AFRICAN ENERGY

OIL • GAS • POWER • POLICY & FINANCE

www.africa-energy.com

Issue 180 • 5 February 2010

Controversy over who buys what in Ghana and Uganda points to an increasingly politicised industry

The discreet but intense battle between Tullow and Eni over the sale of Heritage Oil's Uganda acreage, and investigations and mud-slinging around Ghana's Jubilee field show how politics can severely complicate the oil industry's approach to new frontiers, write **Thalia Griffiths**, **Our Accra Correspondent** and **Jon Marks**

Tullow Oil's pre-emption of *Heritage Oil*'s sale of its **Ugandan** holdings to *Eni* is far from a done deal, even though it was comfortably able to raise £925m ($1.5bn) in a 27 January share placing. Eni has stepped up its lobbying with a visit by **Italian** foreign minister **Franco Frattini**, while Tullow has said it is in talks with **China**'s *CNOOC* and **France**'s *Total* – partners which might appeal to President **Yoweri Museveni**, who has his own ideas on how Uganda's nascent industry should develop and wants more investment ahead of elections in 2011.

Tullow needs a partner to build a refinery and export pipeline to Mombasa. The Ugandan government has just contracted *Foster Wheeler* for a feasibility study (see *Downstream*). Added complications include lobbying by **Libyan** leader **Muammar Qadhafi** in support of Eni, which has forged close ties with Tripoli. Qadhafi has also been courting the King of Bunyoro, **Solomon Gafabusa Iguru**, in whose fief the oilfields are located.

Tullow is a key player in developing **Ghana**'s Jubilee field, which is due to start production in Q3 10. But the focus of controversy is its partner *Kosmos Energy*'s decision to sell its stake, and the role of minority West Cape Three Points Block shareholder *EO Group* in any deal. The *National Democratic Congress (NDC)* government believes EO's owners **George Yaw Owusu** and **Kwame Bawuah Edusei** were fronting a vehicle to channel funds into the former ruling *New Patriotic Party (NPP)*; the NDC attorney-general **Betty Mould-Iddrisu** plans to take action. A range of Ghanaian players have become involved in manoeuvres surrounding the asset sale and a wider debate over the future role of *Ghana National Petroleum Corporation*. This has complicated the outlook for *ExxonMobil* and other major IOCs which have been vying to buy into this new frontier.

For much more on this see articles in *Upstream oil and gas*, *Finance and policy*, and *AE view*.

Eskom funds

Regulator *Nersa* is due to decide on 24 February on a tariff increase for *Eskom*, which has asked for 35%/yr over three years, but even if this is granted the **South African** utility will still need more cash to finance urgently needed new generating capacity. Funds are coming from the *World Bank* and *African Development Bank*, and *Standard & Poor's* has removed Eskom from credit watch status. But the utility is still in limbo after the chairman resigned and the chief executive departed.

—See page 20

Power divide

The Khartoum authorities have been working steadily to develop **Sudan**'s power infrastructure with new generation and transmission facilities, but as *African Energy*'s new *Sudan power update* shows, the south still lags behind. If southern Sudanese opt for independence in next year's referendum, lack of electricity – and of capacity to manage projects – will pose a major challenge to the new state. Despite its supposed international isolation, the north has a string of new plants due on stream this year.

—See page 7

What next for Algeria after Sonatrach probe?

After a corruption scandal hit state company ***Sonatrach***'s senior management, energy and mines minister **Chakib Khelil** is among officials whose future is in doubt (*AE 179/1*). Anti-corruption investigations launched by Major General **Mohammed 'Tewfik' Medienne**'s ***Département de Renseignement et de Sécurité*** threaten to extend more deeply and widely, as the powerful state security service and its judicial allies delve into Sonatrach, other state companies and privatisation deals. Khelil insists that he knew nothing of the goings-on at Sonatrach.

An important pointer will be the eventual shape of Sonatrach's new permanent management. Will they again be close to President **Abdelaziz Bouteflika**'s 'clan' – mainly focused on delivering the minister's writ, as was the case with **Mohammed Meziane** and the previous team – or will a different management emerge? This might include Sonatrach managers sidelined by Khelil, such as former vice president for marketing **Ali Hached** or ex-chairman **Abdelhak Bouhafs**.

Given Algeria's recent lacklustre performance in attracting investment, many in the industry believe it could well be time for a radical change, whatever the truth of the corruption charges.

—For more see page 3

ISSN 1463-1849

Cross-border Information

AFRICAN ENERGY

OIL • GAS • POWER • POLICY & FINANCE

African Energy, published fortnightly
Issue 180 • 5 February 2010

Sales and Service

Direct: +44 (0) 1424 721 667
Fax: +44 (0) 1424 721 721
Email: info@africa-energy.com

Director **Nick Carn**
nick@cbi-publishing.com

Editorial Director
Jon Marks
jon@africa-energy.com

News Editor
Thalia Griffiths
thalia@africa-energy.com

Finance Editor
Kevin Godier

Cartographer
David Burles

Contributing Editors
Eleanor Gillespie, John Hamilton
Nadine Marroushi, David Slater, François Misser (Brussels)
Dagmara Ginter (data management)
Shirley Giles (senior sub-editor)

Production
Jill Macfarlane-Miller

Webmaster
Chris Light (chris@africa-energy.com)

African Energy is published fortnightly by Cross-border Information Ltd (CbI); registered office: 19 Wellington Square, Hastings, East Sussex TN34 1PB, UK.

Single subscriptions are sold by post, email and web delivery. Data and information published in *African Energy* are provided to CbI by its staff and correspondents through extensive surveys of industry sources and published with the intention of being accurate. CbI cannot, however, insure against or be held responsible for inaccuracies and assumes no liability for any loss whatsoever arising from use of such data.

© 2010 by Cross-border Information Ltd. All rights reserved. No portion of this publication may be photocopied, reproduced, retransmitted, put into a computer system or otherwise redistributed without prior authorisation from Cross-border Information Ltd.

The next *African Energy*

The next issue of *African Energy* (181) will be published on 26 February (online)/1 March (print). It will include a new series of *Updates* focused on the West coast upstream industry.

Khelil, Boutef at centre of Algeria's perfect storm

More heads could roll following the crisis at Sonatrach as rival factions battle it out

Following the arrests that have savaged state hydrocarbons company ***Sonatrach***'s senior management team, energy and mines minister **Chakib Khelil** stands at the centre of the 'perfect storm' that has engulfed Algerian politics (*AE 179/1*). A range of sources suggest that anti-corruption investigations by Major General **Mohammed 'Tewfik' Medienne**'s ***Département de Renseignement et de Sécurité*** (***DRS***) threaten to extend more deeply and widely in the weeks ahead. The powerful DRS and its judicial allies are expected to delve more deeply into Sonatrach and investigate state utility ***Sonelgaz*** and privatisation deals struck by the government.

Much attention is focused on Khelil's fate, despite his insistence that he knew nothing of the goings-on at Sonatrach. Industry watchers will pay close attention to the eventual shape of Sonatrach's permanent management. The discredited top team led by president director-general (PDG) **Mohammed Meziane** was closely identified with President **Abdelaziz Bouteflika**'s ruling 'clan' – of which Khelil is a member – and was mainly focused on delivering the minister's writ. There is considerable speculation that the new team will include senior managers who were sidelined by Khelil, such as former vice president for marketing **Ali Hashed** or ex-PDG **Abdelhak Bouhafs**.

Sonatrach is being managed by an interim board led by vice president (VP) for downstream operations **Abdelhafid Feghouli**, which includes interim upstream VP **Mahieddine Touami** (former director of ***Sonatrach Petroleum Engineering Development***), marketing VP **Yamina Hamdi** (veteran head of liquids marketing), pipelines VP **Slimane Arbi-Bey** (pipelines exploitation) and downstream VP **Abdelkader Benchouia** (refining division). Many of these officials are highly regarded, but this doesn't mean their appointments will be confirmed. The suspended management are waiting for the Sidi M'hamed administrative court in Algiers to decide whether to extend their detention or judicial control, or to release them on bail. The hearing has been postponed twice and was due on 7 February. Meziane is no longer being represented by lawyers paid for by Sonatrach, which seems to indicate his worsening position.

Opinions differ on why this investigation is happening now and, indeed, at all. Several well-informed sources consulted by *African Energy* in Algiers insisted the investigation was nothing more than the implementation of Bouteflika's 2009 election pledge to deal with corruption. If so, then Khelil is safe. But many others saw it as an attack by Medienne on 'Boutef', his family and closest supporters, who until now have dominated the senior reaches of the energy sector. If so, Khelil could be removed or, at best, remain as a figurehead at *OPEC* meetings but without authority. The minister appeared shocked by the accusations, but has since recovered his poise. In early February, he told a journalist at *El Watan* newspaper, which has led the revelations, that he would not resign. "I have never felt targeted by this affair, neither myself nor the presidential clan," he said. "As minister, I manage the whole energy and mines sector, and I am engaged with policy, its application and with control. I do not manage Sonatrach or Sonelgaz."

But a senior diplomatic source noted that Khelil's approval was necessary for most decisions at Sonatrach. A UK-based industry analyst argued that the upheaval at Sonatrach was an inevitable consequence of a long-term failure in energy sector policy, for which the minster is responsible. Khelil has to go for policy to change in a positive way, he argued. The minister had "no plan B" after his liberal 2005 Hydrocarbons Law failed. According to this view, current events could ultimately be liberating if they allow Sonatrach to move forwards.

