



Well positioned for another successful year!

Len Srnka, EAGE president, writes: As we start the New Year, I congratulate the Middle East Regional Council on its ongoing work on EAGE's behalf, I heartily thank our local team operating in the Dubai office, and I earnestly hope that the news and information in this publication is helpful to our members.

I am happy to report that the EAGE is well positioned for a very successful 2013, and I can include our Middle East services in this assessment. We enjoy an enviable position as part of the global energy community, and as a result EAGE is weathering well the economic storms that continue to plague most of Europe and many other parts of the world. We of course will not let down our guard as we carefully manage the Association's affairs.

As I think back over these first six months of my presidency, I see a number of events and activities that deserve special highlighting. First is the continued membership growth in our regions. As of December we have around 16,000 members, another all-time high, and this growth shows no sign of abating. We are reaching out to more current and prospective members in the Americas. And I am especially pleased with our student member-

Trivia Question

Q: Do you know the difference between Shale Oil and Oil Shale?



See answer p. 5.

*Len Srnka, president
EAGE 2012-13.*



ships, which now exceed 2500, including an encouraging number from the Middle East region.

A second highlight is the continuing success of our education programmes, in particular the EAGE Education Tours (EET) which have had notable success in the region.

A third highlight for me was the recently announced reduction in prices for online subscriptions to our five journals, coupled with an increase in prices for print subscriptions that more accurately captures their true production costs and which encourages us all to think greener.

Our five new Board members who joined us in 2012 – fully half of the entire Board - Philip Ringrose (Vice-President-Elect), Paul Sava (Education Officer), Walter Rietveld (Technical Programme Officer), Roald van Borselen (Membership and Cooperation Officer), and Dirk Orłowski (Near Surface Geoscience Division Chairman) have come up to speed quickly, and are making significant contributions in their respective roles.

The theme for our Association of moving 'Forward Together', as described in our journal *First Break* last August, is showing tangible effects through the hard work of the Board, of our many committees, and by the office staffs in Houten, Kuala Lumpur, Moscow, and of course here in Dubai.

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Khobar provides some great days of education

Just over 80 participants visited Education Days Khobar in the Kingdom of Saudi Arabia on 17–21 November 2012. EAGE Middle East and Dhahran Geoscience Society (DGS) joined forces to organize Education Days and celebrate the DGS silver anniversary.

EAGE Middle East had cooperated successfully on a number of occasions so there was no hesitation to join forces again. Mahmoud Hedefa, president of DGS, rallied the support of his colleagues in DGS, and built a formidable team to execute the plan including Aiman Bakhorji, Aiman Mansouri, Abdullah Deraibi, Saeed Ghamdi, and Khalid Al Dulaijian.

Three one-day courses and one two-day course were presented in the Carlton Al Moaibed Hotel. Dr Jorg Herwanger from WesternGeco UK presented his course on 'Seismic Geomechanics'. It was well received especially as seismic geomechanics has been identified by Saudi Aramco as a growth area. When Dr Phil Clegg, from Ikon Science, arrived

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I see *Forward* meaning to advance our technical disciplines, our professional development, and our technical support for societal needs; and *Together* as increasing integration of geoscience and engineering disciplines, cooperation and coordination with our sister societies, and participation and diversity within our Association. Above all, EAGE is, and must remain, an association of, by, and for its members. This is

something we are very conscious of in our outreach to the rapidly growing ranks of members in the regions around the world.

Several new initiatives are in place for events in 2013 as a result. In 2011 a workshop on Borehole Geophysics took place in Istanbul to a full house of 111 participants. In view of this event's success, a follow-up meeting is planned for April 2013. This year will also bring back other favourite workshops, such as the Work-

shop on Iraq, the International Conference on Engineering Geophysics, and the Workshop on Naturally Fractured Reservoirs. The EAGE Passive Seismic Workshop will even see its fourth edition this year!

May I just finish by wishing our members in the Middle East region and the many others who participate in our local events, or take an interest in our geoscience and engineering community, all the very best for 2013.

Abdulla Al-Naim

We have lost a true friend and supporter of EAGE's Middle East Region activities with the sudden passing of Abdulla Al-Naim, vice-president exploration, Saudi Aramco. In addition to his major responsibilities for the management and development of oil and gas exploration in the Kingdom, Al-Naim found time to lend his energy and charisma to help build a professional geoscience community in the Middle East.

