To: Shale Gas & LNG Course

From: Professor Sakmar Date: January 5, 2017

Re: 1st Research Assignment - The Role of Natural Gas in the World's Energy Supply Mix

Due Date: January 27, 2017

Overview:

In June 2011, the International Energy Agency (IEA) released a report whose title asked the question "Are We Entering a Golden Age of Gas?" In that report, the IEA presented a positive outlook for the future role of natural gas in the world's energy supply mix and projected that natural gas would grow from 21% to 25% of the world's energy mix by 2035.

The question mark in the title of the publication was not accidental and reflected continued uncertainties over the future of natural gas. In particular, the IEA noted that there were uncertainties surrounding the potential for unconventional gas. In 2012, the International Energy Agency released a report called the "Golden Rules for Gas." In this report, the IEA noted that natural gas is poised to enter a "golden age," but only if a significant proportion of the world's vast resources of unconventional gas - shale gas, tight gas and coalbed methane - can be developed profitably and in an environmentally acceptable manner.

While a range of factors will affect the pace of energy development over the coming decades, the IEA recognized that unconventional gas did not yet have the degree of societal acceptance that it will require in order to flourish. "Without a general, sustained and successful effort from both governments and operators to address the environmental and social concerns that have arisen, it may be impossible to convince the public that, despite the undoubted potential benefits, the impact and risks of unconventional gas development are acceptably small." The IEA offered the Golden Rules special report as a contribution to the solution of this dilemma and offered a number of suggestions that might help industry maintain or earn a "social license to operate".

Assignment:

Each person will direct their research towards a particular country and/or state as follows:

- 1. If you are originally from a country <u>other</u> than the United States, research the role of natural gas in your home country. If by chance there is absolutely no information about natural gas in your home country, then you are free to choose any country.
- 2. If you are originally from the United States, you will need to briefly address the role of natural gas in the U.S. in general as well as a brief overview of the role of natural gas in your home state (e.g. Texas, California, etc.)

Discussion Points:

- 1. Does your country/state use natural gas? If so, for what?
- 2. What is the natural gas consumption of your country/state?
- 3. Does your country/state produce natural gas? If so, how much?
- 4. How is the natural gas market regulated? Identify Fed/State/Local government agencies.
- 5. Does your country/state import OR export natural gas? If so, from where? Via LNG? Pipeline? How much?
- 6. What is the current policy of your country/state in terms of natural gas? Is the government promoting the use of natural gas? Why or why not? Is the public supportive of natural gas? Why or why not?
- 7. Is your country/state pursuing shale gas? If so, what is the regulatory framework?

Format:

Your response should be prepared in memo format and limited to 2-4 pages. The short length of the written assignment requires that your answers be brief and to the point. You will have the opportunity to elaborate on your responses in class. The assigned readings will help for background information, but you are expected to do independent research on your particular country/state.

¹ International Energy Agency (IEA), Are We Entering the Golden Age of Gas?, (June 2011), available at https://www.iea.org/newsroom/news/2011/june/iea-special-report-explores-potential-for-golden-age-of-natural-gas.html.

² International Energy Agency (IEA), Golden Rules for Gas (May 2012), available at http://www.worldenergyoutlook.org/goldenrules/.

³ Golden Rules for Gas.