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GOVERNMENT ISSUES R&D AGENDA FOR "NET-ZERO" ENERGY GREEN BUILDINGS

WASHINGTON—Today, the National Science and Technology Council (NSTC) released a report describing R&D activities that could decrease use of natural resources and improve indoor environments while reducing greenhouse gas emissions and other harmful pollutants from the building sector. The report, *Federal R&D Agenda for Net-Zero Energy, High-Performance Green Buildings*, was produced by the NSTC’s Buildings Technology Research and Development Subcommittee under the auspices of the Office of Science and Technology Policy (OSTP) in the Executive Office of the President.

Commercial and residential buildings consume about one-third of the world’s energy. In particular, U.S. buildings account for more than 40 percent of total U.S. energy consumption, including 72 percent of electricity generation. If current trends continue, by 2025, buildings worldwide will be the largest consumer of global energy, consuming as much energy as the transportation and industry sectors combined.

“A coordinated federal effort, as well as strong collaboration with the private sector, is essential to achieving breakthrough improvements in energy efficient and renewable energy technologies in the building sector which will be critical if the United States is to achieve its energy goals,” said Jerome Dion, research supervisor in the Buildings Technologies Program at the U.S. Department of Energy and co-chair of the NSTC Subcommittee.

“In providing a comprehensive R&D foundation for improving the energy performance of buildings, this report furthers the Administration’s comprehensive approach to addressing overall energy and environmental challenges. It tackles one of the largest yet often overlooked components of our overall energy system—building efficiency,” said OSTP Deputy Director for Technology and NSTC Committee on Technology co-chair Richard Russell.

“The NSTC Subcommittee on Buildings Technology R&D has established an aggressive yet achievable agenda for accelerating the technologies and design practices that could dramatically improve building performance and sustainability,” said Shyam Sunder, director of the Building

and Fire Research Laboratory of the U.S. Department of Commerce's National Institute of Standards and Technology and co-chair of the NSTC Subcommittee.

The major goals outlined in the NSTC report include developing technologies, tools and practices that could significantly reduce the use of energy, water and other natural resources, promoting environmentally friendly products and practices, and reducing building material waste while meeting building performance design standards. The agenda calls for supporting these goals through the full spectrum of R&D activities, including use-inspired basic research, applied research, measurement science, development, demonstration and implementation.

The report also addresses barriers to widespread acceptance and surveys policy options to change current buildings sector practices. For example, revision or revalidation of model building code and regulatory requirements at the state and local level can accelerate the adoption of high-performance technologies and holistic design practices for buildings. These new approaches and technologies must be cost-effective, able to meet established performance and design standards, and easy to install, operate and maintain. Achieving these goals will improve both the design of new buildings and the renovation of existing buildings, contributing to the sustainability of future communities.

The report responds to provisions in the Energy Policy Act of 2005 (EPAAct 2005, Public Law No. 109-58) and the Energy Independence and Security Act of 2007 (EISAct 2007, Public Law No. 110-140) to enhance federal R&D that could enable more efficient and higher performance residential and commercial buildings.

The report may be found at:

<http://ostp.gov/galleries/NSTC%20Reports/FederalRDAgendaforNetZeroEnergyHighPerformanceGreenBuildings.pdf>

About the National Science and Technology Council:

The National Science and Technology Council (NSTC) was established by Executive Order on Nov. 23, 1993. This Cabinet-level council is the principal means for the President to coordinate science and technology across the diverse parts of the federal research and development enterprise. Chaired by the director of the Office of Science and Technology Policy (OSTP) on behalf of the President, the NSTC membership consists of the Vice President, Cabinet secretaries, agency heads with significant science and technology responsibilities, and other White House officials.

An important objective of the NSTC is the establishment of clear national goals for federal science and technology investments in areas ranging from information technologies and health research to improving transportation systems and strengthening fundamental research. The council prepares research and development strategies that are coordinated across federal agencies to form investment packages aimed at accomplishing multiple national goals.

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