

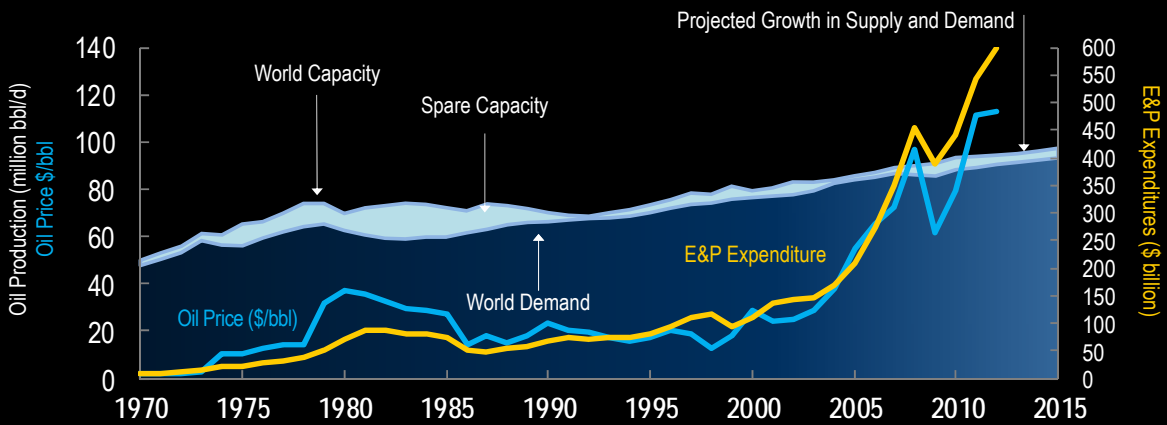
The New Energy Landscape



Sherif Foda
April 26th, 2012

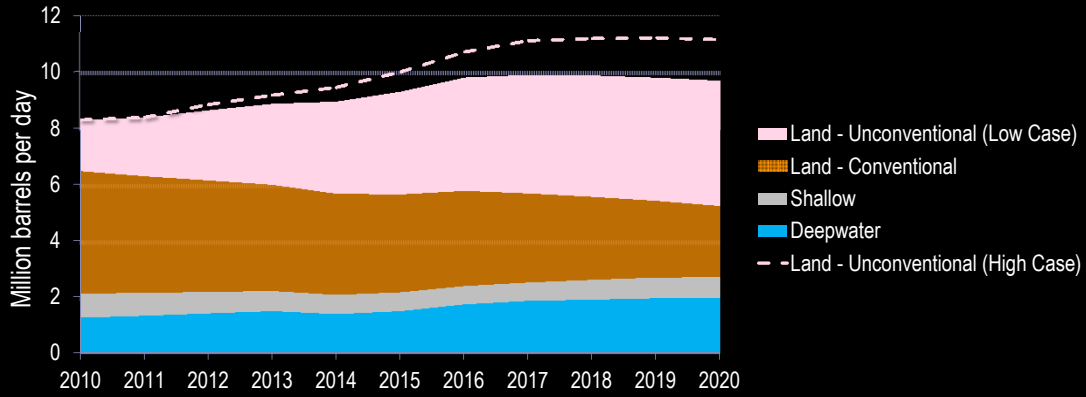


Oil Supply and Demand—A Macro View



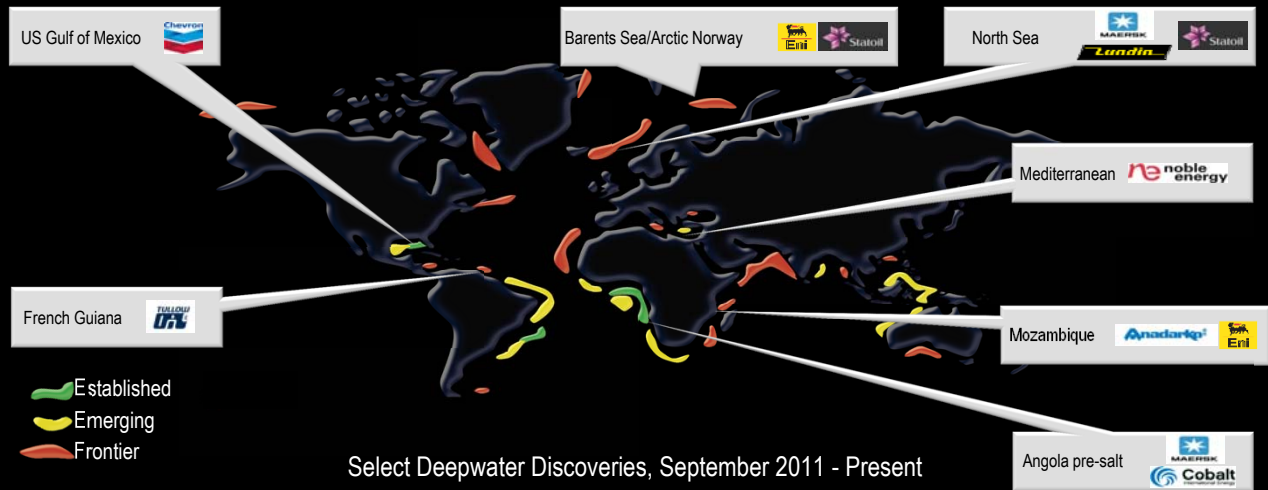
Source: BP Statistical Review, IEA World Energy Outlook, Monthly Oil Market Report, Medium-Term Oil Market Report, Lehman/Barclays, IFP. Revised 0112

