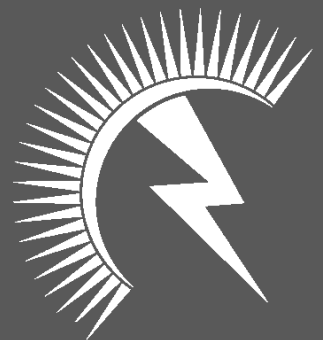




CORPORATE PROFILE
QAMAR ENERGY

'17-'18



ROBIN MILLS, CEO

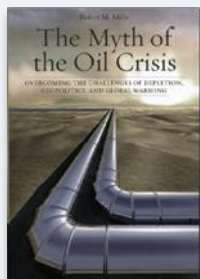


Robin is an expert on Middle East energy strategy and economics, described by Foreign Policy as "one of the energy world's great minds".

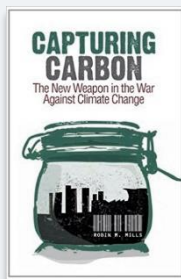
He is the author of two books, *The Myth of the Oil Crisis* and *Capturing Carbon*, columnist on energy and environmental issues for Bloomberg and *The National*, and comments widely on energy issues in the media, including the *Financial Times*, *Foreign Policy*, *Atlantic*, *CNN*, *BBC*, *Sky News* and others.

He is a Senior Fellow with the Iraq Energy Institute.

He holds a first-class degree in Geology from the University of Cambridge, and speaks five languages including Farsi and Arabic.



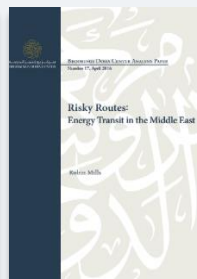
THE MYTH OF THE OIL CRISIS



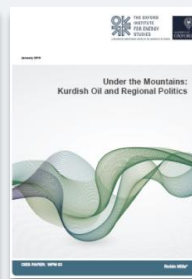
CAPTURING CARBON: THE NEW WEAPON IN THE WAR AGAINST CLIMATE CHANGE



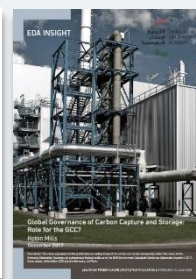
SUNRISE IN THE DESERT: SOLAR BECOMES COMMERCIALY VIABLE IN MENA
PwC/Emirates Solar Industry Association



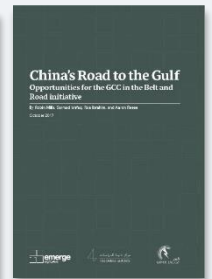
RISKY ROUTES: ENERGY TRANSIT IN THE MIDDLE EAST
Brookings Institution



UNDER THE MOUNTAINS: KURDISH OIL & REGIONAL POLITICS
Oxford Institute for Energy Studies



GLOBAL GOVERNANCE OF CARBON CAPTURE & STORAGE: ROLE FOR THE GCC?
Emirates Diplomatic Academy

