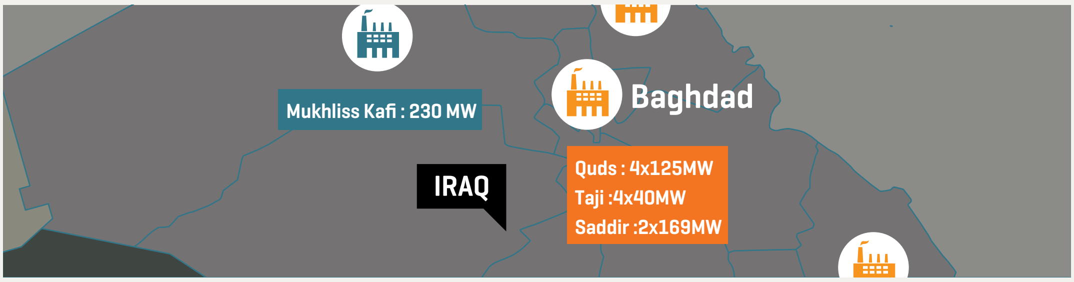
mees

Weekly energy, economic & geopolitical outlook
Vol. 55. No. 39
21.September.2012.

POWER & WATER

Iraqi Electricity Industry Poised For Lift Off

At long last, Iraq's ailing power sector appears set to make the major capacity expansion needed to address crippling electricity cuts that cost the country's economy around $40bn/year. This new era comes after post-2003's false dawns, scandals and broken promises.



OIL & GAS

Egypt Exploration Slump

Foreign operators are trying to impress Cairo with their upstream commitment. But payment and permit delays mean exploration activity has slumped

REFINING & PETCHEM

NIC On Iraq Downstream Plans

Iraq's downstream projects include a $20Bn world-scale petrochemicals plant, four fertilizer plants and three oil refineries, said NIC's Chairman Sami al-Araji

OIL & GAS

Yemen Offers Exploration Blocks

Despite attacks on infrastructure, IOCs are invited to make offers on five new exploration blocks as San'a looks to boost production

OIL & GAS

Chevron Delay Threatens Kuwaiti Target

The delay on Chevron's $10-15bn, 500,000 b/d Neutral Zone crude project makes it increasingly unrealistic Kuwait will hit its 2020 4mn b/d target

OIL & GAS

Minister: Cyprus Nears License Awards

The evaluation of exploration license applications is nearing conclusion some six months since Cyprus closed its second offshore bidding round

ECONOMICS & FINANCE

Iraq Needs Improved Bank Sector

Iraq has the potential to become an investment hot-spot. But first foreign developers and investors need to secure guarantees and see banking sector improvements

OPEC

High Prices Alarm Gulf Members

Crude prices are too high and should be around $100/B, a Gulf source tells MEES. Consulting with clients, Saudi Arabia is ready to supply more, he says

GEOPOLITICAL RISK

Political Challenge For Iraq Oil

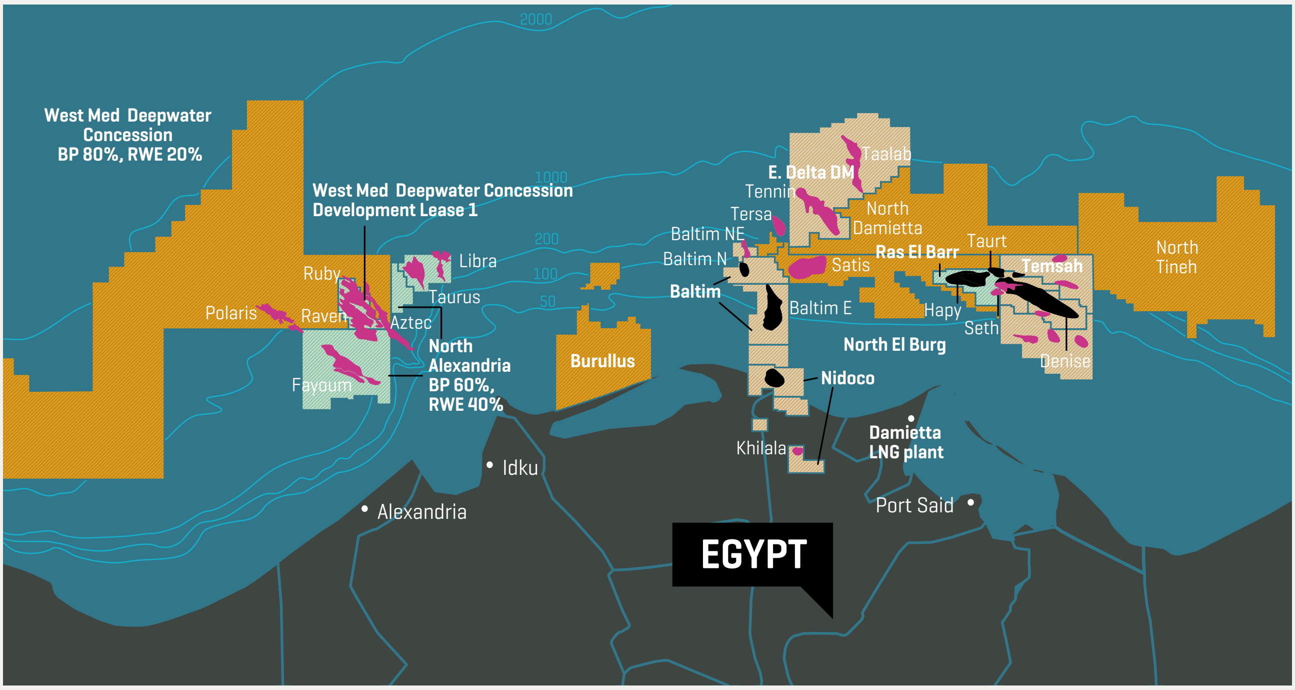
The authorities have taken steps to enhance upstream oil structure and policies. But it remains to be seen if they can succeed amid the political mayhem

Billion-Dollar Exploration Commitments Fail To Disguise Delays

Key foreign operators in Egypt have fallen over themselves in recent weeks to impress the country's new government with their commitment to the country's upstream. But payment and permit delays mean exploration activity has slumped.

By James Cockayne

BP EGYPTIAN UPSTREAM ASSETS



BP Exploratory Concession · BP Operated Dev. Leases · BP Non-Operated Dev. Leases · Producing Fields · Discoveries

At this 3 September meeting with Egypt's new President Muhammad Mursi BP CEO Bob Dudley pledged that his firm would spend $11bn on its flagship offshore West Nile Delta project. Not to be outdone fellow UK firm BG's Chairman Andrew Gould told new Oil Minister Usama Kamal on 11 September that the firm would be investing $3-5bn in Egypt over the coming years.

Other key operators such as Shell and Eni have also been touting their "commitment" to Egypt via multi-billion investment plans. The commitments come after Mr Kamal called on the country's key foreign operators to "develop and increase their investment and accelerate development of gas discoveries, especially in the deepwater offshore Mediterranean," which in turn followed a summer of power cuts (MEES, 13 August).

But these upbeat announcements obscure a darker picture for the independent producers who dominate large parts of the Egyptian upstream. The key pressing issue is delays: to the approval of development and other permits, to the award of blocks, and most crucially to payments to firms for their share of production.

NO MONEY, NO DRILLING

Many firms have clocked up payment arrears of more than six months running into the tens, or in some instances hundreds, of millions of dollars. Coming on top of reduced access to international credit markets this has forced many firms to cut back on capital expenditure – "calibrating expenditure to receivables," as the firms themselves typically put it.

Whilst the biggest operators, such as BP, BG and Apache have been prepared (at least in public) to put up with delays in the hope of reaping the future upside, some smaller operators have had no choice but to cut exploration spending in response.

Yet other firms have quietly decided to invest elsewhere.

BP WDM PROJECT DELAYED

Even the majors have not been immune. Whilst BP, keen to maintain good relations with the new Egyptian government, chooses to emphasize the positive in public, the reality is that its 1bn cfd West Nile Delta (WND) project has seen delays mount.

Start up of the flagship deepwater (up to 2,300ms) project is now slated for the

Continued on – p02

Continued from – p01

fourth quarter of 2016: the target date has been pushed back by two years in the two years since the project was approved – surely some kind of record (see table). following two wells which led to the Satis field in the deep Oligocene and the Salmon shallow Pleistocene discoveries (MEES, 31 October). Both the latest discoveries were also in the Pleistocene and were drilled by BP's partner Eni in around 100ms of water depth (both firms have 50%; BP is operator). Eni, via its IEOC joint venture with EGPC, operates the neighboring Baltim concession. Options to tie both discoveries to nearby existing infrastructure are being studied, BP says.

WEST NILE DELTA: SLIDING START-UP TIMELINE

Date	Planned start-up	Notes/reasons for delays
Pre-revolution	Late 2014	Project approved 19 July 2010
Nov-11	Mid 2015	Protests delay gas plant construction
May-12	Q2 2016	Delayed approval of development permits
Sep-12	Q4 2016	

According to a source at German firm RWE-Dea, BP's partner at WND, the latest delays have been entirely avoidable and are down to glacial processing of permit approvals and other decision making by the Egyptian authorities. However all permits have now been received, with the source confident the project can now hit its (delayed) late-2016 target start up.

Pre-revolution the partners had been hoping for first gas in 2014 but this target last year slid to 2015 as the start of construction of the onshore gas treatment plant – which had been slated to begin in 2011 – was delayed as residents in the coastal town of Idku protested the plant's proposed location. Construction is only now starting to move ahead.

The WND project involves the development of discoveries on the West Mediterranean Deepwater (BP 80%, RWE 20%), and North Alexandria (BP 60%, RWE 40%) blocks – see map. The first development phase will focus on 5 trillion cfd of discoveries from the five largest fields discovered to date: Giza, Fayoum, Raven, Taurus and Libra.

Costs have also mounted alongside delays. The fact that BP's latest $11bn spending pledge appears to be higher than earlier commitments would appear to be at least partly due to rising costs at WND – the cost of offshore drilling in particular has soared over the past year. WND development was originally slated to cost $9bn (MEES, 26 July 2010), but RWE has raised its estimate of development costs by 12% over the past year.

BP and RWE in mid-2010 signed a landmark deal to sell the 1bn cfd of gas set to be produced at WND to the Egyptian authorities at $3-4/mn BTU. Former (now jailed) oil minister Sameh Fahmy was persuaded that paying considerably more than Egypt's standard $2.65/mn BTU was necessary to justify the high cost of deepwater development.

BP's offshore fields account for around 20% of total Egyptian gas production, some 1bn cfd, with WND set to double this to 40%.

BP also last month announced two further discoveries on its North El Burg Offshore Concession. The Taurt North and Seth South gas discoveries are the fourth and fifth discoveries on the concession

Key operators BP, BG, Shell and Eni have been touting their 'commitments' to Egypt via multi-billion investment plans

LIBERAL USE OF THE 'C-WORD'

In touting the discoveries, BP Egypt's President Hisham Mekawi didn't hesitate to use the 'c-word' – commitment. "The discoveries show our commitment to develop the remaining potential of the shallow reservoirs within the Nile Delta and make the best use of the existing infrastructure," he said.

North El Burg also abuts the BP-operated Ras El Barr development concession where the company has added 170mn cfd of gas production since mid-2012 with the start up of production at the Seth field (MEES, 2 July). Production is set to rise to 250mn cfd (2.6bcm/y) by the end of 2012 with the start of Phase 2 production. Production is tied back to the Denise field on the neighboring Eni-operated Temsah concession – linked to the El Gamil onshore processing facilities near Port Said by pipeline.

RWE-Dea, meanwhile, says development on its Disouq project (in which the German firm has 100%) in the onshore Nile Delta is moving ahead smoothly with first production set for 3Q13 (although this is back from early 2013). Development will cost about $200mn, RWE says. Production is set to be relatively modest – in the 10s rather than the hundreds of cfds, MEES understands. An April 2008 test well performed at 37mn cfd, whilst more recent appraisal wells, whilst confirming the extent of the discovery, have tested at far more modest levels. Development involves the construction of central treatment facilities at the core North Sidi Ghazi discovery to where other fields will be tied back.

TPAO Completes Well In Turkish Cyprus, Plans Second

Turkish Petroleum (TPAO) has completed drilling an oil well begun last April in northern Cyprus and will soon begin another, Turkey's Anatolia News Agency reported on 18 September. Speaking in Ankara, Turkey's Minister of Energy Taner Yildiz said a second well is planned in the part of the island controlled by Turkey. The onshore Turkyurdu-1 well, located northwest of Famagusta on the eastern side of the island, was spudded on 26 April in response to the offshore drilling program being carried out by the Republic of Cyprus in its offshore exclusive economic zone (MEES, 7 May). It was drilled to a depth of 4,075 ms, but no results were given. Mr Yildiz said the second well would be located on the western side of the island, the northern 40% of which has been occupied by the Turkish army since 1974.

Turkey and the Turkish-Cypriot administration in northern Cyprus have objected to the hydrocarbon exploration program under way in the south, which is an EU member and recognized internationally as the island's legal government. A licensing round that concluded in May is drawing near its close and new licenses for blocks in Cyprus' EEZ off the southern coast could be awarded within months.

In May at the conclusion of the licensing round, Turkey's Foreign Ministry issued a statement warning of "new problems" unless the international companies that participated in the tender for 12 offshore blocks withdrew their applications (MEES, 22 May). Turkey claims that the Greek-Cypriot government in the south does not have the authority to make decisions concerning the island's natural resources and insists that exploration work stop until a settlement to the decades-old 'Cyprus Problem' be found. Turkey also claims that the Turkish-Cypriot administration has awarded to TPAO for exploration the offshore area south of the island that comprises that section of the Cyprus EEZ that was included in the licensing round.

Noble Energy discovered in Block 12 in December 2011 a natural gas reservoir with a resource estimated at 5-8 tcf. The Cyprus government is now engaged in talks with Noble covering a development plan for the Aphrodite field in Block 12. The plan involves the construction of a gas pipeline from Block 12 to the southern coast that will first address the island's domestic gas demand for power generation and later be used to supply gas to a LNG export plant.

Chevron Neutral Zone Delay Jeopardizes Kuwait 2020 Crude Target

The final investment decision (FID) on Chevron's $10-15bn, 500,000 b/d Wafra crude project in the Neutral Zone is delayed to 2016 – five years after the original scheduled date – with start-up now put at 2019. Kuwait is relying on its 50% Neutral Zone output share to hit its 4mn b/d 2020 crude output target, which looks increasingly unrealistic.

By - Nick Wilson

Saudi Arabia and Kuwait, which jointly govern the Neutral Zone and share its oil production 50:50, depend on the Chevron-led steam injection project to reverse decline in their onshore oil output, which has dropped to about 200,000 b/d from 240,000-260,000 b/d in 2010. Saudi Arabian Chevron (SAC) – on behalf of Saudi Aramco – jointly operates onshore fields with state-owned Kuwait Gulf Oil Company (KGOC), and markets the Saudi share of the output under a 30-year concession that started in 2009.

Hisham al-Rifa'i, KGOC's Managing Director, said this week that if the scheme goes ahead it will triple onshore production to about 600,000 b/d. The latest delay would mean first steam injection in 2019, 100,000 b/d output by mid-2021 and 300,000 b/d by end-2022, reaching full 500,000 b/d output by 2026-28. This would plateau for a few years before falling to 300,000 b/d by about 2040. The lifetime cost will be $30-40bn (MEES, 19 December).

A large-scale pilot scheme started in 2009, costing $330mn in the first two years. The original projections were: a production capacity boost to 300,000 b/d; capital expenditure to start the project put at $10bn; and the FID in 2011. After more delays it is now planned for 2016. Full field development will include 10,800 wells, a 1.5mn b/d water treatment plant and a 550,000 b/d processing plant for expected peak 500,000 b/d crude output.