Questioned by *African Energy* about whether Algeria needed to develop more gas resources or shelve less important downstream projects, a Sonatrach director admitted the issue was constantly debated, but no decision was possible under current "morose" market conditions. "Gas projects are very capital intensive and long term, so we need a better vision of the market before we can answer that question," he said.

Views are mixed on how the crisis is affecting Sonatrach's day-to-day business. A number of international oil company (IOC) executives in Algiers told *African Energy* that contractual decisions faced delays, but lower level business was proceeding – some said more slowly than usual while others had seen a faster response in recent weeks. Exploration area management committees are still functioning. An Algiers-based energy lawyer said technical contractual decisions could go ahead as they did not depend on political direction. Other sources have suggested that 'paralysis' may be more widespread. A Skikda-based energy consultant said that if half the corruption rumours were true, the situation was "truly terrible". Algiers daily *Liberté* reported that Sonatrach had "broken down in terms of decisions" and was under "an atmosphere of suspicion and fear", with Feghouli only taking care of day-to-day issues.

In an open letter to *El Watan*, former Sonatrach VP **Hocine Malti** urged the DRS to scrutinise a number of major projects. He suggested it examine international gas sales contracts, the Gassi Touil integrated gas project and field developments, ***Saipem***'s contracts for Arzew LNG and the Menzel Ledjmet Est field development, ***Anadarko***'s El Merk project, and ***Orascom***'s Arzew ammonia production plant. There is no suggestion that the partners in any of these projects have broken the law, but the size of these potential targets indicates how far-reaching this investigation could be.

Cameroon looks to gas to revive growth

Long dismissed as a minor oil producer lacking access to the Gulf of Guinea's prolific deep waters, Cameroon has high hopes of harnessing its gas for domestic use and export to boost its moribund economy, writes **Thalia Griffiths**, recently in Yaoundé

Cameroon's geographical position in the corner of the Gulf of Guinea means its territorial waters do not include the deep offshore that is proving so prolific for its neighbours. But the government and its international oil company partners have ambitious plans to develop its gas to help lift the energy constraints hobbling the country's economic development.

In November 2008, state oil and gas company ***Société Nationale des Hydrocarbures*** (***SNH***) and **France**'s ***GDF-Suez*** announced a strategic partnership to harness Cameroon's gas reserves (*AE 151/18*). SNH head of gas **Paul Ngii Nag** told the *Cameroon International Energy and Water Investment Conference* in Yaoundé on 21 January that a feasibility study was being carried out for a liquefied natural gas project, which was due to start up in 2016. A floating LNG project was initially considered but was judged too expensive, and SNH has opted for a land-based project, he said. **Equatorial Guinea** would also like to harness Cameroon's gas for the planned second train of its ***Equatorial Guinea Liquefied Natural Gas (EGLNG)*** project, though negotiations are likely to be lengthy.

Nag said Cameroon had an estimated 4tcf of recoverable reserves of non-associated gas. Of this, for the next 30 years, the domestic market will have priority, with 1tcf earmarked for domestic use (75mcf/d for electricity production and 25mcf/d for industry). The other 3tcf are destined for export as LNG. Nag said Cameroon also planned to introduce production of liquefied petroleum gas and natural gas liquids to reduce the use of wood and charcoal for domestic cooking. Because it is surrounded by hills, Yaoundé suffers badly from the pall of smoke that hangs over the city from early morning. Preparations are also under way to ban the flaring of associated gas from oil wells.

Exploration potential

The government is promoting two exploration blocks in the Bakassi region following resolution of a long-running border dispute with **Nigeria** (*AE 179/1*). SNH is offering the 387,528km² Bakassi West Block and the 364,072km² Bakassi East Block. The Bakassi peninsula, previously held by Nigeria, was transferred to Cameroon following an October 2002 ruling by the ***International Court of Justice*** in The Hague, but Nigeria only began withdrawing its troops in 2006 and handed over the final parts of the territory to Cameroon on 14 August 2008. The issue remains controversial, not least as some 300,000 Nigerians were resettled from Bakassi. SNH is also seeking bids for the onshore Manyu Block in the Mamfe Basin of south-west Cameroon.

Cameroon's economy is supported by the regional CFA franc currency's link to the euro, but lack of reliable power supply is a significant barrier to growth. And under President **Paul Biya**, in office since 1982, business is very much the preserve of the ruling elite, which is a significant disincentive to enterprise. While the government recently stepped up its '*Operation Epervier*' anti-corruption drive, most Cameroonians are deeply sceptical about their leaders' ability to investigate themselves, especially following the failure of high-profile corruption initiatives in Nigeria, **Kenya** and **Zambia**.

Total operates some 70% of Cameroon's overall hydrocarbons production and ***Perenco*** has a significant presence, with plans to harness gas from the Sanaga Sud field for the Kribi gas-to-power (GTP) project.

UK gas player ***Bowleven*** has signed a letter of intent (LoI) for a rig for its planned drilling campaign on the offshore Etinde permit, due to start in April/May with an appraisal well on the IE discovery (IE-3). This will be followed by an exploration well on MLHP-5. Bowleven farmed out an initial 25% stake to ***Vitol*** last year and approval of the transaction is expected shortly (*AE 169/14*). Edinburgh-based Bowleven has signed an LoI for a vessel to acquire 3D marine seismic on Etinde, including the IF field, and a seismic survey is due to start shortly on the onshore Bomono permit, where drilling is expected next year.

Haggling over Kribi GTP

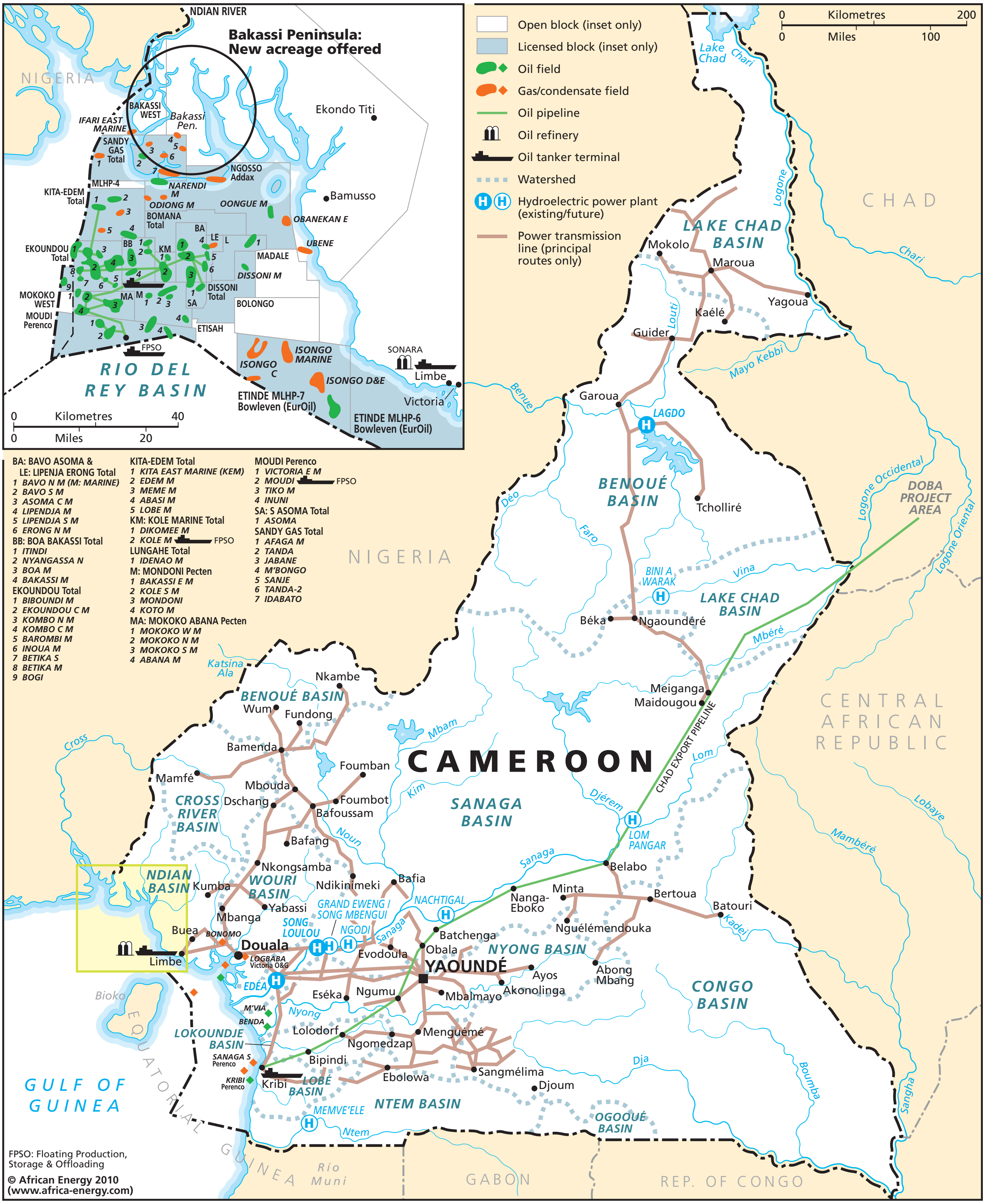
Protracted negotiations over contract terms have delayed the 216MW Kribi GTP project, though once a first project is in place subsequent projects will have a much smoother ride. Take-or-pay contracts for gas supply are much less risky when a number of consumers are connected to the supply network. ***AES-Sonel*** chief executive **Jean-David Bilé** told *African Energy* AES had given the Kribi project's engineering, procurement and construction contractors limited notice to proceed but had not yet closed the financing. Financiers are looking for a credible pricing arrangement before putting up funds, but Bilé said financial close was expected in May.

