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To the Reader:

We are pleased to present this report titled *U.S. Climate Change Technology Program – Technology Options for the Near and Long Term*. The activities described in this report present a portfolio of Federal R&D investments in climate change technology development and deployment that are believed to offer significant potential for contributing to the President's near and long term climate change goals. A companion report titled *U.S. Climate Change Technology Program – Research and Current Activities* highlights Presidential initiatives and other important research, development, and deployment activities in this area.

Collectively, these technology-related activities form an integral part of a comprehensive U.S. strategy on climate change that rests on three pillars — science, technology, and international cooperation. They also complement the recent Climate Change Science Program (CCSP) strategic plan, which represents an unprecedented effort to advance our knowledge of climate variability, the potential response of the climate system to growing greenhouse gas concentrations and their implications, and management options for natural environments. The scientific information developed under the CCSP will help us better define our technology challenges.

Early in his term, President Bush charged his Administration with identifying a new approach to climate change that is science-based, encourages scientific and technological breakthroughs, harnesses the power of markets, does not hamper economic growth, encourages global participation, and helps achieve the goal of stabilizing atmospheric concentrations of greenhouse gases. As research continues, there is a growing realization that existing technologies, even with substantial refinements, cannot meet the world's increasing demand for energy and achieve the eventual goal of stabilizing greenhouse gas concentrations in the atmosphere. Doing so will require developing low or zero-emission technologies that will fundamentally transform current energy systems.

To achieve this vision, the participating agencies of the U.S. Climate Change Technology Program are pursuing research in carbon sequestration, hydrogen, bio-energy, nuclear fission and fusion, and many other revolutionary technologies. These transformational technologies will put us on a path to stabilizing atmospheric greenhouse gas concentrations and also ensure secure, affordable, and clean energy to power economic growth worldwide.

Through scientific research, technological innovation, and international collaboration, we are working to ensure a bright energy and economic future for our Nation and a healthy planet for future generations. For more information on the U.S. Climate Change Technology Program, please visit our website at http://www.climatetechnology.gov/.

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