It is absurd, for instance, that the Government is withholding the millions of dollars of investment that is needed to turn wave power into a commercial proposition. Experiments in the Orkney Islands have proved so promising that the Portuguese Government has bought the technology

and is hoping to exploit it industrially in its own waters. Why can't we do the same? It is only years of government subsidy which has made the nuclear option seem to be cheap!

Nuclear power generation is not trouble-free, and the more you look at it, the more enticing the other choices become.

Biographical Sketch: Rosalie Bertell, PhD, GNSH,

✧ Awards:

✧ United Nations Environment Programme, -
500 Laureate D 1993

✧ Marguerite D'Youville Humanitarian Award, -
Lexington MA D 1992

✧ Ontario Premier's Council on Health: - Health
Innovator Award D 1991

✧ World Federalist Peace Award D 1988

✧ Alternative Nobel Prize: Right Livelihood
Award D 1986

✧ Member of the European Commission on
Radiation Risk (ECRR) *2003 Recommendations of the
ECRR The Health Effects of Ionising Radiation
Exposure at Low Doses and Low Dose Rates for
Radiation Protection Purposes: Regulators' Edition*
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Schmitz-Feuerhake, Molly Scott Cato and Alexei
Yablokov Published on Behalf of the European
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2003. ISBN: 1 897761 244 President of the International
Institute of Concern for Public Health (IICPH), and
Editor in Chief of International Perspectives in Public
Health.

✧ Dr. Bertell served four years as Co-chair for
Canada on the Ecosystem Health Workgroup of the
Science Advisory Board to the US - Canada

International Joint Commission (IJC) on the Great Lakes, and

- ✧ currently serves on the IJC Nuclear Task Force.
- ✧ Advisor to the Great Lakes Health Effects Program of Health Canada, and to the Environmental Assessment Board of Ontario.
- ✧ Dr. Bertell Directed the International Medical Commission - Bhopal which investigated the aftermath of the Union Carbide disaster in Bhopal,
- ✧ Member of the International Medical Commission - Chernobyl, which convened the Tribunal on violations of the human rights of victims in Vienna, April 1996.
- ✧ Dr. Bertell is a member of the Grey Nuns of the Sacred Heart.
- ✧ Dr. Bertell earned a Doctorate in Biometry at the Catholic University of America, Washington, DC, in 1966, and has been working ever since time in environmental epidemiology. She has collaborated in analyses undertaken in the US, Canada, Japan, the Marshall Islands, Malaysia, India, Germany, Ukraine and other countries.
- ✧ Author of Handbook for Estimating the Health Effects of Ionizing Radiation (1984, 1986) No Immediate Danger: Prognosis for a radioactive Earth (Translated into Swedish, French, German and Finnish. A Russian translation is in process), Planet Earth: The Latest Weapon of War, Author of more than a hundred articles, book chapters and poems, Dr. Bertell has reached medical, scientific, and popular audiences around the globe.
- ✧ By choice, Dr. Bertell works with indigenous people and economically developing countries as they struggle to preserve their human rights to health and life in the face of industrial, technological and military pollution.
- ✧ She was a founding member of IICPH, an attempt to institutionalize her growing concern for human survival on an intact planet.

Biographical Sketch: Alexei Yablokov, PhD,

- ✧ Founder and president of the Center for Russian Environmental Policy,
- ✧ Correspondent member of the prestigious Academy of Sciences,
- ✧ Former environmental advisor to Boris Yeltsin, is the acknowledged dean and elder of the Russian environmental movement.
- ✧ Already interested in environmental processes as a young boy, Alexei became a Ph.D biologist with a profound grasp of how radioactivity alters the living tissue of the earth. After joining the Soviet Parliament as a deputy member, he succeeded in declassifying and making public information detailing the ravages of radioactivity across his country, particularly as regards the hitherto top-secret South Urals nuclear catastrophe. Alexei has lead for years Russia's largest federation of grassroots organizations, the Socio-Ecological Union (SEU) -- MinAtom's chief debunker.
- ✧ Member of the European Commission on Radiation Risk (ECRR) 2003 *see entry under Bio for Rosalie Bertell*

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