

## Middle East Natural Gas

### Is price administration a hurdle to gas development?



#### Summary

It is ironic that, apart from Qatar, Middle Eastern countries, which account for 30% of global gas reserves, face gas supply shortages and the prospect of diminishing net gas exports. This Industry Insight explores this contradictory situation and focuses on its underlying cause: regional domestic gas price regimes. The existing administered or regulated gas prices are largely based on social and political needs and have resulted in gas prices being lower than the marginal cost of production for new gas fields. Over the years this has deterred field development initiatives, an unwelcomed situation given the region's dependence on gas in its energy mix. Governments throughout the region will eventually need to address gas price reforms and establish a sustainable energy system for the longer term, where natural gas facilitates the energy transition and can underpin future economic development. An important element in the reform of gas prices is the need to ensure that future prices stimulate the development of new gas reserves.

## Middle East Gas Challenges

Gas shortages in the Middle East have emerged as a result of the growth in gas-fired electricity generation, growing demand from energy-intensive industries and the gas reinjection requirements of ageing oil fields. Regional gas consumption doubled in the period between 2000 and 2013, reaching 41.4 billion cubic meters (Bcm) in 2013. The growth in demand for natural gas in the region has been substantially higher than that in the rest of the world – see Table 1<sup>1</sup>.

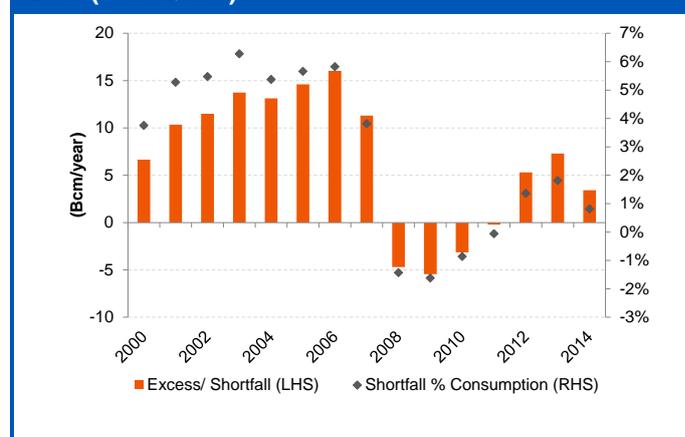
**Table 1: Natural Gas Growth Rates (CAGR)**

<u>Period 2000-2013</u>	<u>Gas Demand</u>	<u>Gas Production</u>	<u>Gas Reserves</u>
Middle East (exc. Qatar)	6.5%	6.4%	2.4%
Middle East (inc. Qatar)	6.6%	8.1%	2.8%
World	2.6%	2.6%	2.2%

Middle East gas production, excluding Qatar, is just about keeping pace with demand. Domestic production may be lagging in countries like the United Arab Emirates (UAE) and Kuwait, but it is being supplemented by imports of piped gas and/or LNG.

Figure 1 shows that the Middle East, excluding Qatar, moved from a position of surplus supply to one of deficit in 2008, before returning to a surplus in 2012, although this surplus is now equivalent to only some 2% of consumption. This “cushion of comfort” is expected to narrow unless economic growth stalls or new production comes on stream.

**Figure 1: Supply – Demand Balance for Middle East (exc. Qatar)**



### Pricing mechanisms do not incentivise gas field developments

This contradictory situation, a gas-rich region facing gas shortages, is principally the result of a policy decision to subsidise gas prices, as a result of which prices do not reflect delivered costs and do not, therefore, provide the correct incentives to encourage the most economic, efficient and sustainable use of gas. Low gas prices have been used by governments as a form of subsidy to assist the poorer segments of society. At the same time, low gas prices have

provided a source of comparative advantage for expansion into higher value-added industries and economic diversification. However, subsidised gas prices (which range from US\$0.5/MMBtu to US\$3/MMBtu, below opportunity cost and under the marginal cost of production for new gas supplies) do not incentivise independent oil companies to explore and develop non-associated gas resources, let alone unconventional plays such as tight and shale gas deposits. They have likewise discouraged intra-regional gas trade – surplus gas in the region, most notably from Qatar, has tended to be traded on the global LNG markets where it realises substantially more attractive net-back prices.