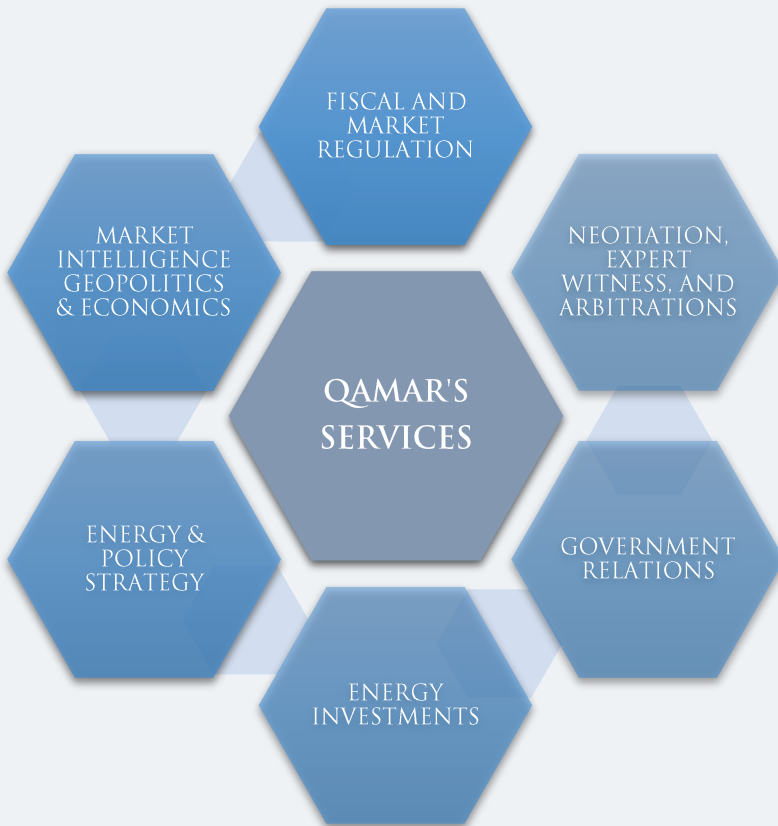


CHINA'S ROAD TO THE GULF: OPPORTUNITIES FOR THE GULF IN THE BELT-AND-ROAD INITIATIVE
Delma Institute



QAMAR ENERGY PROVIDES LEADING-EDGE STRATEGY, COMMERCIAL AND ECONOMIC CONSULTING ACROSS THE ENERGY SPECTRUM

OUR SERVICES



OUR PROFESSIONALS HAVE OVER 25 YEARS OF
EXPERIENCE IN THE ENERGY SPECTRUM.

ALTERNATIVE ENERGY

1. Market analysis, supply and demand dynamics
2. Calculations of optimal mix of renewable energy and conventional energy
3. Carbon capture and storage specialists
4. Solar power economics
5. Energy efficiency recommendations, policy analysis, and required execution enablers
6. Negotiations, expert witness, and arbitrations

ELECTRICITY

1. Country monitoring and market analysis
2. Supply and demand forecasts of electricity
3. Existing infrastructure capacity and forecasts
4. Electricity price analysis (historic and forecasted)
5. Negotiations, expert witness, and arbitrations

UPSTREAM

1. Geopolitics and geo-economic analysis
2. Upstream country monitoring and market intelligence
3. Majors, Independents, National Oil Company and Oil Service Company strategies
4. Oil and natural gas supply and demand dynamics and forecasts
5. Brownfield and greenfield E&P opportunity identification and negotiation
6. Commercial feasibility studies
7. Negotiations, expert witness, and arbitrations

MIDSTREAM

1. Energy routes: geopolitical analysis, risk assessment and mitigations
2. Mapping of existing and required infrastructure capacity to meet domestic and export demand
3. LNG country/regional market analysis
4. Negotiations, expert witness, and arbitrations

DOWNSTREAM

1. Downstream country monitoring and market analysis – petrochemicals, refining and fuel retail
2. Fuel retail strategies
3. Subsidy analysis, country benchmarking and recommendations
4. Forecasted prices of petroleum products, and gas benchmarked against competitors
5. Petrochemical industry commerciality and strategies
6. Negotiations, expert witness, and arbitrations



OUR TEAM OF RESEARCHERS COMBINES
OUR EXPERIENCE ACROSS
THE ENERGY VALUE CHAIN WITH
SPECIALISED MARKET INTEL.

OUR EXPERIENCE



UPSTREAM

1. Study of the oil storage market in the UAE and surrounding region
 2. Analysis of a Middle Eastern country's oil and gas production forecasts up to 2035 by different scenarios, expected start-up and CAPEX requirements of new fields
 3. Country analysis reports on Algeria's and Libya's economic, political and energy developments including oil and gas production, new project timelines, and domestic energy security challenges.
 4. Report on OPEC's current and future strategies, intra-OPEC competition and exports.
 5. Study on Iraq's political outlook, energy developments, influencers, challenges and opportunities
 6. In-depth analysis of UAE's gas sector outlook with the introduction of new power generation methods (renewables and nuclear)
 7. Energy policy, strategy and governance for a UAE government entity covering oil, gas, electricity, renewable energy and efficiency
 8. Study of the outlook for corrosion-resistant alloys in oil country tubular goods (OCTG)
 9. Analysis of the MENA region's significant oil & gas projects, issues and outlook
 10. Study on the East Mediterranean gas industry: supply-demand balance and forecasts, prices, regulation and politics
 11. Detailed study of the gas, oil and energy markets in Iraq, Iraqi Kurdistan, Turkey, and strategy development for commercialisation of discoveries and export routes; forecasted oil and gas production to 2035
 12. Regular analysis of Middle East oil and gas markets and related political issues
 13. Study of the market for hydraulic fracturing projects & services in the MENA region
 14. Study of E&P opportunities in the MENA region
 15. Advice to investors on Middle East oil and gas developments
 16. Extensive fieldwork in Baghdad and Erbil on improving EU-Iraq energy relations
 17. Field research in Yemen on operations
-