He was a co-founder and first president of the Dhahran Geoscience Society (DGS), very involved in the regional GEO conferences, and played an active role in the major professional associations. He was particularly helpful in encouraging the establishment of the EAGE Regional Office and the subsequent fruitful cooperation with DGS on a number of events, most recently evident in the inaugural Education Days in Khobar. It was typical of the man that in November 2012 he came and delivered an inspiring keynote presentation to the EAGE Integrated Reservoir Modelling Workshop in Dubai sharing with us his views on today's modelling approaches and the future of modeling for a more robust field characterization and development.

Al Naim began his career as a well site geologist, following a degree in geology from King Saudi University, Riyadh. Various assignments within Saudi Aramco led to manager of the Area Exploration Division (1996), manager of the Exploration Operations Department (2002), and then manager of the Reservoir Characterization



Abdulla Al-Naim, vice president exploration, Saudi Aramco.

Department (2004). He was appointed executive director of Exploration in November 2004, and promoted vice president in April 2006.

Throughout his career he was respected for his outstanding knowledge of Saudi Arabia's petroleum geology but was also always appreciated for his inspiration leadership as well as the care and concern for his co-workers, especially young professionals at the beginning of their careers.

We extend our heartfelt condolences to Al-Naim's family and his many friends.

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Khobar provides some great days of education

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in Saudi Arabia he was lucky to find his taxi still waiting after those border control delays. Fortunately the two-day course on 'Understanding Subsurface Pressure and Pressure Prediction' was popular so all the effort was worth while. When Dr Vladimir Grechka, from Marathon Oil Company, received the invitation to teach 'Seismic Anisotropy' in Khobar, he was thrilled and accepted the proposal right away. His 16-hour flight from Houston to Dammam went very quickly as he was busy making last-minute changes to the course. The course itself went down really well.

Olav Barkved, BP Norway and instructor of the EET 6 course on 'Seismic Surveillance for Reservoir Delivery' also enjoyed giving his course in Khobar. There was genuine interest shown in the topic, especially since 4D seismic technology has not yet been applied in the Middle East as it has in the North Sea area. Looking back on Education Days Khobar 2012 we can conclude that the event was successful and EAGE is looking forward to organizing future Education Events in the Middle East region in cooperation with the DGS.

EAGE launches fracture reservoir characterization book

Latest book to be launched by EAGE Publications is 'Seismic Fracture Characterization – Concepts and Practical Applications' by Enru Liu and Alex Martinez, which is now available at the EAGE Online Bookshop!

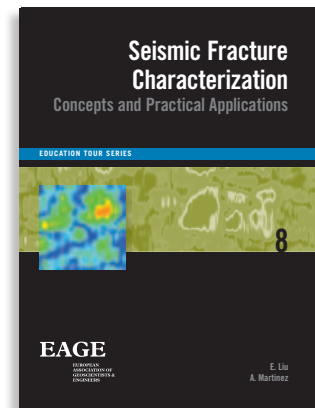
The book is part of the EET series and complements the EET 8 course which will be launched in 2013 at the EAGE Annual Conference in London in 2013. The course is presented by Enru Liu who is currently a research associate at the ExxonMobil Upstream Research Company.

The associated course 'Seismic Fracture Characterization - Concepts and Practical Applications' provides an introduction to the fundamental concepts of seismic fracture characterization by introducing seismic anisotropy, equivalent-medium representation theories of fractured

rock, and methodologies for extracting fracture parameters from seismic data.

The authors focus on practical applications using extensive field data examples. Three case studies are included to demonstrate the applicability, workflow, and limitations of the technology: a physical laboratory 3D experiment where fracture distributions are known, a Middle East fractured carbonate reservoir, and a fractured tight gas reservoir.

The ultimate goal is to build discrete fracture network models incorporating all data. These models should not only be geologically consistent but also geophysically and geomechanically consistent so that the models can be used to forecast the behaviour and performance of fractured reservoirs.



Member price for the book is €55, list price is €70. For more information about the EET 8 book please visit our website www.eage.org/bookshop; for more details on the EET 8 course, visit www.learninggeoscience.org.

