

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

Roundtable Discussion #3

*Science, Engineering, and Education Challenges
Related to the Development of Sustainable Energy*

**University of California, Berkeley
Clark Kerr Campus Conference Center
2601 Warring St.
Berkeley, CA 94720
September 4, 2008**

AGENDA

- 8:00 a.m. **Welcoming Remarks**
- Dr. Steven Beering, Chairman, National Science Board
- 8:05 a.m. **Summary of Previous Task Force Roundtable Discussions: February 8, 2008 in Arlington, VA and June 19, 2008 in Golden, Colorado**
- Dr. Dan Arvizu and Dr. Jon Strauss, Co-Chairmen, Task Force on Sustainable Energy, National Science Board
- 8:15 a.m. **Overview, Purpose, and Goals of Today's Roundtable Discussion**
- Dr. Dan Arvizu and Dr. Jon Strauss
- 8:25 a.m. **Introduction of Participants**
- 8:30 a.m. **Presentation: *What Roles Can Federal and State Governments Play in Promoting Sustainable Energy?***
Speaker: Dr. Mark Levine, Staff Senior Scientist and leader of China Energy Group, Lawrence Berkeley National Laboratory
- 8:45 a.m. **Discussion Session 1: Regulatory Environment for Sustainable Energy Research**
Co-Moderators: Dr. Dan Arvizu and Dr. Jon Strauss
- 9:15 a.m. **Break**
- 9:30 a.m. **Presentation: *Sustainable Energy Policy: Integrating Energy, Ecology, and Economics***
Speaker: Dr. Mark Brown, Professor, Department of Environmental Engineering Sciences; Program Director, Center for Environmental Policy, University of Florida
- 9:55 a.m. **Discussion Session 2: Sustainable Energy Policy: Integrating Energy,**

Ecology, and Economics

Co-Moderators: Dr. Dan Arvizu and Dr. Jon Strauss

- 10:55 a.m. **Presentation: *A Renewable Energy Perspective: Financing, Forecasting, Modeling, and Trajectory***
Speaker: Mr. Vinod Khosla, Founder and Partner, Khosla Ventures
- 11:20 a.m. **Presentation: *Federal Support for Sustainable Energy Research***
Speaker: Dr. Daniel M. Kammen, Class of 1935 Distinguished Professor of Energy, University of California, Berkeley; Founding Director, Renewable and Appropriate Energy Laboratory
- 11:45 p.m. **Discussion Session 3: Public-Private Investment in Sustainable Energy Research**
Co-Moderators: Dr. Dan Arvizu and Dr. Jon Strauss
- 12:30 p.m. **Lunch**
Luncheon Welcoming Remarks: Chancellor Robert Birgeneau, University of California at Berkeley
- 12:40 p.m. **Luncheon Presentation: *Net Zero Energy, High-Performance Green Buildings: Rationale and Vision for the Federal R&D Agenda***
Speaker: Dr. S. Shyam Sunder, Director, Building and Fire Research Laboratory, National Institute of Standards and Technology, United States Department of Commerce
- 1:40 p.m. **Break**
- 1:55 p.m. **Presentation: *Advancing Public Awareness of Topics in Sustainable Energy***
Speaker: Dr. Eric R.A.N. Smith, Professor, Department of Political Science and Environmental Studies Program, University of California, Santa Barbara
- 2:20 p.m. **Presentation: *Education in Sustainable Energy and Global Sustainability: NSF Context***
Speaker: Dr. Al DeSena, Program Director, Division of Research on Learning in Formal and Informal Settings (DRL), National Science Foundation; Coordinator, Lifelong Learning Cluster, DRL, NSF
- 2:45 p.m. **Discussion Session 4: Public Awareness and Education of Sustainable Energy**
Co-Moderators: Dr. Dan Arvizu and Dr. Jon Strauss
- 4:00 p.m. **Presentation with Q&A: *Current Sustainable Energy Initiatives in NSF's Directorate for Mathematical & Physical Sciences***
Speaker: Dr. Tony Chan, Assistant Director, Directorate for Mathematical

