

**NATIONAL SCIENCE BOARD
TASK FORCE ON SUSTAINABLE ENERGY**

**Roundtable Discussion
on Science and Engineering (S&E) Challenges
Related to the Development of Sustainable Energy**

National Science Foundation
4201 Wilson Blvd., Room 1235
Arlington, VA 22230
February 8, 2008

AGENDA

- 7:30 a.m. **Registration, In Front of Room 1235**
- 8:00 a.m. **Welcoming Remarks**
- Dr. Steven C. Beering, Chairman, National Science Board
- 8:05 a.m. **Overview, Purpose, and Goals of the Roundtable Discussion**
- Dr. Dan E. Arvizu and Dr. Jon C. Strauss, Co-Chairmen, Task Force on Sustainable Energy
- 8:15 a.m. **Process and Logistics for Board Roundtable Discussions**
- Dr. Craig Robinson, Acting Executive Officer, National Science Board
- 8:25 a.m. **Introduction of Participants**
- 8:45 a.m. **Speaker: Mr. Rod Nelson; *Facing the Hard Truths About Energy: A Comprehensive View To 2030 of Global Oil and Natural Gas***
- 9:05 a.m. **Discussion Session 1: Role of Science and Engineering in the Development of Sustainable Energy**
Discussion Co-Moderators: Dr. Arvizu and Dr. Strauss
- Focus Questions:*
1. How can science and engineering advancements help address some of the key uncertainties in the development of sustainable energy, as well as, bring new technologies to the market?
 2. How must science and engineering be transformed throughout our education, research, and corporate infrastructure related to sustainable energy?
 3. Where are the next big breakthroughs likely to occur in sustainable energy?
- 10:30 a.m. **Break**
- 10:45 a.m. **Speaker: Dr. Robert Corell; *IPCC IV Assessment Report: Synthesis Report on Climate Change 2007***

11:05 a.m. **Speaker: Dr. Richard Buckius; *NSF and Energy Research and Education***

11:25 a.m. **Working Lunch and Discussion Session 2: Role of NSF in a Nationally Coordinated S&E Research and Education Initiative**
Discussion Co-Moderators: Dr. Arvizu and Dr. Strauss

Focus Question:

- 1) How can NSF best support establishing and sustaining a nationally coordinated S&E research and education initiative on sustainable energy?

12:45 p.m. **Break**

1:00 p.m. **Speaker: Mr. Kenneth Ostrowski; *Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?***

1:30 p.m. **Discussion Session 3: Recommendations for a Nationally Coordinated S&E Research and Education Initiative on Sustainable Energy**
Discussion Co-Moderators: Dr. Arvizu and Dr. Strauss

Focus Questions:

- 1) How do we as a nation build the capability, the policy, and the regulatory environment to effect change in the energy sector sufficiently and rapidly?
- 2) What specific actions are needed to establish and sustain a nationally coordinated S&E research and education initiative on sustainable energy?
- 3) What is the potential role of the U.S. Government, private industry, and NGOs in addressing the science and engineering (S&E) challenges related to the development of sustainable energy described in the task force charge?

2:45 p.m. **Summary and Next Steps for the Task Force**

- Dr. Arvizu and Dr. Strauss

¹ National Science Board. *Charge to the Task Force on Sustainable Energy*. October 3, 2007 ([NSB-07-121](#)).

This Board Workshop and Roundtable Discussion on February 8, 2008 will focus on the current and potential role of the U.S. Federal government in addressing the S&E challenges related to the development of sustainable energy, as stated in the task force charge:

- Examine existing S&E sustainable energy research and education policies and efforts at NSF, the Federal Government and U.S. corporations, and around the world in scope, scale, time frame, and in the context of national and global challenges.
- Develop recommendations for the Board to consider with respect to a nationally coordinated S&E research and education initiative on sustainable energy.
- Provide explicit guidance on NSF's role with respect to basic research and education in the overall national effort.