



NUCLEAR ENERGY INSTITUTE

Nuclear Energy Institute Position on Climate Change

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Reducing carbon emissions, while fostering sustainable development, will be a major global challenge of the 21st century. The Nuclear Energy Institute supports federal action or legislation to reduce greenhouse gas (GHG) emissions. Any such federal initiative should:

- involve all sectors of the economy and all sources of greenhouse gas
- assure stable, long-term public/private funding to support the development and deployment of needed technology solutions
- assure compliance timelines are consistent with those of expected development and deployment of needed technologies
- employ market mechanisms to secure cost-effective GHG reductions, and provide a reasonable transition and an effective economic safety valve
- establish a long-term price signal for carbon that is moderate, does not harm the economic competitiveness of U.S. industry, and stimulates future investments in zero- or low-carbon technologies and processes
- address regulatory or economic barriers to the use of carbon capture and storage, and increased nuclear, wind or other zero- or low-GHG technologies
- minimize economic disruptions or disproportionate impacts
- recognize early actions/investments made to mitigate GHG emissions
- provide for the robust use of a broad range of domestic and international GHG offsets
- provide certainty and a consistent national policy
- recognize the international dimensions of the challenge and facilitate technology transfer.

Nuclear energy is a vital source of electricity that can meet the nation's growing energy needs with a secure, domestic energy supply that also protects air quality.

- The 104 nuclear power plants in the United States produce electricity without emitting criteria pollutants or GHGs, thus making existing and future nuclear generating capacity an important component of continued air quality improvement nationwide.

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- Maintaining the ability to continue to operate existing nuclear plants and build new ones depends on support by the public and policymakers. Recognition of the role nuclear energy and other non- or low-emitting technologies play in maintaining and improving air quality will increase public and policymaker support.
- Nuclear energy can achieve recognition for its environmental attributes without compromising the economic position of other generating sources. In fact, incremental nuclear generating capacity can reduce the compliance burden and cost that would otherwise fall on other generating capacity.

A credible program to reduce GHG emissions will require a portfolio of technologies and approaches, and nuclear energy is an indispensable part of that portfolio. Emissions avoided by nuclear energy play an integral role in the continuing improvement of air quality and in reducing GHGs. Emissions prevention has value just like emissions reduction.

- Nuclear energy's strategic value is clear from past performance. U.S. nuclear energy companies have achieved significant voluntary reductions in carbon emissions since 1994 as part of the U.S. Department of Energy's Climate Challenge and Climate Vision programs. Increased production from U.S. nuclear plants is responsible for the largest share of emissions reductions reported through these voluntary programs—36 percent of reductions from all sectors of the economy and 54 percent of the reductions reported from the electric sector alone.
- Nuclear energy's strategic value is equally clear looking forward. According to the International Energy Agency's World Energy Outlook 2006, electricity production worldwide is expected to increase by 94 percent by 2030. Carbon dioxide emissions from that additional electricity production will increase by 7 billion tons over today's level. If nuclear energy in 2030 met 23 percent of global electricity needs—as it does today in the Organization for Economic Cooperation and Development nations—it would reduce global GHG emissions by 3.4 billion metric tons, cutting the projected 7-billion-ton increase almost in half.

Achieving a significant expansion of nuclear power in the United States will require sustained federal and state government policies relating to nuclear energy. The new nuclear power projects now in the early stages of development will not enter service until the 2015-2020 period. Instability and lack of certainty between now and then will make significant expansion of nuclear energy impossible. Like all other advanced energy technologies, accelerated deployment of new nuclear power plants requires sustained policy support in several areas.

- Investment protection and investment stimulus for new nuclear plant construction must be commensurate with the investment risks and financing challenges facing companies interested in building new nuclear power plants. At a minimum, the federal government must ensure workable implementation of the energy loan guarantee program created by the Energy Policy Act of 2005. In addition, policymakers must recognize that investment in new nuclear plants will strain the financing capability of even the largest U.S. electric companies, and must work

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cooperatively with industry and state governments to implement policies necessary to mitigate this financing challenge.

- The federal government must demonstrate visible progress toward implementation of a used fuel management program. This program must include:
 - (1) near-term steps to sustain public and political confidence in nuclear energy—e.g., a statutory or administrative reaffirmation of the U.S. Nuclear Regulatory Commission's "waste confidence" policy, a new standard contract obligating DOE to accept used fuel from new nuclear plants, and filing of a license application for the Yucca Mountain project according to the current schedule of June 2008
 - (2) medium-term steps, including a robust research and development program to demonstrate advanced fuel cycle technologies, and development of the federal interim storage facilities necessary to demonstrate the federal government's ability to meet its obligations under the Nuclear Waste Policy Act
 - (3) longer-term initiatives, including deployment of advanced fuel cycle technologies, and construction and operation of a permanent disposal facility, when needed.
- The industry and the financial community must have confidence that the nuclear regulatory process provides the level of stability and predictability necessary to support a large capital investment program. Simply maintaining nuclear energy at 20 percent of U.S. electricity supply will require construction of approximately 35 new nuclear power plants by 2030—approximately a \$175 billion investment. Absent a high degree of confidence in the regulatory process, neither electric generating companies nor the capital markets will consider new nuclear power plants an acceptable investment opportunity.
- The long-term future of nuclear energy depends on bipartisan consensus on the pace and scope of a nuclear energy research, development and demonstration program. Such a program must have sustained bipartisan support and strike an appropriate balance between:
 - (1) near-term activities cost-shared with the industry, like the Nuclear Power 2010 Program, which supports near-term commercial deployment
 - (2) longer-term, government-funded imperatives, including development and demonstration of advanced gas-cooled reactors, and of advanced fuel cycle technologies with the potential to extract additional energy from used nuclear fuel and reduce the volume and toxicity of nuclear waste byproducts that require disposal.
- Nuclear energy must be recognized as clean energy in legislative and regulatory proposals to provide incentives for low-emission electricity generation. Additional production from nuclear energy—either as a result of power uprates at existing plants, license renewal of existing plants or construction of new plants—should receive the same treatment as other emission-free sources of electricity. If federal or state laws or regulations provide explicit economic credit to renewable energy or energy efficiency for emissions prevented, additional nuclear energy production should receive equal recognition.