



The Climate and Energy Decision Making Center

## ***Workshop on China, the West, and the Alternative Energy Innovation Challenge***

*Dates: June 26<sup>th</sup> and June 27<sup>th</sup> 2014*

*Location: Peter G. Peterson Institute for International Economics  
1750 Massachusetts Avenue, NW, Washington, DC 20036*

*Organized by: Inês Azevedo and Lee Branstetter*

The international community has endorsed the goal of reducing greenhouse gas emissions (GHG), but economic growth creates more demand for energy. Current technologies cannot accommodate this growing demand without raising global emissions to levels that pose a threat to climate stability. Nowhere is the conflict more evident than in China, the world's most rapidly growing large economy. While emissions have grown slowly or fallen in other major source countries in recent years, rapid Chinese growth continues to drive significant increases in China's share and level of GHG emissions. The sharp increase in fossil energy prices in the mid-to-late 2000s, renewed concerns of impending fossil fuel shortages, and public discomfort with reliance on imports of fossil fuels from unstable regions brought additional urgency to efforts to develop alternative energy technologies over the past decade in many countries. The People's Republic of China has responded by aggressively seeking to build within its borders a set of firms capable of generating new alternative energy technologies. A mix of economic and environmental objectives has motivated this policy initiative. Nations that build highly competitive alternative energy industries could realize significant gains in exports and employment.

This dual pursuit of emissions reductions and industrial development raises the possibility of international trade friction and conflict, as national governments face the temptation of intervening in international trade in environmental goods in ways that tilt the playing field in favor of domestic producers. In recent years, a number of trade conflicts have arisen, with the major producers of alternative energy hardware accusing one another of WTO-illegal subsidies, local content requirements, tariffs, export subsidies, and other trade interventions. Many of these conflicts center on China, which has rapidly emerged as a major producer and exporter of alternative energy hardware.

Some recent studies suggest that China has succeeded at incubating a technologically dynamic alternative energy industry that will make significant contributions to global emissions reduction goals. Is this really true? More generally, what can be learned from the recent policy efforts to accelerate alternative energy innovation, not just in China, but also in Western Europe, and the U.S.? How can governments maximize the benefit of these policies, while minimizing the risk of trade friction and policy conflict?

This invitation-only conference will bring together engineers and technical experts, economists and political scientists, federal government officials and industry representatives to consider what can be learned from the recent set of policy experiments in China and from recent policy experiments in the West, assess the extent to which China is emerging as a source of alternative energy innovation, discuss the implications of this for Western countries, and consider how the international community might move forward in a way that is guided by these lessons.

On June 26<sup>th</sup> and the morning of June 27, we will have a series of research presentations followed by discussions, and discussion panels. Our conference will conclude on June 27<sup>th</sup>, with a lunchtime panel addressing the major themes of the conference, to which the broader public will be invited.

# *China, the West, and the Alternative Energy Innovation Challenge*

## Agenda

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### Thursday, June 26

- 08:30am - 09:00am *Registration and Continental Breakfast*
- 09:00am - 09:10am Welcome and opening remarks from **Adam Posen**, President, Peterson Institute for Economics (5 minutes) and Conference Organizers **Inês Azevedo**, Carnegie Mellon University and **Lee Branstetter**, Carnegie Mellon University, NBER, and Peterson Institute (5 minutes)

#### Session 1: Alternative Energy Innovation and Development in China

- 09:10am - 10:10am **David Popp**, Syracuse University and NBER, “*The Importance of Spillovers for Green Technology Innovation: Evidence from Wind and Solar in China*”
- 10:10am - 10:20am *Break and informal discussion*
- 10:20am - 11:20am **Yuan Zhou**, Tsinghua University, “*Innovation Paths in the Chinese Wind Power Industry*”
- 11:20am - 11:30am *Break and informal discussion*
- 11:30am - 12:30pm **Lee Branstetter**, Carnegie Mellon University, “*Too Fast, Too Soon? The Rise of the Chinese Wind Power Industry*”

#### Session 2: Towards a Global Market for Clean Technologies: Opportunities and Challenges

- 12:30pm - 1:30pm *Lunch*
- 12:45pm - 01:00pm Lunchtime Presentation (1): **Cathleen Cimino**, Peterson Institute, “*Trade Frictions in Alternative Energy: A Background Report.*”
- 01:00pm - 01:15pm Lunchtime Presentation (2): **Meera Fickling**, ECODIT, “*Alternative Energy and Local Content Requirements: The Case of India.*”
- 01:30pm - 02:30pm **Roundtable Discussion: Trade Frictions in Alternative Energy Industries**  
Chair: **Jeffrey Schott**, Peterson Institute for International Economics  
Remarks by **John Smirnow**, Solar Energy Industries Association  
**Edward Steinfeld**, Brown University  
**Jacob Kierkegaard**, Peterson Institute
- 02:30pm - 02:40pm *Break and informal discussion*

#### Session 3: Financial, Technological, and Policy Challenges in Alternative Energy

- 02:40pm - 3:40pm **Promoting Alternative Energy in the United States: Progress and Challenges**  
Presentation by **Minh Le**, Director, Solar Energy Technologies Office, U.S. Dep. of Energy
- 03:40pm - 03:50pm *Break and informal discussion*
- 03:50pm - 4:50pm **Ramana Nanda**, Harvard Business School and NBER, “*Innovation and Entrepreneurship in Renewable Energy*”
- 4:50pm - 05:00pm Review of the agenda for June 27
- 07:00pm *Conference Dinner, Morton’s Steakhouse*, 1050 Connecticut Avenue, Washington, DC 20036, 202-955-5997

## Friday, June 27

### Session 3: Financial, Technological, and Policy Challenges in Alternative Energy (cont.)

- 08:30am - 09:00am *Continental Breakfast*
- 09:00am - 09:50am **Ines Azevedo**, Carnegie Mellon University, “Recent Developments in Energy Policy in the U.S., Europe and China”
- 09:50am - 10:00am *Break and informal discussion*
- 10:00am - 11:00am **Valerie Karplus**, Massachusetts Institute of Technology, “Patterns of Innovation in China's Energy Sector”
- 11:00am - 11:10am *Break and informal discussion*
- 11:10am - 12:00pm **General Roundtable Discussion: Where Do We Go From Here?**  
Chair: Ines Azevedo
- 12:00pm - 01:30pm **Public Panel Luncheon: China, the West, and the Alternative Energy Innovation Challenge**  
Luncheon Panelists:  
**Gilbert Metcalf**, Professor of Economics, Tufts University, and former Deputy Assistant Secretary for Energy and the Environment, U.S. Treasury Department  
**Lee Branstetter**, Professor of Public Policy and Economics, Carnegie Mellon University, and former Senior Economist for International Trade and Investment, Council of Economic Advisers, Executive Office of the President  
**Granger Morgan**, Thomas Lord University Professor of Engineering, and Department Head of Engineering and Public Policy, Carnegie Mellon University
- 01:30pm *Adjourn*