Wednesday, February 23, 2011

Petroleum Club • 800 Bell (downtown)
Social 11:15 AM, Luncheon 11:30 AM

Cost: $30 pre-registered members; $35 for non-members & walk-ups; Emeritus/Life/Honorary: $15; Students: FREE

To guarantee a seat, you must pre-register on the HGS website (www.hgs.org) and pre-pay with a credit card.
Pre-registration without payment will not be accepted.
You may still walk up and pay at the door, if extra seats are available.

HGS General Luncheon Meeting

Prof. Michael J. Economides
University of Houston
Houston, TX

Natural Gas Future

About two years ago oil prices climbed to almost $150 per barrel and then unexpectedly and suddenly dropped to around $40. This drop was prompted by the "credit crisis" and compounded by economic recession. Oil then moved back to over $80. Unlike oil, natural gas whose international price zoomed to as high as $25 per Mscf (in parity with oil in Japan) has remained low. There are many reasons for the low natural gas price including considerable demand destruction in Russia, large new capacity of LNG in Qatar and, of course, the inertia of the success in shale formation activities in the United States, arguably one of the most important developments in the petroleum industry in decades.

Shale production and widely available LNG facilities will unify the price of gas internationally and reduce its seasonality

These price gyrations affect all aspects of the natural gas world, including the import of LNG, the desirability of arctic pipelines or the lack thereof, conventional and especially unconventional gas production.

Internationally, energy militant nations such as Iran, and Russia over the last few years, hold considerable sway over the energy trade, pushing periodically for a gas cartel, among other issues. Russia's energy ascendancy over the past decade has been an important and devastating influence in Europe, which threatens to spread further.

One obvious bright spot for the future is that energy consumption in the generation of wealth and the forms of primary energy sources have not been constant throughout the last two centuries. Of considerable significance is the change of fuels from wood to coal to oil and now to natural gas, and eventually hydrogen will play a role. Wide use of compressed natural gas (CNG) and electricity in transportation is the only obvious long-term future, although perhaps decades away. However, this expected sea change may be retarded in the traditional developed world of the United States and Europe, burdened by huge existing infrastructure; China and India will likely lead the way.

Distorting the economically sane path to the future is the confusion derived from the current lack of overlap between primary energy sources such as oil and natural gas and the improbable ideas being pushed for alternative energy sources, such as the practically energy-negative bio-fuels, headed by ethanol, or even more impractical alternatives, such as solar electricity. Recent technological breakthroughs to produce ethanol from hydrocarbons such as coal and, especially in the United States, from natural gas are likely to further enhance the contribution of natural gas as a primary energy source. Ethanol, whose use has been artificially boosted by government subsidies and produced from corn, has created an additional ready market for natural gas.

Natural gas, at prices significantly below BTU parity with oil for a long time to come, will certainly play a pivotal role in world energy supply and will move towards becoming the premier fuel of the world economy. A significant feature of future gas prices, similar to oil prices, is that they are likely to be technology-driven, rather than resource-driven. Shale production and widely available LNG facilities will unify the price of gas internationally and reduce its seasonality in the not too distant future. ■

Biographical Sketch

A chemical and petroleum engineer and an expert on energy geopolitics, **Michael J. Economides** holds a number of professional positions, such as professor at the Cullen College of Engineering, University of Houston, Chairman of the Board of XGAS, a natural gas firm (www.xgas.us) and Managing Partner of Dr. Michael J. Economides Consultants, Inc., with a wide range of industrial consulting activities, including major retainers by several Fortune 500 companies and national oil companies, Editor-in-Chief of *Energy Tribune* (www.energytribune.com), a newsletter in the energy and related industries and activities, and Editor-in-Chief of the peer-reviewed *Journal of Natural Gas Science and Engineering*, published by Elsevier.

Technically, he casts a commanding figure in petroleum and natural gas reservoir and production engineering. With 15

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textbooks and almost 300 journal papers and articles, his works are referenced by almost all practitioners in the field.

In the relatively recent past he has served as Senior Technical Advisor to China's CNOOC and subsidiary COSL, to ENI, Italy's main petroleum multinational company, and for more than 5 years to Yukos and Sibneft, Russia's major petroleum companies. During 1997 and 1998 Economides was in Venezuela as the Senior Advisor on Production Technology for PDVSA, the national oil company of Venezuela.

Following his 2000 best seller *The Color Of Oil* and a large number of publications in international magazines, he is considered by many as the premier world expert on the geopolitics of energy, giving about 50 speeches per year to groups from many large professional societies, organizations and corporations. He is a frequent guest on national and international media, appearing on CNBC, Fox News, Canada's Business News Network, BBC World Service and many local stations throughout the world. He writes for the editorial pages of major newspapers and internet news organizations.

His latest books of wide appeal are *From Soviet to Putin and Back: The Dominance of Energy in Today's Russia* (www.sovietto putin.com), and *Energy: China's Choke Point.*