

Nuclear Power Undercutting Answers to Climate Crisis

NUKEWATCH FACT SHEET

One rationale presented by proponents of AB 346 is that nuclear reactors can help reduce greenhouse gas pollution. This assertion is highly dubious. Several nongovernmental organizations have documented the inability of nuclear power expansion to help in fighting the climate crisis.

PETER BRADFORD

U.S. Nuclear Regulatory Commission (Ret.)

In “Why a Future for the Nuclear Industry Is Risky,” this former Nuclear Regulatory Commission member declares, “the claims that nuclear power is a necessary energy source for displacing greenhouse gasses haven’t convinced investors that new nuclear power reactors will be safe and profitable investments.”

Bradford’s list of nuclear power’s dangers is startling: Investing in new nuclear reactors remain very risky; Wall Street has expressed serious concerns; Nuclear power reactors are stated terrorist targets; Nuclear power will not reduce foreign energy dependence; Permanent storage of used reactor fuel remains unresolved; Impacts of global warming increase risks of operating nuclear reactors; Severe heat and extreme weather pose unique operational risks... 1

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

A 2003 Massachusetts Institute of Technology study, *The Future of Nuclear Power*, noted that a “global growth scenario” of a base load of 1,000 gigawatts of installed capacity around the world by 2050, “would require a new 1,000 megawatt reactor to come online somewhere in the world every 15 days on average between 2010 and 2050.”²

GREENPEACE

In December 2007, Greenpeace International produced “Nuclear Power Undermining Action on Climate Change.” It concludes not only that new power reactor construction cannot be done soon enough to help, but that money devoted to nuclear power “deprives real climate solutions of funding.”

Greenpeace found that, “Even if today’s current installed nuclear capacity was doubled it would lead to reductions in global greenhouse gas emissions of less than 5 percent and would require one new large reactor to come online every two weeks until 2030. An impossible task...”

In stark contrast, “Proven renewable energy techniques are available now, can be constructed and brought online quickly and provide immediate cuts in greenhouse gases.”

There is an investment choice to be made. “The investment required to double global nuclear capacity, reducing greenhouse gas emissions by less than 5 percent,

would be between two and three trillion dollars. Amory Lovins of the Rocky Mountain Institute calculates, “Each dollar invested in electric efficiency displaces nearly seven times as much carbon dioxide as a dollar invested in nuclear power, without any nasty side effects.”³

INSTITUTE FOR ENERGY and ENVIRONMENTAL RESEARCH (IEER)

Likewise, “Carbon Free and Nuclear Free: A Roadmap for U.S. Energy Policy,” was published in July 2007 by the IEER. Physicist Arjun Makijani, IEER’s president and author of the study, said in releasing the report, “A technological revolution has been brewing in the last few years, so it won’t cost an arm and a leg to eliminate both CO₂ emissions and nuclear power.”

“What is really innovative about this ‘Roadmap’ is that it combines technologies to show how to create a reliable electricity and energy system entirely from renewable sources of energy,” said Dr. Hisham Zerriffi, an expert on distributed electricity grids at the University of British Columbia.

According to the Roadmap, North Dakota, Texas, Kansas, South Dakota, Montana and Nebraska each has wind energy potential greater than the electricity produced by all 103 U.S. commercial nuclear power reactors.

The Roadmap recommends a “hard cap” on CO₂ emissions by large fossil fuel users (more than 100 billion Btu per year). “The cap would be reduced each year until it reaches zero in 30 to 50 years. There would be no free emissions allowances, no international trade of allowances, and no offsets that would allow corporations to emit CO₂ by investing in outside projects to reduce emissions. The emissions of smaller users would be reduced by efficiency standards for appliances, cars, homes and commercial buildings.”⁴

PHYSICIANS FOR SOCIAL RESPONSIBILITY (PSR)

In “Dirty, Dangerous & Expensive, The Truth About Nuclear Power,” PSR, the 1985 Nobel Peace Prize-winning group, says “Given the urgent need to begin reducing greenhouse gas emissions as quickly as possible, the tremendously long lead times required for the design, permitting and construction of nuclear reactors renders nuclear power an ineffective option for addressing global warming. ...

“Were an accident to occur [like the July 16, 2007 Japanese earthquake that shutdown three reactors], it is likely that any planned nuclear power reactors would be scrapped...

“When the very serious risk of accidents, proliferation, terrorism and nuclear war are considered, it is clear that investment in nuclear power as a climate change solution is not only misguided but also highly dangerous.”⁵

OXFORD RESEARCH GROUP (ORG)

In their June 2007 report “Too Hot to Handle: The Future of Civil Nuclear Power,” the London-based think tank ORG analyses the environmental and security risks of relying on nuclear power.

