11.165/11.477 Infrastructure and Energy Technology Challenges

Disruptions to Energy Supply

(November 21 Session)

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WORLD OIL MARKET

How is the world oil market different from markets of other commodities?

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To view the figure with details on world oil consumption, by region and country group, go to page 27 of "International Energy Outlook 2006" by Energy Information Administration, Office of Integrated Analysis and Forecasting, U.S. Department of Energy.

www.eia.gov/oiaf/archive/ieo06/index.html

HUBBERT'S PEAK

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To view Hubbert's original 1956 graph on ultimate U.S. crude-oil production based on assumed initial reserves of 150 and 200 billion barrels, go to page 22 of "Nuclear Energy and the Fossil Fuels" by M. King Hubbert.

http://www.hubbertpeak.com/hubbert/1956/1956.pdf

WORLD OIL SHORTAGE?

<u>Deffeyes (2001): Hubbert's Peak: The Impending World of Oil Shortage</u>

- What is the "Hubbert's Peak" of oil production? What new evidences or factors would prove Hubbert's prediction to be wrong? If the prediction is accurate, what would it imply for the supply and consumption of oil, and the world economy?
- Why is there such a lack of attention by the oil companies, political leaders, and the public on the issue of "oil peak"?
- What are the measures suggested by the author to avert the crisis? Do you agree with his suggestions?

ENERGY SECURITY AND CLIMATE CHANGE

Deutch et al. (2007): Energy Security and Climate Change

- What is the definition of "energy security" in this report?
 Given this definition, what are the factors intertwined with the supply and consumption of energy?
- Why is it a problem that industrialized countries depend on oil and gas imports? Who are the main players in the world energy politics and what kind of role do they each play?
- What are the authors' prescriptions for foreign policy and domestic policy to overcome the dependency issue?

ENERGY SECURITY

Toman (1993): The Economics of Energy Security: Theory, Evidence, Policy

- How is Toman's definition of "energy security" different from that in Deutch et al? What are the costs and risks associated with oil imports examined in this paper? (Talk about the marginal cost, adjustment cost, and macroeconomic impacts.)
- How could the policy measures of (a) oil import restriction and (b) strategic oil stock-up ameliorate the costs of energy insecurity? What are the trade-offs of such policies? Why is international policy coordination needed?



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