MIDSTREAM

1. Study of Middle East gas export options
 2. Study of Middle East/North Africa gas pricing methodologies
 3. Energy strategic study for government entity in the UAE including the current and future outlook of oil and refined products, gas, LPG, electricity, water, alternative energy, energy efficiency and energy governance sectors
 4. Expert witness for two Middle East gas arbitrations
 5. Exclusive report on opportunities for the GCC in the Belt-and-Road initiative including investment outlooks – current and future – and detailed analysis of stress scenarios for both China and the GCC.
-



DOWNSTREAM

1. Study on a Middle Eastern petrochemical market, existing and planned capacity, forecasted supply and demand and gas feedstock supply
 2. Historical and forecasted refinery capacity, supply and demand by consumer, and pricing for crude oil and refined products in Federal Iraq, Iraqi Kurdistan and Turkey. Analysis of market fundamentals and dynamics of supply and demand in each country
 3. Assessment of downstream infrastructure market for a Gulf government and recommendation of options to improve transportation and distribution with required enablers
-



ALT. ENERGY

1. Landmark report on the prospects for carbon capture and storage in MENA
 2. Report on the global and Gulf governance of carbon capture and storage
 3. Advice on UAE's Green Growth initiative, creating federal/emirate-level strategy for balancing economic growth with environmental and social aspirations
 4. Widely-discussed report in cooperation with PwC and the Emirates Solar Industries Association, on the new competitiveness of solar photovoltaic power in the Middle East
-



ELECTRICITY

1. Electricity capacity, supply and demand forecasts for the East Mediterranean region
 2. Electricity capacity, supply and demand forecasts for Federal Iraq, Iraqi Kurdistan, and Turkey by power plant and fuel type
 3. Electricity price analysis (historical and forecasted) in the Middle East
-

ARABIA MONITOR ENERGY, WITH QAMAR ENERGY

ARABIA MONITOR ENERGY

Oil and gas tensions in the Middle East continue to influence the volatility of the world's energy markets. The Arabia Monitor Energy, a novel collaborative effort by Qamar Energy and Arabia Monitor, combines macroeconomics, geopolitics and energy intelligence to explain what the region's energy geo-economics mean for business.

WHAT SETS IT APART?

1. **Inside OPEC**
Focussed assessment of the month's OPEC developments, policy advancements and strategies.
2. **NOC & IOC Analyses**
Examination of factors affecting NOC and IOC policies, and their impact on regional diversification schemes.
3. **Spotlight this Month**
Targeted reading of the geopolitical, macroeconomic and energy landscape of a MENA country utilising our specialised energy intel.
4. **Scenarios to Watch**
Detailed forecast of global oil developments and their impact on the risks and opportunities for MENA's oil production.
5. **Strategic Implications**
Concise summary of major oil trends and their effect on investment strategies under bearish, bullish, and wobble scenarios.
6. **Outlook for the year**
Cohesive outlook of the oil production, gas production, renewable energy projects, and geopolitics of key MENA countries.

THE DELIVERABLES

8 Monthlies

*Oil Price Scorecard
Headline Developments
Spotlight this Month
Scenarios to Watch
Projects in the News
Macro Dashboard for Oil Exporters/Importers
Outlook for the year*

WHO BENEFITS?

Energy Traders:

- What factors will contribute to oil and gas price fluctuations?
- What is the outlook for oil and gas pricing?
- What is the outlook for OPEC's production and export strategy?
- How are NOCs adapting their oil marketing strategies?

Investment and Risk Analysts:

- What are the operational risks and investment opportunities in MENA? How do economics, politics, government policy changes, production and export bottlenecks, new oil and gas production, project economics and infrastructure challenges contribute to risk mitigation?