<sup>1</sup> Data for Table and Figures sourced from industry journals and BP Statistical Review of World Energy 2014

## Slow pace of price reforms

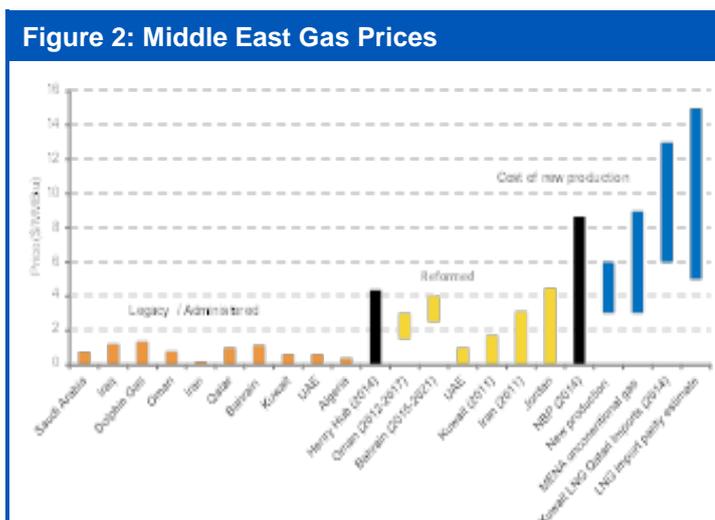
In 2013 over three quarters of domestic gas prices in the region were regulated (which compares to a global average of 14%), however, the pace of reform within the region has been slow and patchy and domestic prices in many countries remain below international benchmarks, gas import parity and the marginal development cost of new gas supplies as illustrated in Figure 2.

Prices are influenced by social and political considerations and by the cost of producing associated gas – they are not based on current development and production costs. Some countries, such as Oman, have recently increased their domestic gas prices, principally to incentivise the development of new gas fields.

## Marginal cost of production is on the rise

In contrast, gas production costs have increased:

- The marginal cost of production for new conventional gas supplies has grown from under US\$2.5/MMBtu in 2010 to about US\$3-6/MMBtu at present.
- The marginal cost of production for new gas supplies from more complex resources (such as sour, tight gas and deep formations) is even higher, at about US\$5-8/MMBtu.



This is substantially higher than the marginal cost of producing associated gas, which is estimated at about US\$0.8-1.30/MMBtu and which has been used to provide the basis for setting some domestic gas prices. However, associated gas is generally regarded as a free by-product from the production of the more-valued liquid hydrocarbons, with the result that its “cost” tends to reflect only processing and delivery costs.

Although recent domestic gas price rises in some countries in the region may provide short-term fiscal and commercial relief for governments and producers, they are unlikely to deal with the challenges facing the gas sector in these countries in the longer term. In particular, a widening differential between the cost of supply from new gas fields and the price of gas delivered to domestic end-users will only increase the cost of subsidies and deter the investment in field development which could help close the supply gap.

## Supply – Demand gas balances get tighter

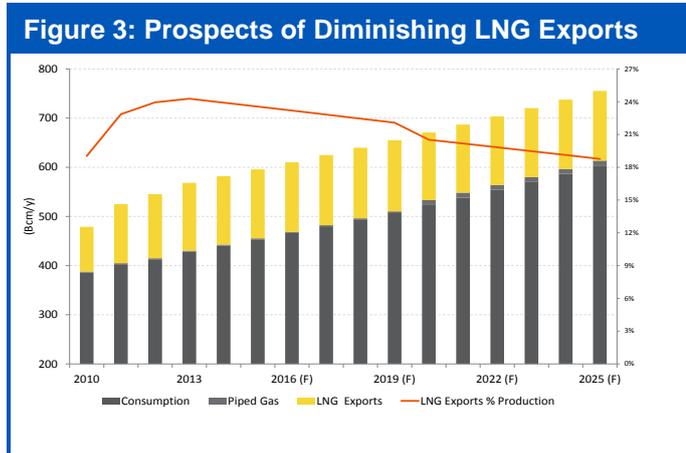
CEDIGAZ has forecast<sup>2</sup> that gas demand and production in the Middle East (including Qatar) will grow by 2.9% and 2.4% respectively over the period to 2035, suggesting that the volume of gas available for export from the region will decline – see Figure 3.

<sup>2</sup> CEDIGAZ, Medium and Long Term Natural Gas Outlook, February 2015

The way forward is not an easy one

Middle Eastern gas consumers, particularly in the power, water and petrochemicals sectors, are likely to resist changes to existing gas pricing regimes. However, in an environment of rising consumption, the need to stimulate the development of new gas reserves, including the more expensive tight or shale gas reserves, requires some form of gas price reform. The alternative of maintaining the status quo or prioritising the allocation of gas in favour of key segments of the economy is not sustainable (the cost of subsidies will increase), will not facilitate the energy transition and will discourage economic development in the region. Governments will still need to address the societal effects of changes to gas prices on the prices of products associated with the consumption of gas, in particular power and desalinated water.

In the near term, while it is unlikely that the region will move towards opportunity value or import parity pricing mechanisms, a shift towards a regulated price set to cover the “cost of service” may gain momentum



## How can we help?

IPA provides advisory services along the full oil and gas value chain, upstream development to downstream markets. Our Team has expertise across the entire value chain in oil, gas and LNG, providing fundamentals analysis, regional and global insights, strategic and techno-economic analysis.

## What services have we recently provided?

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## Who have we worked with?

IPA works with governments, national and independent oil and gas companies, utility companies, private equity investors, banks, regulators and lawyers in the UK, Europe, Middle East, Africa and Asia.

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