RECOVERY RATE IMPROVEMENT HOPES

Chevron hopes it can boost the current 5-6% recovery rate of heavy oil to 15-50%. It would thus be reversing the fields' 6-8% annual decline rate. It says 6bn barrels are recoverable, but it faces four main challenges: finding 1.5mn b/d of water and 650bn BTU/day of energy (equivalent to 650mn cfd of gas); attracting skilled employees and contractors, while it competes with other big Middle East energy projects; and proving that steam technology works in carbonate reservoirs. The challenging oil and rock chemistry of the Wafra reservoir impact well reliability. And its heterogeneity causes varied steam heating performance – it has variable permeability, location of barriers to steam, complex mixed wettability (the tendency of oil to stick to rock) and fluid property variations. Furthermore, the oil has 4.5% hydrogen sulfide content, and the carbonate – which is dissolved by steam forming carbonic acid, leading to scaling – also adds to corrosion problems. The water is hard, compounding scaling issues.

There may not be market demand for Wafra Eocene crude as export. The often-delayed 615,000 b/d al-Zour new refinery is designed to handle heavy sour crudes from the Lower Fars reservoir in the North and Wafra, but Kuwait has been struggling to get it built since it was first planned nearly 20 years ago due to the political instability that has plagued the energy industry's development.

Offshore developments, however, are still on track to boost total Neutral Zone oil production capacity by 180,000 b/d to 700,000 b/d by 2019, taking Kuwait's share to 350,000 b/d.

> Offshore developments are still on track to boost total Neutral Zone oil production capacity by 180,000 b/d to 700,000 by 2019, taking Kuwait's share to 350,000 b/d"

State-owned Kuwait Oil Company (KOC)'s northern oil fields will hit an 800,000 b/d production capacity by mid-2014 – up from 700,000 b/d – KOC's Deputy Managing Director of the region Hasania Hashim told state-owned news agency KUNA on 10 September. Most of the lift will come from injecting 500,000 b/d of water into Sabriya and Raudhatain fields, starting in August 2013.

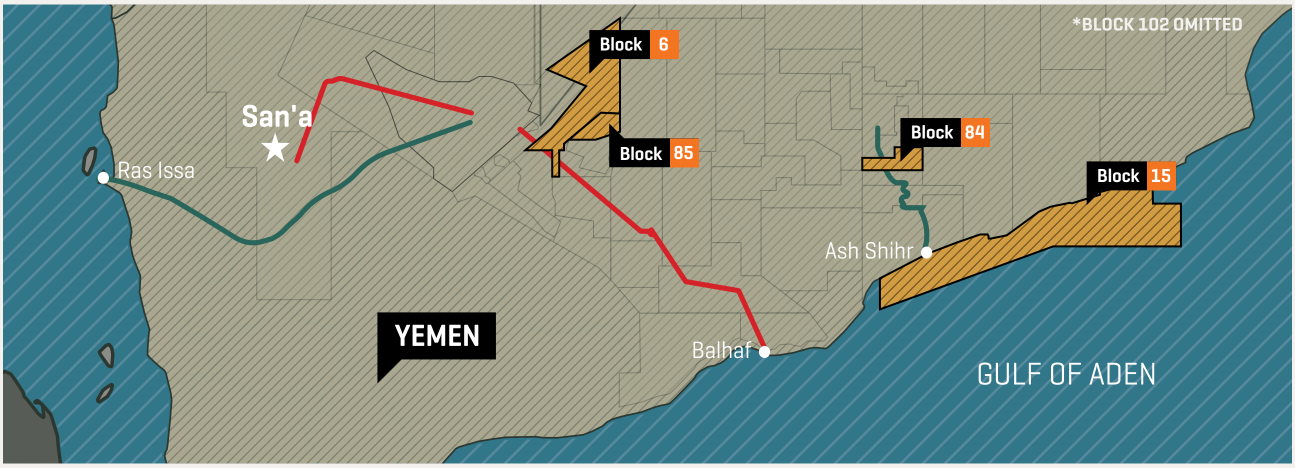
Ms Hashim and KOC chief Sami Al-Rushaid, have both said that the region's production capacity will reach 1mn b/d in 2017 through opening three new crude collection centers, a 400,000 b/d water injection project, 400 wells and an oil pipeline to Mina al-Ahmadi port. However, the push to get to 800,000 b/d by 2014 would be a major advance on a previous plan – in 2010 KOC said northern fields' capacity will hit 820,000 b/d by 2020. And it would be despite KOC steadily dropping northern fields' heavy oil targets in recent years from 900,000 b/d by 2020 to 270,000 b/d. The 12-15° API, 5% sulfur crude comes from the Lower Fars reservoirs of the Ratga field, which is shared with Iraq where it's known as Rumaila. In February KOC said its latest production target is 60,000 b/d by 2016 (MEES, 20 February). Under the original plan Lower Fars was to produce 50,000 b/d by 2012, and MEES learns that the steam pilot project has been disappointing.

Northern oil output is another key to Kuwait's planned 4mn b/d goal by 2020. KOC has said it cannot hit the target without signing enhanced technical service agreements (ETSAs), including one for heavy oil, with the majors – but it has been stuck in fruitless talks with them for several years. Shell's ETSA for gas fields is mired in legal and political battles over the contract. This has made ETSAs less attractive for the other majors, who are observing Kuwait's political instability with wary eyes. ◆◆

Yemen Seeks Proposals For Offshore, Onshore Blocks

By - Nader Itayim

YEMEN BLOCKS ON OFFER



Despite the continuing incidence of attacks on its oil and gas infrastructure, Yemen has invited international oil companies (IOCs) to make offers for oil exploration contracts in five new blocks as the country looks to begin its latest drive to hike production capacity.

On offer were blocks 6, 15, 84, 85 and 102, which are in the Sab'ateyn basin in the Marib province, and the Sayun-Masila basin in the Hadhramout province. Of the five blocks, all but Block 15 are onshore.

"Increasing oil production and reserves through expanding exploration blocks...is a top priority for Yemen at the moment," said Yemen's newly appointed Minister of Oil and Minerals, Ahmad 'Abd Allah Daris. The government was looking to primarily encourage investment in Yemen's "new regions" in which oil exploration had thus far been kept to a minimum, he told Yemen's SABA news agency.

Yemen has proven oil reserves of around 2.7bn barrels as of end-2011, according to BP's 2012 Statistical Review of World Energy. Production in 2011 was estimated at only 228,000 b/d, down 24% from the previous year's figure of 301,000 b/d.

In spite of this announcement, officials at Yemen's Petroleum Exploration and Production Authority (PEPA) stress this is not a licensing round. "This is not a bid round. We have just announced the availability of these five blocks, to inform interested companies of their location and technical details," PEPA Deputy Chairman for Exploration Affairs 'Abd al-Latif al-Dafrai tells MEES. "They can then open negotiations with us directly, or apply for participation in the block."

Mr Dafrai said Yemen was looking to attract companies that were "in a good financial position, with at least $50mn in the bank." Further to this, companies looking to win contracts for these blocks would need to have previous experience as an operator or producer of oil, hold good health and safety records, and be legally registered, he explained.

He revealed some exploration work has been carried out in the past, the results of which would be made available. "Yes, studies have been done on all of these concessions. We will be happy to sit with them [the interested companies], to review the data according to the country's official rules and regulations." He disclosed that the government had to date been contacted by five interested parties.

Block 15, off the southern coast of Yemen, has only recently become available after Kuwait Energy – the block's operator since April 2008 – was forced to give up its share after running into financial difficulties. "They relinquished their stake in the block because they did not have the financial means to carry out their commitments there," Mr Dafrai said.

A preliminary agreement was signed in February 2010 between Yemen's Ministry of Oil and Minerals and France's Total for the exploration of Block 85. And while a production sharing agreement (PSA) for the block was formally awarded to the French major later that year, this was subject to further negotiations with the Yemeni authorities which ultimately proved fruitless. "Total did not meet the government's requirements so we chose not to continue negotiations with them about Block 85," he commented.

EXPLORATION BOOST

Ahmad 'Abd Allah Daris was appointed Yemen's new minister of oil and minerals on 11 September (MEES, 14 September), and has been charged with the monumental task of restoring the country's battered oil industry following a near two year period that has halved Yemen's crude output.

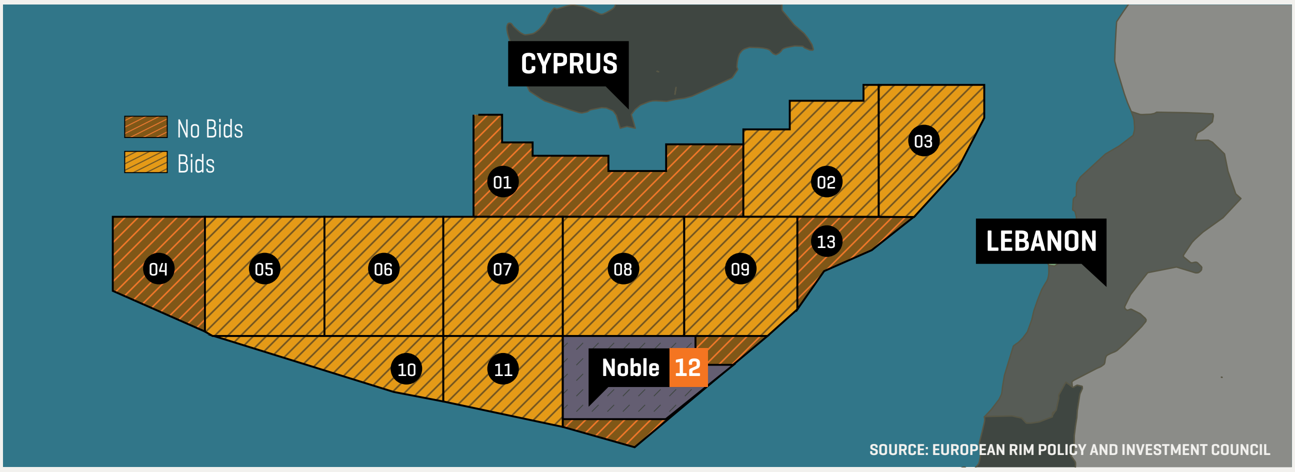
Production in the impoverished nation has been in a constant state of decline. Yemen's 2011 output of 228,000 b/d represented a significant drop from 380,000 b/d in 2006 and 455,000 b/d in 2001. "The auction is aimed at attracting foreign investment, and increasing exploration operations in Yemen," the Minister said, calling on IOCs to take full advantage of the terms on offer.

Following a year in which only nine exploration wells were drilled, 2012 proved to be even for Yemen exploration, according to Mr Dafrai. "We could not drill any exploration wells so far in 2012, but we have managed some development wells," he said, referring to numerous issues faced by the industry such as contractual disputes and security problems.

Despite the obvious hardships of the recent past he remains optimistic. "It seems things are now slowly returning to normal. We have about 26 exploration blocks, and the multinational companies working on them are beginning to return to their existing plans. We expect to have a lot of activity in 2013." ◆◆

Cyprus Nears Exploration License Awards, Says Minister

OFFSHORE LICENSING ROUND



The evaluation of exploration license applications is nearing conclusion some six months since Cyprus closed its second offshore bidding round. The head of the ministry responsible for the island's energy matters, Minister of Commerce, Industry and Tourism Neoclis Sylikiotis, discussed progress on the awards as the island continued to negotiate Block 12 development.

Cyprus is expected to identify by mid-November the companies selected to negotiate production sharing agreements (PSAs) for the offshore blocks tendered during the round that concluded in May. Mr Sylikiotis told MEES in exclusive interview that a decision on the selection of companies is imminent.

"Our advisor, Beicep-Franlab, has evaluated the license applications and these are now before the government's advisory committee. I expect that in a few weeks the recommendations will be put before the Council of Ministers and a decision will be made."

Twenty-nine companies, most of them grouped into consortia, participated in the round. They represent 15 countries and registered 33 applications for exploration licenses for the 12 blocks that Cyprus opened for tender. All but three received bids.

Mr Sylikiotis did not speculate about how the awarding of blocks might go, but he raised the possibility of a third licensing round at some point in the future.

The new awards are expected to invigorate the island's nascent hydrocarbon sector, which got its start with Houston-based Noble Energy's winning of Block 12 in 2008. It subsequently discovered 5-8 tcf (141-226 bcm) of natural gas in December 2011.

According to Mr Sylikiotis, Cyprus is gaining recognition among EU member states as a possible new source of natural gas. "I bring the subject up at every opportunity and EU ministers and parliamentarians are beginning to make frequent enquiries about the prospects here," he said. "I think there is a realization now that Cyprus has an opportunity to deliver a new gas stream to Europe from the East Mediterranean."

There have been a number of projects proposed to convey energy from the East Mediterranean to Europe, among them a gas pipeline that could carry Cypriot and Israeli gas by underwater pipeline to Greece and the transmission of electricity to Greece from Cyprus via an underwater electricity cable. The cable would connect Israel, Cyprus and Greece and electricity would be generated in Cyprus. He said that it is possible Cyprus might attract partial funding from the EU once it makes a decision on delivery.

The front runner is the creation of a LNG export plant at Vassilikos on the island's southern coast. "This would create a gas corridor, connecting Israel, Cyprus and Greece," the minister said. "This would involve bringing gas from Israel together with Cyprus to a liquefaction plant, and then exporting it by ship to Greece for regasification."

But the speed at which this project takes shape depends on talks with Noble Energy. "We are not at the end of our discussions with Noble Energy, but we have made progress in our dialogue," Mr Sylikiotis said, adding that it is likely that within the next couple of months Cyprus and Noble will reach an agreement that will get the entire process under way.

Noble has presented to the Cypriot government a plan for the development of Block 12 that includes bringing gas ashore for domestic use, the appraisal drilling program due to begin in early 2013 and the LNG project proposal.

"Noble has given us a very good plan explaining all the requirements for developing Block 12," he said, but added that it will be 2017 before Block 12 gas will be available for domestic use. For that reason Cyprus must find an interim gas supply for its local power stations.

The Cypriot gas market is too small at 0.5-0.6 bcm/year to warrant the cost of building a 200 km pipeline from Block 12 to supply gas to the island's power stations at Vassilikos. Thus, to develop Block 12 and use it for domestic power generation, the island must create an energy export industry.

The Cypriot government announced earlier this year that it had decided to go forward with the development of an LNG plant, drawing initially on gas from Block 12. The initial size of this facility would be 5mn tons/year, expandable to 15mn t/y when more natural gas is discovered offshore Cyprus or if Israel should decide to export some of its gas through Cyprus.

The Cypriot House of Representatives is in the midst of debating the creation of a national hydrocarbon company that would represent the state in all future hydrocarbon endeavors. Mr Sylikiotis said that when an LNG project begins to take shape, the government would insist on participating as a shareholder and management partner.

"It will take six years for Cyprus to launch an LNG industry," he said. "Two years for study, and four years to construct the facility. That means by 2018, 2019, we will have all the facilities for exporting gas." ◆◆

Delek Considers Offers For 30% Of Leviathan

The partners in Israel's giant Leviathan gas field say talks with foreign firms for a 30% strategic stake in the giant gas field have begun.

By – ***Gary Lakes***

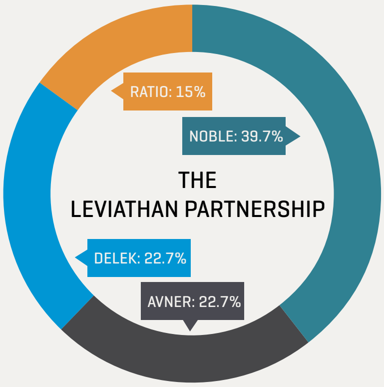
Israel's Delek Group has announced that it is looking for a strategic partner to develop its offshore Leviathan gas field, where resources are estimated to be at least 17 trillion cubic feet (tcf). Delek, whose subsidiaries Delek Drilling and Avner Oil and Gas partnered Houston-based Noble Energy in the field, said it had received on 7 September proposals for the purchase of up to 30% of a working interest in Leviathan from "leading international companies engaged in [the] natural gas exploration and production industry." The names of the companies said to have expressed an interest were not disclosed and Noble Energy told MEES that its Israeli partners made the disclosure under the Tel Aviv Stock Exchange (TASE) rules.

