**Natural Gas Lecture Questions**

What are the major types of natural gas?

Coal bed methane (CBM), deep gas reservoirs, deep offshore gas reservoirs, miscellaneous sources (land fills, man-made or biogas), gas hydrates

Why has natural gas supplies increased so dramatically during the last few years?

New technology (horizontal drilling), higher prices, increased production of unconventional gas

Why is it necessary to fracture the tight shales to increase production?

Necessary to produce gas shales (low permeability). At this depth not enough porosity and permeability to allow natural gas to flow from the rock into the wellbore at economic rates.

Why has horizontal drilling played such an important role in the production of natural gas?

Allows greater exploration of unconventional reservoirs, more contact with reservoirs equals better recoveries, multi-lateral designs are improving

Why is it necessary to drill so many gas wells?

Exploration treadmill – well production rapidly drops to 10% of original production in a year or two.

What are the perceived problems of hydrofracting?

- Contamination of ground water

- Environmentally disruptive

- Danger of blowouts and explosion

- Air pollution

How will the production of natural gas from tight shales affect the future of energy supplies?

New natural gas generation plants will be built, replacing the need of building new coal plants.

Some present coal –fired plants will be switched to natural gas.

Low cost of natural cost may slow down construction of new power plants.

Reduce need of LNG from Middle east and other foreign exporters.

Western European countries can reduce their dependency on gas from Russia.

Increase use of gas for transportation will reduce oil imports.

Reduce sale and income for exporting nations.