Rio Tinto Alcan's plans to expand the ***Alucam*** smelter at Edea are expected to act as a catalyst for the Kribi GTP plant and other projects such as the planned Kribi deep-water port. Bilé said Alucam was expected to offtake 50MW from Kribi.

Logbaba gas progress

On a smaller scale, London-based *Victoria Oil and Gas (VOG)* is developing a GTP project based on the Logbaba gas field,

Cameroon's energy infrastructure and potential



which lies under Douala. The *AIM*-listed company says it has signed offtake agreements and LoIs with industrial customers in Douala for 8mcf/d of gas. However, while the gas and the market are definitely there, producing the gas is likely to be technically complicated because of the high pressure in the reservoir. VOG is hoping the small size of the project will mean it escapes the contractual difficulties encountered by bigger schemes such as the Kribi GTP.

VOG is looking to Logbaba to provide near-term cash flow for the company as it develops the West Medvezhye gas field in **Russia**. Chief operating officer **Radwan Hadi** said Logbaba would have a life of 15-20 years once production got under way. VOG has 60% in the licence alongside Colorado oilman **Jack Grynberg**'s *RSM Production Corporation*, which has held the licence for some years. Grynberg introduced VOG chairman **Kevin Foo** to the former Soviet Union, where the company's long-term ambitions remain. Foo – who made his fortune from gold miner *Celtic Resources Holdings*, which was bought out in 2007 – has gone on to forge good relationships in Cameroon.

The field has been through several different owners since its discovery by *Elf Serepca* in the 1950s. VOG bought RSM's previous partner *Bramlin*, in 2008. Bramlin had carried out a reverse takeover of *Rodeo Resources*, whose *Rodeo Development Ltd* subsidiary remains the local entity. VOG inherited government relations manager *François Nguene* from Rodeo; before that he was E&P manager for SNH.

The La-105 well drilled last year confirmed the presence of gas-bearing sands and is being completed as a future production well. VOG is preparing to move the rig just eight metres to drill the La-106 deviated well, which will twin the La-101 well, the first Logbaba exploration well drilled by Elf-Serepca in 1955, which blew out because of high pressure in the formation. La-105 took longer than expected because it ran into the rainy season and the process was slowed by the high mud weight needed to stabilise the pressure in the well. The land on which the project is sited is government-owned, though some 500 people who have built on it stand to receive compensation. The gas pipeline will follow a railway line, simplifying the land ownership issue.

VOG has just carried out a passive seismic survey and hopes the results will indicate the potential for further reserves beyond *RPS Energy*'s July 2008 evaluation, which encompassed only a small section of the total $64km^2$ licence area (see *Upstream*). RPS estimated 65bcf of proven and probable reserves, but the review area represented only about 10% of the total. VOG is also talking to a local power developer about the potential for small-scale generation to supply an initial 10MW directly to local industry.

Delta ceasefire erodes as Nigeria's politics remain in crisis

The government is determined to hold a licensing round by year-end for onshore and offshore fields – as forecast by *African Energy* (*AE 179/19*) – in a very difficult political environment. While President **Umaru Musa Yar'Adua** remains in hospital in **Saudi Arabia**, facing numerous challenges to his right to remain in office, the three-month-old ceasefire with Niger Delta militants is on the verge of collapse. Pipelines in the Delta were attacked soon after the ***Movement for the Emancipation of the Niger Delta (Mend)*** announced the renewal of hostilities, promising to unleash "an all-out assault" on oil pipelines and installations. Mend has become increasingly frustrated by the rehabilitation programme's lack of progress during Yar'Adua's absence, saying it can no longer trust the government to negotiate over conceding greater control of the region's natural resources to local people. ***Shell***'s Trans Ramos oil pipeline was sabotaged, resulting in the closure of three flow stations. Although Mend did not claim direct responsibility for the attack, the militant group called it "a response to our order to resume hostilities by one of the various freelance groups we endorse".

This piles more pressure on the beleaguered oil industry at a time when Abuja is hoping to raise funds from a licensing round, to be held by year-end for onshore and offshore fields with reserves totalling as much as 2bn bbls. The president's increasingly influential special adviser on petroleum matters, **Emmanuel Egbogah**, said: "There will be a bid round this year that will include small or marginal fields. But there will be big ones as well." Assets will include acreage relinquished by oil majors as well as blocks not awarded during previous rounds. Reports suggested the new round would see local and **Chinese** companies making in-roads (*AE 178/1*).

Local players and ambitious independents, which include **French** player ***Maurel & Prom (M&P)***, have positioned themselves to buy up assets as majors pull back. ***Royal Dutch Shell*** has formally announced its decision to sell its 30% interest – held through the ***Shell Petroleum Development Company of Nigeria*** (***SPDC***) joint venture – in three producing Niger Delta permits: OML 4, 38 and 41. Subject to government approval, the buyer is the ***Seplat Petroleum Company*** consortium of local firms ***Platform Petroleum*** (which took over its first marginal field in 2004) and the little known ***Shebah Petroleum Development Company*** (holding 22% and 33% interests respectively), working with M&P (45%), which said it would make an initial investment of $193m. SPDC partners ***Total E&P Nigeria*** (10%), and ***Nigeria Agip Oil Company*** (5%) also plan to sell to Seplat. SPDC managing director **Mutiu Sunmonu** said the deal was another example of "Shell's active portfolio management of its assets and interests across the world" (see *Upstream oil and gas*).

The return to conflict in the Delta comes amid a deteriorating security situation following clashes between Christian and Muslim groups in the Jos region, in which human rights groups claimed at least 400 people died. The military/security establishment was shaken in December by the failure to manage the fallout from 'underpants bomber' **Umar Farouk Abdulmutallab**'s attempt to blow up a **US** airliner, and by an upsurge of communal violence (*AE 178/3*). Sources say that nerves have since calmed, with some powerful northerners deciding they could live with an interim presidency led by vice president **Goodluck Jonathan**. But a further deterioration in security can only raise the pressure from all sides for Yar'Adua to be removed from office.

East power update: Sudan – South left behind as Khartoum beefs up its infrastructure

The Khartoum authorities' steady work to develop new generation and transmission facilities is shown in the final part of *African Energy*'s revised *East power update*. But while the north is installing a substantial grid to be supplied by a growing number of generation projects, the region administered by the Government of Southern Sudan remains painfully under-developed. If the south opts for independence in the planned referendum, lack of power will be among the major challenges the Juba administration faces

Khartoum may suffer from apparent international isolation, with President **Omar Hassan Al-Bashir** being pursued for crimes against humanity and thus a pariah in the west, but this has not stopped the political dominant north sucking in Arab/Islamic, Asian and other funds to help finance Khartoum's impressive development of recent years, and to build up Sudan's infrastructure with a number of big ticket projects.

In November, Al-Bashir called for moves to restructure the state *National Electricity Corporation (NEC)* to be speeded up. NEC's distribution and generation operations are to be transferred to a holding company to help improve its performance and provide better supply at low cost. The giant Merowe dam was inaugurated in March but has been beset by problems leading to nationwide power blackouts. NEC head **Makawi Mohammed Awad** was sacked in October. Critics claim Merowe was switched on too early for political reasons a day before Al-Bashir's indictment for war crimes.

Despite such setbacks, a range of generation, transmission and distribution projects are under way, with NEC's work supported by consultants now led by **Germany**'s *Lahmeyer International*. In his November speech, Al-Bashir was able to reassure potential voters that output from the Khartoum North thermal station should enter the national network this year, as well as new supply from the Garri and Kosti power stations, while work was progressing on power stations at Al-Fasher and Geneina. North Kordofan State is due to be linked to the national grid this year. An interconnection with **Ethiopia**, completed in July, will further improve the supply situation. Ethiopia has an agreement to supply 200MW to Sudan via the 157km, 220kV line built between Gedaref and Shehedi. Construction is due to start this year on a 405MW plant at Al-Fula, to burn heavy crude from the Fula fields on *China National Petroleum Corporation*'s Block 6. A contract has been signed with a **Chinese** company; Lahmeyer International is acting as consultant.

In a sign of growing private sector involvement, ***Taqa Arabia***, a subsidiary of Cairo-based private equity firm *Citadel Capital*, has announced a $67m joint venture with its *ASEC Cement* unit to generate power for a cement plant near Fahalb. The 42MW ***Berber for Electrical Power*** venture will power the 1.6m t/yr Takamol cement plant under a 20-year offtake agreement. Citadel's ***Global Energy*** arm will hold 51% of Berber's equity, the ***Sudanese Pension Fund*** will take 25% and ASEC Cement will hold the balance of a JV intended to build, own, operate and maintain a heavy fuel oil-fired captive plant.

