

## Nuclear Power Will Not Solve Climate Crisis

In terms of both monetary cost and time, nuclear power is ineffective at solving the climate crisis. Dr. Amory Lovins of the Rocky Mountain Institute, in his 2008 analysis *The Nuclear Illusion*, has shown that energy efficiency is seven to ten times more cost effective at reducing greenhouse gas emissions, while renewable sources such as wind are significantly faster and less expensive to deploy than nuclear power. In his 2007 book *Carbon-Free and Nuclear-Free: A Roadmap for U.S. Energy Policy*, Dr. Arjun Makhijani of the Institute for Energy and Environmental Research (IEER), has shown that both fossil fuels and nuclear power can be phased out of the American economy by mid-century and completely replaced with efficiency and renewables.

Cost projections for new reactors are skyrocketing, with final price tags for completion unpredictable. A single typical new plant such as the French Areva 1,600 megawatt evolutionary pressurized reactor (EPR) could easily cost \$10 billion, nearly 15 cents per kilowatt hour (as compared to wind power at 7 cents per kilowatt hour). Already investment banks are unwilling to finance new reactors unless backed by federal loan guarantees. Given nuclear power's history of economic failure, new reactors could further undermine the efforts to stabilize the global financial and economic crisis.

## Unproven New Reactor Designs Add To Cost and Safety Risks

Uncertified reactor designs, which have never been built previously, are likely to encounter significant delays in their projected construction schedules. An EPR under construction in Finland has experienced serious flaws, such as a bad concrete foundation and faulty rebar and welding, which have led to years of delays and a 50% cost overrun. A dearth of nuclear grade parts and the lack of qualified nuclear engineers and architects as well as experienced builders will strain quality assurance even further, increasing safety risks.

To make matters worse, a third to a half of the U.S. Nuclear Regulatory Commission's safety staff, and thus the agency's institutional memory, will be up for retirement within the next few years. The current lack of federal regulatory oversight of unresolved safety issues in current reactors reflects ongoing difficulty in "harnessing safe nuclear power." Reactor safety will likely take a backseat as NRC resources are redirected into licensing new reactors.

## **Nuclear Power's Radioactive Risks**

Nuclear weapons proliferation, safety and security risks, and the unsolved radioactive waste problem still haunt the industry as documented by Dr. Brice Smith's book *Insurmountable Risks: The Dangers of Using Nuclear Power to Combat Global Climate Change*. The spread of uranium enrichment to fuel commercial reactors risks uranium diversion into weapons programs. So does the proposed plutonium extraction from commercial waste, as proposed by the Bush administration's Global Nuclear Energy Partnership.

With the geologically unsuitable Yucca Mountain dumpsite in Nevada not an option, the United States still lacks a safe, sound solution for its high-level radioactive waste dilemma. There is even a crisis in so-called "low level" radioactive waste management, with 36 states having materials piled up at reactor sites with no licensed facility at which to dispose of them.

Existing reactors and their waste storage facilities are highly vulnerable to accidents or attacks. A catastrophic radioactivity release anywhere in the world would have consequences for continued reactor operations as well as the final cost, completion schedule, and social acceptance of new reactors anywhere.

*Principles for Safeguarding Nuclear Power Waste at Reactors* have been developed and signed by over 100 public interest groups. These guidelines should be developed into legislation to begin to deal with the safety risks and vulnerability to terrorists of nuclear waste in aging above-ground fuel pools and ill-sited dry casks.

### **Recommendations**

- Halt taxpayer funded financial subsidies and loan guarantees for nuclear power. Nuclear power has failed in the marketplace over its five-decade history.
- Require strengthened safety regulations and oversight by the Nuclear Regulatory Commission. Terminate funding for Yucca Mountain, which is not a suitable repository site.
- Support hardened on-site storage as an interim, national security measure to safeguard waste from accidents and secure against attacks.

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