OSTP Sustainability Linkage Activities

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NAS Sustainability Linkages
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Science, Technology, and Innovation Remain Central to the Administration

"There are those who say we cannot afford to invest in science....I fundamentally disagree. Science is more essential for our prosperity, our security, our health, our environment, and our quality of life than it has ever been before."

Office of Science and Technology Policy

Dr. John Holdren, Assistant to the President
Director, OSTP

Science	- Carl Wieman
Technology	- Aneesh Chopra
Homeland Security	- Phil Coyle
Environment and Energy	- Steve Fetter

National Science and Technology Council

President's Council of Advisors on Science and Technology

National Science and Technology Council (NSTC)

- Membership is formally the President and Cabinet (Exec Order 12881, 1993)
- Delegated to the Assistant to the President for Science and Technology (Dr. Holdren), with Agency representation at the UnderSecretary level
- Functions through established or *ad hoc* committees
- Executive departments and agencies make resources available to the Council as requested by the Assistant, including, but not limited to, personnel, office support, and printing

NSTC Committee Structure

COMMITTEE ON ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY (CENRS)	COMMITTEE ON HOMELAND & NATIONAL SECURITY (CHNS)	COMMITTEE ON SCIENCE (CoS)	COMMITTEE ON STEM EDUCATION (CoSTEM)	COMMITTEE ON TECHNOLOGY (CoT)
Steve Fetter (OSTP) Paul Anastas (EPA) Jane Lubchenco (DOC)	Philip Coyle (OSTP) Zachary Lemnios (DOD) Tara O'Toole (DHS)	Francis Collins (HHS) Subra Suresh (NSF) Carl Wieman (OSTP)	Subra Suresh (NSF) Carl Wieman (OSTP)	Aneesh Chopra (OSTP) Vacant Vacant

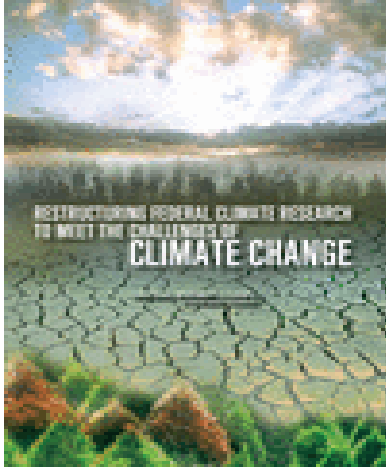
The CENRS Portfolio

COMMITTEE ON ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY (CENRS)		
Ocean Science & Technology	Air Quality Research	Water Availability & Quality
Critical & Strategic Mineral Supply Chains	Disaster Reduction	Global Change Research
Interagency Arctic Research Policy Committee	Ecological Systems	U.S. Group on Earth Observations
Integration of Science and Technology for Sustainability	Toxics & Risk	National Earth Observations Taskforce

Task Force on Integration of S&T for Sustainability

- Improve coordination of Federal R&D that promotes a transition toward sustainability – patterns of development that promote human well-being while conserving the life support systems of the planet:
  1. Map current sustainability S&T efforts across the Federal government including scientific and technical frameworks, research tools, indicators, models, and programs that help plan and measure progress towards sustainable systems
  2. Develop a Federal sustainability framework that encompasses all aspects of sustainability
  3. Identify potential pilot projects
- Co-chairs: Anastas (EPA), Robinson (NOAA), Rodan (OSTP)
- First mapping iteration submitted, under revision by agencies

Climate Change Science



- U.S. Global Change Research Program
  - Ten-year strategic plan under development; public comment and NAS review in Fall 2011
  - Increase understanding of Earth systems through improved observations and modeling; inform decisions on responses to climate change
- National Climate Assessment
  - Report on climate science and climate change impacts, required every 4 yrs; next report due in 2013
  - Establish an ongoing and continuous assessment process, with the development of tools and reports
  - Integrated information platform for all Federal sources of Earth system data, supporting the NCA and beyond
- Climate Change Adaptation Task Force – Under EO (CEQ/OSTP/NOAA)
  - Making adaptation integral to Agency planning
  - Interim report October 2010
  - Agency priority adaptation actions and implementation plans, 2011-12

National Ocean Council (NOC)

- National Ocean Policy

- National Ocean Council (CEQ & OSTP Co-chair)
- Nine National Priority Objectives and Strategic Action Plans

http://www.whitehouse.gov/administration/eop/oceans

NSTC Opportunities and Constraints

- Opportunities
  - Provides an existing framework for interagency S&T planning and coordination
  - High level membership can assign federal resources
  - Existing successes on critical S&T needs
  - Priorities can be assigned, or percolate up
- Constraints
  - It is a framework, with minimal independent budget or authority
  - Mandate + Capital (political, $, staff) required
  - Must be resourced by agencies specific to topic
  - Agencies maintain control of their funding resources
  - Ongoing commitment necessary

Suggestions to the Committee

- Be Ambitious
  - Imperative that we develop the S&T foundation for action
  - Changes will need to be substantial – incremental and transformative
  - Every Federal action an opportunity for analysis and communication
  - With forethought, this can be a very positive undertaking – cradle to cradle
- Do Not Assume People Understand "Sustainability"
  - "I'll know it when I see it." Clarity is needed beyond the definition
  - Develop a positive, compelling, and appealing concept
  - Reinforce with a logical framework for evaluation and implementation
  - Intrinsic understanding is a necessary foundation for the extrinsic linkages component

Theoretical and Applied Frameworks

- Address forces militating against sustainability
  - Economic drivers: initial capital cost vs. operations, discount rates
  - Market imperfections: externalities, ecosystem service valuation
  - Behavioral economics and human motivations
  - Real and perceived limits on regulatory capacity, and alternatives
- Evaluate applied frameworks for implementation
  - Information needs? – metrics, models, interventions, linkages, LCA …
  - Basic sustainability criteria? – maintenance of resource levels over time, intergenerational equity, resilience …
  - Dynamics of large organizations
  - Systematizing change: “making sustainability sustainable”
- Communication research
  - Existing opportunities for sustainability are not fully realized – why?
  - Social science component on better communicating choices to people