& Physical Sciences, National Science Foundation

4:30 p.m. **Summary and Next Steps for the Task Force**

- Dr. Dan Arvizu and Dr. Jon Strauss

List of Participants: Roundtable Discussion #3

Name	Affiliation
<i>National Science Board Participants</i>	
Dr. Dan E. Arvizu	Co-Chairman, Task Force on Sustainable Energy, National Science Board
Dr. Jon C. Strauss	Co-Chairman, Task Force on Sustainable Energy, National Science Board
Dr. Mark R. Abbott	Task Force on Sustainable Energy Member, National Science Board
Dr. Steven C. Beering	Chairman, National Science Board
Dr. Camilla P. Benbow	Task Force on Sustainable Energy Member, National Science Board
Dr. Patricia D. Galloway	Task Force on Sustainable Energy Member, National Science Board
Dr. José-Marie Griffiths	Task Force on Sustainable Energy Member, National Science Board
Dr. Douglas D. Randall	Task Force on Sustainable Energy Member, National Science Board
Mr. Arthur K. Reilly	Task Force on Sustainable Energy Member, National Science Board
Dr. Craig R. Robinson	Acting Executive Officer, National Science Board
<i>Participants</i>	
Dr. Robert Birgeneau	Chancellor and Professor of Physics, University of California, Berkeley

Dr. Harvey Blanch	Chief Science and Technology Officer, joint BioEnergy Institute; Professor of Chemical Engineering, University of California, Berkeley; Senior Faculty Scientist, Lawrence Berkeley National Laboratory
Dr. Carl Blumstein	Director, California Institute for Energy and the Environment
Dr. Severin Borenstein	Director, University of California Energy Institute; E. T. Grether Professor of Business Economics and Public Policy, Haas School of Business, University of California, Berkeley
Dr. Mark Brown	Professor, Department of Environmental Engineering Sciences; Program Director, Center for Environmental Policy, University of Florida
Dr. Tony Chan	Assistant Director, Directorate for Mathematical & Physical Sciences, National Science Foundation
Mr. John Denniston	Partner, Kleiner Perkins Caufield & Byers
Dr. Al DeSena	Program Director, Division of Research on Learning in Formal and Informal Settings (DRL) ; Coordinator, Lifelong Learning Cluster, DRL, National Science Foundation
Dr. Sossina Haile	Professor of Materials Science and of Chemical Engineering, California Institute of Technology
Mr. Rich Halvey	Energy Program Director, Western Governors' Association
Dr. Zakya Kafafi	Division Director, Division of Materials Research, National Science Foundation
Dr. Daniel Kammen	Class of 1935 Distinguished Professor of Energy, University of California, Berkeley; Founding Director, Renewable and Appropriate Energy Laboratory
Mr. Vinod Khosla	Founder and Partner, Khosla Ventures
Mr. Hal LaFlash	Director, Emerging Clean Technology Policy, Pacific Gas and Electric Company
Dr. Mark Levine	Staff Senior Scientist and Leader of China Energy Group, Lawrence Berkeley National Lab
Dr. Jane Long	Principal Associate Director at Large, Lawrence Livermore National Laboratory

Dr. Arun Majumdar	Director, Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory; Almy & Agnes Maynard Chair Professor, College of Engineering, University of California, Berkeley
Dr. Trung Van Nguyen	Director, Energy for Sustainability Program, National Science Foundation
Dr. Ann Russell	Program Director, Division of Environmental Biology, National Science Foundation
Dr. Nancy Ryan	Chief of Staff, Office of President Michael Peevey, California Public Utilities Commission
Dr. Eric Smith	Professor, Department of Political Science and Environmental Studies Program, University of California, Santa Barbara
Dr. S. Shyam Sunder	Director, Building and Fire Research Laboratory, National Institute of Standards and Technology, United States Department of Commerce
Dr. Duane Wegener	Professor of Psychological Sciences; Initiative Leader for Social, Economic, and Political Aspects of Energy Use and Policy, Energy Center at Discovery Park, Purdue University
Dr. Catherine Wolfram	Executive Director, Center for Energy & Environmental Innovation; Associate Professor of Business Administration, Haas School of Business, University of California, Berkeley