Some months ago Noble said that it was searching for a partner to develop the field. Questions have arisen concerning Noble's ability to build and operate an LNG plant and provide financing, which is expected to cost about $10bn. A key problem now facing Israel is where it might locate a facility, such as an LNG plant, for the purpose of gas export. Noble and Delek have proposed a joint onshore Israeli-Cypriot facility in Cyprus.

"It should be noted that these offers are subject to, among other things, various conditions such as due diligence and additional information that may be a basis for negotiation," Delek said.

The Leviathan partnership, which covers the Rachel and Amit licenses, includes: Noble Energy, operator (39.66%), Delek Drilling (22.67%), Avner Oil and Gas (22.67%) and Ratio Oil Exploration (15%). The Leviathan field was discovered by Noble in 2010 and is one of the largest offshore gas discoveries of the last decade. Noble is now looking for oil in the concession.

Companies believed to be interested in taking on the role of strategic partner include: Russia's Gazprom, France's Total, and Woodside, which is involved in Australian LNG development. Woodside, Delek, and Italy's Edison and Enel are members of a consortium that have registered a bid for Cyprus' offshore Block 9, which lies near the Leviathan field. Total has also participated individually, and as part of a consortium with Russia's Novatek and GazpromBank, in the Cypriot licensing round. Contracts will be awarded in coming months.



TAMAR - APRIL START-UP

Israel's offshore Tamar gas field is due to come on stream in April 2013 and supply the domestic Israeli market. The field holds resources estimated at 258 bcm and when fully operational it will be producing around 10 bcm/year (970mn cfd).

Israel is due to begin in December receiving LNG equivalent to 2.5 bcm/y of gas through a floating regasification and storage unit (FRSU) provided by US company Excelerate. Delivery will be made through an offshore buoy anchored off Hadera. The LNG will help Israel cope with a gas shortage created by a halt in 2011 of deliveries of Egyptian natural gas.

Meanwhile, Canada's GeoGlobal Resources has reported that no hydrocarbons have been discovered at the Myra-1 well, where expectations of a new discovery had been high. GeoGlobal is partnered with Israel's ILDC Energy, Modiin Energy, IDB Development and IPC in the Myra license. Furthermore, work in the Shimson and Daniel licenses, where gas resources are estimated at 2.3 tcf, have been interrupted due to the bankruptcy of US partner ATP Oil and Gas Corporation. ◆◆

Shell Starts Drilling For Shale Gas In Southeast Turkey

Shell began drilling for shale gas in southeast Turkey in early September as the country hopes to discover an indigenous source of energy and reduce its dependence on natural gas imports. Shell launched its exploration program in the Saribugday-1 field near Diyarbakir in an area estimated by Turkey to hold as much as 13 trillion cubic meters (tcm), of which 1.8 tcm may be recoverable. An agreement between Shell and Turkish Petroleum (TPAO) will give 70% of production from the Saribugday field to TPAO and the balance to Shell.

ExxonMobil is reported to be negotiating with TPAO for a shale gas exploration license, and in late August Canada's Anatolia Energy announced that it had spudded a well in the Dadas shale formation in the Antep license area in southeastern Turkey (MEES, 27 August).

At a press conference in Ankara on 4 September, Shell CEO Peter Voser said his company was also interested in hydrocarbon exploration in the Black Sea. A number of international oil companies have explored in Turkey's Black Sea exclusive economic zone (EEZ), including ExxonMobil, Chevron, BP and Petrobras, but with little success. Recently there have been some important gas discoveries made offshore Bulgaria and Romania.

Last November Shell signed a farm-in agreement with TPAO for three offshore blocks in the Mediterranean Sea south of the coast city of Antalya . "We are now in the process of carrying out seismic surveys in the Mediterranean Sea and hope to get a successful result at the end of it," Mr Voser told Turkish media. "We are also discussing what else we can add to our portfolio in Turkey together with our partner, the Turkish Petroleum Corporation."

Turkey is keen to find new sources of energy as it imports practically all of its crude oil and natural gas. The country is looking to launch a nuclear power generation program and is considering making more use of its coal reserves in order to cope with growing electricity demand. ◆◆

Qatar Faces LNG Competition As Japan Diversifies Suppliers

By - Nick Wilson & Theodore Tsakiris

Japan's recent announcement that it will abandon its nuclear power program by 2030 would create demand for up to an extra 18mn tons/year of LNG, but Qatar faces competition to supply it.

Tokyo signed a deal this month to help fund an export terminal near Vladivostok in Russia, and its price indexation and supply diversification strategy includes North America.

Japan's 2030 power generation target is an energy mix of 38% LNG, 35% renewables, 21% coal and 6% oil, and is based on slashing power demand by 10% from 2010. This would require the power sector's LNG imports to increase from 44mn t/y in 2010 to 52.4mn t/y by 2030, FACTS Global Energy (FGE) Director, Tomoko Hosoe, tells MEES. "The government is focusing on targeting flexible North American gas to diversify its supply sources and pricing mechanism from traditional oil-linked pricing." Power companies are also looking at importing East African LNG linked to Britain's NBP price.

However, some of the government's goals seem unrealistic and almost unachievable – in particular the 10% cut in power demand, and the 35% renewables target by 2030, she says. The government, however, when it announced the policy on 14 September said, "It is not pie in the sky. It is a practical strategy." LNG imports will hit 62.4mn t/y by 2030 – 18.4mn t/y above 2010, forecasts FGE, basing this on Japan having more gas-fired power generation capacity.

It is not, however, certain that Japan will reject all nuclear power. The cabinet only approved the basic policy, which awaits fine-tuning. And Japan faces an election soon, which may return the pro-nuclear Liberal Democratic Party to power.

Qatar's LNG producers, which have a production capacity of 77mn t/y, have been selling more gas to Japan since the Fukushima earthquake and Tsunami disaster in March 2011. This forced the closure of most of Japan's 34gw of operating nuclear power plants, driving up LNG demand. Qatar sold LNG equivalent to 10.15 bcm to Japan in 2010, and 15.8 bcm last year – a 56% increase. Qatargas announced on 12 September it has boosted short-term LNG supplies to Japan to more than 20mn t/y. It has also signed several new long-term LNG supply agreements with Japanese firms over the last 12 months. Qatargas CEO Khalid al-Thani said: "Being the world's largest LNG producer, we are demonstrating one of our fundamental marketing principles, that Qatargas sells LNG to where it is needed the most."

IMPACT ON EUROPEAN BUYERS

Qatar's other major LNG producer, RasGas, warned in early 2011 that if Europeans will not pay similar prices to East Asian end users they risk losing their supplies (MEES, 28 March 2011). Qatar faces a collapsed North American market and recession-hit European demand. However, Dr Mustafa Ouki, Head of Global Gas at consultancy Nexant, tells MEES Qatar is also interested in maintaining market share, not just price. So the issue is not simply an 'either Asia-Pacific or European market' decision. "Qatar, in gas, is similar to Saudi Arabia in oil in terms of supply flexibility. It is a low cost producer and has a portfolio covering both Asia-Pacific, and the Atlantic Basin. They want to keep market share in every major market – but not at detriment on prices," he says. This week Henry Hub is $2.7/mn BTU, the UK's national balancing point (NBP) is $9.6/mn BTU and Qatar's Asia-Pacific term contracts are about $13/mn BTU.

Qatar faces competition in Asia-Pacific from planned Australian and North American LNG plants. Russia is also eyeing the region. It has one LNG plant, 10mn t/y Sakhalin-2, and in 2011 exported 14.4 bcm to the region – 9.8 bcm to Japan and 3.9 bcm to South Korea. State-owned Gazprom signed a preliminary deal on 8 September with the Japanese government, which will help fund the planned $13bn LNG export terminal in Vladivostok. It could speed up Gazprom's final investment decision (FID) on the initial 10mn t/y capacity plant, which is scheduled for first phase completion by 2017-20. Gazprom has said that it could subsequently increase its capacity to 25mn t/y, but has not provided a specific timetable.

Gazprom also expects to take a preliminary FID by year-end on building a third 5mn t/y train at Sakhalin, also in Russia's Far East.

The country's other big LNG expansion plans are in Russia's European Artic. Gazprom's Shtokman LNG project in the Barents Sea, however, has been put on ice indefinitely due to its high costs.

> State-owned Gazprom signed a preliminary deal on 8 September with the Japanese government to build a $13bn, 10mn tons/year LNG export terminal in Vladivostok.

However, Russia's biggest independent gas producer Novatek will take an FID by end-2012 on its 15mn t/y Yamal LNG project, whose 5mn t/y first phase will start up in 2016, with Gazprom marketing the gas – it has a monopoly on Russia's gas exports.

ASIA PACIFIC : 'MOST CAPACIOUS' MARKET

Gazprom's chairman Alexei Miller said that the Asia-Pacific market was "the most capacious in the world" and that within the next few years, Gazprom's sales to it would exceed its sales in Europe. Gazprom and its Japanese partners in Japan Far East Gas Company have done a study on the transmission and marketing of natural gas and chemical products in Asia-Pacific. The consortium includes Itochu, Japan Petroleum Exploration, Marubeni, Inpex and Itochu Oil Exploration. However, even if Russian gas exports to Japan and South Korea were to triple to 30 bcm by the early 2020s, there could be no comparison with Russia's EU exports, which in 2011 were 140.6 bcm.

Dr Ouki says: "Qatar has more flexibility in terms of increased gas supplies to Asia-Pacific than Russia whose outlet is limited to Sakhalin's LNG. It has discussed the Vladivostok LNG project for a while now, but it's not there yet."

Although the competition between Qatar and Russia may intensify in the Asia-Pacific market and in Europe, they have good relations. They are members of the Gas Exporting Countries Forum, and state-owned Qatar Petroleum (QP) had held talks with Russia's Novatek to buy into Yamal LNG. Before that QP had held talks with Gazprom about a share swap. Dr Ouki says: "Qatar has always been a pragmatic player and would like to keep good relations with other producers." ◆◆

SUEZ CANAL TRAFFIC

◆◆ Revenues hit a bumper $447mn for August. Takings have steadily climbed since the start of 2009. Buoyant revenues for 2011 provided a fillip to Egypt's revolution-ravaged economy as receipts from tourism nosedived. At $5.22bn, 2011 revenues were the highest since 2008's all-time record of $5.38bn. Total cargo was 65.6mn tons for August, close to August 2008's all-time record of 68.4mn tons. Volumes for the first eight months of 2012 are up 9% on 2011 and on target to beat 2008's record.

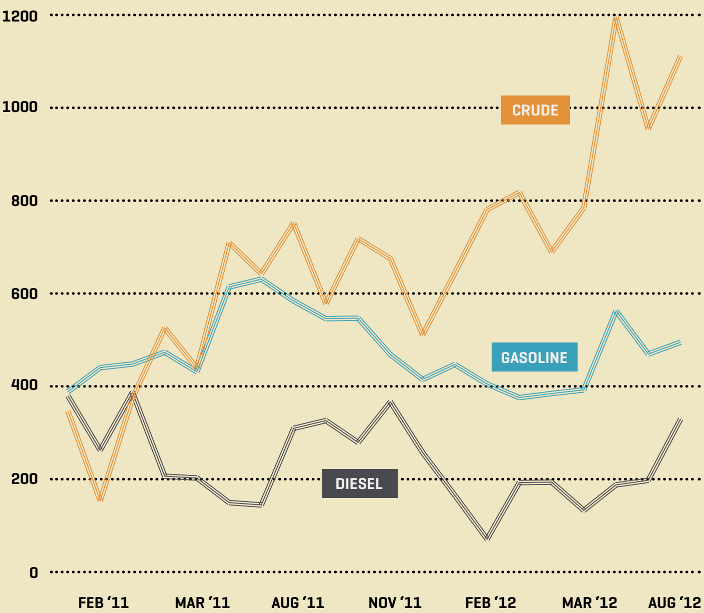
◆◆ Northbound crude shipments – mostly from the Gulf – hit 1.11mn b/d for August, topping 1mn barrels for only the second time since the start of 2011: the first time was in June. Over the last three months shipments have averaged 1.09mn b/d, up 56% on a year earlier. This comes despite European refiners halting purchases of Iranian crude since July. Buoyant gasoline and diesel volumes boosted total northbound petroleum shipments to a near-record 1.87mn b/d. Gasoline shipments were almost 500,000 b/d whilst diesel at 330,000 b/d was the highest this year.

◆◆ Southbound volumes of naphtha shot up fourfold in August as South Korean and Japanese petrochemical firms snapped up surplus European cargoes, a trend that continued into September.

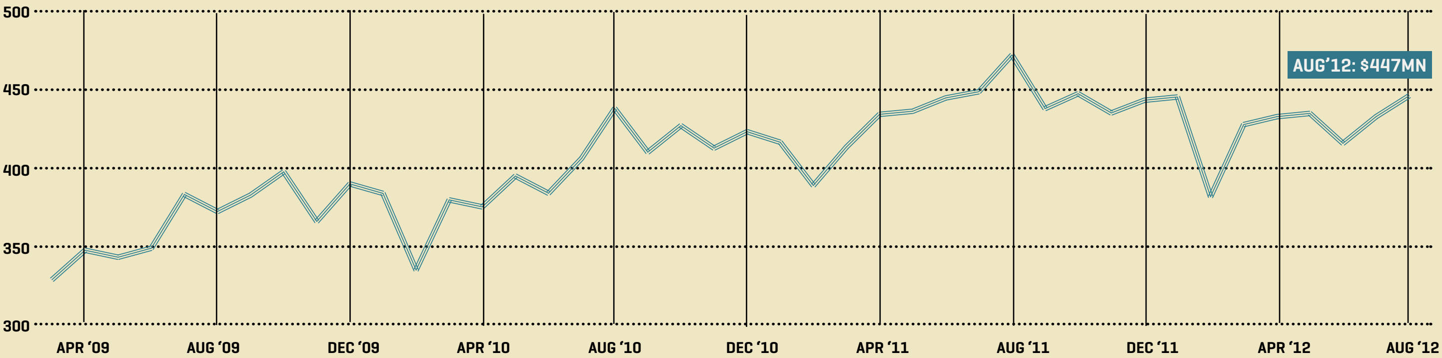
	Aug '12	Change Jul '12		Jan-Aug '12	Change Jan-Aug '11	
South-North	'000 t	'000 t	%	'000 t	'000 t	%
Petroleum Total	7,920	+918	+13	49,582	+9,292	+23
('000 b/d)	1,873	+217	+13	1,489	+274	+23
Crude Oil	4,708	+668	+17	29,065	+12,656	+77
('000 b/d)	1,113	+158	+17	873	+378	+76
Gasoline	1,805	+96	+6	12,636	-1,713	-12
Diesel	1,209	+487	+67	5,301	-2,050	-28
Fuel Oil	0	+0	na	171	-243	-59
Naphtha	0	-107	-100	161	-349	-68
LPG	60	-19	-24	543	-393	-42
LNG	2,588	+913	+55	17,859	-9,033	-34
Container Traffic (mn t)	16.6	+0	+0	134	-3	-2
Total Cargo (mn t)	31.1	+2	+5	237	-1	-0
of which Gulf origin	10.6	+2	+26	70	+2	+3
Total Tonnage (mn t)*	41.7	+3	+9	306	+4	+1
No. of Vessels***	630	+17	+3	4,909	-380	-7
of which Petroleum	154	+16	+12	1,121	+9	+1
*VLCCs***	13	+2	+18	77	+33	+75
LNG	30	+9	+43	226	-104	-32
North-South	'000 t	'000 t	%	'000 t	'000 t	%
Petroleum Total	5,021	+1,350	+37	45,399	+18,071	+66
('000 b/d)	1,187	+319	+37	1,364	+539	+65
Crude Oil	1,384	-72	-5	16,713	+9,945	+147
('000 b/d)	327	-17	-5	502	+298	+146
Gasoline	344	+108	+46	3,505	+211	+6
Diesel	886	+746	+533	3,840	+114	+3
Fuel Oil	1,353	-13	-1	15,460	+5,268	+52
Naphtha	808	+619	+328	3,872	+1,792	+86
LPG	30	-20	-40	413	+163	+65
LNG	321	-179	-36	3,883	+1,159	+43
Container Traffic	17.6	-1	-3	136	+7	+6
Total Cargo (mn t)	34.5	+3	+9	260.9	+45	+21
Total Tonnage (mn t)*	40.5	+6	+16	276.9	+28	+11
No. of Vessels***	707	+43	+6	5298	+217	+4
of which Petroleum	121	+36	+42	900	+169	+23
*VLCCs***	0	+0	na	2	+1	+100
LNG	5	-3	-38	63	+17	+37
Total Vessels	1,522	+57	+4	11,560	-161	-1
Total Cargo (mn t)	65.6	+4	+7	497.0	+43	+9
Total Tonnage (mn t)	82.2	+4	+5	620.4	+8	+1
Revenue (mn $)	446.6	+14	+3	3,419.1	-38	-1

*includes weight of vessels (including on unladen voyages) **oil tankers of 200,000t DWT and above. ***excludes unladen vessels. Source: Suez Canal Authority, MEES Caculations.