Book early for discounts on EAGE London 2013 meeting



London's famous skyline.

This year London will host EAGE's Annual Meeting for the fourth time when the 75th EAGE Conference & Exhibition incorporating SPE EUROPEC 2013 (10–13 June 2013) comes to town. It is worth booking early for early bird registration deals and more.

As the 75th anniversary of the first EAGE meeting (these events were initially held more than once a year in the early days), participants can look forward to a particularly memorable event with more than 6000 delegates. The ExCeL London venue is acknowledged to be one of world's leading event locations offering a stunning waterfront

in the heart of London's revitalized Royal Docks area, within easy reach of the city centre.

As the world's population approaches seven billion people, the demand for our planet's resources and the pressure on its fragile environment have never been greater. Never has the role of geoscience and engineering been more crucial in trying to find solutions to global issues. Together these disciplines search out new resources and find ever more sophisticated ways of developing them, economically and sustainably. Fundamental to this task is the requirement to operate safely, yet constantly address risk and move beyond the conventional world, to change the frontier of what is known and what is possible.

EAGE's Annual Meeting has established itself as the largest and most comprehensive multi-disciplinary geoscience event of its kind in the world. The six-day programme in London can be expected to include a superb technical programme with oral and poster presentations from leading international specialists in many disciplines. As ever

the conference agenda will be complemented by our customary major exhibition showcasing equipment and services from around the world, and by the dedicated sessions that will be open to all conference delegates. We also continue to build around these core elements a rich seam of workshops, short courses, and field trips where participants can take time to learn new skills or update their knowledge guided by leading experts in their chosen fields. In addition there is the major programme dedicated to students.

Anyone attending as a delegate will of course also be able to experience the conference evening to which family members are also welcome. Over the years these occasions, invariably held in exotic or historic city locations, provide a fitting and convivial culmination of the week's proceedings where colleagues and new friends can meet and enjoy each other's company.

Make sure you are there and register on time! For more information, please check the EAGE website www.eage.org.

Student lecture plots past and future energy prospects

A report by Dr Hesham El-Kaliouby from the Earth Science Department of the Sultan Qaboos University

Last December the EAGE Student Lecture Tour Middle East visited the Sultan Qaboos University, with the lecture 'The Energy Resource in the Middle East; Yesterday, Today and Tomorrow' presented by Bernard Fourcade of Total Professeurs Associés.

Dr Fourcade began his lecture with some historic background about the different energy resources used worldwide and in the Middle East. Through the course he introduced the origin and history of fossil energy, explained the development and growth of that energy in the Middle East, conventional and non-conventional energy resources such as gas and oil shale, and finally concluded with solutions and alternatives for renewable energy resource in the future, such as nuclear, solar, and wind energy.

The course proved useful for both undergraduate as well as graduate students. An overview of the



Students ready for the lecture.

current situation in the energy industry was highlighted enabling students to understand the challenges of the future. They had the chance to come up with ideas on what can be done to develop renewable energy resources and effective methods of fossil fuel conservation, especially oil and gas which will remain the main sources at least until the mid twenty-first century.

Dr Fourcade studied at Bordeaux University and IFP (Institut Français du Pétrole) in Paris. He received his PhD in Earth Sciences from the University of



Presentation to Dr Fourcade (right).

Bordeaux (France) in 1979. After his PhD Bernard joined Elf as an exploration geologist before being assigned abroad for his first expatriation in the Sultanate of Oman where he got acquainted with the Middle East, region of the world with which he has kept close links throughout his professional life.

After a return to France in he was appointed in 1992 as a chief geologist in Nigeria. After this assignment in Africa, Bernard moved back to headquarters in Paris where he was involved in Middle East region work. His job included the supervision of the exploration activities of the different affiliates of Elf in the Middle East together with proposals for new exploration business.

In 2005 he became technical advisor for Total in PDO (Petroleum Development Oman) and in SRAK (South Rub al Khali Company) when Total was partner of Saudi Aramco and Shell.

After a career of more than 30 years, Bernard wanted to give back some of his experience to the numerous young recruits in the company. For that reason he accepted to be the geology training manager of Total as his last assignment in the company.

