June 2008

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INTRODUCTION

We are pleased to present you with *Sustainability at the National Academies*, a monthly update highlighting activities related to sustainable development from throughout the National Academies. Please visit our website for additional information on these and other activities at http://sustainability.nationalacademies.org.

The Roundtable on Science and Technology for Sustainability provides a unique forum for sharing views, information, and analyses related to sustainability. The goal for the Roundtable is to mobilize, encourage, and use scientific knowledge and technology to help achieve sustainability goals and to support the implementation of sustainability practices. Through its activities, the Roundtable identifies new ways in which science and technology can contribute to sustainability. What follows is a brief summary of sustainability-related activities being conducted throughout The National Academies.

You are receiving this update based on your participation in ongoing or past activities of the Roundtable. If you would prefer not to receive future monthly updates or would like to be added to the recipient list, please contact Kathleen McAllister at 202-334-2047 or Sustainability@nas.edu or visit our website.

NEWS

On June 10, 2008, the science academies for the G8+5 countries issued statements urging leaders worldwide to take action on two pressing global challenges. To mitigate and adapt to climate change, nations must begin a transition to being "low-carbon societies," a shift that will require energy-saving changes in all sectors -- from housing to transportation to industry -- and the development of a range of clean energy sources. Meeting global health challenges, such as infectious disease outbreaks and the rising incidence of lifestyle-linked diseases such as diabetes, will require stronger collaboration among nations, as well as the strengthening of their health systems and health work force.
http://www.nationalacademies.org/morenews/20080610.html

NEW REPORTS

Transitioning to Sustainability Through Research and Development on Ecosystem Services and Biofuels--Workshop Summary

The National Research Council's Roundtable on Science and Technology for Sustainability hosted *Transitioning to Sustainability through Research and Development on Ecosystem Services and Biofuels: The National Academies First Federal Sustainability Research and Development Forum* on October 17- 18, 2007. The forum discussed sustainability research and development activities related to ecosystem services and biofuels. The objective of the forum was to identify research gaps and opportunities for collaboration among federal agencies to meet the challenges to sustainability posed by the need to maintain critical ecosystem services, to support the development of alternatives to conventional fossil fuels, and to manage oceans and coastal areas. The forum focused primarily on federal activities, but included the participation of representatives from the private sector, universities, and nongovernmental organizations. This book is a summary of the discussions from the forum.
http://www.nap.edu/catalog.php?record_id=12195#description

NEW PROJECTS

The Significance of International Transport of Air Pollutants

This study will summarize the state of knowledge regarding the international flows of air pollutants into and out of the United States and across its various regions, on continental and intercontinental scales. It will also consider the impact of these flows on the achievement of environmental policy objectives related to air quality or pollutant deposition in the United States and abroad and impacts on regional and global climate change. The pollutants to be considered include ozone and its precursors, fine particles and their precursors, mercury, and persistent organic pollutants.
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BASC-U-07-01-A

UPCOMING MEETINGS

July

Gaps and Priorities in U.S. Contributions to Global Disease Challenges, July 5-7, 2008
http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=2785\

The Mississippi River and the Clean Water Act: Scientific, Modeling, and Technical Aspects of Nutrient Pollutant Load Allocation and Implementation, July 15-16, 2008

The role of soil in nature and civilization, July 18, 2008
http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=2789
Communities' roles in tackling health disparities, July 28, Los Angeles CA
http://www.iom.edu/CMS/3793/44963/54766.aspx.
Committees on Environmental Analysis in Transportation; Ecology and Transportaton; and Transportation Needs for National Parks and Public Lands 2008 Joint Summer Meeting, July 28-31, 2008
http://www.trb.org/conferences/Gerencher2008SummerMeeting.pdf