Despite its pariah status, Sudan can deliver bankable projects with western partners, as shown by **UK**-based ***Biwater Group***, which delivered the $120m Omdurman water treatment plant's turnkey construction under a ten-year "deferred payment capital light structure". This was fully supported by debt financing, comprising $32m grant and $88m loans provided by the **Netherlands**' *FMO* and Sudanese government for the client *Khartoum State Water Corporation (KSWC)*. Other potential partners, including the *Emerging Africa Infrastructure Fund*, are understood to have looked at the scheme but were uncomfortable with Sudanese risk. But Biwater's bankers were able to put together a package that also included **Malaysian** and **South African** export credits – and project sources believe a similar model could work for other schemes.

Political and reputational risk remain critical issues for anyone entering Sudan – and these risks could rise further if elections planned across the country in April and the referendum on the south's future, planned for 2011, go badly.

While the north has prospered in recent years – at least while Arab oil economies continued ploughing in investment – the picture in the south is grim. Small-scale diesel generation is the norm, and there is a strong need for scepticism over schemes like the supposed 5,000MW hydro plant on the Nile, for which the ***Government of South Sudan (Goss)*** awarded a letter of intent to Malaysia's ***Sithru Sdn Bhd*** in July 2006 for studies. The more realistically sized 20MW Fula Falls scheme is on hold after **Norwegian** development financier *Norfund* gave engineering consultancy *Norplan* a contract in 2007 for a feasibility study which was not completed due to the lack of a commercial agreement with the Goss to take the project forward.

The Goss has many friends due to the south's benighted history, but the southerners are politically divided and have too often been incapable of delivering projects. A range of sources said projects in the south had suffered for having been agreed with "dubious contractors". Isolated by lack of infrastructure, a huge construction effort is required if the south is to emerge as a viable economic unit.

THERMAL GENERATION

• **El Bagair.** 540MW steam power plant burning Dar crude oil. Project status: area reserved, feasibility study available. Est construction period 36 months.

• **El-Fasher diesel-fired plant.** Work progressing on 40MW project, with 10MW of diesel to be added to meet demand from new residential, water and agricultural projects. Project executed by India's Borika and Germany's MAN over est 18 months. *AE: 175/9, 159/8.*

• **Al-Fula 405MW.** To burn heavy crude from CNPC's Fula field. Construction to start 2010, to take 36 months. Consultant: Lahmeyer International. Contract signed with Chinese firm. *AE: 175/9, 159/7.*

• **Garri (1) CCGT.** 210MW combined cycle power plant in Al-Geili area. Executing company: Harbin Company (China). Consultant: Lahmeyer International. Est construction period 32 months.

• **Garri (2) CCGT.** Second stage aims to double circuit to increase generation and boost efficiency. Phase 1: 120MW (simple circuit), duration 18 months; phase 2: 120MW (combined circuit), duration 18 months. Executing company: Harbin. Consultant: Lahmeyer.

• **Garri (3).** Area reserved for 540MW power station to burn Fula crude oil. Study available. *AE: 109/19.*

• **Garri (4) sponge coke-fired power station plant.** Two electrical outputs of 55MW and sponge coke consumption of 256,000 t/yr. Project was scheduled to be in commercial operation H2 09. Power to be transferred into national grid via 220kV substation. Executing company: CMEC. Consultant: Lahmeyer International. *AE: 159/7.*

• **Geneina.** Work progressing on 6MW diesel-fired plant in project executed by India's Borika and Germany's MAN. Est construction period 18 months. *AE: 175/9, 159/8.*

• **Geneina 40MW.** Area reserved for a larger facility.

• **Kassala.** 75MW diesel-fired power station. Area reserved for project, feasibility study available. Est construction period 36 months.

• **Khartoum diesel-powered plant.** LS Industrial Systems and Daeong Industrial Machinery working on phase two. *AE: 109/19.*

• **El Gali 330MW combined cycle plant, Khartoum.** Egco Engineering & Services (Thailand) won $2m O&M contract. Plant built by Harbin Power Engineering Co (China). *AE: 109/19.*

• **Khartoum North Thermal station.** Feasibility study done. Output to enter national network early 2010. Lahmeyer responsible for rehab of instrumentation and control system. Phase three of extension consisting of construction of two 100MW oil-fired power plants being overseen by UK's Mott MacDonald. Executing company: CMEC. Finance: Chinese government. Est construction period 36 months. *AE: 175/9, 159/7, 109/19.*

• **Kosti combined cycle power plant.** To burn Dar crude oil. Under construction. Fichtner contracted by BHEL. Project involves increasing output capacity and extending grid westwards to connect the plant with three 220kV lines. First line will be to Mount Awliya to connect with Khartoum power grid, second to Al-Rank to connect with towns of Southern Sudan and third to connect Greater Kordofan. Oil-fired plant will consist of four steam units of 125MW with a total of 500MW and four fuel treatment lines. Est construction period 44 months. AE: 159/8.

• **Port Sudan 60MW thermal IPP.** Work started by TEN. *AE: 109/19.*

• **Port Sudan, Arkyiai Natural Harbour project.** 500MW steam coal-fired generation with provision of water desalination plant and harbour. Area reserved, feasibility study available for construction over 36 months.

• **Port Sudan coal-fired project.** 4x135MW Red Sea power plant. Tender floated by NEC for submission May 09. *AE: 159/7.*

• **Kuku power station, north Khartoum.** 100MW gas turbine station, burning gasoil or gas. Project status: area reserved, profile of scope work available. Est construction period 12 months.

• **Marngan, Elgazera state.** 100MW gas turbine station burning gasoil or gas. Project status: area reserved, profile of scope work available. Est construction period 12 months.

• **Kilo x2 power station, El Bagair.** 250MW diesel power station, low speed type burning Dar crude oil/HFO. Project status: area reserved, feasibility study available. Est construction period 36 months.

• **Libyan IPP.** MoU signed by Libya and Sudan. *AE: 109/19.*

• **Nyala.** 50MW diesel-fired station. Area reserved and feasibility study available. Est construction period 36 months.

• **Al-Janiniya.** NEC plans to add 6MW of diesel to meet demand from Al-Janiniya town and new areas. *AE: 159/8.*

• **Al-Shahid.** Chinese-funded extension near completion, with CMEC adding two steam power units of 100MW. *AE: 159/8.*

• **2MW diesel-fired plants.** Projects planned by NEC at four locations where an area for development has been reserved. Est construction period of 18 months each for El Da'Ein, Edila, Kass and Zalingi projects.

HYDROPOWER AND RENEWABLES

• **1,250MW Merowe HEP.** Eight units on line. All ten turbines due on stream by end-2010 to add 1,250MW to national grid. Funded from Arab/Islamic and Chinese bilateral sources. Included KD15m ($52.5m) KFAED facility (Aug 08). Financed about 40% by Khartoum government and rest by Arab funds and long-term loans from Chinese government, whose companies are building the project. KFAED has previously provided total of approx $164.5m, representing about 8% of total project cost. *AE: 175/9, 165/23, 157/8, 145/25, 138/8, 131/9, 122/9, 109/19.*

• **Kajbar 300MW HEP.** Dam planned to be built by Chinese companies with Chinese financing, downstream of Merowe dam. *AE: 122/10, 117/9, 109/19.*

• **Sennar dam.** Feasibility study available for 50MW HEP. Est construction period 36 months. *AE: 109/19.*

• **Roseires dam expansion project.** China's Sinohydro and CWE signed $396m contract (Apr 07) to raise height of 280MW dam allowing for increased power generation and irrigation in southern Sudan. Rehabilitation work being carried out by Austria's VA Tech. Finance: KD58m ($210m) AFESD loan with 25-year repayment term and six years' grace signed Jan 08. *AE: 165/23, 159/8, 138/8.*

• **Jebel Awliya HEP.** Plans to increase power generated by using 40 of the sluices of Jebel Awliya Dam with maximum power of 32MW and annual generation of 116MW/hr. Executing company:VA Tech (Austria). Est construction period 36 months.

• **Nyala 20MW wind power station.** Project status: area reserved, feasibility study available. Est construction period 36 months.

