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Table of Contents

- I. [Introduction](#)
- II. [New Reports](#)
- III. [New Projects](#)
- IV. [Multimedia](#)
- V. [Upcoming Meetings](#)
- VI. [Projects in Development](#)
- VII. [Ongoing Activities](#)
 - a. [Sustainability—The Issue](#)
 - b. [People and Their Communities](#)
 - c. [Life Support Systems: Atmosphere, Water, and Food](#)
 - d. [Economy and Industry](#)
 - e. [Natural Systems](#)
 - f. [Institutions and Indicators](#)
 - g. [Sustainability Research and Development](#)
 - h. [Sustainable Energy](#)
 - i. [Sustainability Science in PNAS](#)
 - j. [Mirzayan Science and Technology Policy Fellowship Program](#)

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.

NEW REPORTS

Evaluating Research Efficiency in the U.S. Environmental Protection Agency

This National Research Council report recommends changes in how the federal government evaluates the efficiency of research at EPA and other agencies. Assessing efficiency should be considered only one part of gauging a program's quality, relevance, and effectiveness. The efficiency of research processes and that of investments should be evaluated using different approaches. Investment efficiency should examine whether an agency's R&D portfolio, including the budget, is relevant, of high quality, matches the agency's strategic plan. These evaluations require panels of experts. In contrast, process efficiency should focus on "inputs" (the people, funds, and facilities dedicated to research) and "outputs" (the services, grants, publications, monitoring, and new techniques produced by research), as well as their timelines and should be evaluated using quantitative measures. The committee recommends that the efficiency of EPA's research programs be evaluated according to the same standards used at other agencies. To ensure this, OMB should train and oversee its budget examiners so that the PART questionnaire is implemented consistently and equitably across agencies.

http://www.nap.edu/catalog.php?record_id=12150

Lost Crops of Africa: Volume III: Fruits

This report is the third in a series evaluating underexploited African plant resources that could help broaden and secure Africa's food supply. The volume describes 24 little-known indigenous African cultivated and wild fruits that have potential as food- and cash-crops but are typically overlooked by scientists, policymakers, and the world at large. The book assesses the potential of each fruit to help overcome malnutrition, boost food security, foster rural development, and create sustainable landcare in Africa. Each fruit is also described in a separate chapter, based on information provided and assessed by experts throughout the world. Volume I describes African grains and Volume II African vegetables.

http://www.nap.edu/catalog.php?record_id=11879

Sustainability, Energy, and Alternative Fuels 2007

TRB's Transportation Research Record: Journal of the Transportation Research Board, No. 2017 includes 8 papers that explore policy making for sustainability in transport, indicators for comprehensive and sustainable transport planning, measuring sustainable accessibility, energy use of plug-in hybrid electric vehicles, attitudes of diesel and hybrid new car buyers, greenhouse gas emissions of the U.S. transportation sector, oil independence, and macroeconomic effects of climate policies on road transport.

http://trb.org/news/blurb_detail.asp?id=8688

NEW PROJECTS

Energy Efficiency Standards: Alternative Approaches to Measurement

The National Research Council will appoint a committee to conduct a review of the U.S. Department of Energy's appliance standards program. The committee's task is to evaluate or critique the methodology used for setting energy conservation standards for the purpose of determining whether site (point of use) or source (full fuel cycle) energy efficiency measures best serve the goals of energy conservation standards. The committee will not address whether energy conservation standards are appropriate government policy or what levels

may or may not be appropriate. The review will comment on whether one measure of energy efficiency or another (point-of-use or full fuel-cycle) improves the efficacy of the rulemaking process over the other. The committee will write a letter report on its review and conclusions.

<http://www8.nationalacademies.org/cp/projectview.aspx?key=48884>

MULTIMEDIA

CD on Earth Observations from Space

Observations from space over the past 50 years have fundamentally transformed the way people view the Earth and ushered in a new era of multidisciplinary Earth sciences. A new CD from the National Academies features The National Research Council report Earth Observations from Space: The First 50 Years of Scientific Achievements, along with more than 30 images and 18 satellite-based animations. While supplies last, complimentary copies of the CD can be ordered.

www.nationalacademies.org/earthobservations

UPCOMING MEETINGS

February

Energy Efficiency Standards: Alternative Approaches to Measurement, February 19-20, 2008

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=2528>

What's Killing the Coral Reefs?, February 20, 2008

<http://www.koshland-science-museum.org/events/upcomingevent.jsp?id=287>

Chemical Sciences Roundtable, February 20-21, 2008

<http://dels.nas.edu/bcst/csr.shtml>

Effectiveness of International and National Measures to Prevent and Reduce Marine Debris and Its Impacts, February 20-22, 2008, Irvine, CA

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=2500>

The Earth System Context for Hominin Evolution, February 21-23, 2008, Irvine, CA

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=2383>

Gilbert F. White Lecture Series: "Managing American Water Resources: Recognizing the Realities of Geography" February 25, 2008

<http://dels.nas.edu/besr/gsc.shtml>

The Importance of Deep-Time Geologic Records for Understanding Climate Change Impacts, February 25-27, 2008

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=2507>

March

GeoCongress 2008: The Challenge of Sustainability in the Geoenvironment, March 9-12, 2008, New Orleans, Louisiana

<http://content.asce.org/conferences/geocongress2008/index.html>

America's Energy Future: Electricity from Renewables: Technology Opportunities, Risks, and Tradeoffs, March 11-12, 2008

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingID=2539&MeetingNo=4>

America's Energy Future: Energy Efficiency Technologies: Opportunities, Risks, and Tradeoffs, March 11-12, 2008

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingID=2538&MeetingNo=3>

The National Academies Summit on America's Energy Future, March 13-14, 2008

<http://www7.nationalacademies.org/energysummit/>

Data for Goods Movement Impacts on Air Quality Workshop, March 17-18, 2008

http://www.trb.org/news/blurb_detail.asp?id=8355

Strategic Advice on the U.S. Climate Change Science Program, March 19-21, 2008

<http://www8.nationalacademies.org/cp/projectview.aspx?key=209>

April

Reducing Stormwater Discharge Contributions to Water Pollution, April 1, 2008

<http://www8.nationalacademies.org/cp/projectview.aspx?key=48711>

Disaster Risk Management in an Age of Climate Change, April 3, 2008

<http://dels.nas.edu/dr/f22.shtml>

Sackler Colloquium: Linking Knowledge with Actions for Sustainable Development, April 3-4, 2008.

http://www.nasonline.org/site/PageNavigator/SACKLER_sustainable_development

Toward Sustainable Critical Infrastructure Systems Workshop, April 9-11, 2008

www8.nationalacademies.org/cp/meetingview.aspx?MeetingID=2387&MeetingNo=1

The Earth System Context for Hominin Evolution, April 30, 2008

<http://www8.nationalacademies.org/cp/projectview.aspx?key=48796>

May

National Sustainable Design Expo featuring EPA's P3 Award, May 9-11, 2008

<http://www.nae.edu/nae/engenvcom.nsf/weblinks/MKEZ-6NQQFG?OpenDocument>

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 Desscopes 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>

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/committeev.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>

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
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/committeeviaw.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/granger.nsf/OpenDatabase>
Strategic Directions for the Geographical Sciences in the Next Decade
<http://dels.nas.edu/dels/sot.php?pin=BESR-U-06-02-A>
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>
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>
Review of the FreedomCAR and Fuel Research and Development Program, Phase 2
<http://www8.nationalacademies.org/cp/projectview.aspx?key=48724>
Transitions to Sustainable Energy
<http://www.interacademy council.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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