

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

Transitioning to Sustainability through Research and Development on Ecosystem Services and Biofuels

The National Academies' First Federal Sustainability

Research and Development Forum

October 17-18, 2007

Location: The National Academy of Sciences (Members Room)

2100 C Street NW

Washington, DC

October 17, 2007

Session One: Introduction and Overview (1 ½ hours)

- 8:30 am** **Opening Remarks, Introductions, and Goals of the Forum**
(Pamela Matson, Co-Chair, Roundtable on Science and Technology for Sustainability)
- 9:00 am** **Framework for Sustainability Research and Development** (Pamela Matson)
General characteristics of research and development to support the transition to sustainability.
- 9:30 am** **Discussion**

Session Two: Ecosystems Services and Sustainability (4 hours)

- 9:45 am** **Ecosystem Services: Challenges and Opportunities to Sustainability** (Steve Carpenter, University of Wisconsin, Madison)
- 10:15 am** **BREAK**
- 10:30 am** **Federal Policies and Research Priorities related to Ecosystem Services**
Overview from CENR working group on ecosystem services. ((Bruce Rodan, U.S. Office of Science and Technology Policy and Iris Goodman, Co-Chair, CENR Ecosystems Services Working Group)
- 10:50 am** **Ecosystem Services – State of the Art Examples of Sustainability Research and Development** (Panel leader: Kai N. Lee, Packard Foundation)
Panelists:
- Ned Euliss, US Geological Survey
 - Mark Nechodom, US Forest Service/Pacific Southwest Research Station
 - Iris Goodman, US Environmental Protection Agency
 - Dan Kugler, US Department of Agriculture
 - Steve Murawski, National Ocean and Atmospheric Administration
 - Woody Turner, National Aeronautics and Space Administration

- Margaret Palmer, University of Maryland Center for Environmental Sciences
- 12:00 pm** **Working Lunch**—Informal Discussions on State of the Art Ecosystem Services’ Examples
- 12:45 pm** **Ecosystem Services R&D Gaps, Opportunities for Integration, Coordination, and Partnerships** (Panel leader: William C. Clark, Harvard)
Panelists will reflect on gaps and opportunities based on their review of meeting materials, previous presentations, and personal experience. Panel leader will tee-up questions for round table discussions on gaps and opportunities
Panelists:
- Ann Bartuska, U.S. Forest Service
 - Sara Scherr, Ecoagriculture Partners
- 1:15 pm** **Research and Development Gaps and Opportunities – Roundtable Discussions** (8-10 persons per table)
Participants will discuss questions about research and development opportunities and gaps related to ecosystem services. Examples of questions:
- Are there major research and development gaps? How well do agency research and development programs address the key issues related to sustainability and ecosystem services (e.g., is anyone working on resilience or vulnerability in the provision of ecosystem services? How well is the knowledge-action link included in research endeavors?)
 - Are there areas of significant overlap or gaps among federal agencies and other organizations, and if so, what strategies could be used to foster effective collaboration in these areas?
 - Are new analytical tools or data needed?
- 2:30 pm** **Feedback from Roundtable Discussions to Entire Group and Preliminary Synthesis**, (Discussion leader: Bill Clark)
- 3:15 pm** **BREAK**

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| Session Three: Biofuels and Sustainability (4 hours—to be continued on day 2) |
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- 3:30 pm** **Biofuels: Challenges and Opportunities to Sustainability** (Daniel M.Kammen, University of California, Berkeley)
- 4:00 pm** **Federal Policies and Research Priorities related to Biofuels**
(John Mizroch, Principal Deputy Assistant Secretary, Office of Energy Efficiency and Renewable Energy, DOE)
- 4:20 pm** **Biofuels -- State of the Art Examples of Sustainability Research and Development** (Panel leader: Todd Mitchell, STS Roundtable Member)
Panelists:
- Ghassem Asrar, US Department of Agriculture
 - Richard B. Alexander, US Geological Survey
 - Randy Bruins, US Environmental Protection Agency
 - Marcia Patton-Mallory, US Forest Service

- William Chernicoff, US Department of Transportation
- Jacques Beaudry-Losique, US Department of Energy

5:30 pm **Summary and Plan for the Next Day**

5:40 pm **Adjourn for Day**

Informal Reception

October 18, 2007

8:30 am **Welcome and Brief Recap of Day 1** (Pamela Matson)

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| Session Three: Biofuels and Sustainability (continued) |
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8:45 am **Water Implications of Biofuels (Report Briefing)** (Steve Parker, The National Academies)

8:55 am **Biofuels R&D Gaps, Opportunities for Integration, Coordination, and Partnerships** (Panel leader: John Carberry, E. I. du Pont de Nemours & Company)
Panelists will reflect on gaps and opportunities based on their review of meeting materials, previous presentations, and personal experience. Panel leader will tee-up questions for round table discussions on gaps and opportunities
Panelists

- Mike Bertolucci, Interface Research Corporation
- Emmy Simmons, U.S. Agency for International Development (retired)
- James Fischer, U.S. Department of Agriculture)

9:15 am **Research and Development Gaps and Opportunities – Roundtable Discussions** (8-10 persons per table)
Participants will discuss questions about research and development opportunities and gaps related to biofuels. Examples of questions:

- Are there major research and development gaps? How well do agency programs address the key challenges to the sustainable production and use of biofuels? How well is the knowledge-action link included in research endeavors?
- Are there areas of significant overlap or gaps among federal agencies and other organizations, and if so, what strategies could be used to foster effective collaboration and coordination in these areas?
- Are new analytical tools or data needed?

10:30 am **BREAK**

11:00 am **Feedback from Roundtable Discussions to Entire Group and Preliminary Synthesis**, (Discussion Leader: John Carberry)

12:00 pm **Working Lunch Presentation - Ocean Research Priorities Plan and its Implications for Sustainability** (Dan Walker, Senior Policy Analyst, U.S. Office of Science and Technology Policy)

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| Session Four: Summary and Forum Wrap-up (2 hours) |
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1:00 pm **Lessons Learned beyond the Biofuels and Ecosystems Services Topics**
Panelists will summarize major gaps and collaboration opportunities from the discussions of ecosystem services and biofuels, as well as the major commonalities and differences across the two topics.

2:30 pm **Closing Remarks**