NORTHBOUND PETROLEUM SHIPMENTS ('000 b/d)

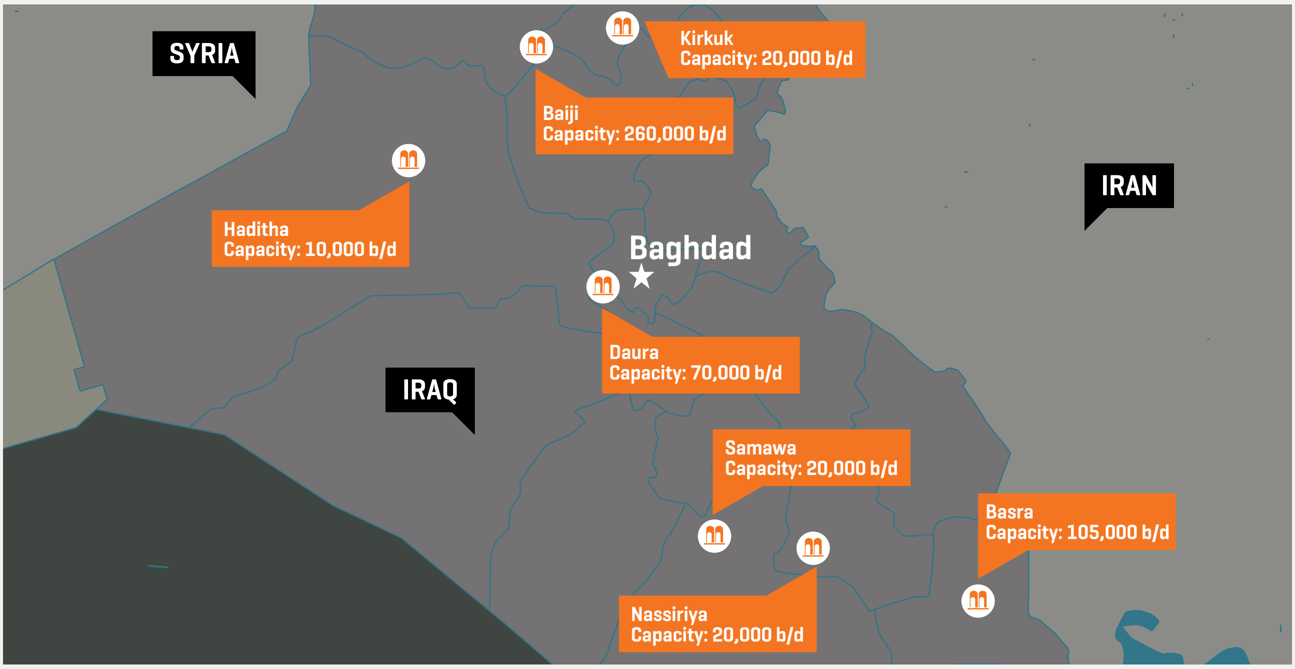


TOLL REVENUE ($mn)



NIC Head Outlines Iraqi Downstream Plans

IRAQ'S OIL REFINERIES



Iraq's plans for new downstream oil projects include a world-scale petrochemicals plant, four fertilizer plants and three oil refineries, according to National Investment Commission (NIC) Chairman Sami al-Araji. A $20bn olefins and polyolefins complex would be built at Basra, with a view to start-up in 2020, he told MEES on the sidelines of the Symexco Iraq Finance 2012 conference held in London on 18-19 September. The plant would be built in two stages, said Dr Araji, the first having 2mn tons/year combined output capacity and the second taking total production capacity to 7mn t/y. He added that Chevron had expressed interest in building the plant and had held preliminary talks with NIC.

Whether Chevron's interest in the Basra petrochemicals project proceeds further than preliminary talks could depend on relations between Baghdad and the Kurdistan Regional Government (KRG). Although the two governments are working to resolve their differences over oil investments, Baghdad has threatened to annul the contracts of any international oil firms which sign KRG oil contracts. ExxonMobil was the first US firm to invest in the KRG upstream, and Chevron followed suit on 19 July by announcing that it had acquired interests in two blocks in Kurdistan. The US major took over Indian firm Reliance's 80% interest and operatorship of the Rovi and Sarta blocks (MEES, 6 August). Unlike ExxonMobil, Chevron does not already hold upstream interests in Iraq, but the issue could lead the Iraqi Ministry of Oil to block Chevron's pursuit of the Basra petrochemicals project.

CHEVRON VERSUS SHELL

Chevron would also face strong competition for the Basra petrochemicals project from Shell. Earlier this year the Anglo-Dutch major signed a memorandum of understanding with the Iraqi government for the development of a petrochemicals plant in southern Iraq. Shell already has a foothold in the Iraqi oil and gas sector as operator of the Majnoun oil field redevelopment and a partner in the Basra Gas Company, a joint venture comprising Shell (44%), state firm Iraqi South Gas Company (51%) and Mitsubishi (5%) which is developing a gas gathering project to recover up to 1bn cfd of gas that is currently flared in the area.

Dr Araji told the conference that Iraq would need four fertilizer projects – three urea plants and one phosphate plant – which would be built at Basra, in Anbar province and in Salahudin governorate. He said that NIC was also offering investors a number of other downstream opportunities. These include three greenfield refineries – a 300,000 b/d capacity plant at Nasiriya, a 150,000 b/d capacity plant at Kirkuk, and a 150,000 b/d plant in Misan governorate – and six refinery rehabilitation and upgrading projects.

The Ministry of Oil has announced plans to double Iraqi refining capacity to 1.5mn b/d by the end of 2013, but potential investors are being deterred by the security situation, unclear regulations, government bureaucracy, insufficient government financial backing and a lack of potential export options from the chosen sites. Iraq's Deputy Prime Minister for Energy Affairs Husain al-Shahristani announced in April that Iraq was developing a Petrochemicals Master Plan. He said he would be open to proposals for an export refinery to be built in Basra, potentially in tandem with the planned petrochemicals complex. At that time the ministry revealed a provisional plan for the construction of four refineries – the three mentioned by Dr Araji plus a 140,000 b/d capacity plant to be built at Karbala.

Talks on the proposed Karbala refinery with a UAE-led consortium were said to have been the most advanced among the new refineries. However, they were halted to consider options for making the project more commercially viable. An increase in capacity to 200,000 b/d was provisionally agreed.

Additionally, Deputy Minister for the Downstream Ahmad al-Shama' has reportedly said that the front end engineering design for the Karbala refinery would have to be altered to reduce fuel oil output. Egyptian private equity firm Citadel Capital has also proposed building a 150,000 b/d capacity refinery in Nineva province. ◆◆

Algeria Advances Refining Expansion With Start Of Biskra Construction

Algeria on 15 September started construction of a new $3bn, 5mn tons/year (100,000 b/d) refinery near the city of Biskra 300km southeast of Algiers: the first of four new plants totalling 400,000 b/d set to come onstream by 2017. The Biskra plant will produce 500,000 t/y (11,600 b/d) of gasoline, 220,000 t/y (7,000 b/d) of LPG and 169,000 t/y (3,600 b/d) of Kerosene, according to energy minister Youcef Yousfi, speaking at the launch. Three further plants of "similar" configuration are slated to come onstream by 2017. These will be in Ghardaia, Tiaret and Hassi Messaoud, Mr Yousfi said. Work on these has yet to begin. The latest pronouncement fleshes out a statement by Sonatrach CEO 'Abd al-Hamid Zerguine earlier this year that the state owned company would build "three or four" new refineries over the "short to medium term."

Hassi Messaoud, 400km to the south of Biskra, is the site of a small existing refinery as well as Algeria's largest oilfield (the 300,000 b/d-plus field of the same name). Although Algeria has not disclosed the likely crude source for the Biskra refinery the key OB1 crude pipeline linking Hassi Messaoud with the port of Skikda passes Biskra. Tiaret was the site of earlier plans for a new 300,000 b/d plant (MEES, 1 March 2010).

The Biskra plant will also form the nucleus of a "regional petrochemical hub," Mr Yousfi says. Petrochemical plants would be built in the nearby towns of Khenchela, Batna and M'sila in parallel with its construction. However it remains to be seen if Algeria can find the gas to fuel this planned petrochemicals expansion. Given static gas production Algeria is already having problems balancing booming domestic gas demand (mostly for power generation) with its export commitments. On top of this the country plans to add over 12gw of gas-fired power plants by 2017 (MEES, 3 September). At least one existing major petrochemicals project – Total and Sonatrach's plans for a 1.4mn t/y ethane cracker in Arzew, originally slated for 2009 start-up – is already (seemingly indefinitely) on hold due to a lack of gas feedstock.

Algeria has been undertaking a major upgrade and expansion project at its existing refineries. Total capacity is set to rise to almost 26mn t/y (520,000 b/d) by the end of next year, up from 22mn t/y at the start of 2011 (see table).

The Arzew refinery was expanded from 50,000 b/d to 75,000 b/d late last year, whilst work to expand the country's largest plant at Skikda by 10% to 330,000 b/d and boost diesel and gasoline production is ongoing and set for completion early next year.

The plant has been operating at below half capacity since July, with upgrade work taking place on each of the plant's two crude distillation units (CDUs) in turn. Work is being carried out by South Korea's Samsung Engineering, which won a $2.6bn contract in 2009 (MEES, 24 August 2009). ◆◆

ALGERIA'S REFINING CAPACITY

Refinery	Start-up	Capacity mn t/y	'000 b/d	Notes
Algiers	1964	2.7	54	
Arzew	1974	3.75	75	Following 25,000 b/d expansion completed late 2011
Hassi Messaoud	1979	1.2	24	
Skikda*	1980	15	300	
Adrar	2007	0.6	12	Operated by China's CNPC (70%) with Sonatrach (30%)
Total end 2011		23.25	465	
Skikda expansion	Early 2013	1.5	30	Takes Skikda capacity to 16.5mn t/yr
Algiers expansion	2013	0.95	19	Takes Algiers capacity to 3.65mn t/yr
Total end 2013		25.7	514	
Biskra	2016	5	100	Construction began 15 Sep 2012
Ghardaia	2017	5	100	Planned
Tiaret	2017	5	100	Planned
Hassi Messaoud	2017	5	100	Planned
Total end 2017		45.7	914	

*Skikda is also the site of a 5mn t/y condensate refinery which entered service in 2009.

Source: Sonatrach, MEES estimates.

FGE Sees Sanctions Impact On Iran Petchems

Sanctions have had "a tremendous effect" on Iran's petrochemicals sector, according to FACTS Global Energy (FGE). In the 17 September report US and EU Sanctions: Crippling Effects on Iran's Petroleum Industry, FGE observes: "Although ethylene exports have ceased, methanol, polyethylene and xylene continue their routes, albeit in significantly reduced quantities. Shipping data confirmed a sharp drop in Iranian petrochemical exports, which includes methanol, xylene and caustic soda, to around 60,000 tons/week in May from a weekly average of 350,000 tons last year. Chinese firms such as Nanjing Tankers and Sinochem Corporation have been able to get insurance from domestic providers and were reaping huge profits from conducting the niche trade."

The report notes that technical companies such as Linde, UOP, Lurgi, Uhde, SK, Mitsubishi, Toyo, Samsung, Basell and BASF are no longer providing technology, licenses, equipment and/or catalysts to Iranian petrochemicals projects. Among projects impacted by sanctions FGE lists: the Arya Sasol polyolefins plant, in which Sasol is selling its 50% equity; Oman Oil Company's Hormuz Urea and Ammonia project, which has been cancelled; Venezuelan state firm Pequiven's methanol joint venture, which has been halted; Indonesia firm Pusri's Hengam Ammonia and Urea project, which has been halted; and Hansa Chemie's Karoun Iso-cyanates plant, in which the German firm sold its shares to a subsidiary of Iranian state firm National Petrochemical Company (NPC).

Despite the impact of international sanctions on Iran's petroleum sector investment programs, NPC maintains that its capacity expansion program is proceeding. Ali-Mohammad Bosaghzadeh, NPC Director of Production Control, told reporters in Tehran on 15 September that the company had added 28mn tons/year of production capacity since 2005. He said that NPC's total petrochemicals output capacity was now 54mn t/y. Among projects due for completion soon Mr Bosaghzadeh listed the 300,000 t/y capacity Kermanshah high density polyethylene plant, a 1mn t/y ethylene cracker in the Kavian complex, and the first phase of the 1.8mn t/y capacity West Ethylene Pipeline, which will deliver feedstock to regional polyethylene plants.

◆◆

Iraqi Electricity Industry Poised For 20,000 MW Lift-Off

At long last, Iraq's ailing power sector appears set to make the major generation capacity expansion needed to address the crippling electricity cuts that have been costing the country's economy around $40bn/year.

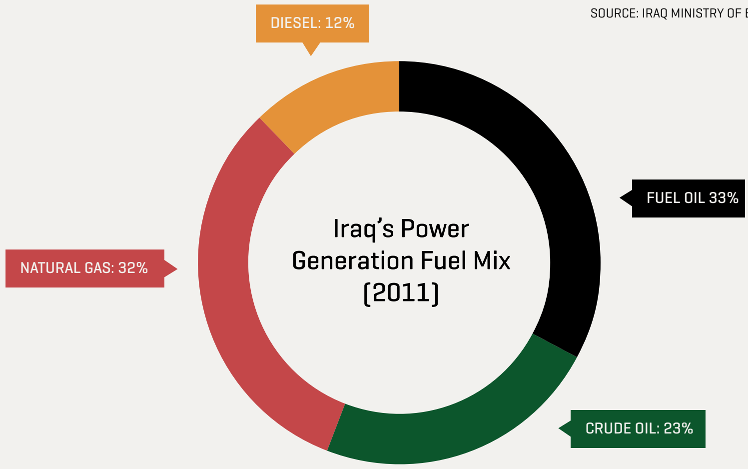
By - Rafiq Latta

Iraq's post-2003 power sector has seen a lot of false dawns, scandals and broken promises. The failure to improve the chronic power cuts has proved a graveyard for politicians, leading to riots and the dismissal of successive electricity ministers (MEES, 3 October 2011). Generation has risen this year slightly to 8,450mw, but high loss rates erode effectiveness to around 7,000mw. This is not much higher than the woeful levels Iraq has been stuck at for several years, and it includes around 1,600mw of imports.