In pre-retirement since July 2012, he currently teaches petroleum geology with Total Professeurs Associés (TPA), Paris, France. His area covers mainly hydrocarbon basin exploration and synthesis with more focus on the study of petroleum systems. He has been a member of the EAGE for more than 15 years.

For more information about the EAGE Student Lecture Tours, please visit our website www.eage.org/students.

Preparations well underway for geosteering workshop

Hoping to repeat the success of the inaugural 2010 event, organization is underway for the second EAGE Geosteering and Well Placement Workshop, scheduled for 22–25 September 2013 in Dubai UAE. The workshop is supported by Saudi Aramco, Schlumberger, Halliburton, and Statoil.

With the theme 'Geosteering and the benefits it brings to subsurface understanding', the workshop will again focus on the latest developments in technologies and processes. Recent case histories will be shared, including applications of the promising real-time deep readings, new imaging-while-drilling techniques, and innovative well placement workflows. The workshop aims to uncover the tremendous value in utilizing the well placement data for structural interpretation, petrophysical evaluation in horizontal wells, model updates, completion designs and more.

Aus Al Tawil, manager of the Reservoir Characterisation Department (RCD), Saudi Aramco, will give the opening keynote address at the workshop.

The Call for papers is currently open. For more details and to submit an abstract, please visit www.eage.org.

Al Ain engineering geophysics builds on 2011 foundation

United Arab Emirates University and Al Ain City Municipality in association with EAGE will be presenting for the second time the International Conference on Engineering Geophysics to be held at the UAE University in Al Ain, UAE from 24–27 November 2013. The repeat event follows the success of the inaugural conference held in 2011.

At the opening ceremony of the first conference H.H. Sheikh Nahayan Mubarak Al Nahayan, Minister of Higher Education and Chancellor of the UAE University, said that the top policy priority of the United Arab Emirates was building a sustainable economy followed by a balanced and diversified development that would ensure stability and prosperity. Those priorities speak to social responsibility and signal the need for engineering geophysics. As such, the application of engineering geophysics has become mandatory prior to any project approval in Abu Dhabi Emirate for all types of construction.

In addition to the main engineering and geotechnical objectives of the coming event, it has been decided to include special sessions of other related applications of engineering geophysics



UAE University and Al Ain Municipality officials attending the Opening Ceremony of the First International Conference on Engineering Geophysics.

ics in the fields of archaeology, oil industry, and forensic geophysics.

Invited keynote speakers include Prof Dr G. Randy Keller (Edward Lamb McCollough Chair in Geophysics, University of Oklahoma) and Dr Laurance Donnelly (Chair of the International Union of Geological Sciences (IUGS) Initiative on Forensic Geology).

Call for papers is currently open and the programme will include oral and poster presen-

tations on a variety of technical subjects on engineering geophysics and case studies in related fields. The conference will also allocate a display area to allow companies to display and demonstrate related technologies. More details are available on www.eage.org.

Sponsors to the conference include: ADNOC and Abu Dhabi Police (Diamond), Emirates Advanced Investments (Gold), and ADMA (Silver). Abu Dhabi Tourism and Culture Authority is the official tourism and culture partner.

Nothing boring about this geophysics workshop!

A second EAGE-organized borehole geophysics workshop is being held in St. Julian's, Malta from 21–24 April 2013 with the theme '3D VSP: Benefits, Challenges and Potential'.

As the title suggests the workshop aims to provide participants with an understanding of the current state-of-the-art and recent/ongoing technology development pertinent to the borehole-

geophysics discipline, especially with regards to 3D VSP. Programme sessions include 3D VSP, acquisition, reservoir characterization, and other borehole seismic, which will ensure lively discussions throughout the workshop.

Distinguished keynote speakers set to open the workshop will be Ibrahim Assa'adan, acting executive director of exploration, Saudi Aramco, followed by Phil Christie, former president of EAGE

and currently with Schlumberger Cambridge Research as a scientific advisor and a leader of the Schlumberger Geophysics Technical Community. His talk, entitled 'VSP: Toy, Tutorial or Tool' will focus on the technical challenges and developments in borehole geophysics. Phil was president of the EAGE for 2008-2009 and is currently into his second three-year term as chief editor of the scientific journal *Petroleum Geoscience*.

