

**The Energy Chain and
Market (Part 1)**
(October 26 Session)

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ENERGY DEMAND

- What factors contribute to the growing demand for energy in our world?
- What is the trend of energy intensity (i.e., the growth rate of energy use versus the growth rate of gross domestic product)?
- Would it matter if we used total output instead of GDP?

ENERGY SUPPLY

- What is the current share of energy supply from:
 1. fossil fuel
 2. renewable energy
 3. nuclear energy?
- What are the future supply trends?

FOSSIL FUELS & RENEWABLE ENERGY

- How do each of the following issues challenge the use of traditional fossil fuels (oil, natural gas, and coal):
 1. depletion of fossil fuel reserves
 2. global warming
 3. energy security
 4. rising energy costs
- How does their use affect economic growth?
- What are the advantages of renewable energy (solar, wind, biomass, wave and tidal energy, etc.)?
- What are some of the obstacles in switching from using fossil fuels to using renewable energy?

DIFFERENCES AMONG COUNTRIES

Asif and Muneer (2007): Energy Supply, Its Demand, and Security Issues for Developed and Emerging Economies

•What are the differences among crucial energy economies in terms of (1) the size of energy consumption, (2) dependency on energy imports, and (3) potentials for use of renewable energy:

1. China
2. India
3. Russia
4. United Kingdom
5. United States

ENERGY CONSUMPTION

National Petroleum Council (2007): Facing the Hard Truth About Energy

- In what areas and by what means can energy consumption become more efficient? Think about it in terms of the perspectives of:
 1. vehicle transportation
 2. commercial and residential consumption
 3. industrial sector
 4. electric generation

ENERGY DELIVERY

- The energy supply system includes the physical store of a particular source, production or conversion of the resource to a usable form, and delivery of products to consumers.
- What are some issues facing infrastructure for energy conversion and delivery? Think about this in terms of the international petroleum trade.

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To view the figure, go to page 163 of
“Facing The Hard Truths About Energy:
A Comprehensive View to 2030 of Global Oil and Natural Gas”.

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