



Gulf Research Centre Cambridge
Knowledge for All

Workshop 11

Challenges Facing the GCC Oil & Gas Industry

Workshop Directors:

Dr. Naji Abi-Aad
Senior Fellow,
American University of Beirut (AUB),
Lebanon
Email: abiaadnaji@hotmail.com

Dr. Christian Panzer
Senior Researcher,
Department of the Energy Economics Group
Vienna University of Technology
Austria
Email: panzer@eeg.tuwien.ac.at

Description and Rationale

This workshop offers an independent, open discussion platform focusing on future challenges of the oil and gas industry in the GCC region. During the workshop, different short- to medium- and long-term issues of the GCC's oil and gas industry will be addressed and potential solutions evaluated. On the one hand, domestic challenges of the oil and gas industry will be elaborated upon and, on the other, the impact of international energy market developments on the GCC oil and gas industry will be discussed.

Thus, the workshop would consist of a series of short presentations focusing on the proposed topic and based on the submission of short papers. In order to enable participants to fully engage in the workshop discussions, paper/presentation contributors are encouraged to avoid submitting highly technical papers.

Generally, the proposed topics for in-depth analysis should concentrate on operational, market, social or security challenges of the GCC's oil and gas industry:

1. Operational Challenges

Historically, the GCC oil and gas industry held a major share of the global energy supply potential and still contributes significantly to meet the global oil and gas

demand. However, investments in supply and infrastructure technologies were made a long time ago. Hence, on the one hand, currently implemented installations are close to reaching their technical lifetime. On the other hand, the exploitation of new energy fields and the more efficient exploitation of existing fields require more advanced technologies. In particular, the more efficient exploitation of detected and ongoing extraction fields becomes a key issue with increasing competition in the international markets and consequently volatile energy prices.

In addition, the oil and gas industry in the GCC suffers from a lack of skilled local workforce. Therefore, it faces the challenge of educating local people and attracting them to work domestically. The deficiency of foreign expertise forms an additional challenge for the region's oil and gas industry.

Moreover, the limited reserves of non-associated gas in many countries presents the challenge of meeting domestic gas demand versus exporting gas to international markets and thereby receiving monetary revenues. More precisely, more GCC countries are expected to become gas importers due to the fast increasing domestic demand, caused by a strong population growth rate. In this respect, the oil and gas industry requires new business models which take into account not only the domestic energy supply needs and the need for energy exports in order to gain revenues for national welfare systems but also consider unconventional energy supply systems, such as renewable energy technologies or energy efficiency measures, in order to substitute domestic energy supply sources.

2. *Market Challenges*

The GCC oil and gas industry exports energy to global energy markets. Due to their huge oil and gas resources which are comparatively easy and, thus, cost competitive to exploit, the region has been acquiring significant revenues on international energy markets. There, the regional market prices are a consequence of demand and total supply plus a certain risk premium. In particular, the high flexibility of LNG transport combined with the tremendous gas price differences between several regional gas markets has provided high incomes for the GCC oil and gas industry.

However, recent developments in the oil and gas sector present a future market challenge for the GCC oil and gas industry. In particular, the fast-growing development of unconventional oil and gas would turn potential oil and gas importing countries into exporting countries, as for instance, the United States of America. Consequently, the surplus of oil and gas on global energy markets would have a significant impact on energy prices. Any steep decrease in energy prices, caused by the competitiveness of many suppliers, would require the GCC oil and gas industry to react in the short- as well as long-term time horizon.

Additionally, the current very low price of CO₂ combined with the fact of decreasing coal price (as a result of the development of unconventional gas in the US and therefore exported domestic coal resources) could lead to the substitution of gas power plants by coal power plants in Europe. Consequently, this would reduce the demand and lower the growth rate of gas demand even more.

3. *Social Challenges*

The oil and gas industry in the GCC is, to a large extent, publicly owned and thus needs to represent the interests of its country. A large majority of these countries rely heavily on the revenues from exported oil and gas in order to guarantee their national welfare systems. Consequently, the GCC oil and gas industry faces the challenge of keeping the petroleum prices on a quasi-constant, relatively-high level.

A potential price decrease, caused by increased competition or energy surpluses from unconventional sources, would trigger major financial and political crises in the region. In contrast, a rapid increase of petroleum prices, due to certain (OPEC) regulations or other limitation of energy supply, could call for technology substitution and, therefore, reduce the demand for petroleum in the long term.

4. *Security Challenges*

The transport of oil and gas exports from the GCC region stipulates a future challenge for the whole industry. The region's geographical situation requires almost all energy exports to pass through the Strait of Hormuz. Thus, the physical bottleneck along with the frequent traffic holds a potential risk of accidents. Any conflict in this region would cause those exports to totally stop and thus have significant impact on the global energy markets as well as on the GCC revenue streams and welfare systems.

Hence, the national state-owned oil and gas industries are forced to develop common infrastructure projects in order to guarantee different possibilities for exporting their energy. This requires common understanding, financing, construction and operation.

Anticipated Papers

Papers will be requested from representatives from the following organizations:

- Government energy policy making agencies
- National and international energy companies involved in the Gulf
- Privately-owned energy & industrial groups based in the Gulf

- International organizations
- Regional financial entities
- Academic and research institutions

Workshop Director Profiles

Dr. Naji Abi-Aad is Senior Fellow, American University of Beirut (AUB), and COO of Petroleb, an oil company based in Beirut and active in petroleum exploration offshore in the East Mediterranean. He manages the newly-established Institute for Energy Economics at the American University of Beirut (AUB). Prior to his move to Lebanon, Dr. Abi-Aad served for an year as Senior Advisor to the CEO of Qatar Petroleum International (QPI), after spending six years as Research Advisor for Qatar Petroleum and its Board of Directors, and as Media and Research Strategist in the Office of HE Qatar's Deputy Premier and Minister of Energy & Industry. Between 1999 and 2005, Dr. Abi-Aad was managing director of Econergy, a Beirut-based research center aiming to carry out studies on economic and energy development in the East Mediterranean and the Gulf. Between 1988 and 2003, he was Senior Advisor for the Middle East with the French-based Observatoire Mediterranéen de l'Energie (OME). Dr Abi-Aad studied at the American University of Beirut before being awarded a Ph.D. degree in Energy Economics from Grenoble University in France. During his 30 years of experience, he has been involved in extensive consultations, conferences and studies, particularly on oil and gas in the Middle East. He has authored over 80 reports and studies on Middle East energy issues as well as a book on the security of petroleum supply from the region.

Dr. Christian Panzer is senior researcher at the Vienna University of Technology (Department of the Energy Economics Group). He holds a degree in electrical engineering (Energy Technology) and a Ph.D. in Energy Economics from the Vienna University of Technology. His research interests focus on the area of energy policy and energy economics, especially on renewable energy technologies. Dr. Panzer is involved in many studies that focus on the interaction between renewable energy sources and conventional energy supply technologies. Additionally, global energy market development and its implications for the European market are a core topic of his research. Among the aspects he focuses on is the modeling of future investment cost expectations of energy technologies under the consideration of volatile energy and raw material prices. Dr. Panzer is involved in many international energy projects as well as industry studies. He has authored two books and about twenty scientific publications and has given more than 40 presentations in the field of (renewable) energy economics.