TRANSMISSION/DISTRIBUTION

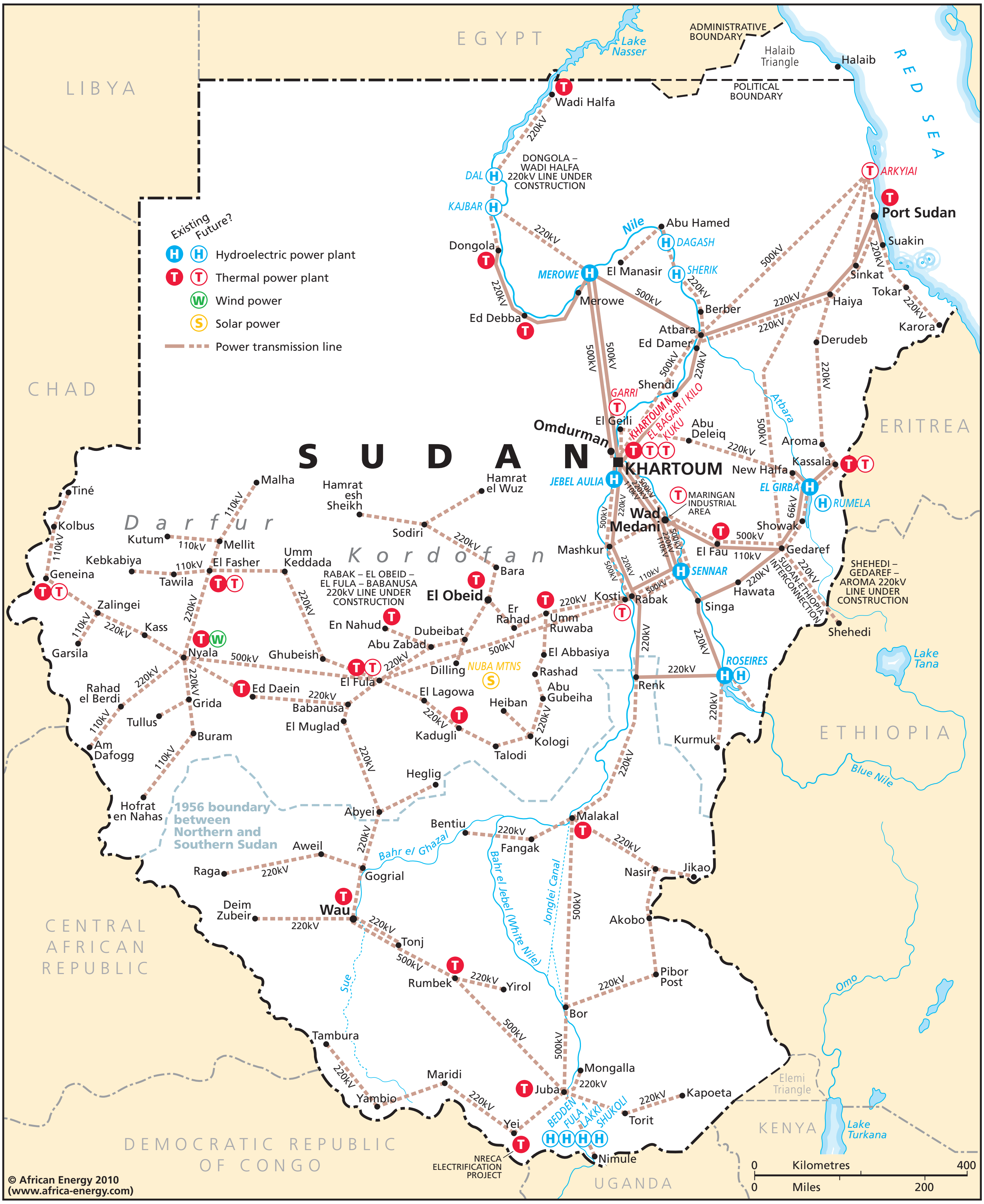
• **Overview.** Most of national grid comprises three interconnected parts: Khartoum Grid, Central Grid for south of Khartoum which supply parts of Al Gezira, White Nile, Sennar, Blue Nile states, and Eastern Grid which supply parts of Gadarif and Kassala states. River Nile and Northern State to be connected to National Grid by 2010. Port Sudan already connected to National Grid via 220kV Atbara-Port Sudan transmission line and the rest of state expected to be electrified by end-2011. Committed third circuit T/L project has covered White Nile State, Blue Nile State and part of Upper Nile State at El-Rank. Northern and Southern Kordofan States will be also connected to by 2011.

• **Rural electrification.** North Kordofan State to be linked to national grid early 2010. *AE: 175/9.*

• **NEC committed transmission lines:**

◊ **White Nile Grid.** Aims to feed areas of Al-Rank, White Nile and Greater Kordofan, and ensure extension of lines between Roseires power station and Khartoum. 220kV line will connect Roseires to

Sudan's existing and planned electricity infrastructure



Al-Rank, Rabak to Mashkour and Awliya Mountain with a length of 600km. Also plans for 315km line from Al-Rank to Um Rawaba and Al-Rahd to White Nile. Power stations will include two 60MW units at Roseires, Al-Rank, Um Rawaba, Al-Rahd, White Nile and Mashkour, and two 100MW units at Rabak and Awliya Mountain. Supplier and operator of power stations – CMEC; operator of the lines – NEC. $200m project to be financed by China Exim and Sudanese Ministry of Finance. *AE: 175/9, 159/8.*

◊ **Rabak-El Obeid transmission line.** 314km, 220kV line with four substations. Contract signed 2005 by CMEC.

◊ **Singa-Hawata-Gadarif.** 200km, 220kV line with three substations. Contract signed 2005 with Angelique Company.

◊ **Hasahesa-Ginaid**. 15km, 110kV line with two substations. Feasibility in process. Est construction period 6 months.

◊ **Dongola-Karma-Wadi Halfa.** 400km, 220kV line with three substations. Feasibility study done, 24-month construction process started with HPE. Wadi Halfa feasibility study done, negotiations under way. *AE: 109/19.*

◊ **Gadaref-Showak-Kassala-Aroma and Girba-New Halefa.** 276km and 40km lines rated 220kV, with six substations. Project status: route defined. Est construction period 24 months.

• **Eastern network project.** To provide electricity to Sanja, Al-Hawatah and Al-Qadarif through 220kV line of 200km with two power station units of 100MW in each area. Civil works completed, and fixing of towers to interconnection lines near completion. Importing company: Angelique Company. Executing company: NEC. *AE: 159/8.*

• **Al-Jamouia-Bant 110kV transmission line (16km).** To supply Omdurman town. Including two substations. Executing companies: NEC for transmission line, China's CNEEC for Al-Jamouia substation, Korea's DIMCO for Bant Transformer Station. Survey works completed. Engineering works for Al-Jamouia substation completed.

• **Khartoum transmission project.** ABB contract for 68km power lines linking three power stations to Khartoum; includes erecting 148 220kV pylons and 34 110kV pylons. *AE: 109/19.*

• **Khartoum-Omdurman 3km power line.** UAE's Saxon Energy won contract to move high-tension cable parallel to new White Nile bridge. Completion due Mar 07. AE: 109/19.

• **Grid metering system.** NEC awarded Landis & Gyr supply contract for demand meters and testing devices. *AE: 109/19.*

• **Waw City lines.** EEHC's affiliate EPW invited offers (Q4 06) to supply and install 11kV and 0.4kV lines and 19 11/0.4kV of 100KVA transformers. *AE: 109/19.*

• **Greater Kordofan transmission lines:**

◊ **South Kordofan:** Um Rawaba-Abasiya-Rashad-Abu Jibeha-Kologi-Talodi-Kadugli-Lagawa-Alfula and Dibibat-Dalang, 630km, 220kV, 11 substations. Project status: route defined, feasibility study available. Est construction period 24 months.

◊ **Al Fula-Gibesh-Ukadad-El Fasher, 445km, 220kV, three substations**. Project status: route defined. Est construction period 24 months.

◊ **El Obeid-Bara-Sodari-Hamarat Al Wiz and Sodari-Hamrat Al Shaikh, 406km, 220kV, five substations.** Project status: route defined. Est construction period 24 months.

◊ **Kalogi-Heban, 60km, 220kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Abyei-Gogrial-Wau, 333km, 220kV, five substations.** Project status: route defined. Est construction period 24 months.

◊ **Babanusa-Al Mujlad-Al Nama-Abyei-Heigleg, 327km, 220kV, five substations.** Project status: route defined. Est construction period 24 months.

• **Central & Eastern transmission lines:**

◊ **Garri-Al Ailafoon-Soba, Khartoum State, 81km, 220kV, three substations.** Project status: route defined. Est construction period 24 months.

◊ **Atabara-Kabashi, River Nile State & Khartoum State, 292km, 500kV, two substations**. Est construction period 24 months.

◊ **Elgomaia-Alsunut, Khartoum State, 20km, 220kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Mashkur-El Managil, White Nile State & Gezira State, 100km, 220kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Arkyai-Heya-Durdeib-Aroma, Arkyai-Port Sudan 2, Eastern State, 570km and 70km, 220kV, five substations.** Est construction period 30 months.

◊ **Port Sudan-Suakin-Tokar-Garora, Eastern State, 266km, 220kV, four substations.** Est construction period 24 months.

◊ **Ring Port Sudan, 30km, 220kV, two substations.** Project status: committed. Est construction period 25 months.

◊ **Atbara-Abu Hamed, 224km, 220kV, two substations.** Project status: feasibility study done and project under promotion. Est construction period 18 months.

◊ **Barbar-Abu Hamad-Al Manaseer, River Nile State, 25km, 220kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Garri-Abu Delaik-New Halefa, Khartoum State & Kassala State, 324km, 220kV, three substations.** Est construction period 24 months.

• **Guly substation, White Nile state.** 220/33kV, 2x60MVA, seven bays. Project status: route defined. Est construction period 8 months.

• **Getina substation, White Nile state.** 220/33kV, 2x60MVA, seven bays.

• **Algoald substation, Northern state.** 220/33kV, 2x100MVA, four bays.

• **Blue Nile transmission lines:**

◊ **Karn Karn-Kurmuk, 50km, 220kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Karn Karn-Bau, 39km, 110kV, two substations.** Project status: route defined, feasibility study done. Est construction period 24 months.

◊ **Karn Karn-Gessan, 25km, 220kV, two substations.** Project status: route defined, feasibility done. Est construction period 24 months.

◊ **Roseires-Umdarfa, 55km, 110kV, two substations.** Project status: route defined, feasibility done. Est construction period 24 months.

• **Northern & Southern Darfur transmission lines:**

◊ **Babanusa-Adila-El Da'Ein-Nyala Airport, Western Sudan, 360km, 220kV, four substations.** Project status: area reserved, feasibility study done. Est construction period 24 months.