However, now real change is coming, and Iraq is looking to more than triple current capacity to reach 27,000mw by end-2015, pledges Qusay 'Abd al-Sattar, Director General at the Ministry of Electricity. "Hopefully within three years there will be no more shortages in electricity," he told delegates at the Energy Exchange's 17-19 September Iraq Future Energy Conference

"We are on the ground. And we know when you go to Wasit power station you see the boilers and the turbines. I am confident," Dr 'Abd al-Sattar said. Of the 25 or so new projects in the push to add 20,000mw "we have only four projects yet to be contracted. Two years ago you were right. We were talking about paper projects. Not now," he added. Independent soundings lend weight to his claims. "They have had the generators and turbines for a while, but now they finally got some contractors to build the power stations," agrees one consultant.

SOURCE: IRAQ MINISTRY OF ELECTRICITY



While genuine progress on capacity generation is expected, 100% completion of the 20,000mw target by end-2015 is unrealistic. Some projects, for example the planned Akkaz and Mansouriya power stations (see map, table), rely for their fuel source on gas field developments that are unlikely to be fully up and running by that time.

There are also concerns that work on the transmission and distribution network to bring this new electricity to consumers is lagging generation. Again, Dr 'Abd al-Sattar is adamant: "We have planned the capacity implementation in parallel with transmission and distribution. Definitely we have planned that when 7,500mw of generation comes on stream next year, there will be a network there to take it."

A key political point is how much new capacity gets installed by the time the summer heat wave hits – temperatures regularly reach 55°C. And in Baghdad, the need to provide air conditioning has led to the installation of an estimated 3,000 private generators, which provide an additional 1,000mw or so of power. Turkey's Calik Energy, which is building the 750mw Nineva plant and the $445mn 1,250mw Khairat plant in Karbala, aims to commission these by the end of first quarter next year. "You know there might be a slight delay, but hopefully we will do it on time," says Mustafa Gursoy, Calik's Iraq Country Manager.

CUMULATIVE SPEND MINUS ALREADY ALLOCATED + MEGA DEAL 2012-2017 $BN

2012	2013	2014	2015	2016	2017
4.5	9	13.5	18	22.5	27

EXPECTED GENERATION CAPACITY ADDITIONS 2012-2015 MW

2012	2013	2014	2015
1,500	7,500	7,500	3,500

PLANNED TRANSMISSION INFRASTRUCTURE EXPANSION 2012-2015

	Existing	New	Total End 2015
400KV Substations	25	19	44
400KV Overhead Lines	4,900km	1,500km	6,400km
132KV Substations	210	75	285
132KV Overhead Lines	12,500km	2,500km	15,000km

$75BN INVESTMENT BONANZA

Much of the spending on the expansion took place some time ago. In late 2008-09, as part of an electricity 'mega-deal' Iraq bought 56 GE turbines and 18 Siemens

Continued on – p13

Continued from – p12

turbines, with a collective 7,000mw and 3,200mw capacity respectively. Together with spare parts this came with a $4bn price tag (MEES, 18 July 2011). A botched construction contracting process meant these turbines have languished in warehouses until now. But, even discounting the mega-deal purchases, Iraq plans to spend around $4.5bn/year, or some $27bn up to 2017, on its electricity sector (see table). This 2012-17 spend will break down as follows: $14bn for generation, $5bn for transmission and $8bn for distribution.

Longer term, Baghdad is eyeing a $77bn spend to 2030, with a similar breakdown between sub-sectors. And it is looking for foreign participation in the expansion, but prospective investors need to hurry, urged Dr 'Abd al-Sattar. "If you come today, you are welcome. If you come tomorrow, we might say: 'Sorry you are late'."

The first new generation initiatives planned for when the 2012-15 expansion is completed are two 1,500mw Independent Power Projects (IPP) around Baghdad, which if successful would be Iraq's first private investment in the electricity generation sector. Two years ago the ministry's attempts to bring foreign investors into an IPP failed, with investors asking for unreasonable terms, Dr 'Abd al-Sattar argued. "When we tried earlier, the investors wanted the GE and Siemens turbines ... and not pay for them for five years."

The ministry is also eyeing major changes in its fuel source mix. Chronic water shortages, which have rendered ineffective most of its current hydro-generation, means that no new hydro-power projects are envisaged. Baghdad hopes to end all new diesel generation projects by the end of this year. It is gas that will drive electricity generation growth, and from next year, the ministry will start a program to convert its single cycle gas fired stations to more efficient combined cycle.

Renewables, around 400mw of wind and solar power by 2016, is also envisaged. Iraq pioneered its first renewables program last year and is currently tendering for 10 isolated sites for its first facilities. Some 43mw should be installed next year at a cost of around $200mn. The ministry is in the process of creating a wind and solar 'atlas' of Iraq to indentify the optimum sites.

INVESTMENT MULTIPLIER

In addition to massive investment in generation, transmission and distribution investment, the electricity expansion is driving the efforts to establish an Iraqi gas industry. Currently most Iraq gas is flared – an environmentally catastrophic 1bn cfd (MEES, 25 June). But while, "in the South there is lots of gas, but only 10% of the demand...the electricity cuts...hit hardest in Baghdad," explains Dr 'Abd al-Sattar, so the ministry of oil is building a new strategic 1bn cfd gas pipeline from the southern Basra province to feed new power stations near Baghdad, which should be ready by mid-2013. Another gas line is envisaged to go north to Kirkuk, via Amara and Kut.

URGENT TARIFF REFORM

Iraq's electricity sector challenges go beyond issues of construction and project management. There is an urgent need for regulatory and tariff reform. And there is a strong concern that unless current heavy subsidies are cut, then demand will just rocket up uncontrollably as new capacity comes on stream. Action needs to be taken now. "The problem is that if you give electricity for free, people get used to it," notes Eric Becker, Senior Investment Officer at the World Bank's International Finance Corporation (IFC). It is a politically sensitive subject, with the cabinet, agreeing last year in principle to a tariff rise, but in practice delaying any implementation.

Higher tariffs need to go hand-in-hand with better collection. And the whole sector needs to be put on a proper legal footing. A new Ministry of Electricity Law is still with the cabinet, while for a proposed Electricity Regulatory Law the cabinet has not yet received the Ministry of Justice approval. The electricity ministry still has to work out a proper structure for investment in power. So far it has looked like a bewildering morass of contractual arrangements, including: concessions, Build-Own-Operate (BOO), Build-Own-Operate-Transfer (BOOT), and Build-Rehabilitate-Own-Transfer (BROT). ◆◆

IRAQ'S PLANNED 2012-2015 POWER PLANT ADDITIONS

Province	Plant Name	Plant Type	Configuration	Total Capacity	Total Provice Capacity
Nineva	Ninava	Gas Turbine	6x125MW	750	2150
	Al-Shamal	Steam Turbine & CCGT	4x350MW	1400	
Kirkuk	Dibis	Gas Turbine	2x169MW	338	968
	Dibis2	Gas Turbine	2x169MW	338	
	Taza	Gas Turbine	1x292MW	292	
Salah Al-Din	Salah Al-Din	Steam Turbine & CCGT	2x630MW	1260	2274
	Baiji	Gas Turbine	6x169MW	1014	
Anbar	Mukhliss Kafi	Diesel	230MW	230	2100
	Anbar (CCGT)	Steam Turbine & CCGT	1500MW	1500	
	Akkaz	Gas Turbine	2x125MW	250	
	Akkaz 2	Gas Turbine	4x30MW	120	
Diyala	Mansuriya	Gas Turbine	4x185MW	740	740
Baghdad	Quds	Gas Turbine	4X125MW	500	998
	Taiji	Gas Turbine	4x40MW	160	
	Sadr	Gas Turbine	2x169MW	338	
Karbala	Khairat	Gas Turbine	10x125MW	1250	1800
	Karbala	Gas Turbine	2x125MW	250	
	East Karbala	Diesel	300MW	300	
Babil	Hilla	Gas Turbine	2x125MW	250	880
	Yousfiya	Steam Turbine & CCGT	3x210MW	630	
Wasit	Zubaidiya	Steam Turbine & CCGT	2x610MW	1220	2540
	Zubaidiya 2	Steam Turbine & CCGT	4x330MW	1320	
Najaf	Haydariya	Gas Turbine	4x125MW	500	500
Qadisiyah	Dewaniya	Gas Turbine	4x125MW	500	900
	North Dewaniya	Diesel	200MW	200	
	East Dewaniya	Diesel	200MW	200	
Misan	Bazurgan	Gas Turbine	2x60MW	120	820
	Amara	Gas Turbine	4X125MW	500	
	North Amara	Diesel	200MW	200	
Dhi-Qar	Nassiriya	Gas Turbine	4X125MW	500	500
Muthanna	Samawa	Gas Turbine	4X125MW	500	500
Basra	Rumaila	Gas Turbine	5x292MW	1460	3210
	Shat Al-Basra	Gas Turbine	10x125MW	1250	
	Najibiya	Gas Turbine	4x125MW	500	

Total Planned 2012-2015 Power Plant Additions	20,880
Gas Turbine	*12,420*
Steam Turbine & CCGT	*7,330*
Diesel	*1,130*

◆◆

HIGH PRICES ALARM GULF MEMBERS

Current crude prices are too high and should be around $100/B, a senior Gulf source tells MEES. "We are working to bring down the price," he said on 20 September, adding: "the Saudis are consulting their clients and telling them they are ready to supply more."

A major oil producer and a European refiner both say no discussions about taking extra Saudi crude have happened as yet. "We haven't heard anything ourselves, which doesn't necessarily mean others aren't getting contacted," said a trader from a major. "No we haven't been in any special talks yet," says the European refiner. "With the Saudis it is entirely normal for them to say 'we have some extra barrels, if you want them.' Maybe this is just spin on this usual situation," he added, referring to recent press reports that the Saudis would increase supply.

In fact, Riyadh reported its production as falling from July's 9.8mn b/d to a 9.75mn b/d in August, – MEES and tanker tracker assessments broadly back this trajectory.

The August production level is the lowest reported since October 2011, and a Saudi uptick in September would be entirely expected given rising seasonal demand and lower exports from Iran. And the latest shipping data does point to just such an September export increase. Although preliminary figures for October show sailing levels subsequently easing (see chart).

Basket prices remain firm, despite easing below the $110/B mark on 19 September for the first time since late August. But this is not as a result of a shortage of crude, OPEC or otherwise, both producers and consumers agree. "Right now the market is well-balanced and inventories are coming down," says the Gulf source. "The Kingdom would like to see the price come down and move towards the desired level of $100/B," he said.

OPEC Secretary-General, 'Abd Allah al-Badri, speaking at a conference in Austria on 19 September said: "What is evident is the market is currently well-supplied. There is no shortage of oil anywhere in the world. And this is expected to continue...Moreover, OPEC spare capacity remains at comfortable levels and total commercial stock levels remain healthy, he added. The trader at a major downplayed the need for any more oil. "There is not exactly a shortage of oil. Goodness knows why the price is where it is," he argued.

While acknowledging that the global economic situation was a short-term concern, Mr Badri remained bullish as to long-term demand for oil. Of fossil fuels, oil is forecast to retain the largest share in the global energy mix for most of the period to 2035, although this would decrease slightly from 34% to 28%, Mr Badri said, quoting OPEC's most recent World Oil Outlook.

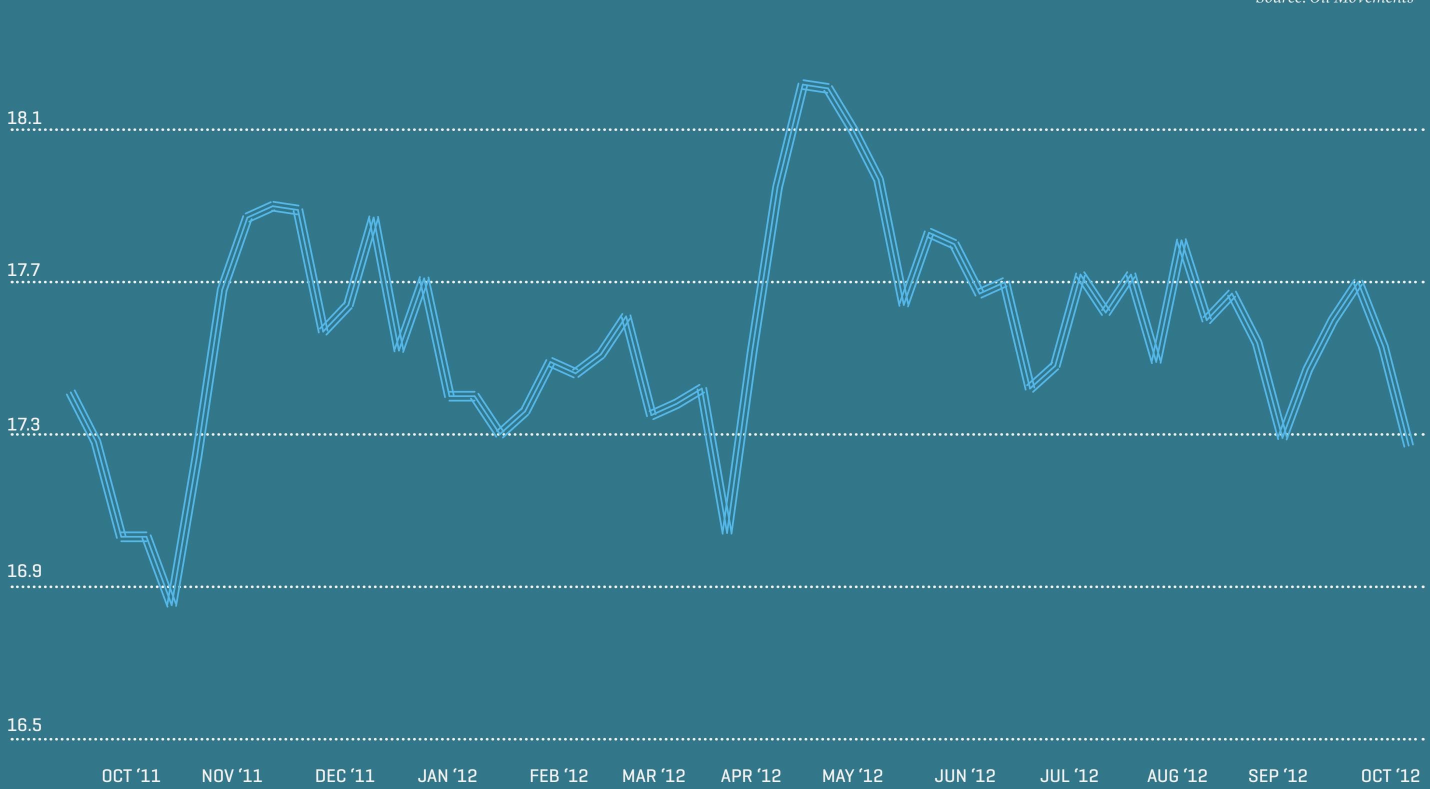
Nevertheless volumetrically, OPEC sees "demand increasing by close to 23mn b/d over the period 2010-to-2035. It reaches almost 110mn b/d by 2035," Mr Badri said. Coal's share in the energy mix through to 2030 is projected to remain similar to today, while gas is expected to rise 23% to 25%.

There is little doubt that both the oil reserves in the ground and the extractive technology exist to meet this future demand, Mr Badri argued.

The biggest concern is the "shortage of human resources entering the industry," he said, citing a 2011 survey from oil services company Schlumberger which revealed up to 70% of national oil companies and 60% of major international oil companies acknowledged project delays due to staffing difficulties. "It is apparent that there are no real short-term solutions. Meeting the human resource challenge will not happen overnight. The industry must look long-term." ◆◆

MIDDLE EAST GULF SAILINGS (MN B/D)

Source: Oil Movements



Iraqi Oil Reconciliation Faces Challenges

The Iraqi authorities have recently taken two important steps towards enhancing the country's upstream oil structure and policies. However, it remains to be seen whether these moves can succeed in the current context of political mayhem.

