China, the West, and the Challenge of Alternative Energy Innovation

Professor Lee G. Branstetter
Carnegie Mellon University

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A two day workshop devoted to a pressing set of public policy questions…

The Climate and Energy Decision Making Center

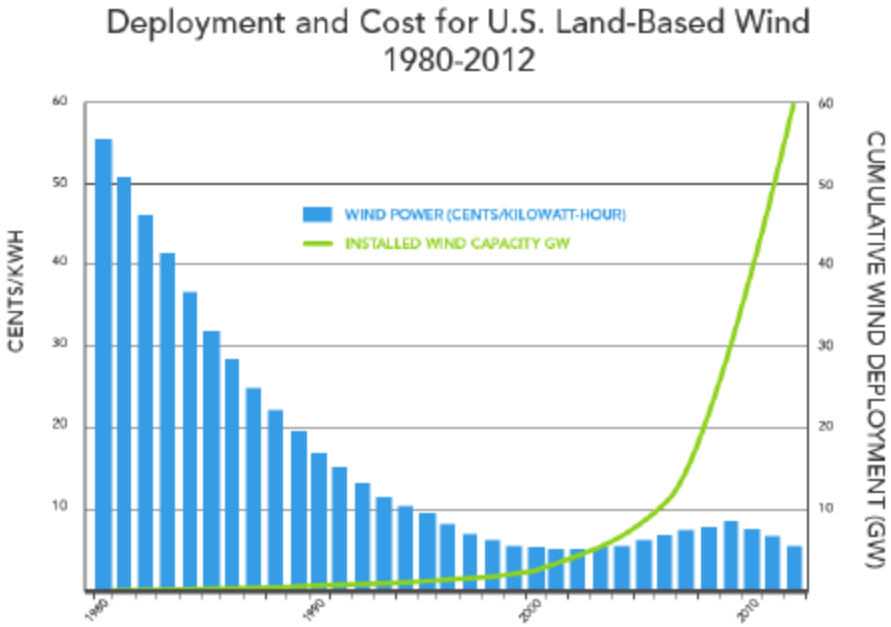
Three key take-aways

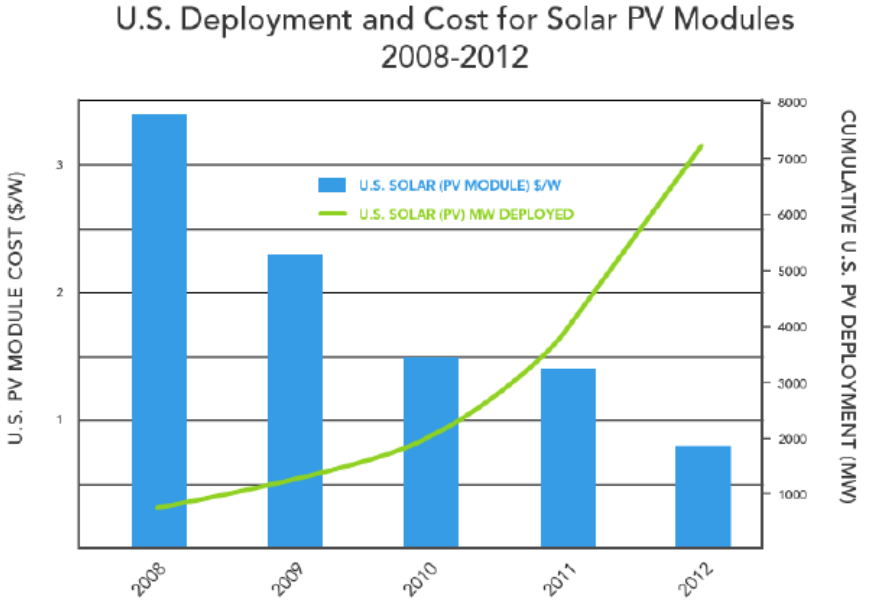
- Alternative energy innovation is hard – the innovations will need will not come quickly or easily.