◊ **Nyala Industerial-El Fashir, Greater Darfur state, 200km, 220kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Nyala Airport-Nyala Industerial-Kass-Zalinge-El Geneina, 330km, 220kV, five substations.** Project status: route defined. Est construction period 24 months.

◊ **Geneina-Kolbus-Tina, Western Darfur state, 150km, 110kV,** three substations. Project status: route defined. Est construction period 24 months.

◊ **El Fasher-Um Kadadah-Ghbeish, Northern Darfur state, 321km, 110kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **El Fasher-Mellit-Kutum, Greater Darfur state, 205km, 110kV, three substations.** Project status: route defined. Est construction period 24 months.

◊ **El Fasher-Tawila-Kebkabiya, Western state, 148km, 110kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Nyala Radio-Grida-Buram-Hufrat Al Nahas & Grida-Tulus, Western Sudan, 335km & 70km, 220kV, four substations.** Project status: route defined. Est construction period 24 months.

◊ **Nyala Airport-Nyala Radio-Eid El Foursan-Rehead El Berdi-Um Dafog, 290km, 220kV, five substations.** Project status: route defined. Est construction period 24 months.

◊ **Nyala Industerial-Shairya, Western Sudan, 75km, 110kV, two substations.** Project status: route defined. Est construction period 12 months.

◊ **Zalinge-Garsila, Western Sudan, 80km, 110kV, two substations.** Project status: route defined. Est construction period 24 months.

◊ **Malit-Malha, Western Sudan, 127km, 110kV, two substations.** Project status: route defined. Est construction period 24 months.

- **Alailafoon-Soba**

◊ **220-kV Afra substation.** South Korean consortium of LS Industrial Systems (LSIS) and Daeong Industrial Machinery Corporation signed $14.3m contract. LSIS will build and Daeong will finance project which will help meet demand for power in southern Khartoum and Arkawit district. Project scheduled to be completed in two years.

◊ **Banat substation.** Being built by LSIS and Daeong.

REGIONAL INTERCONNECTIONS

- **Sudan-Ethiopia interconnection project.** 296km 230kV T/L. To link Gedaref, Sudan, with Shehedi, est cost $68m, completion due by 2010. Negotiations for Ethiopia to supply Sudan with electricity in exchange for oil have run into problems over power purchasing terms. Feasibility and ESIA studies completed. NBI's Entro expected to issue construction tenders (Dec 06). ESIA includes RAP. Ethiopian RAP is complete. Finance: AfDB support. Total investment cost: €55.8M. WBG released $41m Dec 07 for installation of T/L between Ethiopia and Sudan, but the line within Sudan requires another $36m. Executing companies: NEC for transmission line, Anglik Company for Gedaref Transformer station. EEPCo signed contracts totalling $31.4m with Bosnia's Energoinvest and Iran's Sunir to build transmission lines and substations to link its grid with Sudan. Construction of transmission interconnections has four components:

◊ **Gonder to Gedaref.** WBG will finance/supervise 171km Ethiopian portion from Gonder to Metema;

◊ **Substation extensions.** Bahir Dar and Gonder in Ethiopia (financed by WBG) and Gedaref in Sudan;

◊ **Scada.** Fibre optics telecommunications system includes installations at end stations in both countries, and one repeater installation in Ethiopia;

GOVERNMENT OF SOUTHERN SUDAN

- **Overview.** GOSS leadership is very under-resourced, but is looking to some major HEP projects. *AE: 109/20.*

- **Yei electrification project.** First community-built and -operated power generation and electricity distribution system completed May 08 as part of USAID's Southern Sudan Rural Electrification Programme, implemented by NRECA International since 2004. With funding from USAID, NRECA trained Yei residents to build and operate small utility. Local skilled crews erected electrical distribution lines, constructed substation, erected powerhouse, and now operate the system.

- **Wau diesel power station extension.** 2x1000KW, Wau town of Western Bahr El-Ghazal. As a grant from Egypt. Additional electricity projects will soon be inaugurated in Jonglei State (Bor), Western Eastern Equatoria state (Yambio) and Lakes state (Rumbek).

- **5,000MW HEP Nile plant.** Malaysia's Sithru Sdn Bhd awarded exclusive letter of intent by GOSS for est $9.5bn contract (Jul 06). Sithru to conduct feasibility studies, EIA and analyses. *AE: 109/20.*

- **20MW Fula Falls HEP, Nile River near Nimule.** To supply power to Juba. Norfund awarded feasibility study contract to Norplan 2007. Feasibility not completed due to lack of commercial agreement with GOSS to take project forward. Norfund no longer involved. *AE: 116/11.*

Glossary

TERMS

CCGT – combined cycle gas turbine (plant). EoI – expression of interest. GDP – gross domestic product. HEP – hydroelectric power plant/project. HT – high-tension. kV – kilovolt. kW – kilowatt. kWh – kilowatt hour. LT – low tension. M&V – monitoring and verification. MoU – memorandum of understanding. MT – medium-tension. MW – megawatt. TA – technical assistance. T&D – transmission and distribution.

COMPANIES AND INSTITUTIONS

AfDB – African Development Bank. AFESD – Arab Fund for Social and Economic Development. Badea – Arab Bank for Economic Development in Africa. BHEL – Bharat Heavy Electrical Limited (India). China Exim – The Export-Import Bank of China. CMEC – China National Machinery & Equipment Import & Export Corporation. CNEEC – China National Electric and Equipment Corporation. EdF – Electricité de France. EDF – European Development Fund. EEHC – Egyptian Electricity Holding Company. EEPCo – Ethiopian Electric Power Corporation. Egco – Electricity Generating Company (Thailand). . EIB – European Investment Bank. GOSS – Government of Southern Sudan. KFAED – Kuwait Fund for Arab Economic Development. LSIS – LS Industrial Systems. MDTF – Multi Donor Trust Fund. NEC – National Electricity Corporation (Sudan). NRECA – National Rural Electrical Co-operative Association. Ofid – OPEC Fund for International Development. TEN – Tenega National (Malaysia). UNDP – United Nations Development Programme. USAID – US Agency for International Development. USTDA – US Trade and Development Agency. WBG – World Bank Group.

MOROCCO: Wind power for cement plant

Cement producer ***Ciments du Maroc*** is planning to install a 5MW wind farm to power its Laayoune factory. *L'Economiste* daily quoted Ciments du Maroc director general **Abdallah Harma** as saying the plant was due to start up in March at a cost of MD90m ($11m). The wind farm could be expanded to 50MW. Morocco is keen to reduce its dependence on imported hydrocarbons by harnessing its wind and solar potential (*AE 173/5*). The law was changed in mid-2008 to allow industries to install up to 50MW of generation capacity from renewables, with excess supply going into the national grid.

Regulator plans industrial tariff hike to woo investors to Algerian electricity opportunities

A soon-to-be-published review will improve the prospects for new power plants and could help solve Sonelgaz's financial problems, writes **John Hamilton**, recently in Algiers

A review of electricity supply and demand may open the door to new opportunities for private investment in power generation. Algeria's gas and electricity sector regulator will soon publish its biennial indicative electricity production programme for the coming decade. It is also considering raising prices for industrial consumers, which could be a decisive positive change for potential investors.

The ***Commission de Régulation de l'Electricité et du Gaz*** (***Creg***) will submit its demand and supply forecast to the government for approval in March. Creg president **Nadjib Otmane** told *African Energy* in an interview at the regulator's headquarters in Algiers in late January that this was likely to produce more investment opportunities, with price rises for industrial consumers improving the commercial prospects for power generation.

Creg's previous indicative programme was published in March 2008. It forecast annual increases in power demand of 7.8% under an average scenario and 9.1% at the upper level, meaning that peak load could double from under 7,000MW in 2008 to 12,500-14,500MW in 2017. Following an emergency programme of construction which brought more than 3,000MW of new generation into production during 2009, installed capacity is now more than 11,000MW. ***Sonelgaz*** subsidiaries are constructing two more 1,200MW combined cycle plants at Terga and Koudiet Edraouch which are scheduled to enter production in 2012. A further 2300MW of capacity is planned to be ready by 2015. The company has proposed the construction of a further 3,800MW by 2019, but this has not been confirmed.

Future capacity cannot be financed through independent power projects (IPPs) because the marginal cost of extra production is too high to make investment worthwhile. So Otmane is advocating tariff increases for industrial consumers to make new generation investments more attractive to independent power companies. This will not only improve the prospects for new plants, it will also solve Sonelgaz's extreme financial problems. The size of the company's debts is not known. But in 2008, it barely scraped a profit and financed more than half its 205bn dinar ($2.82bn) investment programme through credits from local banks.

Otmane said that although price rises targeted at industry were often considered to be politically unacceptable, they would be easily achieved. "For industry this is not difficult," he said. "They are free to pass on the cost of energy." He pointed to the cement industry – a large segment of which is owned by **France**'s ***Lafarge*** – as one of the largest energy consumers in the country. Cement producers buy electricity at the cheaper domestic price but they sell their product at the international price, the same as if it were imported, he said.