“Too Hot to Handle” concludes in part saying, “For the nuclear weapons proliferation and nuclear terrorism risks to be worth taking, nuclear must be able to achieve energy security and a reduction in global CO2 emissions more effectively, efficiently, economic-ally and quickly than any other energy source. There is little evidence to support the claim that it can.”

Member of Parliament David Howarth notes in the Forward that in Britain “the potential for renewable power vastly exceeds current electricity consumption.”

Like other analysts, ORG noted the impossibility of building enough reactors soon enough to reduce greenhouse emissions. After considering population growth and the parallel growth in electricity demand, the team found that “nearly four new reactors would have to begin construction each month from now until 2075” around the world.

“A civil nuclear construction and supply program on this scale is a pipedream,” they point out since, “In the UK it is expected to take at least 17 years from licensing to generating electricity.” Furthermore, “Between 1977 and 1993, 58 nuclear power reactors came into operation — an average of 3.4 reactors per year.” 6

1 “Why a Future for the Nuclear Industry Is Risky,” January 2007, former NRC commissioner Peter Bradford and David Schlissel, 9 pages, <lowe@iccr.org or www.iccr.org>

2 “Insurmountable Risks: The Dangers of Using Nuclear Power to Combat Global Climate Change,” Brice Smith, Section 1.3 - Case Study: the MIT Nuclear Power Report (a 55-page summary, is available from IEER.org) <www.ieer.org/reports/insurmountablerisks/>

3 “Nuclear Power Undermining Action on Climate Change,” Greenpeace International Briefing, December 2007; 7 pages, <http://a4nr.org/library/globalwarmingclimatechange/12.2007-greenpeace> (scroll down to “PDF Nuclear power”)

4 “Carbon-Free and Nuclear-Free: A Roadmap for U.S. Energy Policy,” by Dr. Arjun Makhijani, President, Institute for Environmental and Energy Research [with Nuclear Policy Research Institute], June 2007. For a 23-page summary see: <www.ieer.org/carbonfree>

5 Dirty, Dangerous & Expensive: The Truth About Nuclear Power,” Physicians for Social Responsibility, Sept. 2006; 4 pages, <http://www.psr.org/site/PageServer?pagename=Nuclear_power_fact_sheet>

6 “Too Hot To Handle: The Future of Civil Nuclear Power,” by Frank Barnaby and James Kemp, Oxford

Research Group, London, July 2007, 22 pages; <www.oxfordresearchgroup.org.uk>

ADDITIONAL READING

* Residual Risk: Events in Nuclear Reactors Since the 1986 Chernobyl Accident, May 2007, by Rebecca Harms, European Parliament, Brussels, Union of Concerned Scientists, U.S., Institute of Risk Research, Austria and Okö-Insitut, Darmstadt, Germany; <http://www.greens-efa.org/cms/topics/dokbin/181/181995.residual_risk@en.pdf>

* Nuclear Power No Solution to Climate Change, December 14, 2006, by the Pembina Institute; <http://list.web.net/lists/listinfo/energy-vision>

* Insurmountable Risks: Can Nuclear Power Solve the Global Warming Problem? Aug. 2, 2006, by Brice Smith, Science for Democratic Action, IEER, Vol. 14; (a 55-page summary is available from IEER.org; <http://www.ieer.org/sdfiles/14-2.pdf>

* Nuclear Power – Myth and Reality: The risks and prospects of nuclear power, 2006, by Gerd Rosenkrantz, for the Heinrich Boll Foundation; <http://www.nirs.org/mononline/nm644.pdf>

* Nuclear Power – Not Worth the Risk, April 2006, by Hugh Richards, Dawn Rothwell and Rae Street, Campaign for Nuclear Disarmament, submitted to the British Energy Review Consultation, England; <www.cnduk.org>

* Unfair Aid: Subsidies Keeping Nuclear Energy Afloat Across the Globe, June 30, 2005, Nuclear Monitor, #630-631, World Information Service on Energy, and Nuclear Information & Resource Service; <http://www.nirs.org/mononline/nm630_31.pdf>

* Nuclear Power: No solution to climate change, Feb. 2005, Nuclear Monitor, Nos. 621 & 622; World Information Service on Energy, & Nuclear Information & Resource Service; <www.nirs.org/mononline/nukesclimatechangereport.pdf>

* Comparing Greenhouse-Gas Emissions and Abatement Costs of Nuclear and Alternative Energy Options from a Life-Cycle Perspective, November 1997, Uwe R. Fritsche, Coordinator, Energy & Climate Division, Okö-Insitut, Germany; <http://www.oeko.de>

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