

MICHAEL MARIOTTE

I am Michael Mariotte, Executive Director of Nuclear Information and Resource Service in Washington, DC, better known as NIRS. I have been at NIRS more than 20 years, since 1985.

NIRS was founded in 1978 to be the networking and information center for the grassroots anti-nuclear and sustainable energy movement in the U.S. That remains our core function today, although we also initiate aggressive organizing and action campaigns around specific nuclear issues. In 1996, following the Chernobyl tenth anniversary conference in Kiev, Ukraine, NIRS began to extend our services to grassroots groups across central and eastern Europe, and in 2000 we joined in a joint affiliation agreement with WISE—World Information Service on Energy, based in Amsterdam—and now we have 12 offices across the world and work with grassroots groups on every continent.

Two years ago, when NIRS and Ecoclub first began planning the Chernobyl+20 conference, it was our intent not only to bring out the truth about the consequences of that catastrophe, but it was to encourage exactly what the theme of this conference in Rhodes represents: Better Active Than Radioactive.

And in the final resolution of the Chernobyl+20 conference, there are calls for several reforms that will require active participation by the public—by grassroots organizations and individuals—if they are to succeed. I want to highlight a couple of these and encourage you here in Rhodes, and everyone from other countries as well, to help achieve these important goals.

We call on the International Financial Institutions as well as on Export Credit Agencies to follow existing or where necessary to establish new lending policies which exclude loan financing of the completion and/or construction of nuclear power plants.

International Financial Institutions such as each nation's export/import banks and multinational banks like the European Bank for Reconstruction and Development (EBRD) play major roles in enabling the existence and expansion of the nuclear power industry—these banks often provide the necessary financing for nuclear projects. And there is new information that the World Bank, which traditionally has not provided financing for nuclear power, may be reconsidering its position.

It is important for all of us to keep the pressure on these banks not to fund dangerous and unnecessary nuclear power projects. Reactors in Ukraine, for example, may be funded by the EBRD—using your and my tax dollars. Greece has a vote on the EBRD—and should never vote to approve nuclear funding; and your participation, your actions telling your government's representatives on the EBRD that you don't want such funding can make a big difference.

We call on the European Union to reflect in its energy strategy the fact that no other accident has affected the people and the territory of the European Union as severely as the Chernobyl catastrophe. The Euratom treaty should be changed to the EuRenew treaty.

Everyone in the EU has a stake in the EU's energy strategy and policies—and EU policymakers at every level need to hear from you on a regular basis. Sometimes it may seem as if your one voice is small, but when you all act together—when we all act together—our voices become much larger.

We call on the UN Commission on Sustainable Development in their 2006-2007 energy debates and policy negotiations to address issues of phasing out subsidies to the nuclear industries, which hamper the development of renewable energy and energy efficiency; and develop financing strategy for IFIs for redirecting their funds to sustainable energy including micro-financing opportunities. The UN should create an International Sustainable Energy Agency with the mission of promoting and developing renewable energy and energy efficiency technologies.

I want to pay special attention to that last sentence. As we have seen all too clearly, the International Atomic Energy Agency exists not only to attempt to stop the proliferation of nuclear weapons technology, but also has the contradictory mission of promoting nuclear power. This promotion gives nuclear power—the energy source that deserves it least—an added advantage over sustainable energy alternatives.

The United Nations must create an ISEA—International Sustainable Energy Agency—if we are to meet the energy and environmental challenges of the 21st century. But it certainly will not be countries like the US, or France, or Russia, that lead the way in creating an ISEA. These nations—even while many, probably a majority of people in them would support such an agency—are too beholden to the nuclear power industry. Instead, it must be non-nuclear countries, like Greece and Austria and Ireland, who lead the way in creation of the ISEA. I guarantee that if we can get this concept introduced and moving before the UN, we can bring in the nuclear countries like the US—we'll embarrass them if we have to, and after all, who is against sustainable energy? But the first steps are up to countries like yours.

And these steps are crucial.

Nukes/climate

We are no longer talking about the possibility of climate change; we are talking about a climate crisis. It is the world's most significant environmental problem, perhaps the most significant problem of any kind.

There is new evidence that climate change is occurring faster than we had thought, and that there are “tipping points,”—points at which change may become irreversible, and/or cause climate change to accelerate dramatically. The problem is we don't know exactly where these tipping points are, or whether we may already have reached some.

At the same time, we are nearing another major tipping point with oil—the point where we can no longer obtain increasing amounts of oil from the earth each year, but rather where we achieve a maximum amount that then, over the years, will decrease. We cannot drill ourselves away from this reality. We need to move away from an oil-based economy and transportation sector. Over the near term, this probably means greater reliance on

gas/electric hybrids, esp in US; over the long term it probably means use of hydrogen power, with the hydrogen produced by renewables.

* Major studies (from MIT and Commission on Energy Policy, for example) indicate that about 1,500 large new reactors would have to be built to make a meaningful dent in greenhouse emissions. Operation of that many new reactors (currently about 440 exist worldwide) would cause known uranium reserves to run out in just a couple of decades and force mining of lower-grade uranium, which itself would lead to higher greenhouse emissions. Even so, 1,500 new reactors would reduce carbon emissions by only about 20%—far less than what is needed. Some experts say even greater numbers of reactors would be needed, drying up uranium reserves even more quickly.