PROJECTS IN DEVELOPMENT

Pathways to Urban Sustainability Initiative
The National Academies are planning a multi-year, multi-country initiative to address one of the central challenges and opportunities of the 21st century—the use of science and technology to help transform rapidly urbanizing regions of the developing world into "sustainable cities." Over the past year, the Academies launched this ambitious program through on-the-ground planning activities in China, South Africa, Tanzania and Mexico. We are currently raising funds for the next phase of the initiative, which will include an international symposium to examine the major trends, challenges, and potential paths forward to urban sustainability in developing world cities, and a set of on-the-ground projects in China to be carried out in partnership with the Chinese Academies of Science and Engineering and other leading Chinese science and technology institutions. For more information on past urban sustainability activities, visit:
http://sustainability.nationalacademies.org/proj_dev.shtml

ONGOING ACTIVITIES

Sustainability---The Issue

The Roundtable on Science and Technology for Sustainability
http://sustainability.nationalacademies.org/index.shtml
Partnerships for Sustainability
http://sustainability.nationalacademies.org/current.shtml

People and Their Communities

Public Health Decision-Making Under Uncertainty
http://www8.nationalacademies.org/cp/projectview.aspx?key=48847
Public Participation in Environmental Assessment and Decision Making
http://www8.nationalacademies.org/cp/projectview.aspx?key=34
The Committee on the Human Dimensions of Global Change
http://www7.nationalacademies.org/hdgc/
Toward Sustainable Critical Infrastructure Systems -- Framing the Challenges: A Workshop
http://www8.nationalacademies.org/cp/projectview.aspx?key=48850

Life Support Systems: Atmosphere, Water, and Food

Advancing Desalination Technology
http://www8.nationalacademies.org/cp/CommitteeView.aspx?key=48674

A Strategy to Mitigate the Impact of Sensor Descopes and De-manifests on the NPOESS and GOES-R Spacecraft
http://www8.nationalacademies.org/cp/projectview.aspx?key=48834
Climate Change and U.S. Transportation
http://www8.nationalacademies.org/cp/projectview.aspx?key=186
Committee on Hydrology, Ecology, and Fishes of the Klamath River Basin
http://www8.nationalacademies.org/cp/projectview.aspx?key=216
Contaminated Drinking Water at Camp Lejeune
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BEST-K-06-08-A
Developing Mesoscale Meteorological Observational Capabilities
http://www8.nationalacademies.org/cp/projectview.aspx?key=48732
Ecological Impacts of Climate Change
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BLSX-K-07-03-A
Emerging Technologies in Agriculture to Benefit Farmers in Africa and South Asia
http://dels.nas.edu/banr/index.shtml
International and National Measures to Reduce Marine Debris and Its Impacts
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=OSBX-U-07-02-A
Mortality Risk Reduction Benefits from Decreasing Tropospheric Ozone Exposure
http://www8.nationalacademies.org/cp/CommitteeView.aspx?key=BEST-K-06-10-A
FEMA Flood Maps: Accuracy Assessment and Cost-Effective Improvements
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BESR-U-06-06-A
Reducing Stormwater Discharge Contributions to Water Pollution
http://www8.nationalacademies.org/cp/committeeview.aspx?key=48711
Review of CCSP Draft Synthesis and Assessment Products: 1.3 Re-analyses of historical climate data and implications for attribution
http://www8.nationalacademies.org/cp/projectview.aspx?key=48840
Review of CCSP Draft Synthesis and Assessment Products: 3.2 Climate projections based on emissions scenarios for long-lived radiatively active trace gases
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BASC-U-06-06-A
Review of Water and Environmental Research Systems (WATERS) Network
http://www8.nationalacademies.org/cp/projectview.aspx?key=48784
Strategic Advice on the U.S. Climate Change Science Program
http://www8.nationalacademies.org/cp/projectview.aspx?key=209
Strategies and Methods for Climate-Related Decision Support
http://www8.nationalacademies.org/cp/projectview.aspx?key=48846
Water Resources Activities at the U.S. Geological Survey
http://www8.nationalacademies.org/cp/projectview.aspx?key=48695