Unconventional Oil Production Expanding



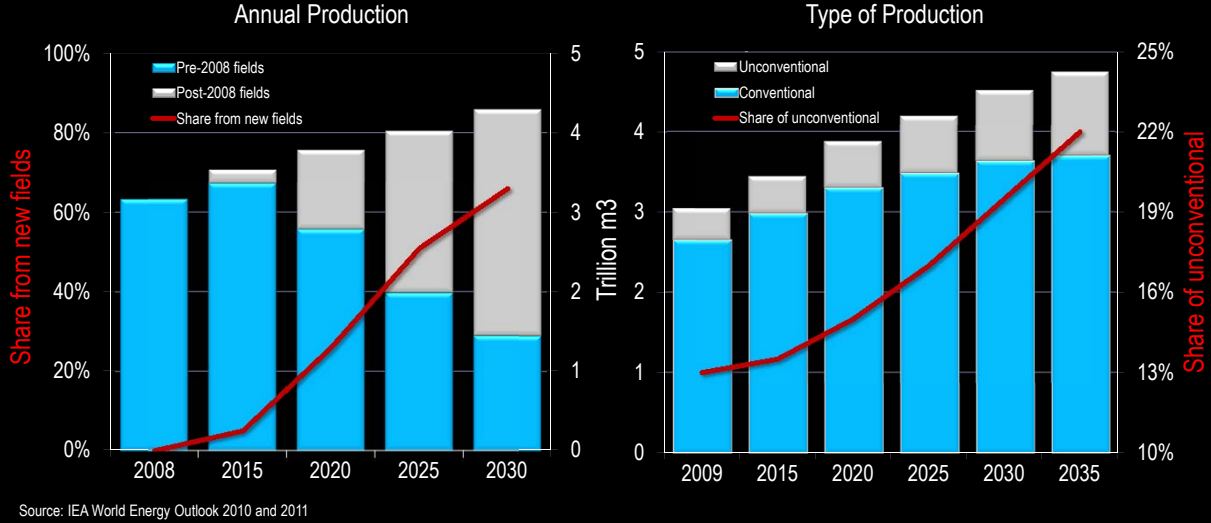
Source: IEA, IHS CERA, Business Monitor International, PFC Energy, SLB analysis

Recent Discoveries and Frontier Exploration



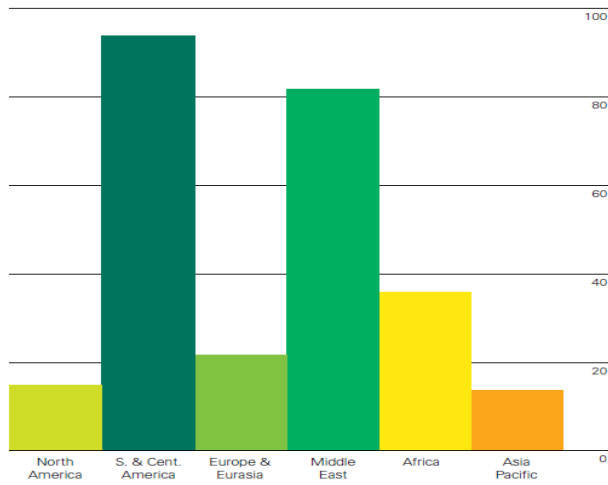
Source: Oilfield Review, US Bureau of Economic Geology, NPD, Infield, company press releases