*Construction of 1500 new reactors would cost trillions of dollars. U.S. reactors going online in the 1980s and 90s averaged about \$4 billion apiece (as was the case in Taiwan as well); even if this cost were halved—a highly unlikely proposition—the cost would be on the order of \$3 trillion. Use of resources of this magnitude would make it impossible to also implement genuinely effective means of addressing global warming. Energy efficiency improvements, for example, are seven times more effective at reducing greenhouse gases, per dollar spent, than nuclear power. Yearly costs per 1000 kg avoided CO2 emissions is 68.9 dollars for wind and 132.5 dollars for nuclear power.

*Operation of 1,500 or more new reactors would create the need for a new Yucca Mountain-sized radioactive waste dump somewhere in the world 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 are slim. International efforts to site radioactive waste facilities are similarly behind schedule and face substantial public opposition. For this reason, the U.S. and other countries are attempting to increase reprocessing of nuclear fuel as a waste management tool—a dangerous and failed technology that increases worldwide nuclear proliferation risks.

*Odds of a major nuclear accident are on the order of 1 in 10,000 reactor-years. Operation of some 2,000 reactors (1500 new plus 440 existing) could result in a Chernobyl-scale nuclear accident as frequently as every five years—a price the world is not likely to be willing to pay.

*Operation of 1,500 or more new reactors would require a couple of dozen or more new uranium enrichment plants, and would result in the production of thousands of tons of plutonium (each reactor produces about 500 pounds of plutonium per year), posing untenable nuclear proliferation threats.

* While atomic reactors themselves are not major emitters of greenhouse gases, the nuclear fuel chain does produce greenhouse emissions. Besides reactor operation, the chain includes uranium mining, milling, processing, enrichment, fuel fabrication, and long-term radioactive waste storage, all of which are essential components of nuclear power. At each of these steps, construction and operation of nuclear facilities results in

greenhouse gas emissions. The uranium enrichment plant at Paducah, Kentucky, for example, is the largest U.S. emitter of ozone-destroying ChloroFluoroCarbons (CFCs)—banned by the Montreal Protocol (the Paducah plant was grandfathered by this treaty).

*Taken together, the fuel chain greenhouse emissions approach those of natural gas—and are far higher than emissions from renewable energy sources, not to mention emissions-free energy efficiency technologies.

*Nuclear power does not work well 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. Reactors in the U.S. have similarly been forced to close during heat waves.

Clearly, nuclear power is not the solution. In fact, our choice is stark: we can either pursue a nuclear future or we can act on the climate crisis. We cannot do both.

But we do still have a choice, and at the conference we heard a lot of optimism about what can be done, what can be attained.

Energy efficiency remains, everywhere in the world, the single most cost-effective way to avoid greater reliance on nuclear or fossil fuel power. For example, the U.S. is ½ as efficient as Japan, which is ½ as efficient as it could be given existing technology. Most European countries fall in between the US and Japan. There is a lot of room for improvement. In Ukraine, simply achieving the average energy efficiency levels of the rest of Europe would obviate the need for 20-25 reactors—or all the ones Ukraine says it wants to build over the next 25 years.

Wind power, biomass, photovoltaics, hydrogen produced from renewable energy sources, even better design—all can be used to produce our power, heat and cool our buildings, and provide our transportation. Denis Hayes, the founder of Earth Day, suggested we can attain 30 Terrawatts of power by 2050 with these technologies. That's the equivalent of 30,000 nuclear power plants! And that's more than enough energy to close every nuclear reactor and cut the world's carbon emissions by 80%.

Ed Smeloff, a former utility director from the U.S. who now works for the world's largest solar power manufacturer, Sharp Solar, was even more optimistic, arguing that if we want to, we could produce 50 terrawatts of solar power by 2050.

All of that will take money and resources, of course—but so would a nuclear future. Either direction will require major energy investment to meet growing energy demand and reduce carbon emissions, but what gives us most for the money?

The world cannot take more Chernobyls, a major investment in nuclear power would make more Chernobyls more likely—and thus risk the entire investment. Investment in

renewables and energy efficiency is not only safer, carbon reductions per dollar spent are much greater, thus it is more effective as well.

Unfortunately, right now too many governments—the U.S., Iran, Turkey, India, Ukraine and more—are making the wrong choices. Their policies would make more Chernobyls inevitable, climate change come faster, and leave our children a dirtier, less democratic world. We cannot let them do that, we must resist, we must build our movement in our respective nations, across borders, and across the world.

The final statement of the Chernobyl+20 conference resolution sums it up nicely:

We call on all nations and peoples to implement the lessons of Chornobyl and to reject the construction of all new nuclear reactors everywhere across the globe.

Chornobyl is about the suffering of millions of people, but Chornobyl today is also about peoples' ability to learn hurtful lessons. Let us learn the lessons of Chornobyl and let us contribute to ending the nuclear age.