***By** - Walid Khadduri*

The first step was taken in late August in an attempt to resolve the five-year deadlock over the Federal Oil and Gas Law (FOGL). Following consultations between Deputy Prime Minister for Energy Husain al-Shahristani and House Speaker Usama al-Nujaifi, a 12-member joint parliamentary committee was formed from members of the Energy and Legislative Committees selected on the basis of "political affiliation": four from al-'Iraqiya, six from the National Alliance and two from the Kurdistan Alliance.

Mr 'Adnan al-Janabi (al-'Iraqiya), chairman of parliament's Energy Committee, was appointed to head the committee. Two weeks later, a six-member committee was formed to review the "three different versions of FOGL" and to decide which version parliament would use as the starting point for its debate on the law. The chairman of the six-member committee is the First Deputy Speaker of the House, Mr Qusay al-Suhail (Sadrist), the other members being the Federal Oil Minister, the Kurdish Regional Government (KRG) Natural Resources Minister and parliamentary deputies from each of the three main political blocks.

BAGHDAD-ERBIL OIL ACCORD

On 14 September, the Iraqi authorities and the KRG signed a tentative accord in Erbil under which the KRG would resume crude oil exports through SOMO at an average of 140,000 b/d in September, 200,000 b/d for the rest of 2012 and a reported 250,000 b/d in 2013. (The 2013 KRG Budget Law calls for the export of 250,000 b/d of crude oil from Kurdistan.) The agreement, which requires the approval of the federal cabinet, also calls on Baghdad to repay the costs of the international oil company (IOC) operators in the KRG area and to channel 17% of the country's oil revenue to the KRG.

The attempt to resolve the FOGL 2007 dispute will require a herculean effort, as well as the political will to make major concessions, which is in short supply in Iraq at the moment. One problem is deciding which FOGL version will be selected – the one before or after the approval of Majlis Shura al-Dawla (the State Consultation Council). Another is that FOGL 2007 is seen by Iraqi politicians as an opportunity for horse-trading politics rather than the enactment of a law concerning the country's major economic resource.

Furthermore, oil developments since the first draft of the law was submitted to parliament in February 2007 have rendered FOGL 07 dysfunctional. The Ministry of Oil has signed 19 service contracts, while the KRG has signed 48 production-sharing agreements with IOCs. Most of Iraq's major fields, and many of the KRG's exploration blocks, have therefore already been awarded - and the provisions of these agreements deviate seriously from those envisaged in FOGL 2007.

That raises the question of whether these contracts should be revised to comply with FOGL 2007 or whether the law should be re-written to accommodate the contracts (and if so, which contracts). These are formidable legal, constitutional and political hurdles. Moreover, the FOGL 2007 text is tied "organically" to several other draft laws, so any changes to it would also impact the others: the Revenue-Sharing Law, the Ministry of Oil Law, the Revenue Commission Law and the Oil Fund/ Future Fund Law. Considering the different views that have been expressed concerning these laws, it would be difficult at this stage to delink them from FOGL 2007.

The Baghdad-Irbil oil accord contains a number of compromises by both parties. The KRG agreed to export its crude oil through the Iraqi system (SOMO), while Baghdad agreed to pay the costs of IOCs operating in Kurdistan as well as the KRG's 17% share of Iraqi oil revenue. However, both parties have made it clear that they expect the other side to meet all its obligations if they are to continue fulfilling the agreement. And meanwhile, the issues in dispute have escalated.

The KRG has signed agreements to export crude oil and natural gas through dedicated pipelines from Kurdistan to Turkey and eventually to Europe. This decision contradicts the Iraqi constitution, which allows only the federal government to export hydrocarbons. Other differences between the two parties include the question of "Disputed Areas," most notably Kirkuk. There are also policy differences over upstream investments by the IOCs. Baghdad has denounced IOCs operating in the KRG and warned that it will not allow them to operate in the rest of Iraq. ExxonMobil, Chevron and Total have all challenged this policy without Baghdad being able to do much about it so far.

FUTURE OF KRG

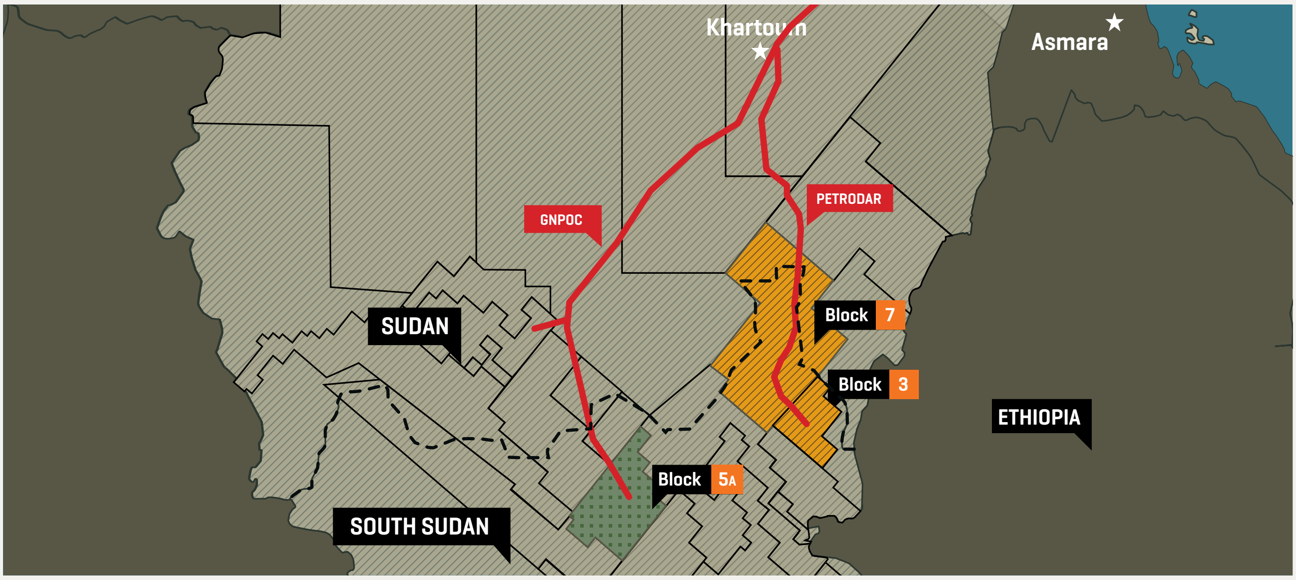
MEES soundings indicate that the future of Kurdistan – whether it will continue to be part of the country or opt for self-determination and independence – is an issue that is being hotly debated in Iraq and that this debate is intertwined with oil issues. These include recognition that KRG crude oil production is projected to rise rapidly; that KRG upstream contracts have proven to be more profitable and attractive to the IOCs than the service contracts offered by the Ministry of Oil; and that KRG territory is safer and more secure than the rest of the country.

Accordingly, some argue that it is preferable to strike compromise deals with the KRG, while providing "facilities" in the rest of Iraq for IOCs operating in KRG territory – and that a compromise oil solution benefitting both parties may convince the Kurds not to opt out. However, others argue that Baghdad should make no further concessions to the Kurds, irrespective of the consequences. Oil policy has become a central part of this debate.

Current moves towards oil reconciliation have been strongly supported by the US, which urged both parties to meet the other's basic demands. It is also understood that the National Alliance and the Kurdish Alliance are continuing efforts to salvage broken ties and restore strategic bonds, though trust has been ruptured so badly that it may be difficult to repair unless significant concessions are made. ◆◆

Sudans Hopeful Of Border Dispute Resolution Ahead Of Ethiopia Summit

UPPER NILE & UNITY STATE BLOCKS



Sudan's President 'Umar al-Bashir is scheduled to hold a summit with his Southern Sudanese counterpart on 23 September in the hope of reaching a deal on border security. This would pave the way for the resumption of oil exports from the South.

Coming on the back of nearly two weeks of negotiations between delegations from North and South Sudan, there is a strong feeling this week's meeting in Addis Ababa could hold the key to both countries' economic futures.

Diplomats and observers alike had suggested earlier this month that the two sides were coming close to a border security deal that should – in theory – allow for the restart of Southern oil exports through the North.

"If the two presidents (of Sudan and South Sudan) meet sometime around the twentieth of September and sign several agreements, I will not be surprised," China's special envoy to Africa, Zhong Jianhua, told Reuters on 15 September.

"We would expect that they will probably still carry out negotiations for other matters such as demilitarization cushion zones between borders and the withdrawal of troops so that by the end of the year – the resumption of oil production by November – that is what we expect," he continued.

Since the South's secession from Sudan last July under a 2005 peace agreement, the two sides had been at loggerheads over a range of issues including the sharing of oil revenues, the position of the 1,800km border, and the division of national debt (MEES, 11 July 2011).

News of the summit surfaced on the back of some comments by a Western official in which he suggested the two sides had made significant progress towards a more complete agreement to end hostilities. Sudan and its neighbor to the south are facing a UN Security Council deadline of 22 September to come to a resolution or risk being hit with sanctions (MEES, 27 August).

"We appreciate the strong efforts the parties have made towards the outstanding issues and we are confident that they will reach an agreement before the end of the deadline," Norway's special envoy to Sudan and South Sudan Endre Stiansen told reporters. Norway is acting as a mediator in the bilateral talks, primarily advising the two sides on issues relating to oil.

70% OF CAPACITY

Juba in late January shut down all its oil production following admissions from Khartoum that it had been seizing some of the South's oil as it flowed through the North and on to Port Sudan for export.

Despite the South breaking away from Sudan, taking with it around 75% of the country's pre-independence 470,000 b/d production, it is still highly dependent on the North, through which the only existing pipeline to the Red Sea outlet of Port Sudan runs.

An interim deal on oil transit fees was reached in early August, but is yet to be finalized, as both sides feel a border security deal is vital before Southern oil can resume its flow through Sudan. Yet, while optimism for an agreement is returning, there remain questions on how long it would take for the South to initially return to production, and in turn reach full capacity.

Speaking on 18 September, Juba's Minister of Finance Kosti Manibe told reporters he felt it could take between three and six months for crude to start flowing through the PetroDar pipeline linking Blocks 3 and 7 in Upper Nile state to Port Sudan; and between nine and 12 months through the GNPOC pipeline running from Block 5A in Unity state again to Port Sudan in the North. In addition to this, the oil would then need around two months to travel from the fields in the South to the terminal at Port Sudan.

"When you resume the pumping of oil, it is not possible to resume at 100% operation rate. The projection so far is that it will begin at about 70%. [This] is the best they can do," he explained.

"Even the revenues that we will collect from oil sales will be lower than what we were collecting in the past." South Sudan is expecting to receive around $540mn from an oil cargo sold at the start of the year. This sum, the minister said, is still being held in offshore accounts because of a dispute with Sudan over the cargo's ownership.

In the event the two sides are unable to come to an agreement however, the minister fears it could be another two years before oil will be able to flow through an alternative pipeline the government in South Sudan has been planning to build, extending from its capital Juba, to the Kenyan port of Lamu some 1,700km away (MEES, 25 June). ◆◆

New EU Sanctions Aimed At Iran's Gas Industry

EU Foreign Ministers are moving towards a consensus on slapping more draconian sanctions on Iran, a key topic of discussion at their latest informal meeting held in Paphos, Cyprus, earlier this month. France and Germany are leading efforts to target Iran's gas industry, which could prove problematic for Turkey as its principal importer.

According to BP's Statistical Review of World Energy 2012 Turkey imported around 8.4 bcm of gas from Iran amounting to 20% of its needs. Turkey is already complying with EU measures to cut annual crude oil imports from Iran by 20% and additional restrictions to its energy dealings – provided that they are supported by Washington – are likely to provoke a significant backlash from Ankara, which is now Iran's largest OECD oil and gas customer.

The increasing effectiveness of the EU oil boycott agreed in January has cut Iranian oil exports by approximately 1mn b/d, according to latest estimates released on 12 September by the US Treasury Department. Despite this Tehran has refused to comply with the two principal demands of the UN Security Council. These are to stop enriching uranium at the current 20% level and cease transporting existing nuclear fuel stockpiles out of the country.

Russia, a veto holding member of the UN Security Council (UNSC), has repeatedly tried to convince Iran that a transfer of its enriched nuclear fuel to Russia would be the best way out of the current impasse. This solution has been supported by other permanent UNSC members, particularly China, France and the UK.

The EU's High Representative of the European Union for Foreign Affairs and Security Policy, Catherine Ashton, refused to confirm that a majority of the council members would stand behind a new set of sanctions. But she did say on 8 September that the Foreign Ministers will "not only consider whether more sanctions should be taken but [would decide] to make sure that the enforcement of sanctions is done properly and any ability to evade them is dealt with." Ms Ashton's French and German counterparts are more outspoken in their determination to isolate Iran.

MEES understands that the sanctions package being prepared by the French and German governments will also attempt to bring increased scrutiny over several "shadow companies" set up by Tehran with the aim of dodging sanctions in Southeast Asia and Africa from January to July 2012. Some of these "grey" corporations, established in Malaysia and Thailand for example, attempted to conceal the real ownership of National Iranian Tanker Company (NITC) vessels.

Germany's Foreign Minister, Guido Westerwelle, noted on 7 September that he was seeing "a growing consensus" between his colleagues on implementing new measures against Tehran. French Foreign Minister Laurent Fabius, leading the EU's anti-Iranian push, outlined the new punitive measures as including restrictions and prohibitions on "financial, commercial and oil aspects." The new sanctions proposal is being drafted, but it will not be possible to hold a vote on its adoption before the next EU Foreign Ministers meeting scheduled for 15 October.

If Iran wanted to delay the dynamics set in motion in Paphos, its chief nuclear negotiator, Saeed Jalili, should have attended an informal meeting held in Istanbul with Ms Ashton. She announced on 18 September that while it was not a formal negotiating round, it was "an important opportunity to stress once again to Iran the urgent need to make progress."

The continued stalemate is likely to increase the determination of the 5+1 members (the five members of the Security Council plus Germany) to act. Washington and its allies have been emboldened by the success of the EU-led oil boycott, and complimentary US measures.

On 12 September US Treasury Undersecretary David Cohen said that "Sanctions have effectively terminated international access for most Iranian banks. Today, the Iranian government is relegated to the backwaters of the international financial system, and they know it."

Mr Cohen estimates that Iran is losing around $5bn in revenue every month as a result of the international oil boycott. Washington renewed, on 14 September, a waiver from sanctions for Japan and 10 EU member-states. This includes Spain, Italy, France and Greece, which were customers for almost all of the 450,000 b/d of Iranian crude imported into the EU last year. The waivers give these countries another 180-day reprieve from being cut off from the US financial system in return for the cuts they have made to their Iranian crude imports.

Washington is also set to renew (India) or grant (South Korea) waivers because these major Asian buyers have also limited their year-on-year crude imports from Iran by at least 20%. The steepest decline recorded so far is from Japan which has cut them by almost 40% from 2011 levels. Only China has so far won a waiver on grounds of interest to US national security, despite its non-compliance with sanctions. ◆◆

India's Caspian Move Counters Lost Iranian Crude Imports

India's compliance with the US/EU oil boycott against Iranian exports, which is expected to reduce its imports of Iranian crude by at least 20% in the financial year 2012-13, is forcing the country's principal oil and gas company to accelerate the pace of its foreign acquisitions.

Oil and Natural Gas Company's (ONGC) overseas arm, ONGC Videsh Ltd (OVL), announced on 9 September an agreement to buy Amerada Hess' Azerbaijan assets. The US energy company controls a small (2.72%), but significant, stake in the Azeri-Chirag-Guneshli (AGC) fields' production sharing agreement. The AGC fields produce most of Azerbaijan's oil.

The deal – estimated at about $1bn – should be completed in 1Q13. It is key to ONGC's strategy. Output from Hess' 2.72% share in AGC was more than 15% of ONGC's overall production in 2011 and would help the Indian company reach its medium-term goal to increase output from 8.75mn tons of oil equivalent (toe) in 2011 to 20mn toe in 2018. It would also expand ONGC's reserves by 9%.