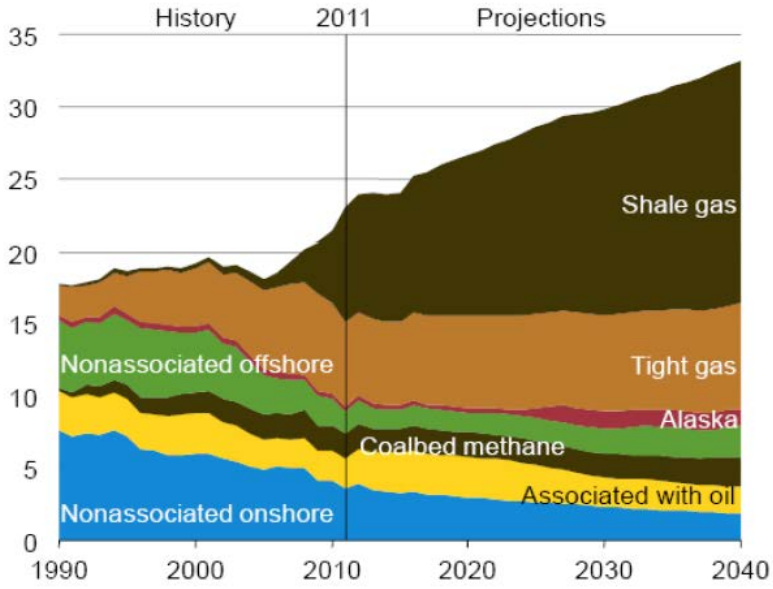
- Technology push is not enough – we need demand pull. The Obama Administration's new carbon rules are a useful start, but much more will be needed to tilt the playing field in favor of low(er) carbon energy.

- To enhance the competitiveness of alternative energy, we need to maintain open markets for alternative energy hardware.