The event will also feature two short courses on borehole geophysics; more details are available online. Registration is still open!

The workshop's main sponsor is Saudi Aramco with additional support from BGP, VSFusion, Sercel, Halliburton, Schlumberger, Baker Hughes, and Optasense.

Trivia answer

Two very similar terms are being used for very different substances. Oil Shale is a rock that contains significant amounts of kerogen that can yield liquid oil if it is heated in the absence of oxygen. Shale Oil is crude oil that is produced from tight shale formation.

Abu Dhabi field trips make a splash!

There was plenty of action – including some inadvertent bathing – for those participants who decided to join the two field trips on offer ahead of the EAGE Fourth Arabian Plate Geology Workshop focusing on the Late Jurassic/ Early Cretaceous Evaporite-Carbonate-Siliciclastic Systems of the Arabian Plate. The one-day field trips were held to explore the Modern Carbonate and Evaporite Depositional Environments of Abu Dhabi in the UAE.

The carbonate-evaporite environments along the shoreline and offshore Abu Dhabi are a classical modern analogue for a low angle, ramp style profile similar to those of many ancient intra-shelf carbonate platforms. In the Abu Dhabi area the main depositional environments are characterized by moderate basin depth, Ooid shoals, carbonates lagoons, and evaporite systems along the basin fringes. The two field trips were designed to provide an overview of these depositional environments.

The first trip on day one was all about the Abu Dhabi Lagoon and Ooid shoals – Modern Analogues for Ancient Depositional Environments, led by Volker Vahrenkamp and João Barata from ADCO.



Field trip participants enjoying the Abu Dhabi Sabkha.

A boat trip through the Abu Dhabi lagoon and ooid shoals was part of the deal and 20 participants showed up to see this picture perfect modern analogue of ancient carbonate depositional environments.

The day started from Abu Dhabi Island with a two-hour kayak trip to investigate mangrove swamps and carbonate sand deposits in a tidal bar setting. Dated cores indicate flooding of the lagoon and gradual infill over the last 6000 years. Stranded tidal bars and erosional channels suggest that the

sea-level has been dropping in recent times. Some of the sedimentary features in this carbonate sand dominate environment are crab burrows, root traces, cross-bedding, and early cementation.

After the initial kayaking, the trip proceeded by powerboat through the vast lagoon with stops to observe Pleistocene fossilized aeolian dunes and modern mud banks. The final destination was the modern-day tidal deltas, which form the famous Abu Dhabi ooid shoals. With bags of ooids bulging in their pockets, many happy geologist faces were observed. Only a few of the party fell into the 23°C waters (cold by Abu Dhabi standards), which added to the overall enjoyment had by all!

Supra and Intertidal Environments of the Abu Dhabi Sabkhas near Al-Qanatir Island were the feature of the day two field trip led by Abdulla al Mansoori, ADCO and Christian Strohmenger, ExxonMobil.

A party of 22 visited the famous Abu Dhabi Sabkha in the vicinity of Al-Qanatir Island (Dabbiya Area), about 80 km southwest of Abu Dhabi City. Genuine supratidal sabkha to intertidal microbial mat (stromatolites) environments and sub-environments were studied in detail. Emphasis was on lateral and vertical facies successions, evaporite-mineral distribution, age relationships of the different deposits, and controls of sea-level variations. Surface morphology, the frequency of flooding, and the presence of a well-developed microbial mat were used as criteria to distinguish between supratidal, intertidal, and shallow subtidal environments.

Naturally fractured reservoirs workshop to focus on development challenge

Get ready for the Second EAGE Workshop on Naturally Fractured Reservoirs, which will be held in Muscat, Oman on 8-11 December. If you're thinking of submitting an abstract, the call for papers deadline is 15 May.

Background to the workshop is that a substantial proportion of the world's remaining conventional and unconventional hydrocarbon resources is contained in naturally fractured reservoirs (NFR). These resources are generally recognized as being amongst the most taxing to develop. The challenges they pose start from achieving an effective characterization and modelling of the complex fracture/matrix/diagenesis system, fol-

lowed by the ability to capture its changing properties through time with dynamic simulation.

