

March 2022



LOS ANGELES BASIN GEOLOGICAL SOCIETY

March 24th (Thursday) – 12:00 Noon

This will be a virtual (on-line) meeting using ZOOM. See below for instructions.

Thomas L. Davis PhD and Badrul Imam PhD

Natural Gas – Underexplored in Bangladesh? Increasing demand and decreasing supply with new comments on energy poverty and the energy transition

Abstract

Natural gas (NG) is the principal fuel for electrical generation in Bangladesh and the foundation for the nation's rapid economic growth during the last two decades (World Bank, 2020). During this period NG supply grew through the further development of pre-2000 field discoveries. Abundant supply encouraged growth and was the parent of strong economic expansion (~4.5% GDP since 2004). Concurrently, Bangladesh has successfully managed economic development and climate change adaptation with its NG cornerstone (Roy, 2021). Since late 2018, Bangladesh has imported LNG to supplement NG supply to meet increasing demand. The declining supply from presently operated local gas fields means that the share of expensive imported LNG will increase in the future as expected from the present 4 mmtpa (million metric ton per annum) to 21 mmtpa in 2030 (Wood Mackenzie, 2021). In-country gas fields with reserves of about 12 TCF and more expensive LNG imports should provide the energy for moderate- to high-growth until 2030; if demand remains below about 2.5-3.0 TCF/yr. However, the recent price hike in the LNG spot market from less than \$10 to more than \$35 per mmbtu (metric million British Thermal Unit)* means that Bangladesh must

bear added pressure on its economy and must survive on the price uncertainties of LNG in the international market. After 2030 the energy supply and dependent economic growth will become even more precarious. Preventing economic decline will require a combination of new NG discoveries and reserve- growth in existing fields, or expansion of other reliable and resilient base-load energy sources such as carbon-intensive coal or development of carbon-free nuclear power. As noted by in-country experts: Shetol et al. (2019), "The possibility of natural gas being exhausted within a decade and half worries us all....Bangladesh is likely to exhaust its gas reserve by about 2030." Imam (2021), "...Bangladesh's gas exploration has apparently been stalled because of a lack of dynamic vision." NG exploration needs to dramatically increase over the next few years to avoid severe economic contraction after 2030. *Above presentation is from Davis and Imam (2021).*

Today's LABGS presentation will also include ideas from a new article/presentation being developed for a future energy venue that builds on the Davis and Imam (2021) to include energy poverty and the energy transition in Bangladesh. An example of energy poverty: "*Roughly 3.3 billion people on the planet live in what Robert Bryce (Bryce, 2020) calls*

the “unplugged” world — countries where per capita electricity use is less than 1,000 kilowatt-hours per year. That means that roughly 44.6% of the world’s population subsist on less electricity per year than the average American family uses to keep their refrigerator running. About one billion people of this 3.3 billion have no access to electricity.” The International Renewable Energy Agency (IRENA) define energy transition “...as a pathway toward transformation of the global energy sector from fossil-based to zero-carbon by the second half of this century. At its heart is the need to reduce energy-related CO2 emissions to limit climate change.” It is a near certainty that Bangladesh will continue to increase its use of fossil fuels to pull its people up from energy poverty while adopting adaptation strategies to meet the impacts of climate change.

* Bangladesh received bids as low as around \$30/MMBtu for a spot LNG tender for Feb. 12-13, 2022, delivery, <https://www.spglobal.com/commodity-insights/en/market-insights/latest-news/lng/013122-bangladesh-resumes-spot-lng-imports-after-hiatus>

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When:

**Thursday, Mar. 24th, 2022
12:00-1:00**

To Join the Talk:

To join the talk, please paste the following ZOOM meeting link into your web browser. You should not need to use the password:

<https://csulb.zoom.us/j/86294179386?pwd=OFVxYTZYZ1g1TUUp6VUJqekdNS0NyUT09>

**Meeting ID: 862 9417 9386
Passcode: 383614**

Bios

Dr. Thom Davis’ work and research experience are in petroleum exploration and oil field development, structural geology, active tectonics, and surface geologic mapping in California, Nevada, South Asia, and northern South America. Davis is CA Professional Geologist with a BS from UCLA and PhD from UCSB, tldavisgeo@gmail.com

Dr. Badrul Imam, Geology Professor, University of Dhaka, Bangladesh, Dr. Imam has expertise, research interests, and teaches in sedimentology, natural gas exploration and development and energy systems, badrul@du.ac.bd

Please download the ZOOM meeting app before the start of the talk, if you have not already done so.

Announcements

- We will try to go back to **in-person meetings** next month at The Grand on Willow if we can find a speaker willing to do so.
- DCOR LLC has an opening for a Geologist at their Oxnard office. Paste the link below into your web browser for more information.

https://workforcenow.adp.com/mascsr/default/mdf/recruitment/recruitment.html?cid=cb120ce9-36e5-4a5b-8f8c-1fd1dc358f2b&ccId=19000101_000001&type=MP&lang=en_US

- Petrolog has an opening for a mud logger. Email resumes to Mr. John T. Williams at: jtw@petrolog-geological.com
- **The Association of Environmental and Engineering Geologists** is having a dinner meeting on April 5 at Victorio’s Ristorante in North Hollywood. Dean Francuch, PG, CEG will be presenting on his work on the BNSF Railway Southern “Transcon” Mainline Dual Track Bridge Replacement over the Mojave River, Victorville, California.

To register, please see:

<https://aegsocial.brownpapertickets.com/>

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