First, the good news…

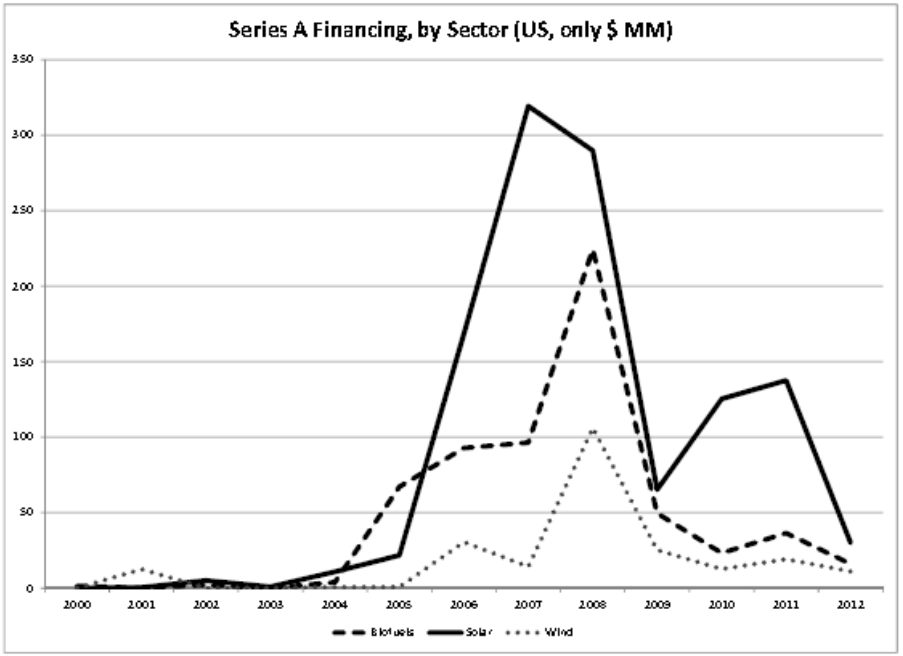


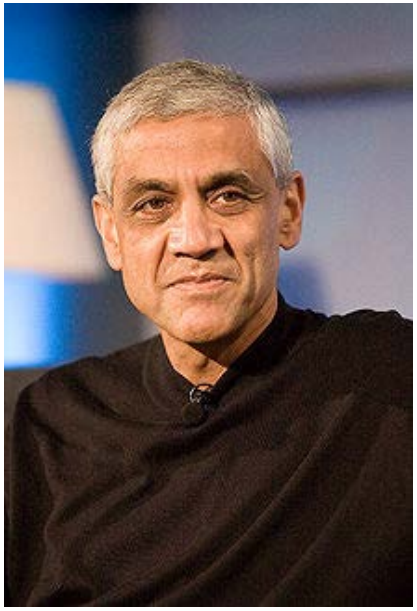




Silicon Valley has not (yet) fully delivered on Vinod Khosla's hopes

Figure 5A: Series A Financing for US-based startups in Solar, Wind and Biofuels

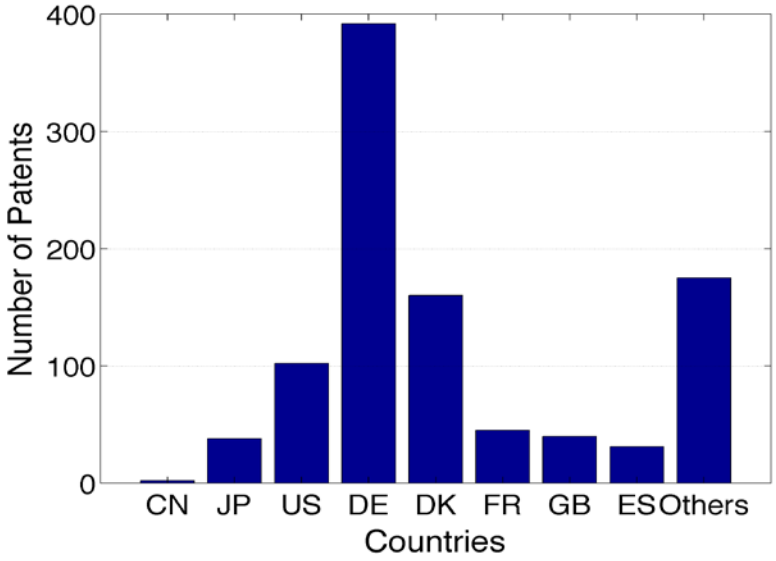




Leading Venture Capitalist Vinod Khosla

China's rise as a manufacturer of cleantech hardware has brought lower prices, but not (yet) fundamental innovation

