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STATEMENT OF PRINCIPLES TO ACHIEVE A CARBON FREE AND NUCLEAR FREE U.S. ENERGY SYSTEM BY 2050

Action to achieve such an energy system as soon as possible is necessary given the scale of the climate crisis, global conflicts over oil resources, and the serious risks of nuclear power. Achieving a near total elimination of CO₂ emissions in the United States is also implied by U.S. commitments under the United Nations Framework Convention on Climate Change (UNFCCC) combined with the latest report of the Intergovernmental Panel on Climate Change (IPCC). The IPCC estimates that global CO₂ emissions should be reduced by 50 to 85 percent by 2050 relative to 2000 levels to limit temperature increases to less than 2 to 2.4 degrees Celsius, with the former reduction being given only a small chance of accomplishing the goal. If global emissions are allocated on a per capita basis, the U.S. would have to reduce CO₂ emissions by 92 to 96 percent by 2050 to have reasonable confidence that the temperature goal will be met. The United States has signed and ratified the UNFCCC, which went into effect in 1994.

A U.S. goal of zero-CO₂ emissions would greatly enhance the likelihood of serious negotiations with China, India, and other developing countries towards an agreement to reduce global CO₂ emissions by 50 to 85 percent. It would be the most practical way to recognize that the United States has contributed disproportionately to the build up of CO₂ in the atmosphere. It would show developing countries by example that economic well-being can be achieved using ecologically sound approaches. And it would establish U.S. leadership in an area where it has been sorely lacking.

A reliable electricity sector that is more secure than the present one can be created without nuclear power. The promoters of nuclear energy have used the threat of global warming to rekindle interest, but nuclear power entails risks of nuclear proliferation, severe accidents, and terrorist attacks. It would exacerbate the problem of nuclear waste, for which no reasonable solution is in sight. Overall, it shifts the burden of radiation and proliferation risks arising from current energy use to future generations.

Greatly increased energy efficiency throughout the country will make possible a more economical and faster transition to a renewable energy economy. Solar, wind, biofuels, and other renewable energy sources are ample and capable of supplying the energy requirements of a zero-CO₂ U.S. economy. But converting food, such as corn, into biofuel is not a suitable approach, because it is associated with increases in food prices, poor net energy output, and large greenhouse gas emissions. Biofuels must be derived from plants that trap solar energy efficiently and that can be grown on marginal lands. In

addition, certain aquatic plants, including some types of algae, could simultaneously provide fuels as well as other environmental benefits.

Subsidies for problematic energy sources, notably fossil fuels, nuclear power, and food-based biofuels, should be ended. For example, neither loan guarantees nor production tax credits should be provided to new nuclear power plants. New coal-fired power plants without carbon capture and storage (also called "sequestration") should be banned. While there is some experience with CO₂ storage, it is not yet a proven technology for climate protection, which requires isolation of CO₂ from the atmosphere for hundreds, if not thousands, of years. Storage technology should preferably be developed and tested using emissions from existing rather than new sources of CO₂. Carbon capture and storage technology may be needed to remove CO₂ that has already been emitted to the atmosphere.

The U.S. government will need to invest tens of billions of dollars per year in the transition to a carbon-free, nuclear-free economy. The funds will directly support renewable energy and efficiency projects, assist state and local governments, and finance worker and community transition. The money can be raised in a variety of ways, including taxes and the sale of emissions allowances; it should be dedicated to help achieve the transition to a renewable energy economy. Whatever set of policies is adopted, there should be no free emission allowances. Such giveaways are inequitable and regressive. There should be no international offsets or trade in CO₂ allowances, especially with countries that have not set stringent limits on CO₂ emissions. Further, importing biofuels from developing countries could create land pressures that could harm the poor and may even increase greenhouse gas emissions directly or indirectly, for instance, by increasing destruction of tropical forests and peat bogs. U.S. policies must ensure that the goal of reliably ending CO₂ emissions by mid-century is translated into laws, regulations, and intermediate targets that are verifiable and enforceable all along the way.

Scientists, including leaders of the IPCC, have been warning that there is little time left to begin to shift from increasing to decreasing greenhouse gas emissions, of which CO₂ emissions are the most important. The United States has delayed too long, partly using the argument that China and India and other major emitters also need to participate in achieving global reductions. We agree that they do; but we note that U.S. leadership, in both immediate action and long-term commitments, is a sine qua non for securing serious commitments from developing countries, which have until recently contributed little to the problem.

Finally, the establishment of a goal of achieving a carbon-free and nuclear-free U.S. energy sector by mid-century can have a transformative effect on the global political climate, which is a prerequisite for protecting the planetary physical climate. The ecological, health, and security benefits of realizing that goal will be immense. We are committed to establishing that goal, creating policies designed to achieve the goal, and dedicating the resources to implement those policies.

Endnotes

(1) Carbon-Free and Nuclear-Free: A Roadmap for U.S. Energy Policy by Arjun Makhijani, Ph.D., is published jointly by

RDR Press and IEER Press, 2007. It can be downloaded free here. The Roadmap is described in Chapter 8.

(2) Another recent book, Winning Our Energy Independence: An Energy Insider Shows How, by S. David Freeman

(Layton, Utah: Gibbs Smith, 2007), also advocates a fully renewable, non-nuclear U.S. energy system.

Sign on to the Carbon-Free, Nuclear-Free Statement of Principles

Signatories as of February 23, 2009

Organizations - United States (Organization, Name, Title)

8th Day Center for Justice, Stephanie Dernek

Abolition 2000 Sustainable Energy Working Group, Alice Slater, Convener

Acting for a Greener World, Eileen McCabe, Nuclear Policy Advisor

Alamo Group of the Sierra Club, San Antonio, TX

Alaska's Big Village Network, AK, Nikos Pastos

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Alliance for Indigenous Rights, Issaquah, WA, Perry Chesnut, Executive Director

Alliance for Nuclear Accountability, Santa Fe, NM, Susan Gordon, Director

Alliance for Nuclear Responsibility, Rochelle Becker

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Sign on to the Carbon-Free, Nuclear-Free Statement of Principles

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