

Workshop on Power Market Reforms and Global Climate Change

**Organized by Program on Energy and Sustainable Development
Stanford Institute for International Studies**

January 27 – 28, 2005

Oksenberg Conference Room, 3rd Floor, Encina Hall Central, Stanford

This meeting will focus on the intersection of two crucial challenges for the organization of energy infrastructures in the developing world. First, for nearly two decades most major developing countries have struggled to introduce market forces in their electric power systems. In every case, that effort has proceeded more slowly than reformers originally hoped; the outcomes have been hybrids that are far from the efficiency and organization of the "ideal" textbook model for a market-based power system. Second, growing concern about global climate change has put the spotlight on the need to build an international regulatory regime that includes strong incentives for key developing countries to control their emissions of greenhouse gases. In most of those countries, the power sector is the largest single source of emissions. The United Nations Framework Convention on Climate Change and the Kyoto Protocol included mechanisms that would reward developing nations that cut emissions, but so far those systems have functioned far short of their imagined potential. A growing chorus of analysts and policy makers are expressing dissatisfaction with those existing mechanisms and clamoring for alternatives.

This meeting will offer diagnoses of what has gone wrong and what opportunities have nonetheless emerged. It will focus on practical solutions and look at the prospects for different technologies to meet growing demand for power while minimizing the ecological footprint of power generation. It will engage scholars who are studying the industrial organization of the electric power sector (and other infrastructures) in developing countries as well as those who study the effectiveness of international legal regimes. It will engage practitioners, including regulators and energy policy makers. Our aims are not only to focus on new theories that are emerging to explain the organization of the power sector and the design of meaningful international institutions, but also to identify practical implications for investors, regulators, and policy makers.

Presentations will include recent results from the research of Stanford Program on Energy and Sustainable Development. We will present the main findings from a comprehensive study of power market reform in five developing countries (Brazil, China, India, Mexico and South Africa). We will also show the results from a detailed analysis of the greenhouse gas emissions from two key states in India and three provinces in China--a study conducted jointly with the Indian Institute of Management in Ahmedabad. In addition, we will present new conclusions from ongoing work that focuses on strategies for engaging developing countries in the global climate regime. Among the topics considered will be the prospects for accelerating the introduction of natural gas into electric power systems--especially those in China and India where the present domination of coal leads to relatively high emissions.

Program

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Session One

January 27, 2005

Power sector reforms: the experience in China, India and other developing countries

- 2:00 – 2:15 Welcome and Introductions
David Victor, Tom Heller, P.R. Shukla
- 2:15-2:35 Introduction to the meeting and issues
David Victor
- 2:35 – 3:20 Power sector reform in China – consequences & projections
Tom Heller, Chi Zhang
Discussant: Nick Hope
- 3:20 – 4:05 Power sector reform in India – consequences & projections
P.R. Shukla
Discussant: Jayant Sathaye
- 4:05 – 4:20 Coffee Break
- 4:20 – 5:15 Power sector reforms: Lessons from five countries
David Victor
Discussant: Frank Wolak
- 5:15 Adjourn
- 19:00 – 21:00 Dinner (Stanford Park Hotel, 100 El Camino Real, Menlo Park)

Session Two

January 28, 2005

Technological options for the electric power sector in China and India

- 9:00 – 9:30 Overview: Long-term needs
Brian Flannery
- 9:30 – 10:00 Natural gas: infrastructure, technology and geopolitics
David Victor

10:00 – 10:30	Clean coal and carbon sequestration David Hawkins
10:30 – 10:45	Coffee Break
10:45 – 11:15	Renewables in China Doug Ogden
11:15 – 11:45	Power Sector Developments in Brazil Mario Pereira
11:45 – 12:15	Distributed generation Hisham Zerriffi
12:15 – 12:45	Discussion
12:45 – 1:45	Lunch

**Session Three
January 28, 2005**

Beyond Kyoto: engaging developing countries

1:45 – 2:30	Integrating climate and development Tom Heller
2:30 – 3:15	Differentiating commitments Jonathan Sinton
3:15 – 4:00	The private sector and CDM Alberto Chiappa
4:00 – 4:15	Coffee break
4:15 – 5:00	Panel discussion: The Impact of Power Sector Reform on Technology and Emissions in Developing Countries Chair: David Victor Panelists: P.R. Shukla, Larry Goulder, Mary Nichols, and Chris Edwards
5:00	Adjourn