Upstream Firms:

- What are the chief economic, political and energy policy factors driving/limiting upstream investment decisions and progress?
- What are the oil supply outlooks for the countries by project?

Downstream Firms:

- What are the demand challenges, patterns, and trends for oil and oil products?

National Oil Companies:

- What are future oil and gas pricing trends?
- What developments will intensify or weaken demand?
- What are IOCs' incentives and drawbacks in operating in the country?

Alternate/Renewable Energy Organisations:

- What are the challenges to renewable energy targets?
- What is the progress of major renewable energy projects?
- Are there opportunities for more entrants?

4 Quarterlies

*MENA Map as per Political Grouping
Map of New Licensing Rounds
Political & Regional Security Issues
Oil & Gas Prices Outlook
Global Barriers to Oil & Gas Production
Deep Dive into OPEC
Deep Dive into NOPEC
MENA Energy Investments
MENA Energy Fiscal Systems
MENA Energy Upstream Bidding map
MENA Economic Outlook
Probability Scorecard for Bearish & Bullish Oil Supply/Demand
Investor Implication Scenarios
(Under 3 Oil Price Dynamics)*

FOR FURTHER INFORMATION CONTACT
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Example 1 – Oil Price Scorecard Scenarios with Probabilities

SUPPLY			
BEARISH		BULLISH	
Rapid return of Iran production ¹ (x%)		Iran reaches maximum output (x%)	Iran struggles to increase output with limited investments; Possibility of Iran reaching maximum output of ~3.8 Mbd into 2018.
Increase in Iraq production (x%)	Plans of increasing production to 5 Mbd by 2018. This aim is not unrealistic, but could pose opposition from other OPEC members. Likely after March 2018.	Drilled but uncompleted wells in US shale surge (x%)	
Non-OPEC production decline (x%)		Underinvestment (x%)	Sample
Libya and Nigeria security improvement & political reconciliation (x%)		A rise in long-term US interest rates in December 2017 (x%)	
Rising US production, faster than predictions (x%)		Unsustainable oil demand to hit US shale oil service providers (x%)	
OPEC production returns (x%)		OPEC limits oil exports into 2018 (x%)	

Example 2 – Scenarios to Watch

Renewed Oil Crisis

Timing: 2021

Event: Rising demand and global production hampered by years of underinvestment, collide with a sudden crisis in a major oil-exporting country. Oil prices soar to over \$120 per barrel, threatening Asian economies. China calls on its GCC partners to support it preferentially, while India, Japan and South Korea also claim their special relationships.

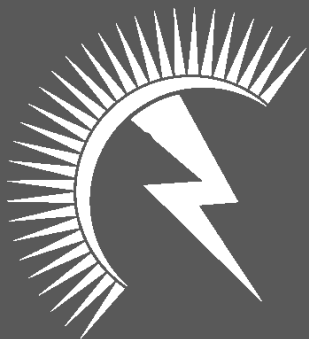
Impact: Higher oil prices would mean higher revenues enjoyed by the MENA exporting countries at the expense of its importers. In the event of a supply cut occurring from a major exporting country, especially one that exported significantly to Asia, Asian countries would look to replace their lost imports by convening with other major exporters in the region with a promise of increased investment. Simultaneously, exporting countries would feel it only advantageous to reduce Asian crude grade prices and gain market share. Asia would also try to lessen its dependence on the Middle East by sourcing higher imports from most possibly Russia or the US.

Mitigation: Realising that this is a time of a restive Middle East, Asian countries, particularly China, are already keeping their guards up at a time of low prices. Chinese state companies are boosting strategic reserves and discussing with Aramco the potential of becoming a large investor in the IPO if they would be the number one priority for the Kingdom in case of an emergency. The GCC countries are investing in new and existing storage tank capacity in Asia for use in emergency. New pipeline export routes bypass the Gulf if required.

Scenario Probability: 30%

Alternative Futures

- 1) 40%: No sudden crisis in a major oil-exporting country occurs
- 2) 20%: The loss of supply from one major oil exporting country is made up with new supplies from other countries (revival of Libya, Nigeria, Venezuela, and higher exports from Iran and Iraq).
- 3) 10%: The Asian countries would not be significantly affected as they would have already lessened dependence on Middle East with higher imports from US shale or Russia.



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