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DOE Releases Long-Term Hydrogen Research Plan

The U.S. Department of Energy (DOE) released on March 10 its "Hydrogen Posture Plan," a document that outlines the activities, milestones, and deliverables that DOE plans to pursue to support the U.S. shift to a hydrogen-based transportation energy system. This plan identifies milestones for technology development over the next decade, leading up to a commercialization decision by industry in 2015.

"This plan supports President Bush's vision of a hydrogen economy and includes timelines that provide clear and scientific measures to track and demonstrate progress," Secretary of Energy Spencer Abraham said. "If we achieve our technical objectives, the automotive and energy industries will be in a position to begin to mass market availability of both vehicles and refueling infrastructure by 2020."

The Bush administration's fiscal year 2005 budget request includes USD \$227 million for research to support the Hydrogen Fuel Initiative.

The federal government will play a key role in accelerating the transition toward the hydrogen economy by pursuing research to overcome technical challenges. The Posture Plan integrates research, development, and demonstration activities from the DOE renewable energy, nuclear energy, fossil fuel, and science offices.

An integrated hydrogen program will improve the effectiveness and accountability of DOE's research activities and increase the probability of success in achieving technical milestones on the road to a hydrogen economy. DOE has also coordinated its work on codes and standards with the Department of Transportation and other agencies.

According to the plan, the use of hydrogen as an energy carrier can enhance energy security while reducing air pollution

FMS to Hold Conference on National Materials Policy in Washington, D.C.

The Federation of Materials Societies (FMS) will hold the 18th Biennial Conference on National Materials Policy May 24-25, 2004, at the National Academies' Keck Center in Washington, D.C. The topic is "Materials Education for the 21st Century Workforce." For more information, contact Betsy Houston at tel. 202-296-9282; e-mail betsyhou@ix.netcom.com; or access Web site www.fms.org.

U.S. National Academies Call for Applications for Nanotechnology Conference

The U.S. National Academies Keck "Futures Initiative" is accepting applications from active researchers for the "Designing Nanostructures at the Interface between Biomedical and Physical Systems" conference, which will be held November 19-21, 2004, in Irvine, Calif. Applications are due May 14, 2004, and can be completed online at www.nationalacademies.org/keck. Invitations to attend the conference will be sent by late June. To encourage conference attendees to pursue further interdisciplinary research on nanotechnology, the National Academies Keck "Futures Initiative" will award seed grants to selected researchers who attend the conference. For application procedures and requirements, visit www.nationalacademies.org/keck or contact Marty Perreault at tel. 949-387-5783.

and greenhouse-gas emissions.

In early February, a National Research Council (NRC) committee on future hydrogen production, sponsored by DOE, said that to address the hurdles facing hydrogen production, distribution, and use, DOE should shift its resources and attention from some development activities to more exploratory work. For example, research should be increased in the areas of distributed hydrogen production systems, hydrogen storage, and solar energy for hydrogen production.

During a hearing before the House Science Committee in early March, Chair Sherwood Boehlert (R-N.Y.) commended the president for his proposal on the Hydrogen Fuel Initiative. In his statement at the start of the hearing, Boehlert said, "The question before us today is not whether to have a hydrogen initiative, but how to make sure we get the most out of what we're spending on this program."

David Garman, Assistant Secretary of Energy Efficiency and Renewable Energy at DOE; Michael Ramage, Chair of the National Academy of Sciences' NRC Committee on Alternatives and Strategies for Future Hydrogen Production and Use; and Peter Eisenberger, Chair of the American Physical Society's (APS) Panel on Public Affairs Energy Subcommittee testified at the hearing.

In his opening statement, Boehlert referred to two reports, one from NRC and one from APS. Boehlert said, "First, both reports acknowledge that there is no way to discuss the transition to a hydrogen economy—or the research to get us there—without dealing forthrightly with policy questions. No mysterious market force alone is going to produce a hydrogen economy. I would urge DOE again to make that acknowledgement itself and to plan accordingly. We can't, for example, have a sensible hydrogen R&D agenda without making some decisions about how essential carbon sequestration is going to be in a hydrogen economy. Personally, I think it has to be essential,

but we need a decision by DOE.

"Second, both reports note that other work on energy efficiency and renewable energy is necessary for a hydrogen economy to be clean and affordable—and both reports are right. So I think it's unfortunate that the administration proposes to pay for hydrogen research by cutting the rest of Secretary Garman's programs. We've been told in the past that such triage would not occur. It shouldn't."

Upon the release of the hydrogen research plan later in March, DOE announced that the long-term hydrogen initiative is complemented by other DOE programs on near-term energy efficiency and renewable energy, such as FreedomCAR, which provides USD \$90 million annually for research into hybrid components and other advanced vehicle technologies.

The plan may be viewed at www.eere.energy.gov/hydrogenandfuelcells. Copies of "The Hydrogen Economy: Opportunities, Costs, Barriers, and R&D Needs" will be available this spring from the National Academies Press; tel. 202-334-3313 or 1-800-624-6242, or order on the Internet at <http://www.nap.edu>. The APS report can be accessed at www.aps.org/public_affairs/.

Bush Administration Addresses Visa Delay for Science Students and Scholars

At a House Science Committee hearing in late February, administration officials acknowledged that there are problems with the current visa process for science students and scholars and outlined steps they are taking to improve the system and reduce visa delays. The officials were responding to problems identified in a General Accounting Office (GAO) report, "Border Security: Improvements Needed to Reduce Time Taken to Adjudicate Visas for Science Students and Scholars," released at the hearing on February 25. The report can be accessed at Web site <http://www.gao.gov/>.