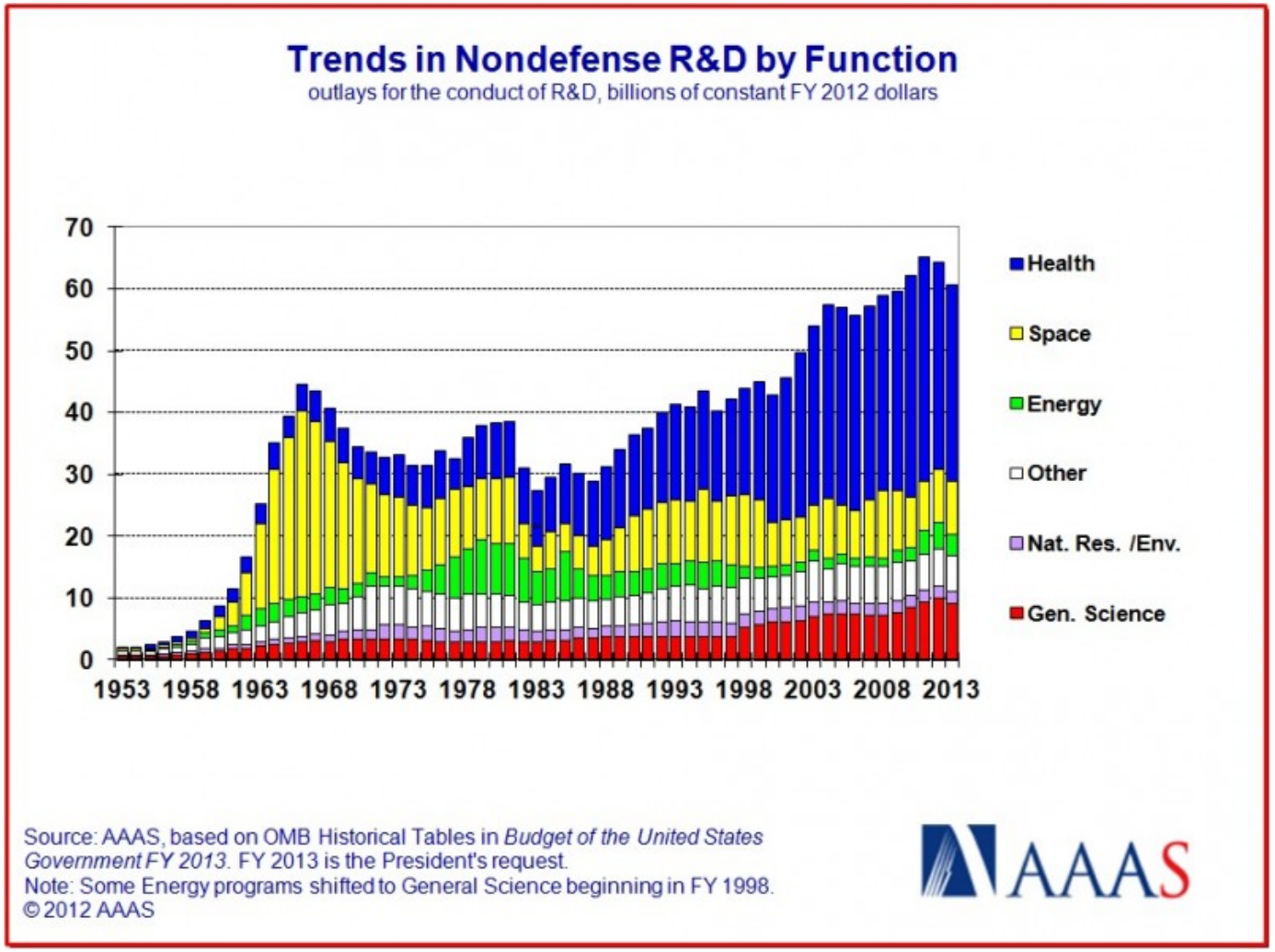
Wind Turbine Patent Grants in EPO Member States



Shi Zhengrong
施正荣
Founder of Suntech

SUNTECH
BE UNLIMITED

The innovation we need will require a broader, deeper science base…



And a price on carbon!