Long-Term Natural Gas Supply

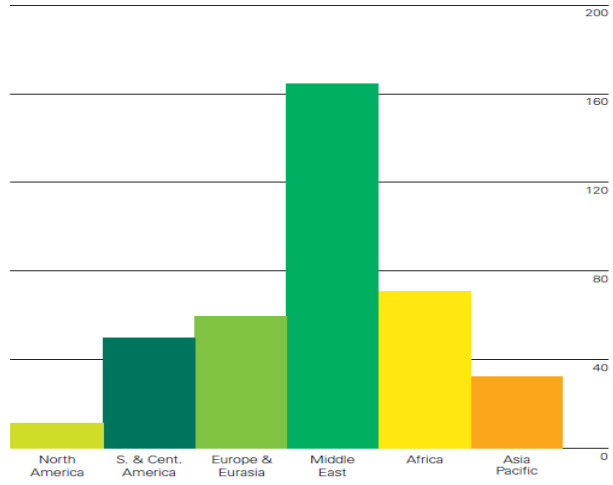


Regional R/P for Oil and Gas

Proven Oil Reserves: R/P

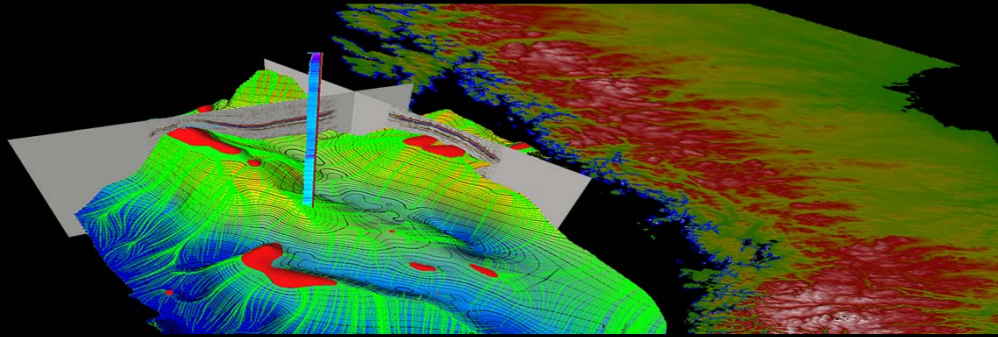


Proven Gas Reserves: R/P



Source: BP, 2011

Role of Technology: Petroleum System Modeling



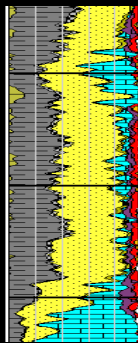
- Fully integrated evaluation of exploration risk
- Modeling and prediction of structure and charging
- Increases the probability of success for exploration activity

Role of Technology: Understanding Reservoir and Completion Quality

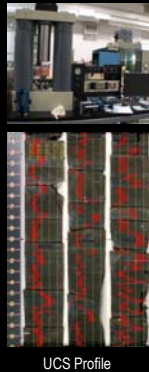
Core Petrology



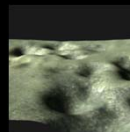
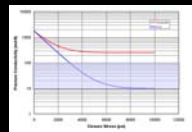
Logs



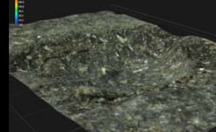
Geomechanics



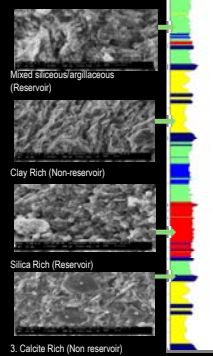
Core Fluid Sensitivity Fracture Conductivity