The GAO conducted the investigation at the request of the House Science Committee, following a hearing held in March 2003 that raised concerns about the impact of enhanced security measures on scientific research and U.S. competitiveness.

Jess Ford, Director of International Affairs and Trade for the GAO, presented the results of the study. The report acknowledged that the State Department and the Federal Bureau of Investigation (FBI) have measures under way to reduce visa delays for science students and scholars, but the GAO believes that specific steps can be made to further reduce waiting times that average 67 days. Specifically, the GAO recommended "the Secretary of State, in coordination with the Director of the FBI and the Secretary of Homeland Security, develop and implement a plan to improve the security check process known as Visas Mantis to avoid unnecessary delays in visa issuance."

Administration officials testified on the steps they are currently taking to improve the process. Specifically, the Department of Homeland Security (DHS) is continuing to work on improving the technical problems and critical processes of the Student Exchange and Visitor Information System. DHS Undersecretary for Border and Transportation Security Asa Hutchinson also testified that the agency is working to increase its presence at consular posts throughout the world.

Janet Jacobs, Assistant Secretary in the Office of Consular Affairs at the State Department, said that it was addressing one of the GAO's chief concerns, the interoperability of computer systems, by investing over USD \$1 million to update from a cable-based system. Roger Garrity, Deputy Assistant Director for the Records Management Division at the FBI, said the agency is hoping to be able to connect to this system shortly. The State Department is also continuing to improve officer train-

ing at the consular level to address questions and uncertainty regarding application of the Visas Mantis program.

Board Meeting Held at China's National Center for Nanoscience and Nanotechnology

The Chinese Academy of Sciences (CAS) announced that the governing board of the National Center for Nanoscience and Nanotechnology of China (NCNNC) held a meeting on March 1 in Beijing. Chaired by board chair and CAS president Lu Yongxiang, the meeting was attended by high-ranking officials and board members from the Ministry of Science and Technology, the Ministry of Education, the National Natural Science Foundation of China, Beijing Municipal Government, Peking University, Tsinghua University, and CAS. The participants approved in principle the charter of the board, the draft regulations of the center, and the center's plan in 2004. The research direction of the center is focused on four main disciplines of nanotechnology: nano-devices and nanofabrication; nanostructures and nanomaterials; nano-biotechnology and nanomedicine; and characterization and measurement of nanostructures. The orientation of NCNNC will be basic and applied research and applications of nanoscience.

European Commission Announces NEST Visionary Research Projects

The European Commission presented on February 11 the first NEST (New and Emerging Science and Technology) projects retained for funding for 2004. These 10 projects cover issues such as bioterrorism, atom optics, and the environment. NEST is a new research activity under the European Union (EU) 6th Research Framework Programme (FP6 2003-2006), designed to respond to new scientific opportunities and challenges and to promote interdisciplinary high-risk research. NEST will launch more focused calls on emerging topics that will be identified through consultation with the research community.

Research Commissioner Philippe Busquin said, "The new NEST projects demonstrate how the initiative is open to new ideas within a wide range of scientific fields."

The first NEST projects support various fields in materials science, such as creating novel coatings for materials using microorganisms, developing new atomic-scale manipulation and imaging methods, boosting the capacity of electron microscopes, manipulating atoms with lasers, creating biomaterials from ionized gases for medical and surgical applications, detecting and studying toxic

chemicals such as perfluorinated hydrocarbons (PFCS), and producing new chemicals and clean fuels.

New Zealand Appoints Chief Executive of MoRST

Helen Anderson has been appointed Chief Executive of New Zealand's Ministry of Research, Science, and Technology (MoRST). The announcement was made by State Services Commissioner Michael Wintringham on February 17. Anderson was acting chief executive of the Ministry, following the departure of the previous chief executive, James Buwalda, in July 2003. Anderson first joined the Department of Scientific and Industrial Research in 1978 as a research scientist and in 1992 moved to a research scientist role at the Institute of Geological and Nuclear Sciences. In 1994, she was appointed director of Earth and Ocean Sciences Research. From 1996 to 2001, Anderson was the deputy chair of Transfund New Zealand, and since 1997, she has been the chief scientific advisor at MoRST.

New ANSTO Chief Appointed

Ian Smith from Otago University, New Zealand, has been appointed executive director of the Australian Nuclear Science and Technology Organisation (ANSTO), Australian Science Minister Peter McGauran announced on February 16.

McGauran said, "Dr. Smith is an Australian who is currently deputy vice chancellor (Research, Enterprise and International) at the University of Otago, New Zealand. His academic background in the mining and metallurgical fields includes three years as head of the Department of Mining and Metallurgical Engineering at the University of Queensland."

"This is an exciting time to work in ANSTO, Australia's only research organization devoted solely to nuclear science and technology," McGauran said. He said that construction of a modern, multi-purpose nuclear research reactor is well under way. The replacement reactor will benefit Australia in medicine, the environment, agriculture, industry, mining, science, and education, he said.

Smith replaces Helen Garnett, who led ANSTO for nine years. □

Course on FP6 Proposal Writing to Be Held in Romania

In Romania, the Ministry of Education, Research and Youth, National University Research Council, and General Direction for European Integration and International Relationship are organizing a workshop on "How to Write a Competitive Proposal for Framework 6," on June 23, 2004. The workshop will be held in Bucharest. For more information, contact Ruxandra Todoran, tel. 40-21-30-71-935; fax 40-21-30-71-939; or e-mail fp6@cncsis.ro.

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