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December 7, 2005, Montreal, Canada**

Nuclear Energy – Threat to the World – No Solution to Climate Change

It is embarrassing to be here in Montreal this week as a citizen of the United States, whose government is failing the basic tests of international cooperation and leadership by failing to act responsibly and multilaterally in addressing the fundamental environmental issue of our time: the growing climate crisis.

There should no longer be debate as to the reality of global warming; rather, we must work on how to most effectively and speedily address and mitigate climate change. We do not have much time to take the necessary actions, and we must be careful that we direct our limited resources to the most productive and sustainable technologies and programs possible.

To that end, Felix Matthes has done the world a service by preparing the paper being released today, *Nuclear Power and Climate Change*. This careful and understated paper makes two points I want to stress: 1) nuclear power is not indispensable at addressing climate change; adequate emissions reductions can be attained without it and 2) nuclear power's drawbacks—what Matthes refers to as the “Damocles factor”—make clear that not only is atomic power the one eminently dispensable technology, it in fact must be dispensed with if we are to make real progress on climate change.

As Matthes points out (page 21), studies advocating nuclear power as a climate change mechanism indicate an unprecedented level of new reactor construction to attain any meaningful reduced carbon emissions levels: some 25 to 35 Gigawatts of new atomic reactors every year between now and 2050. This is roughly the equivalent of putting a new large reactor online, starting today, once every two weeks for the next 45 years: a task so impossible and untenable that it wallows in the absurd.

To put this into perspective, the world currently has about 440 operating reactors. Adding 25 GW annually for the next 45 years would approximately triple that number. Such a program would:

*Cost trillions of dollars (U.S. reactors going online in the 1980s and 90s averaged about \$4 billion apiece, costs for more recent reactors in Taiwan and now projected for Finland are comparable). Such a program would essentially make nuclear power the only large-scale component of the effort to mitigate climate change: use of resources of this magnitude would effectively preclude implementation of genuinely effective means of addressing global warming, such as increasing energy efficiency and further developing and implementing renewable energy technologies. Using nuclear power to address the climate crisis means putting all of our eggs into one broken basket.

* Operation of that many reactors would cause known uranium reserves to run out in just a couple of decades—making nuclear power a temporary solution at best. Mining and processing of lower-grade uranium, which would be necessary in just a few years after such a construction program, would result in higher fossil fuel emissions, undercutting nuclear's supposed emissions advantage. The other alternative would be large-scale reprocessing, which would pose a global proliferation threat like no other and is itself a dangerous and dirty technology.

*Operation of that many reactors would create the need for a new Yucca Mountain-sized radioactive waste dump every 3-4 years. Yucca Mountain has been under study for nearly 20 years, has been vigorously opposed by the State of Nevada for just as long, and remains at least a decade from completion. The odds of identifying numerous new scientifically-defensible and publicly-acceptable waste dumps anywhere in the world are slim. The world must learn from its first experiment with atomic energy that disposition of the waste must be accomplished successfully *before* embarking on new construction, not left as a looming lethal afterthought.

*Operation of that many reactors would greatly increase the odds of another Chernobyl-scale nuclear accident—or worse—and would place tempting new terror targets all over the globe. Any nation with a nuclear reactor provides its enemies, whether nations or terrorist groups, with nuclear capability that can be used against it.

*Operation of that many reactors would require a dozen or more new uranium enrichment plants—producing hundreds of thousands of tons of hazardous depleted uranium waste, and would result in the production of thousands of tons of long-lived plutonium (each reactor produces about 500 pounds of plutonium per year), posing untenable nuclear proliferation threats.

Even with these immense drawbacks, each of which alone is sufficient to reject the nuclear option, only modest carbon savings would occur. And atomic power has another significant safety and operational flaw: nuclear power works poorly in warming climates. The summer of 2004's heat wave across Europe not only killed thousands of people, but because of dwindling river levels caused many reactors to reduce power levels and even shut down entirely. Reactors require vast quantities of water to keep the core cool; changes in water levels, and even water temperatures, can greatly affect reactor operations and safety. Reactors in the U.S. have similarly been forced to close during heat waves. Given that planetary warming will occur to some degree no matter

what steps we take to address it, nuclear power would be an increasingly unreliable option.

The notion that nuclear power is an appropriate solution to global warming is being brought to us by the same industry who told the world that atomic energy would produce electricity too cheap to meter, that a Three Mile Island accident was “incredible,” that Chernobyl could happen only once in 10,000 years.

It is being brought to us by an International Atomic Energy Agency (IAEA) that is trying, unsuccessfully, to downplay the extent of the Chernobyl disaster in order to encourage its nuclear industry backers. According to the IAEA, they can only *prove* that so far 56 or so people have died from that calamity. But radiation doesn't always leave a murderous calling card, and other reports show far higher casualties already. And even the IAEA's own Chernobyl report describes one of the worst industrial/environment disasters ever: with some 4,000 projected deaths and admitted hundreds of billions of dollars in damages: numbers of destruction greater than Hurricane Katrina.

The IAEA is understating, deliberately or not, the reality of Chernobyl, and thus mocks the work of numerous independent scientists across the world who have found far greater consequences than the IAEA is willing to admit.

Next April 23-25, 2006, in Kyiv, Ukraine, NIRS, the Heinrich Boell Foundation, The Greens/EFA in the European Parliament, WISE, and Ecoclub Ukraine will hold a major international conference to mark the 20th anniversary of the Chernobyl disaster. There we will be pointing to and providing new information on the real and continuing consequences of Chernobyl, the ongoing failure of the nuclear power experiment, and providing a roadmap toward a sustainable energy future. We will detail one that can provide the energy we need and effectively--without the economic disruption a nuclear path would engender--address the global climate crisis.

Here in Montreal, we are realizing an inescapable fact. Our choice is stark: we can choose nuclear power, or we can choose to address global warming. We can't do both. We call today for the continued rejection by the Kyoto Protocol, and all successor institutions, of nuclear power. We must address the climate crisis, and we need to do it with those technologies that can provide us with the safe, clean, sustainable energy we all need—developed and developing nations alike. Nuclear power has flunked the test, and we don't have time for any more exams.