Proppant Embedment in Argillaceous Shale

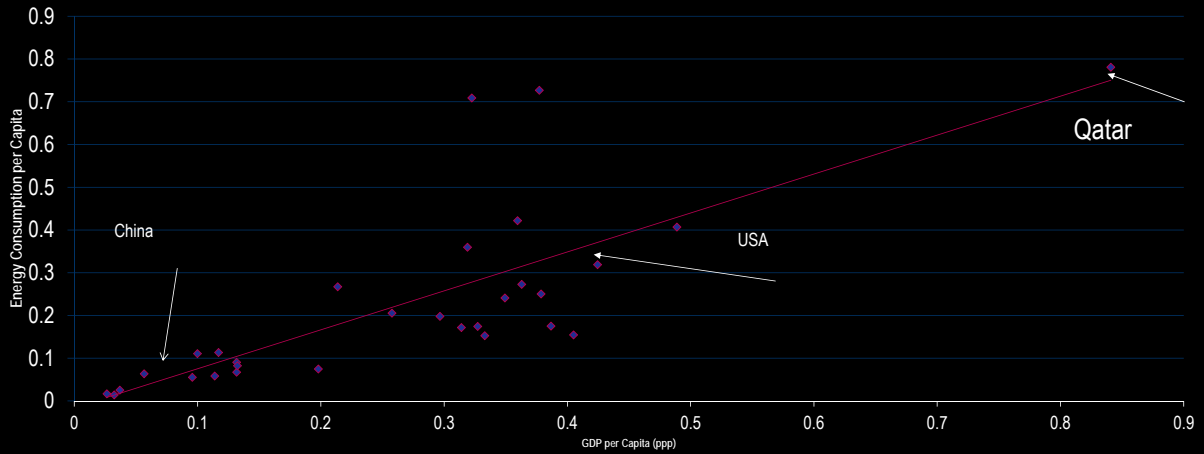


Core to Log Integration



Energy Consumption and GDP

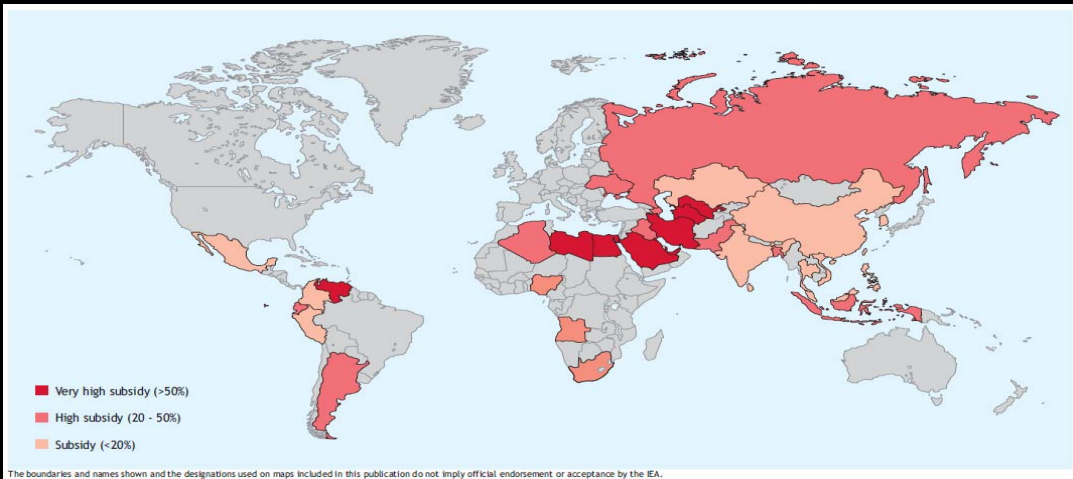
Per Capita Energy Consumption



9

Source: IMF – April 2011

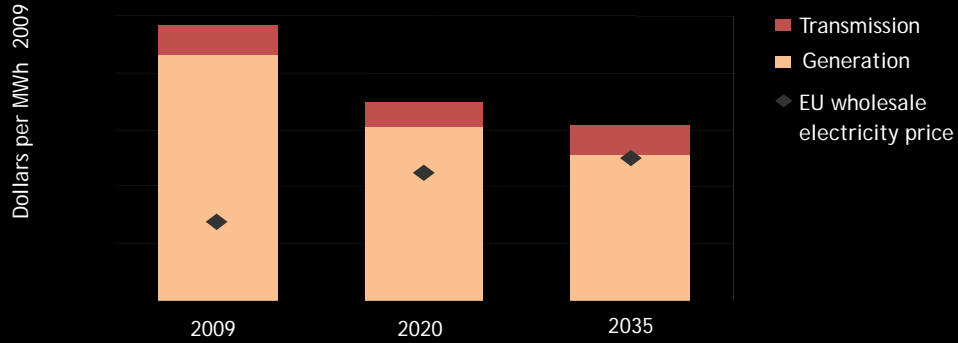
Fossil-fuel subsidy rates as a proportion of the full cost of supply, need a new regulations in MENA



For the countries surveyed, fossil fuels were subsidised at a weighted-average rate of 22%, meaning consumers paid 78% of competitive market reference prices

An ideal region for the development of concentrating solar power ? Is it cost effective?