ONGC said the purchase "bears significant strategic importance to India in terms of contributing towards India's energy security." The deal is expected to be approved by the anti-trust authorities in Azerbaijan and India. However, the US government is not likely to approve ONGC's buy-out of Hess' Azeri assets without first securing a quid pro quo from New Delhi at the expense of ONGC's interests in Iran. OLV has 20% and 40% stakes in joint ventures to develop the South Pars Phase 12 and Farzad-B gas projects.

ONGC is also a leading contender to buy part of ConocoPhillips' Canadian oil sands assets for $5bn – a deal under scrutiny by US authorities due to ONGC's assets in sanctions-hit Iran and Sudan. ONGC's Chairman Sudhir Vasudeva said: "We are present in Iran and Sudan. Because of this there are restrictions [for US assets]. We are trying to find ways to circumvent that." He said ONGC's bid for US assets may force it to abandon its plans to develop Iran's Farzad-B discovery.

Gulf Tensions Rise As Syria Conflict Locked In Stalemate

US-led military exercises in the Gulf, an Iranian threat to block the Strait of Hormuz and a warning by Israel about Iran's nuclear program have heightened Gulf tensions. Iran's claim, then denial, that its military is in civil war-racked Syria, and neighboring Lebanon, added to fears that conflict could consume the whole region.

Navies from more than 30 countries started a minesweeping exercise in the Gulf on 16 September as Iran made its latest Hormuz threats. US defense officials say the deployment is not aimed at Iran, but analysts believe Washington and its allies are sending a message that Tehran does not have the military might for a sustained blockade. On the day the exercises started General Mohammad Ali Jafari, the head of the Islamic Revolutionary Guards Corps (IRGC), reiterated that Iran will close the strait if it is attacked. He also suggested that US military bases in the Gulf would be legitimate targets for retaliation.

The US could not use its bases in the Gulf to strike Iran's nuclear sites under its mandate to defend GCC countries and Gulf shipping. But Riad Kahwaji director of Institute for Near East and Gulf Military Analysis (INEGMA), a Dubai-based think tank, tells MEES: "The US has three aircraft carriers and submarines with cruise missiles – they have enough firepower to do the job from outside the bases." However, fearing they could be sucked into a broader conflict, GCC states have been beefing up oil and gas installation defenses and working to open Hormuz bypass oil pipelines (MEES, 14 September).

THE BROADER CONFLICT

There are concerns that many of the conflicts brewing in the region could simmer over into regional war. Israeli Prime Minister Benjamin Netanyahu claimed the Islamic Republic will have "90%" of what's needed to build a nuclear bomb within seven months, which is of concern to both Israel and the GCC. Iran's uranium facilities have already come under attack and its top energy official, Fereydoun Abbasi, who survived an assassination attempt nearly two years ago, said on 17 September that saboteurs used explosives to hit uranium enrichment facilities' power supplies.

Mr Netanyahu recently criticized the US government for not setting a threshold for Iran's nuclear program that if crossed will trigger military action. "Those in the international community who refuse to put red lines before Iran don't have a moral right to place a red line before Israel," he said. He appeared to be responding to US Secretary of State Hilary Clinton's statement about the US not "setting deadlines" for military action.

Some analysts think Tel Aviv may launch an attack before the US presidential election in November to force the hand of President Barack Obama because he will not want to be seen by voters as 'soft' on Iran. Any fight between Iran and Israel could easily spread to Lebanon, with both sides issuing threats.

The Israeli government has talked about making a move on Lebanon, if provoked by Hizbollah attacks on its territory. Hizbollah will retaliate against Israel if it attacks Iran, Major General Yahia Safawi, a senior military aide to Iran's supreme leader, said in early September.

The two have also threatened each other over the consequences of interfering with gas reserves in the Eastern Mediterranean – although Israel has not given permission to oil companies for gas field development in the small maritime area it disputes with Lebanon, and Lebanon has not yet awarded any exploration blocks.

General Jafari also said that members of the IRGC had infiltrated Syria and Lebanon as advisors – a claim that was later denied by Iran's foreign ministry. A formal assurance that the guards were not in the country was demanded by Lebanon's President Michel Suleiman. In August Lebanese authorities announced they had uncovered a Syrian plot to export its civil war next door accusing a Syrian colonel, general and a former Lebanese MP of plotting to blow up politicians and religious leaders.

With President Bashar al-Asad losing control over swathes of Syria, there is wide speculation that Hizbollah's allies in Damascus and Tehran will incite a Lebanon war before he falls. They fear any replacement revolutionary government may be GCC-backed, Sunni and hostile to Shi'a powers, closing Hizbollah's supply route of Iranian arms. To keep him in power longer, Russia and Iran are supplying fuel crucial to the Syrian armed forces – a shortage of refined products helped topple Libya's government during last year's rebellion.

In Syria the Sunni-Shi'a rift continues to play out with Qatar, Saudi Arabia and Turkey supporting the rebels, while Iran backs Mr Asad. Furthermore, some GCC states have long-simmering border disputes with Iran. Syria enjoys the backing of Russia and China in the UN Security council. China is investing billions of dollars in Iran's energy infrastructure in defiance of Western sanctions. ◆◆

Lebanon To Tighten Financial Sanctions

Lebanon is taking the necessary measures to abide by financial sanctions imposed by the US, Europe and some Arab governments against certain countries and entities, the Governor of the Central Bank of Lebanon (CBL) Riad Salamah said at a round table discussion in Beirut. Mr Salamah confirmed that Lebanon will amend existing anti-money laundering laws to combat terrorism funding more efficiently, and explained that "these amendments are designed to buttress the monitoring of terrorism funding in accordance with Lebanese laws and to regulate cross-border currency movements."

The governor went on to state that Lebanon was today subjected to more auditing from the international community and most notably by the US and Europe. Earlier this month US Deputy Treasury Secretary Neil Wolin visited Beirut to press on the authorities "the need to prevent abuse of the Lebanese financial sector by illicit actors, and for Lebanese banks and regulatory authorities to remain vigilant against the evasion of sanctions by Syria and Iran" (MEES, 14 September).

Mr Salamah added that the government has already approved his proposed amendments, without elaborating on their exact nature. Lebanese bankers admit that they have no alternative but to fully cooperate with the US in the fight against terrorist funding. Mr Salamah further said "we are taking appropriate measures which allow us to observe sanctions and preserve our sovereignty with regard to transactions in the Lebanese currency." He revealed that the CBL had sent a circular to all Lebanese banks to refrain from dealing with entities and individuals that are subjected to sanctions.

In related banking news, the governor said that the Ministry of Finance will issue this October 10-year treasury bills denominated in Lebanese pounds with a yield of 8.25%, plus other Eurobonds. As the average yield on treasury bills has been lower at 5-6% recently, the new higher yield bills are expected to whet investor appetite. The Lebanese government needs to borrow money to pay for the latest wage increases and also to repay maturing debt.

Edison Secures $590mn Discount On RasGas LNG Supplies

By - Nader Itayim

Italian energy company Edison has secured in arbitration a €450mn ($587mn) discount on the liquefied natural gas (LNG) supplies it receives from Qatar's RasGas under the terms of a long-term contract signed in 2008. This outcome, analysts feel, could set the tone for other European firms to review their existing supply contracts with a view to ensuring cheaper energy in the future.

"The Court of Arbitration of the ICC – International Chamber of Commerce – has notified to Edison the award related to the dispute between Edison and RasGas for the revision of the price of LNG (liquid natural gas) supplied under the long term contract from Qatar," the Italian firm said.

"The Court decision has accepted the merits of Edison's positions. The overall impact on 2012 accounts of Edison is estimated in 450 million euros," it continued. The arbitration proceedings with RasGas began in March last year when Edison started to renegotiate long term gas procurement contracts.

At issue in this debate is a long-established oil price indexed model for all Russian and Middle East and North Africa (MENA) sales on which more than 90% of all EU imports are still based. This has ultimately hurt a large number of utilities in the EU which, whilst paying more for their gas supplies, have come under political pressure to keep prices for domestic customers down.

This backlash against such oil-linked contracts has gained momentum in recent years as the economic recession and a resulting decline in gas demand has forced utilities to cope with diminishing profit margins.

Edison's deal with RasGas guarantees it 4.6mn tons/year of supply annually for 25 years to Italy's offshore regasification terminal in Rovigo (MEES, 1 August 2011). RasGas also supplies Belgium's Distrigas (2.07mn t/y for 20 years), Spain's Endesa (0.8mn t/y for 20 years) and the trading wing of France's EDF (up to 3.4mn t/y for 4.5 years).

RASGAS 'RESILIENT'

In a statement released on 19 September, Fitch Ratings said it believed the outcome of the arbitration proceedings would not have a material negative effect on the credit quality of the Qatari LNG supplier's bonds.

> The overall impact on 2012 accounts of Edison is estimated in 450 million euros."

"RasGas' financial performance continues to materially outperform Fitch's base case expectations reflecting the company's good operational performance, strong demand globally for LNG and high sale prices due to the linkage of a significant portion of the company's LNG sales to the price of crude oil, as well as the substantial revenues the company earns from sales of its associated condensates and liquefied petroleum gas products," the ratings agency commented.

NOT FINISHED THERE

Edison last year successfully challenged Russian state-firm Gazprom to reduce the cost of long-term gas supplies, and has said arbitration to secure lower terms on LNG import deals from Algeria and Libya are currently ongoing.

Edison is not however the only company looking to reduce the price paid, and the degree of oil indexation in its Algerian LNG import contracts. New French Prime Minister Jean-Marc Ayrou, speaking on French radio on 19 September, called on Gaz de France (GdF) Suez to "renegotiate its [gas supply] contracts with Norway, Russia and Algeria."

He blamed these contracts, indexed to the price of oil which "never stops rising" for GdF's recent attempt to raise its French domestic gas prices by an "excessive" 7%. "It is absolutely necessary to alter contractual terms in order to go back to rules that limit gas prices to levels that respect the purchasing power of the French population," he said.

Although Gaz de France has been privatized, and subsequently merged in 2008 with Belgium's Suez, the French state retains a 36% stake. French governments of all colors have not been shy of using this stake – and the company's status as a French national champion – to try to influence company policy. ◆◆

PTTEP To Boost Production At Oman's Block 44

The Omani subsidiary of Thailand's PTT Exploration and Production (PTTEP) has revealed it expects to more than triple crude oil and condensate production at its Block 44 concession from next month. Output at the concession, situated in the sultanate's northwest, is set to hit 5,000 b/d, from around 1,500 b/d currently.

The increase comes on the back of a successful campaign in which seven development and appraisal wells were drilled over the first three quarters of 2012, PTTEP CEO Tevin Vongvanich said, noting the additional output would come from wells in Oman's Munhamir and Shams-E South fields some 300km west of the capital Muscat.

"Crude oil production from development wells...[will be] approximately 2,500 b/d from Munhamir field [and] will start up in September 2012. A crude oil discovery from the appraisal wells at Shams-E South will bring about... production of 1,000 b/d in October 2012," Mr Vongvanich explained.

The company went on to add that it was planning to carry out further exploration activities in a prospect located in the western part of the 1,162 sq km block that it believed had "high potential." These activities are expected to include the shooting of 3D seismic over the study area.

Mr Vongvanich said natural gas production was currently at 50mn cfd – a level the company has previously said it will try to maintain (MEES, 19 April 2010). PTTEP in February 2007 inaugurated the Shams Central Processing Plant which has a capacity to handle 45mn cfd of gas and 3,000 b/d of condensate. PTTEP Oman holds a 100% stake in the block on which it began production in 2006.

The company also owned until recently a 100% operating interest in Block 58 in the southwest of the country, but stopped all exploration activities after writing off its dry well at a cost of around $14mn in 2Q09. The withdrawal was approved by Oman's Ministry of Oil and Gas in April 2010. ◆◆

Iraq Pushing Banking Reforms To Boost Investment

Iraq has the potential to become one of the world's investment hot-spots. However, speakers at a conference emphasized that foreign developers and investors need guarantees and a much-improved Iraqi banking sector to be in place before this potential can be fulfilled.

By – ***David Knott***

Iraqi Deputy Prime Minister Rowsch Nori Shaways is confident that Iraq will soon be one of the world's leading attractors of investment, once the country has approved banking, investment, tax, labor and public and private sector laws. "The Iraqi economy is supported by huge and growing oil resources, but there is high unemployment and below standard infrastructure," he conceded. "To achieve new infrastructure, international firms should be mobilized, with reasonable guarantees in place. We assure investors that reforms will be put in place," he said in a keynote address at the Iraq Finance 2012 conference, organized by Symexco in London on 18-19 September.

Sami al-Araji, Chairman of the Iraq's National Investment Commission, said that mobilization of investment would be supported by the government's Infrastructure Projects Investment Package, for which funding of $37-45bn was expected to be approved by parliament shortly. Iraqi Prime Minister Nuri al-Maliki on 15 September had called on parliament to allocate $37bn for reconstruction projects including railways, ports, schools and housing. Dr Araji said the investment package would enable investors to work with Iraqi banks, although this would necessitate reform of the Iraqi banking system.

"In the last two months the government has discussed how to reform the central bank and how to reform laws in line with what Iraq needs for development," said Dr Araji. "The parliamentary economic committee has held meetings on banking and finance options, especially on how to support private sector investment in Iraq," he added. Another important issue is how to reform state-owned enterprises and transfer them to the private sector. Important changes that are needed include approval of the funding package and support of the government budget, which is not enough for the planned development, by private investment. "Under the government's modified five-year plan [adjusted from 2010-14 to 2013-17], an estimated $600-700bn of total investment is needed to bring Iraq in line with its plans for economic development," said Dr Araji.

HUGE LIABILITIES

Former finance minister 'Ali 'Allawi told delegates that the Iraqi banking sector was in near ruins at the end of the Saddam era in 2003. "The banks still have huge liabilities that have to be addressed," said Prof 'Allawi. "The importance of restructuring remaining debt cannot be underestimated – without this banks could not access the international capital markets. There is a massive overhang of bad assets and liabilities on the state banks' books," he explained.

The Central Bank of Iraq (CBI) is acting as a storehouse of liquidity but it cannot function as a central bank without change, he said. "Flow of income is not a problem [because of high and growing oil revenues]. There is enormous liquidity, but not the mechanisms to channel these funds properly. Banks cannot lend if 95% of deposits are with the central bank. Iraq is very much under-banked."

Prof 'Allawi said that it was important that international banks "take a second look" at Iraq's private banks. However, because of the constraints on the central bank and the private banks "the entire burden of funding infrastructure projects falls on the Trade Bank of Iraq (TBI). Without the Trade Bank, it would have been impossible to finance any trade under the existing conditions."

He added that politics is a big issue in banking reform: "The will is there to reform banking in all parties, but political differences can paralyse reforms," he said. Recently there has been a move in parliament to overcome political issues to achieve reform. Private sector investment needs a starting point of restructure and reform of the state-owned banks. However, it will take 10 years for reforms to take place.

Hamdiyah al-Jaff, CEO and President of TBI, said that in the absence of other finance in Iraq, TBI has stepped forward. "Projects being financed by TBI include the expansion of power generation capacity by 20gw, the construction of refineries and the expansion of the port at Fao," said Ms Jaff. "In the next five years, our plans include infrastructure projects, the $7bn Basra gas gathering project, a number of cement plants, an asphalt plant, and naphtha facilities at Kirkuk and Diwaniyah."

CENTRAL BANK REFORMS

CBI Governor Sinan al-Shabibi told the conference that there have been many changes in the central bank in the last two years. In the aftermath of the demise of the Saddam regime its main objective was to contain inflation, but now it is aiming to fulfil the traditional role of central banking, which is to attain price stability and create a stable environment for investment.

"The financial part of the Iraqi economy is not the main con-straint on development," said Dr Shabibi. "It needs to be upgraded, no doubt, and more international, but it is not a serious impediment to growth," he said. He sees the impediments as government decisions, security, and budget allocations. "It is very important that the political sector should provide an environment in which the banking sector can work," he said. The orientation of the banking sector and its monetary policy implementation need to be developed. "It is also important that banks believe in risk taking. Banks need to be involved in decisions, to get involved in intermediation," he said, not that "intermediation is in its infancy."