Sonelgaz – just another investor

The authorities are attempting to create a competitive system within this ring-fenced energy market. As a senior Sonelgaz executive told *African Energy*: "Any investor can build a plant. Sonelgaz is just another investor in the market." However, in practice, as the executive noted, the sector is in "a transition period". The take-up of IPP opportunities has been limited. With a handful of exceptions, new capacity has been built by Sonelgaz or its joint-venture subsidiary ***Algerian Energy Company***, which is 51% owned by ***Sonatrach***. The most recent exception is a 1,200MW plant completed last year by ***Shariket Kahraba Hadjret En Nouss*** (***SKH***), a joint venture owned 51% by **Canada**'s ***SNC Lavalin*** and **Abu Dhabi**'s ***Mubadala Development Company*** and 49% by Sonatrach and Sonelgaz. SKH has a contract to operate the plant for 20 years.

In the past, Sonelgaz has agreed take or pay agreements with IPPs such as the ***Black & Veatch-AEC Kahrama*** joint venture, whose water desalination and power plant at Arzew began production in 2005. Such contracts are no longer available to investors, who are now offered energy conversion contracts which pay them a fee for converting gas into power. Otmane said companies had been demanding guarantees, including take or pay agreements, but said: "This is not what we want to do. We want a competitive production sector."

Like many aspects of the economy, the power generation and distribution sector is protected from global economic forces. But although it is still controlled by the Ministry of Energy and Mines, it possesses all the elements necessary for genuine competition – an ideal that managers of the sector insist they are working towards. Aside from Sonelgaz, there are a number of other generation companies, even if most of them are controlled by Sonatrach. The offtakers, while still part of Sonelgaz, are also semi-detached from the company. There are four distribution companies which supply customers in 58 concessions. They own the 30kV network in rural areas and 10kV network in cities. Otmane said Creg had "a lot of work to do in distribution to improve quality of services", but added that "four companies are better than one", noting that the regulator had the power to "benchmark" companies with each other and to require them to use receipts to improve the network. Creg also regulates the transmission of power, approving the master plan for development of the network, and sets the transmission tariff which network operator ***GRTE*** can charge.

The domestic power price is lower than in Europe and some neighbouring countries, but "is not subsidised", said Otmane. "The main parameter is the price of gas. Our generation mix is dominated by natural gas and the domestic price is disconnected from the international price, as it is not the same market." He explained that the price of gas is established by Creg's fellow regulator, the ***Autorité de Régulation des Hydrocarbures*** (***ARH***), which regulates the hydrocarbons sector. The price is based on a formula dictated by the government. "This is no subsidy. The operators are recovering all their costs. Someone may say it is, because the operator could sell the gas at a higher price in the international market. But due to the nature of the gas market, this is impossible. The export infrastructure is full," said Otmane.

KENYA

Lake Turkana Wind Power wins Aldwych backing

Project developer ***Aldwych International*** has taken a 51% stake in the Lake Turkana Wind Power project to produce 300MW of power from a site in northern Kenya. The project company signed a power purchase agreement (PPA) on 30 January to supply the national grid at a tariff of KSh7.80 ($0.102), which ***Kenya Power and Lighting Company*** (***KPLC***) managing director **Joseph Njoroge** said would help reduce the high cost of power.

"We have been relying on thermal power and that is why fuel cost charges remain high," Njoroge said at the PPA signing ceremony. "But with geothermal and wind energy, we expect these charges to go down."

The project was conceived by a consortium of local and **Dutch** companies and individuals, including **Willem Dolleman**, a Dutch national living in Kenya who is co-owner of fresh vegetables business ***AgriFresh***, project development company ***Anset Africa***, which has been involved in solid waste, biogas, road construction, tourism, telecommunications and humanitarian assistance, and Dutch wind energy developer ***KP&P BV***.

Initially, LTWP proposes to install some 360 wind turbine generators, each with an installed capacity of 850kW. It plans to have the first 50MW connected to the national grid by June 2011 and its plant running at full capacity a year later. LTWP signed an agreement in December with **Denmark**'s ***Vestas Wind Systems*** for the supply of its V52 turbines.

Njoroge said state transmission agency ***Kenya Electricity Transmission Company*** (***Ketraco***) would construct a 428km overhead line to link the remote site to the national grid. LTWP had planned to tender to build the line on a build, operate, transfer basis, and sought expressions of interest last year (*AE 162/8*), but Ketraco has now received concessional financing for the project.

The 400kV double-circuit line will terminate at a substation planned near the town of Suswa, about 70km north-west of Nairobi. The power received there will be transformed to 220kV and released into the KPLC grid.

When completed, the plant is expected to be Africa's biggest wind farm. The project consortium had also held talks with ***Globeleq***, but it opted not to proceed. Aldwych has a presence in Kenya as developer of the Rabai 90MW medium-speed diesel power plant, which came on stream in September (*AE 171/5*).

In December 2008, KPLC recorded a peak demand of 1,072MW, leaving a reserve capacity of below 5% compared to the optimal 15% required to cover planned and unplanned system outages. The power distributor estimates that the peak demand is suppressed by 100MW and would rise to 1,172MW if there was adequate capacity.

COTE D'IVOIRE

Azito failure means power cuts

Energy officials have warned of power cuts following a breakdown at the 150MW Azito thermal plant. Ministry of Mines and Energy director general of energy **Simon Eddy**, told business representatives Azito had been out of action since 22 December and was unlikely to be fixed before late April or early May. He appealed to consumers to save energy to minimise the effects, and said supply to industrial consumers would be given priority. The authorities hoped to install emergency generators. The power utility's finances have been hard hit by the lack of tariff income from the rebel-occupied north since 2002. ***Compagnie Ivoirienne d'Electricité*** supplied the north with power throughout the civil conflict because to cut it off would imply acknowledging it as a separate state, but the rebels have not paid their bills.

The crisis has been eased by the Ciprel III expansion at Abidjan's Vridi port, an independent power project by a subsidiary of **France**'s ***Bouygues*** which brought 110MW of new thermal capacity on stream in December. Eddy said exports to Côte d'Ivoire's neighbours would be reduced as a result of the breakdown.

In June 2009, the ***World Bank*** approved $50m of funding for an Urgent Electricity Rehabilitation Project to help make up for the lack of maintenance and investment during the civil war (*AE 161/9*). The project covers distribution network rehabilitation and expansion, preparation for transmission network investments to restructure and upgrade the high-voltage network, and project oversight and institutional support.

COUNTRIES AND MARKETS

ALGERIA: Vergnet to build 10MW wind farm

France's *Vergnet* has announced a €24m ($33.5m) contract to build the first wind farm in Algeria. The 10MW project will be built in Adrar, southern Algeria, and should be operational in 2012. The contract was awarded by ***Compagnie de l'Engineering de l'Electricité et du Gaz*** (***Ceeg***), a subsidiary of the state utility ***Sonelgaz***, following an international tender. The Vergnet group will be responsible for designing, manufacturing and installing the wind farm, which will comprise ten 1MW GEV HP wind turbines. The Algerian government approved a renewable energy law in 2003 and has promoted a few projects, notably off-grid solar photovoltaic installations, but is hoping for a large-scale solar project to harness the potential of the Saharan sun (*AE 173/5*).

BURKINA FASO: AfDB funds for power project

The ***African Development Bank*** board has approved a UA24.2m ($38m) loan and UA950,000 ($1.49m) grant from its ***African Development Fund*** (***ADF***) concessionary window to fund the Electricity Infrastructure Strengthening and Rural Electrification Project. With demand growing by 10%/yr, Burkina Faso is keen to increase its power supply as well as improving service quality and reliability. One project component relates to the rehabilitation and extension of almost 1,800km of power networks. It will improve coverage, adding 150 rural areas, and will serve 800,000 people in 140,000 households. Interconnections to improve supply are being developed with **Côte d'Ivoire** and **Ghana**.

REPUBLIC OF CONGO: Imboulou dam inaugurated

President **Denis Sassou Nguesso** has inaugurated the **Chinese**-built Imboulou hydro project, which is supplying 30MW to Brazzaville from the first of its four turbines. Work on the 120MW project on the Lefini River north of Brazzaville started in 2003 and is due to be completed by year-end. A second turbine is due on stream in March. China has met some 80% of the estimated $280m cost.

DEMOCRATIC REPUBLIC OF CONGO: SAPP tender

The ***Bureau Central de Co-ordination*** is seeking bids for the installation of fibre-optic cables and the rehabilitation of transmission lines as part of the development of interconnections with the Southern African Power Pool (SAPP). The project is financed by the ***World Bank***'s ***International Development Association***. The tender consists of two lots. Lot 5-2 comprises the installation of 2,200km of fibre-optic cable on the 220kV lines between Kinshasa and Inga, the 500kV lines between Inga and Kolwezi, and the 220kV lines between Kolwezi and Kasumbalesa on the Zambian border. Lot 4 consists of rehabilitation of the existing transmission lines on the SAPP corridor (2,000km) and the 220kV line between the N'Seke power plant and Kasumbalesa on the Zambian border (424km). Bids for one or both lots are due by 25 March, and bid opening will take place the same day.

