PROF BARRY BROOK - BRAVE NEW CLIMATE

Anti-nuclear & Clean Energy (ACE) Campaign
Friends of the Earth, Australia
www.foe.org.au/anti-nuclear

Friends of the Earth

One of the most vocal nuclear advocates in Australia is Prof. Barry Brook, a climate change scientist at the University of Adelaide who runs the bravenewclimate.com blog.

The Brook mantra is this: "it's nuclear power or it's climate change". However numerous studies exist that map out the options to sharply reduce emissions without recourse to nuclear power. One of the most practical Australian studies was produced by a group of scientists for the Clean Energy Future Group (CEFG). The CEFG proposes an electricity supply plan that would reduce greenhouse emissions from the electricity sector by 78 per cent by 2040 compared to 2001 levels. University of NSW academic Mark Diesendorf, who contributed to the CEFG study, has proposed a more ambitious scenario that replaces all coal and gas with renewables.

Brook repeatedly trivialises the repeatedly-demonstrated connection between nuclear power and weapons. Here is an example of his indifference: asked at a public forum what needs to be done to fix the safeguards system and what role he sees for scientists such as himself to help address the problems, Brook responded: "That's a political and legal question and I have no further comment."

To get a handle on the proliferation risks of the nuclear "renaissance", if it eventuates, here are some figures:

• Of the 65-odd countries with a nuclear program of any significance (involving power and/or research reactors), over one-third have used their 'peaceful' programs to advance weapons ambitions.

• Of the 10 countries to have built nuclear weapons, six did so with support and political cover from their "peaceful" programs (India, North Korea, South Africa, Pakistan, France and Israel).

• About 45 countries have the capacity to produce significant quantities of fissile material (more or less depending on where you draw the line with small-medium research reactors), and a vast majority of those countries acquired their fissile material production capacity through peaceful nuclear research or power programs.

As former US Vice President Al Gore has argued, a major expansion of nuclear power will "run the proliferation risk off the reasonability scale".

Brook claims that the integral fast reactors (IFRs) he champions "cannot be used to generate weapons-grade material." The claim isn't true. To quote George Stanford, who worked on an IFR research program in the US: "If not properly safeguarded, they could do [with IFRs] what they could do with any other reactor — operate it on a special cycle to produce good quality weapons material."

The misconceptions pile up. Brook states: "Prior to the Fukushima Daiichi accident, caused when a 14 metre tsunami crashed into a 40-year old power station in Japan, no member of the public had ever been killed by nuclear power in an OECD country."

However the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) has estimated the collective effective dose to the world population over a 50-year period of operation of nuclear power reactors and associated nuclear facilities to be two million person-Sieverts (it does not provide OECD figures separately). Applying a standard risk estimate (0.05 fatal cancers per Sievert of exposure to low-dose radiation) gives an estimated 100,000 fatalities over 50 years. Brook's statement clearly doesn't hold up.

Brook states that the linear no-threshold (LNT) theory of radiation exposure and cancer causation is "discredited" and has "no relevance to the real

world". However, the 2005 report of the Committee on the Biological Effects of Ionising Radiation of the US National Academy of Sciences states that "the risk of cancer proceeds in a linear fashion at lower doses without a threshold and … the smallest dose has the potential to cause a small increase in risk to humans."

Brook gets it wrong on Chernobyl, too. He states: "The credible literature (WHO, IAEA) puts the total Chernobyl death toll at less than 60." However the studies he is referring to do not estimate a death toll of less than 60. He is referring to reports by the UN Chernobyl Forum and the World Health Organisation in 2005-06 which estimate up to 4000 eventual deaths among the higher-exposed Chernobyl populations and an additional 5000 deaths among populations exposed to lower doses in Belarus, the Russian Federation and Ukraine. (The Chernobyl Forum includes UN agencies such as the IAEA, UNSCEAR, and WHO.) A range of scientific studies estimate the death toll at between 9000 and 93,000.

Still Brook is adamant that "nuclear power is the safest energy option". Safer than wind and solar? He could only arrive at that conclusion by using the nuclear industry's methodology: only consider accidents at nuclear power plants rather than accidents across the energy chain; understate the death toll from accidents by 2-3 orders of magnitude; only consider accidents rather than routine emissions; and ignore the greatest hazard associated with nuclear power — its repeatedly demonstrated connection to WMD proliferation (most recently with North Korea's use of an "experimental power reactor" to produce plutonium for weapons).

In other words, you could only arrive at the conclusion that nuclear power is the safest energy option by *starting* from the conclusion and working your way backwards − anti-science.

As the Fukushima nuclear disaster unfolded in March 2011, Brook maintained a running commentary in the media and on his website insisting that the situation was under control and that there was no reason for concern. There was no correction until Brook had been publicly held to account for spreading misinformation. Andrew Bolt from the Herald Sun was urging people to read the "marvellously sane and cool explanation" from "our friend Professor Barry Brook". Both Bolt and Brook subscribe to conspiracy theories about environmentalists with a hidden, authoritarian "political manifesto" to return to a pre-industrial society.

Brook wrote an ABC opinion piece in December 2011 which states that "no-one was killed by radioactivity from the event" and is silent on the problem of long-term cancer deaths from exposure to radioactive fallout from Fukushima (variously estimated to be "~100s cases" or "around 1000").

Brook lives in a parallel universe where nuclear power is benign − the WMD problem is trivial, nuclear waste is a multi-trillion-dollar asset, nuclear power is as safe as wind and solar power, low-level ionising radiation is harmless, Chernobyl killed less than 60 people, and problems such as inadequate nuclear safeguards will magically fix themselves.

Finally, a few examples of Brook's attacks against environmentalists − a problem that his employer, Adelaide University, needs to address:

- accusing a Friends of the Earth campaigner of "intellectual dishonesty" with no attempt to justify that defamatory accusation.
- another defamatory accusation of dishonesty ("anti-intellectual sleight-of-hand") directed at Friends of the Earth in relation to a World Water Day statement.
- falsely accusing anti-nuclear and climate action groups of vote-rigging at a public debate in Melbourne ("frankly pathetic, but not unexpected", he said).
- claiming that "all they [Friends of the Earth and Greenpeace] care about is being anti-nuclear" and that Friends of the Earth "doesn't care about climate change" − despite an abundance of readily-available evidence to the contrary.

A detailed critique of Prof. Brook's nuclear advocacy is posted at: www.foe.org.au/anti-nuclear/issues/oz