Dr Shabibi said that risk should not be an excuse for banking sector inactivity. "The banks have accumulated a lot of resources, which can be used for development," he said. "Poor outflows are not only the fault of banks, but also of the whole political system. Banks also have to recognize that there is a cost of transition in moving from government-owned to private banking. They should not expect that there won't be losses. Iraqi banks have to recognize the need for risk taking. There is a lot of risk in Iraq – banks can't just focus on projects with no risk." ◆◆

Kuwait To Save 25% Of Its State Revenue

Kuwait has decided to raise the mandatory allocation to the Reserve Fund for Future Generations (RFFG) from the current 10% of state revenue to 25%.

By - Basim Itayim

After making the decision at its weekly meeting on 17 September, the cabinet instructed the finance ministry to make the necessary arrangements to implement the change in fiscal 2012-13 which started on 1 April.

Explaining the rationale behind this decision, Kuwait's Finance Minister Nayif al-Hajraf told the official Kuwaiti news agency KUNA the next day that the country would not cut down on spending as a result of allocating a greater share of its revenues to the rainy day fund. He added that the move was aimed at encouraging savings and that the plan would not distract the government from dealing with economic problems.

The RFFG was set up in 1976 and is managed by the sovereign wealth fund, the Kuwait Investment Authority (KIA), which invests its resources outside Kuwait and reinvests all its investment income. Commenting on the increased allocation to reserves, a former Kuwaiti Finance Minister Badr al-Humaidi told Reuters, "this move shows that the state is aware of the need to put financial surpluses into reserves rather than having increases in salaries and handouts."

Last February the long serving governor of the Central Bank of Kuwait (CBK) Shaikh 'Abd al-'Aziz al-Sabah resigned in protest against the government's expansionary policy and its failure to push through economic reforms (MEES, 20 February).

BUDGET SURPLUS

Over the past years Kuwait has accumulated large budget surpluses as a result of realizing higher oil revenue than originally projected and under-spending allocations for annual expenditure on investments in major infrastructure projects.

Due to political bickering between the government and the opposition in parliament and the frequent government changes, decision making has slowed down significantly in the past few years and has delayed the implementation of major infrastructure projects in the hydrocarbon and power sectors, among others.

According to statistics on the closed accounts from the finance ministry, Kuwait realized a budget surplus of KD10.205bn ($36.3bn) in 2011-12 instead of the projected deficit of KD7.334bn ($26.1bn). In fact these statistics also show that all Kuwaiti budgets since 2000 have ended with a surplus. ◆◆

KUWAITI BUDGETS CLOSED ACCOUNTS: 2000-12 (KD MN)

Year	Revenue	Expenditure*	Surplus
2000-01	4,965.4	3,684.6	1,280.8
2001-02	5,336.7	5,280.1	56.6
2002-03	6,219.0	5,549.3	669.7
2003-04	6,937.3	6,216.5	720.7
2004-05	8,962.4	7,211.5	1,750.8
2005-06	13,728.1	8,234.8	5,493.3
2006-07	15,509.3	11,857.3	3,652.0
2007-08	19,022.6	11,600.3	7,422.3
2008-09	21,005.8	20,362.8	643.0
2009-10	17,687.9	13,019.5	4,688.4
2010-11	21,502.0	18,371.2	3,130.8
2011-12	30,236.1	20,031.0	10,205.1

* Includes allocation to RFFG.

Source: Kuwait Ministry of Finance, Final Account Summary of the State Financial Administration Accounts 2011-12.

Egypt Puts Foreign Borrowing Needs At $10Bn

Egypt needs to tap external sources for as much as E£60bn ($9.8bn) to finance its 2012-13 projected budget deficit of E£135bn ($22.2bn), Egyptian Minister of Finance Mumtaz Sa'id has said. Reviewing the budget situation in the current year, the minister noted that of this total only E£75bn ($12.3bn) could be raised domestically through various debt instruments and the remainder will have to come from foreign borrowing. This is in line with the budget law which authorizes the ministry of finance to issue treasury bills and/or bonds, as well as sukuk. Last week, the ministry issued treasury bills worth E£4bn ($657mn) with a 14.465% coupon to raise funds domestically.

The minister noted that the preliminary closed accounts show that the 2011-12 budget had realized a deficit of E£170bn ($27.9bn), which represents 11% of GDP, instead of the originally projected deficit of E£134bn ($22.0bn), or 8.6% of GDP. This 27% increase in the deficit arose from a rise in the public sector wage bill to E£122bn ($20.0bn) from the projected E£110bn ($18.1bn), as a result of additional wage increases for some groups after the 25 January 2011 revolution. Also contributing was a fall in the government's revenue from various sources (especially tax revenues) as a result of the decline in economic activity and the outflow of investments following the political turmoil. The minister noted that the oil revenue surplus had fallen as a result of the need to use the cash flows from this surplus to finance imports of petroleum products. Egypt hopes to finalize shortly a deal with the IMF for a $4.8bn standby facility which has been under discussion for over a year.

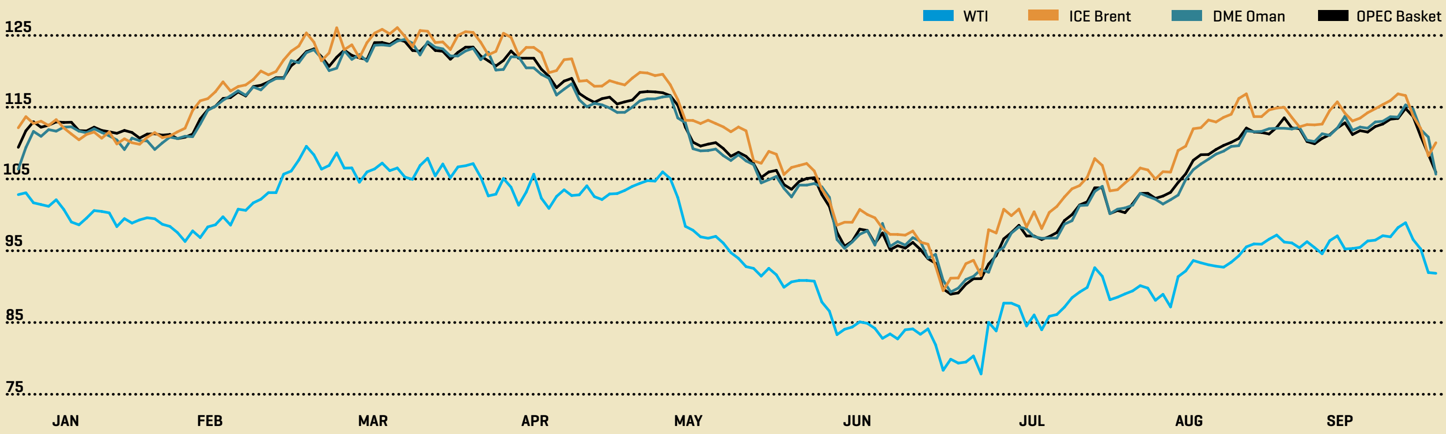
As well as external borrowing Egypt is seeking to attract additional aid. Mr Sa'id revealed last week that Turkey had agreed in principle to provide an aid package of some $2bn. Qatar has already placed a $500mn deposit with the Central Bank of Egypt and is due to deposit a further $1.5bn in the near future to boost Egypt's foreign exchange reserves. Saudi Arabia has already pledged an aid package of $3.75bn to support Egypt, and Kuwait and the UAE are considering providing assistance. ◆◆

SELECTED DATA

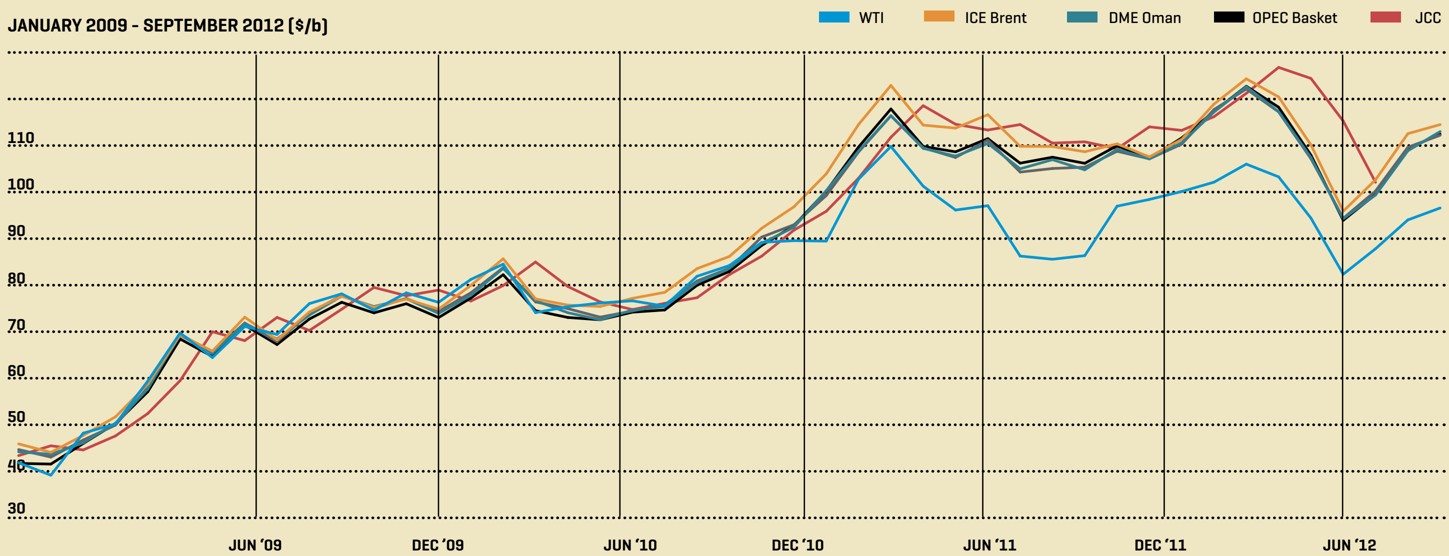
BENCHMARK CRUDE PRICES

Average settlement prices for period in question	20 Sep	10-14 Sep	3-7 Sep	Aug	July	Q2 2012	Q1 2012	2011	2010
WTI	91.87	97.61	95.95	94.15	87.92	93.64	102.98	95.07	79.59
ICE Brent	110.03	115.95	114.16	112.68	102.72	109.15	118.44	110.90	80.35
DME Oman	105.62	113.75	112.40	108.99	99.44	106.70	117.06	106.68	78.29
ICE Dubai	107.85	113.73	111.63	109.76	100.31	106.54	116.97	106.45	78.66
OPEC Basket	105.88	113.34	111.89	109.47	99.58	107.07	117.48	107.44	77.49
JCC	N/A	N/A	N/A	N/A	102.16	122.31	122.31	109.10	79.20

JANUARY 2012 - 20 SEPTEMBER 2012 ($/b)



JANUARY 2009 - SEPTEMBER 2012 ($/b)



Saudi Arabia Battles To Cut Power Sector Fuel Consumption

The Kingdom's ambitious industrialization plan, as well as the pressure of a growing population, will necessitate an expansion of Saudi Arabia's power capacity and networks over the coming years. While the power sector is succeeding in accessing several sources of sizeable funding through project finance, there are a number of challenges facing the industry.

By - Lama Kiyasseh, Economist at National Commercial Bank

One major policy challenge is the rapid rise of domestic fuel consumption which will decrease high-value crude oil and gas monetization. Latest data indicate that local consumption of oil and natural gas accounted for an overall 37% share of total production in 2010. This has prompted investments in renewable energy sources, as well as energy conservation initiatives to ensure sustainability.

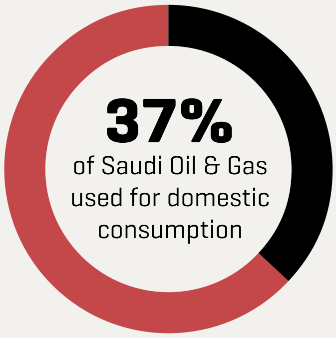
All the fuel for Saudi Electricity Company (SEC) power generation is supplied under long-term arrangements by Saudi Aramco, with prices set by the government. Fuel consumption for power generation alone, including both liquid fuels and gas, has grown by 75% since 2000 to reach 53mn tons of oil equivalent (toe) in 2009, equal to an estimated 1,069,037 b/d of oil. Over the same period, consumption of heavy fuel oil, crude oil and diesel grew by 73%, 75% and 44%, respectively.

UNDER PRESSURE

The supply of crude oil, however, has come under pressure following a government decision to free up oil stocks for export and higher-end uses rather than for direct-burn power generation. (Direct burn refers to crude oil which has not been processed in oil refineries and is burned for power generation and in water treatment/desalination plants.)

As a result, more gas has been allocated to power generation. According to the Kingdom's Electricity and Cogeneration Regulatory Authority, between 2000 and 2009 gas consumption for power generation grew by 94% to reach 22,095mn cubic meters. In 2010, crude oil continued to command the largest share, at 40% of fuel consumption.

In 2011, this decreased by 3%, while the share of gas climbed to 37%. Saudi Arabia is boosting output from its non-associated offshore Karan and Rabib gas fields as a substitute for the oil it burns to meet domestic demand for



electricity. By June of this year, Karan's gas production was expected to reach 1.5bn cubic feet per day (cfd), up from last summer's 400 million cfd. It is forecast to climb to 1.8bn cfd by April 2013.

Figures posted on the Joint Organization Data Initiative's (JODI) website reveal that direct burning of crude oil is at its highest during the months of May until September, when the Kingdom's climate is hottest. Daily consumption has averaged 698,000 b/d for these five months over the past three years. In May of this year, Saudi Arabia cut this back to 559,000 b/d, a 19.7% reduction from the 696,000 b/d consumed in May 2011 and the lowest to date since record keeping commenced in 2009.

Households are the largest consumers of electricity, with approximately 5mn residential subscribers accounting for 49.7% of the total, or 109,261 GWh, in 2011. Heating, Ventilation and Air Conditioning (HVAC) units, on average, represent a significant 70% of residential consumption, due in part to the lack of insulation in buildings and the installation of older and less efficient air conditioning models. The majority of residential air conditioning in the Kingdom is not sufficiently efficient at high temperatures. Under the Montreal Protocol, which Saudi Arabia has ratified, the use of hydrochlorofluorocarbons (HCFCs) in refrigerants is to be phased out gradually to decrease greenhouse gas emissions. This is to be directed by the Saudi Standards, Metrol-

> Local consumption of oil and natural gas accounted for a 37% share of total Saudi Arabian production for 2010"

ogy and Quality Organization (SASO), and compliance with these regulations was made compulsory starting in mid-2010.

As the country undertakes large investments in social and physical infrastructure, it is expected that the air conditioning market will grow at a healthy pace. This brings to the fore – once again – the issue of higher fuel consumption, particularly during the hot summer months.

SEC recently warned that peak hours of the day occur between the hours of 1300-1600 and that electrical appliance usage should be kept to a minimum. The Saudi Energy Efficiency Center has categorized the Kingdom as energy inefficient. Based on US Energy Information Administration data, its energy production was 14,409 BTU per dollar of GDP in 2009 and had increased by approximately 22% since 2000.

Malaysia, comparable to the Kingdom in terms of both population and level of development, stood at half that figure at 7,555 BTU per dollar of GDP during the same year, down by an estimated 7%. The current US figure is 7,340 BTU per dollar of GDP, having declined by 17% since 2000.

Moving forward, Saudi Arabia should enact stronger legislation to ensure that air conditioners, whether imported or produced locally, are more energy efficient and accordingly reduce their call on the Kingdom's fuel supplies. Other steps include mandating the energy conservation requirements contained in the Saudi Building Code (SBC 601), which could reduce the electrical energy consumption in residential buildings by 15–30%.