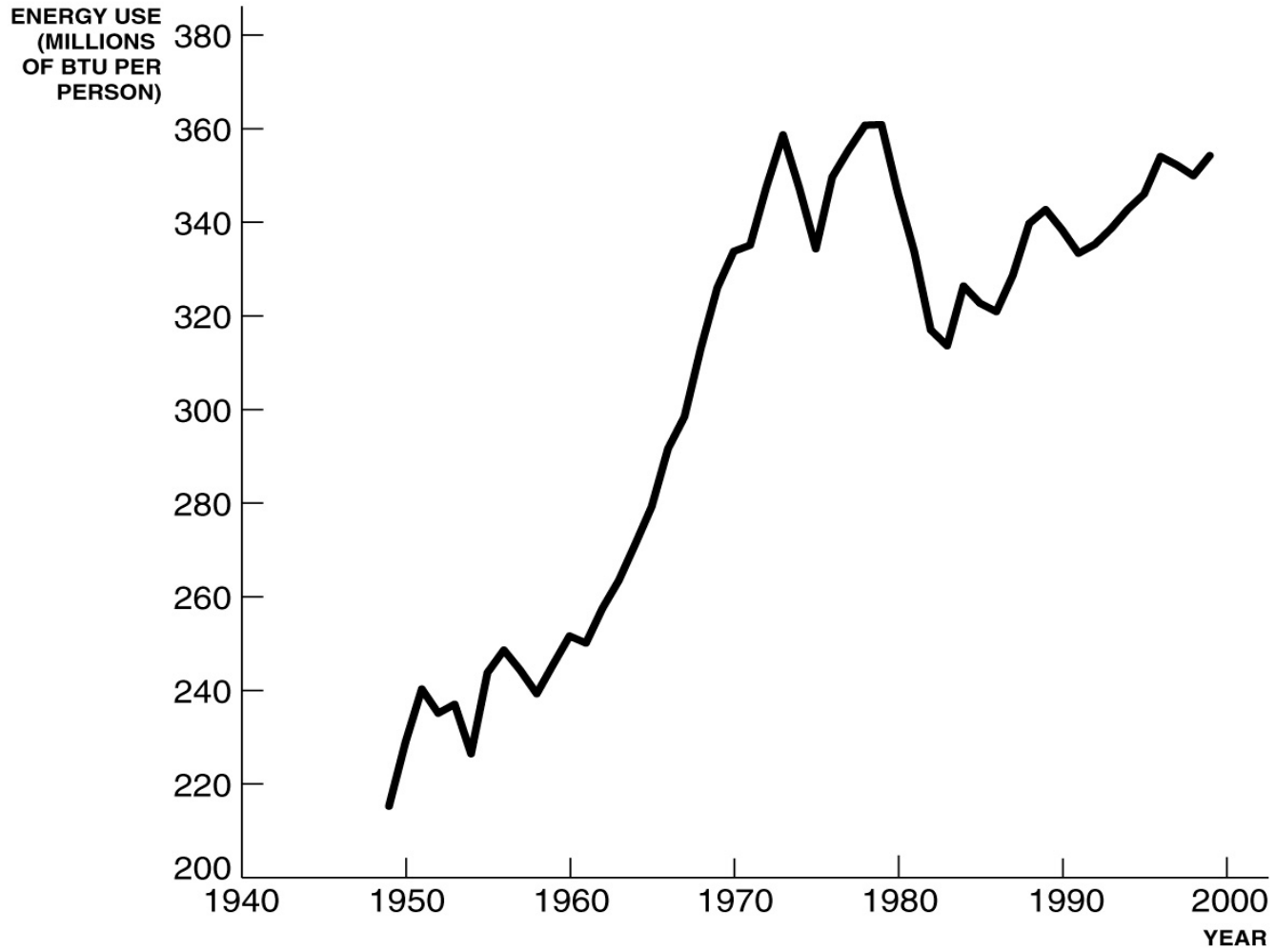


FIGURE 9.4 PER CAPITA ENERGY USE IN THE U.S. ECONOMY, 1949–99

Economic Growth, 2nd Edition

Think globally, act locally – but don't insist on buying locally…

- Trade frictions have emerged, limiting international trade in alternative energy hardware and raising prices in importing countries

- It is neither politically feasible nor strategically sensible for the United States to always turn the other cheek when other nations violate trade rules…

- But the best way to develop these industries at a global level will involve a global division of labor – a global supply chain.

- The transition to cleaner energy technologies will be hard enough without policies that raise the price of these alternatives.

The critical role of China…

- We can only mitigate climate change at a global level if China slows its emissions growth…
- China does not (yet) have the capability to innovate in a fundamental way in this space.
- But it has established itself as the cheapest place in the world to manufacture and deploy certain kinds of new energy technologies.