Economy and Industry

Competitiveness and Workforce Needs of U.S. Industry
http://www8.nationalacademies.org/cp/projectview.aspx?key=41210
National Academies Materials Forum on Corrosion Education for the 21st Century
http://www7.nationalacademies.org/nmab/current_activities.html
Strategic Directions for the Geographical Sciences in the Next Decade
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BESR-U-06-02-A
21st Century Systems Agriculture
http://dels.nas.edu/banr/

Natural Systems

Hydrologic Impacts of Forest Management
http://www8.nationalacademies.org/cp/projectview.aspx?key=1935
Review of Louisiana Coastal Protection and Restoration (LACPR) Program
http://www8.nationalacademies.org/cp/CommitteeView.aspx?key=WSTB-U-06-04-A
Risk of Oil Spills in the Aleutian Islands: Comprehensive Risk Assessment
http://www8.nationalacademies.org/cp/projectview.aspx?key=48853
The Importance of Deep-Time Geologic Records for Understanding Climate Change Impacts
http://www8.nationalacademies.org/cp/projectview.aspx?key=48865

Institutions and Indicators

Key National Indicators Initiative (KNII)
Currently, this project is not available on the web. As soon as a web link becomes available, it will be included in this update.

Sustainability Research and Development

Challenges and Opportunities in Earth Surface Processes
http://www8.nationalacademies.org/cp/committeeview.aspx?key=48867
Design Issues for the NOAA Sector Applications Research Program
http://webapp.nationalacademies.org/cp/projectview.aspx?key=48688
Evaluation of the Research Plan of the Dept of Housing and Urban Development
http://www8.nationalacademies.org/cp/projectview.aspx?key=48755
Grand Challenges for Engineering
http://www.engineeringchallenges.org/
Grainger Challenge Prize for Sustainability
http://www.nae.edu/nae/grainger.nsf?OpenDatabase
The Earth System Context for Hominin Evolution
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BESR-U-06-01-A

Sustainable Energy

America's Energy Future: Technology Opportunities, Risks, and Tradeoffs
http://www8.nationalacademies.org/cp/projectview.aspx?key=48817
Assessment of Resource Needs for Development of Fuel Cell Hydrogen Technology
http://www8.nationalacademies.org/cp/projectview.aspx?key=48717
Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy
http://www8.nationalacademies.org/cp/projectview.aspx?key=48843
Cleanup Technology Roadmap for DOE's Office of Environmental Management
http://www8.nationalacademies.org/cp/ProjectView.aspx?key=NRSB-O-06-03-A
Energy Efficiency Standards: Alternative Approaches to Measurement
http://www8.nationalacademies.org/cp/projectview.aspx?key=48884
Potential Energy Savings and Greenhouse Gas Reductions from Transportation
http://www8.nationalacademies.org/cp/projectview.aspx?key=48864
Relationship of Development Patterns, Vehicle Miles Traveled, Energy Consumed
http://www8.nationalacademies.org/cp/projectview.aspx?key=48808
Review of the DOE-BES Catalysis Research Activities and their Impact

http://www8.nationalacademies.org/cp/ProjectView.aspx?key=BCST-L-07-02-A
Review of the 21st Century Truck Partnership
http://www8.nationalacademies.org/cp/projectview.aspx?key=48722
Transitions to Sustainable Energy
http://www.interacademycouncil.net/?id=9481

Other Activities

Christine Mirzayan Science and Technology Policy Fellowship Program
http://national-academies.org/policyfellows

PNAS Sustainability Science, Special Features
PNAS offers a series of special feature issues that highlight emerging fields in the physical, social, and biological sciences and are edited by leaders in the field. Special Features include a cluster of Perspectives and peer-reviewed research articles. As a service to readers, Special Features are freely available online from the date of publication.
http://www.pnas.org/misc/sustainability.shtml

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