

3rd Regional Deepwater Offshore West Africa Conference & Exhibition

14–19 November 2010 | Abuja International Conference Centre, Nigeria



West Africa Deepwater: Successes, Challenges and Future Prospects

CALL FOR ABSTRACTS

Abstracts submission deadline 31 May 2010

www.aapg.org/africa/dowac2010



Africa Region



www.nape.org.ng

The Nigerian Association of Petroleum Explorationists in association with the American Association of Petroleum Geologists Africa Region invites you to the third Regional Deepwater Offshore West Africa Conference & Exhibition (DOWAC) scheduled for 14–19 November 2010 at the Abuja International Conference Centre, Nigeria.

The conference is technically and financially supported by NOCs, IOCs, independents, service companies and other stakeholders within and outside West Africa region.

Highlights of the five day conference shall include an all convention luncheon, management and plenary sessions, short courses, and field trips. Workshops shall focus on the deepwater and ultra deepwater challenges of Africa, as well as special sessions with emphasis on key operational and business challenges in West Africa deepwater and beyond. Details of these programmes shall be forth coming.

Sub Themes

1. Deepwater Petroleum Systems Analysis — Current and Future Developments
2. Challenges of Deepwater Exploration and Development — Case Studies
3. Effects of Fiscal Policy and Regimes on Oil and Gas Project Economics
4. Technological Advances and Innovations in Deepwater Exploration
5. Emerging Trends in Deepwater/Ultra Deepwater Reservoir Characterization
6. Giant Hydrocarbon Field Discoveries Offshore West Africa — An Overview of the Past Two Decades
7. New Play Concepts, New Plays and Unconventional Resources
8. Gas Development Challenges
9. Deepwater Oil and Gas Exploration and Development: Environmental Challenges

Abstracts and posters are invited for the listed sub-themes. To aid prospective presenters, brief descriptions for each of the sub-themes are listed below.

Deepwater Petroleum Systems Analysis — Current and Future Developments

This sub-theme will focus on the analysis of petroleum systems in deepwater with particular reference to West Africa. Reviews of theories, concepts and models of petroleum systems. Discussions on current understanding of West Africa deepwater petroleum systems underpinned by well results — successes and failures.

Reviews of data, tools and methods for the evaluation of petroleum systems. Highlights on uncertainties, knowledge gaps and unanswered questions. Comparisons with global analogues and other petroleum systems. Exploration of possible linkages with the onshore and shallow water petroleum systems. Views as to future advances in petroleum systems analysis. What areas, tools and techniques need strengthening and/or innovations?

Challenges of Deepwater Exploration and Development — Case Studies

Major discoveries and developments have been recorded in many basinal settings along West Africa. In Tertiary basins major successes have been recorded in detachment fold and diapiric fold belts. The thrust fold belts have been less successful in terms of impact size discoveries. What is failing: source rock, migration pathways, trap or combination of these? What do analogues from other basins tell us?

Cretaceous successes have spurred increased exploration along the coast of West Africa with varying results. What are the controls for these successes and where else can these be observed? What play models and technology applications have aided in these discoveries and what challenges were encountered? With increased exploration

maturity and diminishing discovery sizes, what “creative cluster development” ideas are being applied and/or needed to harness medium size discoveries in deepwater? What are the risk areas in prospect maturation and how have they been resolved? What technology innovations have been applied in exploration and development? How do we reduce drilling cost in this era of high daily rig cost for deepwater rigs? Case histories from other basins will be welcome to demonstrate how similar challenges have been addressed.

Effects of Fiscal Policy and Regimes on Oil and Gas Project Economics

Natural resources dominate most economies. Countries with oil and gas resources protect this wealth through careful implementation of fiscal policies, a term which encompasses not only the purely fiscal aspects governing petroleum operations, but all of the legislative, tax and contractual aspects. Petroleum taxation is a vital aspect of the industry and countries are unique in the way they structure their taxes.

This sub-theme will address the arithmetic, mechanics and dynamics of the various West African deepwater fiscal systems. The diversity of fiscal systems in the international oil and gas arena shall be examined with a view to establishing common denominators and best practices, wherever possible. Emphasis shall be on how they affect operator and government entitlements in the overall context of individual project economics across the exploration and production value chain.

Technological Advances and Innovations in Deepwater Exploration

Technological change has played a significant role in deepwater exploration over the past few decades, reaching deeper, accessing new plays, increasing reserves and lowering cost. Now, more than ever before, we live in exciting times, needing to draw even more from a broad array of new technologies and approaches. This offers the key opportunity to prevent depletion effects from becoming dominant as the world’s hunger for energy accelerates.

This sub-theme will address the various technologies being applied and developed for deepwater exploration and development. Improvements in measurement devices and advancements in computational power are helping daily to improve subsurface imaging. Recent advances in seabed logging, electromagnetics, seismic, seepage detection techniques and the innovative combination of these and others via GIS-based technologies in moving the frontiers of today’s deepwater exploration.

