



Balancing Energy and the Environment

WORKSHOP AGENDA

Wednesday, October 31 (Day 1)

- 8:00 8:30 Registration & Continental Breakfast
- 8:30 8:45 Opening Remarks: Bruce Koel - Vice Provost for Research, Lehigh University
 S. David Wu - Dean, P.C. Rossin College of Engineering and Applied Science
 Anne Meltzer - Dean, College of Arts and Sciences
- 8:45 9:45 John Weyant: *Balancing Environmental, Security & Economic Objectives in the Design of Future Energy Systems*
- 9:45 10:00 **Break**

Session I: Meeting Future U.S. Energy Needs – The Supply Side

Part IA: Electric Power Generation (Session Chair: Herman Nied)

- 10:00 10:30 Edward Levy: *Clean Coal Technologies with Carbon Capture and Sequestration*
- 10:30 11:00 Eric Clark: *Science and Technology of Next Generation Photovoltaics*
- 11:00 11:30 Arnold Kritz: *Magnetic Fusion Energy Research*
- 11:30 12:00 Benjamin Yamagata: *U.S. Energy Needs and the Role of Technology in a Carbon-constrained World*
- 12:00 1:15 **Lunch** - William Hecht: *The Economics of Future Power Generation Options*
- 1:15 2:15 Parallel Breakout Sessions

Part 1B: Clean Liquid and Gaseous Fuels (Session Chair: Anthony McHugh)

- 2:30 3:00 Daniel Driscoll: *DOE's Research Program for Conversion of Coal to Hydrogen and Liquid Fuels*
- 3:00 3:30 Brent Shanks: *Biomass-derived Fuels*
- 3:30 4:00 Bruce Snyder: *Infrastructure Challenges to the Hydrogen Economy*
- 4:00 5:00 Parallel Breakout Sessions
- 5:15 5:45 Breakout Session Reports
- 6:00 8:00 **Reception and Dinner** (Wood Dining Room)

Thursday, November 1 (Day 2)

- 8:00 8:30 Registration & Continental Breakfast

Session IIA: Enabling Engineering and Science (Session Chair: Dmitri Vezenov - Governor's Suite)

- 8:30 9:00 Trung Nguyen: *Energy for Sustainability*
- 9:00 9:30 John DuPont: *Research Needs in Materials for Energy Applications*
- 9:30 10:00 Sanjeev Mukerjee: *Molecular Level Understanding of Interfacial Phenomenon in PEMFCs*
- 10:00 10:30 Geoffrey Woolery: *Advanced Catalyst Technologies to Meet The World's Energy Challenges*

- 10:45 11:45 Parallel Breakout Sessions

- 12:00 1:15 **Lunch** - Alice P. Gast - President, Lehigh University: *Introduction of Keynote Speaker*
 Ann Murtlow: *Going Green – Can We Turn the Policy Push into Consumer Pull?*

Session III: Re-envisioning Energy Consumption – the Demand Side (Session Chair: Dork Sahagian)

- 1:30 2:00 Kathleen McGinty: *Reducing Pennsylvania's Carbon Footprint*
- 2:00 2:30 Charles Klein: *Fuel Economy and Energy Diversity*
- 2:30 3:00 Albert Wurth: *Useful Energy - Designing Energy Institutions For Value, Equity, Independence and Environmental Protection*
- 3:00 4:00 Parallel Breakout Sessions
- 4:00 4:45 Breakout Session Reports
- 4:45 5:00 **Wrap-up and Future Steps**

Session IIB: Global Energy Supply and Use (Session Chair: Peter Zeitler - Wood Dining Room)

- Henri Barkey: *The US, Saudi Arabia, and Energy Security*
- John Laitner: *How Big Energy Efficiency? Exploring Further Possibilities*
- Dork Sahagian: *Environmental Impacts of Global Economic Development*
- Bruce Wilson: *Energy Use in Buildings*