CSP generating costs in North Africa and EU power price in the New Policies Scenario

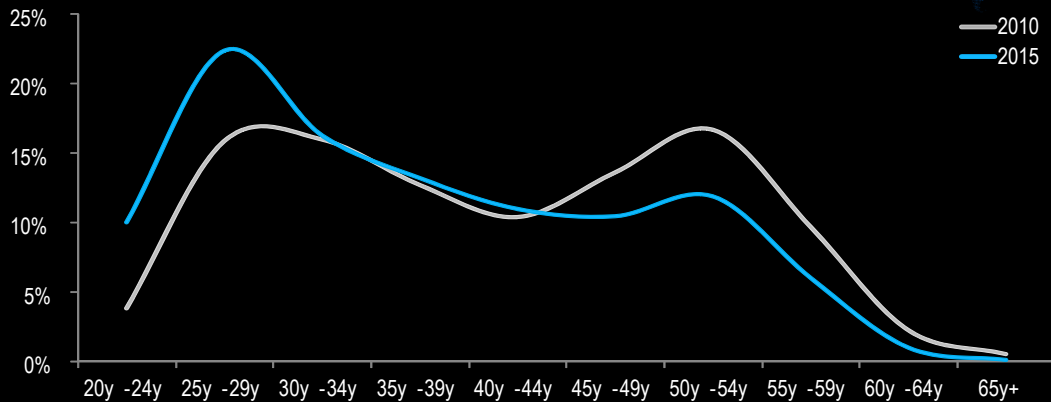


• CSP electricity can be produced at costs of \$100 to \$135 per MWh at good sites in North Africa and Middle East in 2035, some of the lowest in the world

• Solar power could be exported from North Africa to Europe (at transmission costs of \$20 to \$50 per MWh) to the benefit of both regions

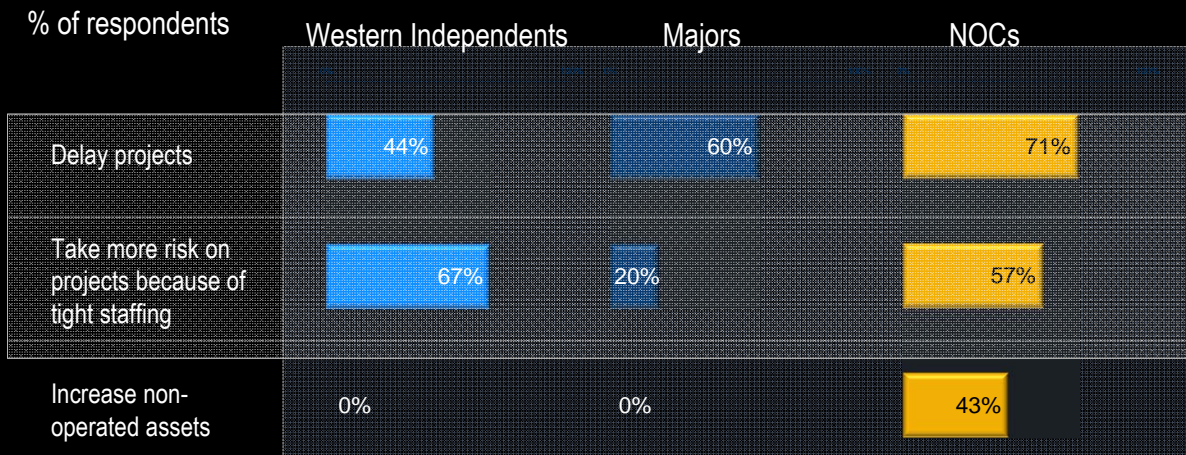
The Big Crew Change Is Underway

Petrotechnical professionals (PTPs) by age bracket on a global basis



Source: SBC O&G HR Benchmark 2011, SBC analysis

Potential Consequences of Project Staffing Difficulties



Conclusions

- Fundamentals for oil and gas remain strong in MENA
- Increase Exploration spent and cooperation between the countries to develop Unconventional, frontier is a must to transform the wealth to generation to come
- Must introduce regulations and awareness of Cost of Energy.
- Protect the wealth for Exports and use renewable energy for in-house especially Solar.
- Continue the use of Service Industry technology leadership.
- Develop Human capital, bridge the gap and use the power of Arab youth.