These, along with further challenges, including drilling, well completion, and data acquisition will be explored with actual case studies discussing where, when, and what needs to be done to increase our ability to optimally develop NFRs. The examples are intended to support the techniques presented and outline lessons learnt. The workshop aims to provide an overview of the current state of the art. For full details including the proposed topics, please go to www.eage.org.

Make your presence felt at Iraq Workshop

For those interested in the future of Iraq's E&P activities, it's time to submit a paper now for the Second EAGE Workshop on Iraq. The event is being held in the Dead Sea area of Jordan from 15–18 September 2013 following the success of the first workshop held in Istanbul last May.

The second in this series entitled 'Field Development and Emerging Technologies' aims to exchange key learnings and discuss the challenges facing Iraqi G&G experts and the international geosciences community. Key topics will be development of main reservoirs (including modelling and drilling), water sourcing and flooding, export infrastructure, emerging technologies, and regional studies.

For further details and information about submitting an abstract, please refer to www.eage.org.

Welcome escape from Norway

Olav Barkved started teaching his EET 6 course on Seismic Surveillance for Reservoir Delivery in the Middle East last November. It was good timing since he could escape the snowstorms forecast for Norway where he works for BP. Before he flew into Dhahran airport to begin his Middle East tour in Khobar he had already presented his course in Stavanger and Moscow.

After Khobar he continued travelling to Muscat. With 41 participants enrolled in the course, it was a great success. During his weekend break, he went sightseeing into the mountains to enjoy the scenery. Next on the list was Abu Dhabi, where participants again gave positive feedback. As most participants commented, the course increased their knowledge and skills. The last city on the itinerary was Doha, where the venue was the beautiful Diplomatic Club.

Overall, Barkved said he enjoyed his travels in the Middle East. People were very open-minded, engaged, and showed interest in the

course. He enjoyed the interaction with the participants. Given the unfamiliarity with 4D seismic technology many were asking 'would this work for me?' and that helped to create a positive and curious atmosphere during the course.

Looking back on the tour, Barkved said: 'I felt welcomed and appreciated the hospitality'. And after Doha it was time to fly back home, where the storm had passed in the meantime.

Interested in the course as well? The EET 6 tour will continue in 2013. Olav Barkved will continue teaching in Latin America, North America, Asia Pacific, and Europe. Please visit www.learninggeoscience.org for more information about the Education Tour 6.



Olav Barkved meeting with students on his travels.

Calendar of key EAGE events

March 2013

17-20 March 2013

4th EAGE Passive Seismic Workshop

Amsterdam, The Netherlands | www.eage.org

26-28 March 2013

6th International Petroleum Technology Conference (IPTC)

Beijing, China | www.iptcnet.org/2013/

April 2013

21-24 April 2013

Borehole Geophysics Workshop II

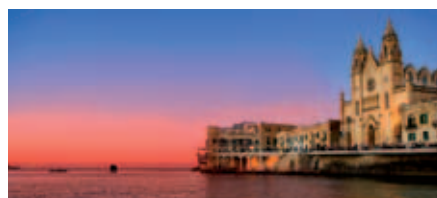
St Julian's, Malta | www.eage.org

June 2013

10-13 June 2013

London 2013 - 75th EAGE Conference & Exhibition incorporating SPE EUROPEC 2013

London, UK | www.eage.org



15-18 Sept 2013

Second Workshop on Iraq

Dead Sea, Jordan | www.eage.org

September 2013

22-25 Sept 2013

Second Advanced Geosteering & Well Placement Workshop

Dubai, UAE | www.eage.org

October 2013

28-30 Oct 2013

Workshop on Tight Gas

Abu Dhabi, UAE | www.eage.org

November 2013

3-4 November 2013

Forum on Students and Young Professionals

Abu Dhabi, UAE | www.eage.org

24-27 Nov 2013

International Conference on Engineering Geophysics

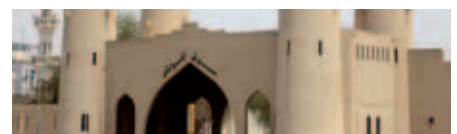
Al Ain, UAE | www.eage.org

December 2013

8-11 Dec 2013

Second Workshop on Naturally Fractured Reservoirs

Muscat, Oman | www.eage.org



Forecast questions Saudi Arabia's long term production hopes

Saudi Arabia continued its role as the world's leading swing producer, maintaining historically high production of near 10 million b/d in support of the global oil market, according to the latest report from Business Monitor International.