Emerging Trends in Deepwater/Ultra deepwater Reservoir Characterization

The reservoir characterization of deepwater/ultra deepwater fields presents a major challenge for both geoscientists and reservoir engineers due to the complex architectures of deepwater facies and limited amount of data available. Recent success of optimal development and recovery from deepwater fields has been attributed to various aspects which will be addressed under this sub-theme strategic planning of data collection during appraisal/development drilling and production; timely cross-functional data integration and use of visualization technology; application of high resolution 3D and 4D seismic for better sand prediction and understanding of reservoir heterogeneity; development of deepwater and ultra-deepwater depositional models based on surface outcrops, subsurface core and subsurface measurements; improved geological modeling technology providing scenarios for complex reservoir modeling.

Giant Hydrocarbon Field Discoveries Offshore West Africa — An Overview of the Past Two Decades

Deepwater development is cost intensive and hence requires discoveries with large resources. Several giant deepwater discoveries have been found in the region in the past two decades, making West Africa a world leader in offshore exploration and production activities currently and in the near future. The first giant deepwater fields discovered offshore West Africa were located in deepwater extensions of Tertiary deltas. The Cretaceous rift and post rift systems form the current frontier. Over 50 fields have been discovered in water depths of 500 meters or more, with the deepest discovery to date being in about 2,000 meters of water.

Only a handful of the deepwater fields are currently on production, including ExxonMobil’s Topacio satellite off Equatorial Guinea, Shell’s Bonga and Chevron’s Agbami, both offshore Nigeria, Kizomba complex and Dalia also in Angola. What makes for a giant in deepwater West Africa, where are they located, and how were they found? Giants have been found in both the Tertiary deltaic systems as well as the Cretaceous rift/post rift systems along West Africa. What are the differences between the Tertiary giants and the Cretaceous giants and their respective settings and controls? What analogues informed the discovery evaluation of these giants? What was the role of regional integrated studies and basin analysis?

New Play Concepts and Unconventional Resources

Unconventional natural resources are best described as those gas and oil accumulations that are hard to characterize and commercially produce by common exploration and

production technologies. These resources are typically located in heterogeneous, extremely complex, and often poorly understood geologic systems, often easy to find but difficult to produce. High risk factors and unpredictable results often associated with unconventional resources exploration and development projects inhibit industry investment in these resources.

However, as unconventional resources continue to gain global prominence, it is time to take an inventory and review of the types of unconventional resources available within the West Africa sub region. Ask the question, how can these resources be harnessed and developed? Case study presentations from within the region will characterize local occurrences, exploration and or mining challenges and technologies as well as the economics of these energy resources. The unconventional resources include but are not exclusive of oil shales, oil sands, geothermal resources, gas shales, tight gas sands, coal bed methane.

The second focus of this sub theme is the dissemination of technical knowledge (basin geology, petroleum systems and play concepts) in frontier basins along the west coast of Africa. Particular attention will be given to frontier basin with recent proven hydrocarbon resources. This is expected to facilitate a better understanding of regional trends in hydrocarbon and energy mineral resource. It is hoped that future exploration activities in “yet to be proven basins” in this sub-region will benefit immensely from this exposé. The question to be answered will be why these other basins are not working for us yet.

Gas Development Challenges

Gas development in West Africa is still in its infancy with Nigeria in the lead, but mainly from onshore development followed by Equatorial Guinea and subsequently in 2012 by

Angola. Global deepwater/ultra-deepwater gas development is spurred by global growth in demand and increasing requirements for environmentally friendly “clean” fuel against the background of concerns of global warming. Gas handling, utilization and commercialization are integral part of deepwater development, and this sub-theme will address issues specific to gas development: resource availability, legislation, pricing, infrastructure, market conditions, variability among the producing countries of West Africa, cooperation in gas disposal and management, technology applications and global interrelations, oil versus gas exploration and development.

Deepwater Oil and Gas Exploration and Development — Environmental Challenges

This sub-theme will look mainly at operational safety in deepwater oil and gas exploration and production activities, environmental and socioeconomic challenges, regulatory issues as well as conservation of natural resources within the deepwater environment with special reference to West Africa. Abstracts on best practices from other parts expected to be discussed. Other areas expected to be covered include:

- Safety challenges of placement of production/subsea production equipment at the seafloor
- Management of deepwater drill cuttings and synthetic based drilling fluids
- Health and safety challenges facing the deepwater workforce
- Socioeconomic effects of deepwater activity on ports and coastal support facilities and emergency landing facilities for aircrafts
- The spatial effects of deepwater blowouts and pipeline leaks
- Location/avoidance of deepwater benthic communities
- Key regulatory issues and the need for continuous improvement
- Possible environmental effects of existing/emerging deepwater seismic techniques



About Abuja

Nigeria is Africa's most highly populated country, producing oil and some of the most infectious music you'll hear in West Africa. Explore the Nigerian capital, Abuja, located right in the middle of the country, around 300 miles inland from coastal Lagos, the commercial capital of the country. Constructed mainly in the 1980s, Abuja officially became Nigeria's capital in 1991.

Abuja is a purpose-built city and a work in progress with a host of glittering new buildings and museums still under construction. It is predominantly a business and administrative city, with the focus on tourism, embassies, government agencies and business facilities. Central Abuja's tidy grid of streets is divided into four districts. Massive Aso Rock towers over the Central District, with the Federal Government buildings located in the Three Arms Zone at the base of the rock. You'll find most businesses here in the Central District, plus the National Mosque and National Church facing each other on nearby Independence Avenue. Garki is another business district, with hotels and the International Conference Centre.



The city is in tune with nature with abundant hills, highlands and other distinguishing features that make it a delight to behold. A scene that cannot be missed about Abuja is the coming together of the Savannah grassland of the north with the richness of the tropical rain forests of the south. This marriage of nature has ensured that Abuja is endowed with fertile land for agriculture and at the same time a yearly climate that is neither too hot nor too cold.

Visit the shiny new civic buildings of the neatly ordered Central District, overlooked by 1312-foot-high Aso Rock, a monolith left by water erosion. Or explore the caves dotting Aso Rock. See big cats, giraffes and zebras at Abuja's zoo or haggle for bargain souvenirs at Wuse Market, a highlight of the Wuse District, where you'll enjoy a traditional African shopping experience. Visit the Tomb of the Unknown Soldier in the Central District to watch the colorful changing-of-the-guard ceremony or see local flora at the Abuja Plant Nursery then haggle for crafts, batik textiles, clothes and jewelry at nearby Wuse Market. Visit outdoor street bars in Garki and dine at upmarket restaurants in Maitama, Abuja's most exclusive district, or on multicultural fare in Wuse.

Drop into Abuja's community pottery centres to purchase Nigerian ceramics. Head to massive Zuma Rock, known as the 'Gateway to Abuja' jutting out of the plains north of Abuja. Cool off in Abuja's Millennium Park and take a daytrip to the gushing Gurara waterfalls, an hour outside Abuja.

Abuja is the headquarters of the Economic Community of West African States, or ECOWAS. It also has the regional headquarters of OPEC. Abuja is also home to one of the most prestigious golf courses in Africa. This breath-taking golf facility is a beautiful undulating 18-hole parkland course with streams, ponds and lakes and bridges. For over 10 years, Abuja has been home to the biggest annual meeting of geoscientists in Africa i.e. the Nigerian Association of Petroleum Explorationists Annual International Conference and Exhibitions.



Abuja International Conference Centre

The Abuja International Conference Centre (AICC) is a magnificent edifice surrounded by its own lovely garden and filled with historic shady pine trees. Once you step beyond the heavy metal and glass doors and walk into the foyer, you are lured to walk up the grand stair cases or to explore a hooded door way to your far right. Otherwise, walk straight across through the huge double doors into the main conference hall, the Africa Hall. All of these doors and stairways open up to the endless options of International Conference Centre.

The AICC provides an ideal location for exciting themed and large events. Architecturally designed to complement its surrounding environment, and enhanced by magnificent landscaping, the AICC occupies a land area of approximately 7 hectares and is centrally located on the South (Garki) end of Herbert Macaulay Way in the commercial heart of the Federal Capital Territory. It is about 40 KM (approx. 25 miles) from the Nnamdi Azikiwe International Airport and within a 5 KM radius of the major hotels in Abuja. The Eagle Square is conveniently set within the precincts of Abuja's major landmarks; it is flanked on both sides by the Federal Secretariat, while it faces the national Cenotaph, the National Assembly, and the Supreme Court. It has fabulous view of the Aso Rock Hills that serve as a back drop to the Presidential Villa while to its rear is a car parking lot capable of holding at least 500 vehicles.

General Enquiries

Contact Information:

The Executive Director
 NAPE Secretariat:
 Plot 47A, Femi Okunnu Housing Estate,
 Lekki- Peninsula,
 PMB 12598, Marina, Lagos, Nigeria.
 Tel: (234) 1 7731539, (234) 1 3204111

DOWAC 2010 Conference Chairpersons

Nosa Omorodion (Schlumberger)

President-Elect AAPG Africa Region and General Co-Chair

Jide Ojo (Addax)

President-Elect NAPE

Technical Program Co-Chairs

Pinar Yilmaz (ExxonMobil)
 Ajibola Oyebamiji (ENI)
 Christian Fordjor (GNPC, Ghana)
 Antonio Ingles (Chevron, Angola)
 Joe Ejedawe (CISCON)
 James Edet (Total)
 Kehinde Ladipo (Shell)

Poster Session Co-Chairs

Smart Igbokwe (Shell)
 Atinuke Akingbade (Noble Energy)

Short Course Co-Chairs

Joy Roth (Chevron)
 Samuel Akande (University of Ilorin)

Field Trip Co-Chairs

Lambert Aikhionbare (Independent)
 Peter Schlicht (Schlumberger Angola)