However, decreased global demand forecast and rising supply should ease the tightness in oil supply, allowing Saudi Arabia's production to hold steady at 11.6 million b/d in 2013, and rise to 12.6 million b/d by 2021. While the report anticipates strong growth in gas production from new projects, it highlights the troubled exploration history of the Empty Quarter in addition to the prospect of further delays stemming from the poor quality of existing reserves as downside risks to both timeframes and volumes included in the current forecast to 2021.

Meantime Saudi Aramco chief executive Khalid al-Falih recently confirmed plans to drill seven gas exploration wells in deep and shallow water in the Red Sea, off the coast of the northwestern city of Tabuk. In addition Saudi Aramco will start gas production this year at its Midyan field in Tabuk, which was discovered in the 1980s.



Khalid al-Falih, chief executive, Saudi Aramco

TAQA to explore in Kurdistan

Abu Dhabi National Energy Company (TAQA) is to acquire a 53.2% interest in the Atrush block in the Kurdistan region of Iraq from General Exploration Partners, an affiliate of Aspect Holdings.

The Atrush acquisition adds a new Middle East and North Africa (MENA) dimension to TAQA's operated oil and gas business, which is currently focused on North America, UK, and the Netherlands. TAQA produced in excess of 134,400 boe/d during the first nine months of 2012.

Carl Sheldon, CEO of TAQA, said: 'Atrush is a highly prospective block in a new growth area with significant upside potential. This entry into a pure exploration play demonstrates how TAQA is leveraging its experience as an operator of complex oil and gas assets. It fits our strategy to build on the UAE's strong bilateral bonds in the Middle East and North Africa and to become an operator of scale in the markets we choose to compete in.'

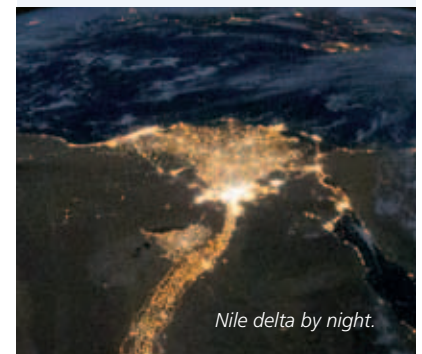
In April 2012 TAQA acquired a 50% interest in the 1000 MW Sulaymaniyah gas-fired power plant in the Kurdistan region of Iraq.

Gas finds at the double for Dana in Egypt

Dana Gas, the Middle East's first and largest regional private sector natural gas company, has made two onshore gas discoveries in the Nile Delta Basin of Egypt. Initial estimates indicate that together the two discoveries, known as Alyam-1 and Balsam-1, could increase the company's commercial reserves by between 17 (proved) and 95 (proved and probable) million barrels of oil equivalent (MMBOE).

Appraisal drilling will be conducted on both discoveries which are located on the West El Manzala Concession, operated by Dana Gas. The Balsam-1 well encountered 51 m of net pay in a good-quality sandstone reservoir of the Qawasim formation at high pressure, indicating high deliverability from the field. Production testing yielded 10 mmcf/d of gas on a 20/64-in choke and more than 1000 b/d of liquid condensate. The two new fields have the highest liquid yield of any gas field discovered in the area so far.

Estimated reserves for Balsam-1 are between 76 to 436 bcf of gas with between 2.5 and 9.4 million barrels of condensate (mmbo). The estimated reserves for the Alyam-1 discovery are between 8–66 bcf and between 0.2–1.3 mmbo.



Nile delta by night.

Total buys into Yemen block

Australian company Oil Search has completed the \$44 million sale of its 40% interest in Block 3 (Gardan) in Yemen to Total which will assume operatorship of the block. Oil Search's remaining asset in Yemen is its 34% interest and operatorship of Block 7 (Al Barqa), which contains the Al Meashar oil field, discovered in 2010. The company is planning to acquire a 2D seismic programme over prospective areas of the Block in 2013, subject to a stable and safe operating environment prevailing in this area.