Contact: BCECO, Complexe Utafrica, Avenue Colonel Mondjiba No 372, Kinshasa-Ngaliema, DR Congo. Tel: +243 998 86 78 65, 815 13 67 29, 998 58 45 60. Email: bceco@bceco.cd, dpm@bceco.cd, bcecobceco@yahoo.fr, dpmbceco@yahoo.fr

EGYPT: Prequals for 1,500MW CC plant in Beheira

Egyptian Electricity Transmission Company (***EETC***) is seeking prequalification applications from local and international developers for a 2 x 750MW combined cycle power plant in Deirout, in Beheira governorate. The plant will run on light oil or gas, and the contract will be awarded on a build-own-operate basis for 20 years. Developers may propose an option for a 3 x 750MW plant at the same site. The configuration of each module is 2+2+1, with each gas turbine having installed nominal capacity of 250MW or more at ISO conditions. The developer will be required to design, finance, construct, own and operate the plant, and sell the generated power to EETC for 20 years under a power purchase agreement. Tender documents are available on submission of a payment receipt for $1,000 from ***National Bank of Egypt*** Nasr City branch, showing the money was credited to EETC account number 11001007177, Ref 56/2009/2010. Bids are due by 31 March.

Contact: EETC, Central Egypt Electricity Zone, 5 Sixth October Street, off El Bahr El Aazam Street, opposite Pharaonic Village, El Mounib, Giza, Egypt. Tel/Fax: 02 35716390.

EGYPT: Carbon credits for ESIIC fuel switch

Mubadala Development Company subsidiary ***Masdar*** has announced an agreement with the ***Egyptian Sugar and Integrated Industries Company*** (***ESIIC***) to develop a fuel-switch project under the guidelines of the Kyoto Protocol's clean development mechanism (CDM). State-owned ESIIC will invest more than E£40m ($7.5m) to replace heavy fuel oil (HFO) with natural gas, which is expected to reduce carbon emissions by an equivalent of 57,200 t/yr of carbon dioxide (CO_2) for ten years. Masdar will help to register the project under the CDM with the ***United Nations*** and purchase the resulting carbon credits. ESIIC is one of the largest industrial entities in the Middle East and owns more than 20 plants for production of sugar and related products, including ethanol, vinegar, fodder yeast, carbon dioxide, solvents, oxygen, perfumes, flavours, paper, particle board and cattle feed. It plans to convert all its factories in Upper Egypt to gas from HFO within three years to reduce CO_2 emissions.

RWANDA: Nyabarongo financing signed

Exim Bank of India has extended a second line of credit (LoC), worth $60m, for the 27.5MW Nyabarongo hydropower project, due to start up in 2012 (*AE 173/11*). The agreement was signed in New Delhi on 14 January. Exim Bank had earlier extended a $20m first tranche to part-finance construction of the project, which is being executed by **India**'s ***Bharat Heavy Electricals*** and ***Angelique International***. The LoC will be used for financing at least 85% of total contract value through sourcing of goods and services from India. Exim Bank will reimburse 100% of contract value to the Indian exporters, upfront upon the shipment of goods. The plant, being built on the Nyabarongo River in Ngororero district, Western Province, will significantly augment Rwanda's installed capacity of 77MW.

RWANDA: Landfill gas project

Germany's ***Stadtwerke Mainz*** has started drilling tests at the Nyanza landfill site to establish the feasibility of capturing methane gas for power generation. The project would be eligible for carbon credits through the Kyoto Protocol's clean development mechanism. A memorandum of understanding was signed late last year between Stadtwerke Mainz, the Ministry of Infrastructure and Kigali City Council. Stadtwerke Mainz is based in Rhineland Palatinate, which has supported Rwanda for more than 25 years. It helped to finance a solar plant at Mont Jali in Gasabo District in 2007 (*AE 116/11*).

Repsol stalls as Hyperdynamics waits on Guinea contract ratification

The latest political settlement looks promising but Guinea is still not plain sailing for Hyperdynamics, which has yet to finalise its farm-in deal with Repsol

Hyperdynamics' farm-in deal with ***Repsol YPF*** was supposed to be finalised by 31 January but the **Spanish** company has sought an extension of its letter of intent to 11 March. While Hyperdynamics is playing down the significance of the delay, 11 March is also the date set out in Hyperdynamics' September 2009 memorandum of understanding (MoU) with the government for ratification of its beleaguered production-sharing contract (PSC).

The MoU confirmed the validity of Hyperdynamics' 2006 PSC (*AE 173/1*). The former software company acquired the right to explore for oil in Guinea's offshore in 2002, but received a letter in July 2005 purporting to terminate its PSC, apparently as a result of efforts by its former local partner to bring in another company. It managed to secure a new PSC in 2006, but the process has been dogged by political and other problems.

On 29 January, Hyperdynamics announced it had finalised the sale of a 23% interest to Aberdeen-based ***Dana Petroleum*** and signed a joint operating agreement. This follows the sale and purchase agreement (SPA) signed in December. The Guinean government has approved the farm-out, and Dana will pay a purchase price of $19.6m and assume its share of costs.

Hyperdynamics chief executive **Ray Leonard** told a conference call the company was continuing to work to finalise the agreement with Repsol to assume operatorship of the PSC and take a 37% share. Meanwhile, Repsol has agreed to pay Hyperdynamics $2.7m for its pro rata share of work performed to date on the current 2D seismic programme, and will pay its share of the remaining work, estimated at about $1m, on its completion. The money will be repaid to Repsol if the PSA clarification has not been ratified by 10 September. "I think this really demonstrates the fact that they want to close this deal and they want to work with us," said Leonard, a former ***Amoco*** executive who joined the company in June 2009.

He said that as operator, Repsol had a wider range of responsibility and the documents for the agreement were thus more complex. Repsol sent a team to Houston at the beginning of February to finalise the joint operating agreement and SPA. "Any thoughts that perhaps Repsol was not as committed as Dana I think are very incorrect," Leonard said.

According to Leonard, the results of recent oil seeps and geochemical surveys had been "extremely useful", and the company had identified a Jurassic source rock in the northern portion of the concession as well as a Cretaceous source rock in the southern portion, offering a variety of play types.

The company is close to completing a 2D survey and Dana has sent staff from Aberdeen to Oslo to oversee the processing. The next stage will be to tender for a 3D survey, by which time Leonard said Hyperdynamics hoped to be "working in consortium" with its new partners. He said they aimed to drill a first well in late 2011, as stated in the September 2009 MoU with the government.

Hyperdynamics relinquished 64% of the contract area at end-December. Leonard said he was confident Hyperdynamics' right of first refusal on the relinquished acreage would be respected, despite expectations that it would go to a **Chinese** company (*AE 173/3*). Conakry has reached agreement with powerful **Hong Kong**-based player ***China International Fund*** for a resources-for-infrastructure package, though this is mainly aimed at bauxite.

Leonard has overseen a turnaround in the company's fortunes in recent months. When he took over, Hyperdynamics had one technical staff member. It now has four, and the team will grow as more technical data come in. Leonard said Hyperdynamics was planning to move to new offices to make room for its expanded technical team. He was also optimistic about prospects for improved stability under the new interim government. Former military leader Captain **Moussa Dadis Camara**, whose leadership had become increasingly erratic, was shot in the head by an aide in December and is in **Burkina Faso**. He has been replaced by his deputy, who has brought in civilian opposition politician **Jean-Marie Doré** as prime minister to oversee a return to civilian rule.

Victoria Oil and Gas sees new Logbaba upside

Victoria Oil and Gas (***VOG***) announced an update on the passive seismic spectroscopy survey at its Logbaba gas and condensate project in **Cameroon** as *African Energy* went to press. VOG said it indicated a major potential hydrocarbon accumulation around 2km from the current drilling location. "The accumulation, which lies entirely within VOG's licence block, appears to be substantially larger than the existing discovery and has not been seen in any previous subsurface studies due to the lack of geophysical data," the company said. VOG will take account of the latest data in designing the next well, La-106, due to spud on 6 February. The survey is the first new geophysical information to be acquired over Logbaba since the discovery was made in the 1950s. "The results suggest that a large and unexplored accumulation lies just a few kilometres away from the original discovery. This would be a considerable addition to our reserve base if it is ultimately confirmed by drilling. The passive seismic data correlates well with the subsurface data we obtained from all previous wells and our recently completed well La-105," said VOG chairman **Kevin Foo**.

Uganda weighs its options for Lake Albert partners

Tullow and Eni are waging a discreet but intense battle over the sale of Heritage Oil's Uganda acreage, with Libyan lobbying and traditional rulers adding layers of complexity, writes **Thalia Griffiths**

Tullow's pre-emption of Heritage's deal to sell its Ugandan holdings to **Italy**'s ***Eni*** is far from a done deal, even though Tullow was comfortably able to raise £925m ($1.5bn) in a share placing on 27 January. Tullow wants to buy the stakes and bring in a partner of its choosing so that it can follow a development strategy for the entire basin.

"The board of Tullow has concluded that it is in the interests of shareholders for Tullow to pre-empt the sale of HOGL's Ugandan assets and bring in a partner to deliver a unified basin-wide development plan which will be significantly value accretive to all stakeholders as a result of accelerated and materially higher production," Tullow said. First oil is expected late this year from the fields in the Lake Albert region of western Uganda, where since 2005 Tullow and Heritage have proved up over 700m bbls of oil and identified more than 1.5bn bbls to be explored.

Eni, meanwhile, is pressing its suit and is reported to have offered to raise its bid. Though it is keen to add Uganda to its growing African portfolio, chief executive **Paolo Scaroni** seems not to have won many friends on a visit to Kampala in August, and Eni stepped up lobbying with a visit in January by foreign minister **Franco Frattini**.

Tullow has said it is in talks with **China**'s *CNOOC* and **France**'s *Total*. President **Yoweri Museveni** may favour CNOOC, which would bring an attractive investment package for a country keen to develop its hydropower potential and wider infrastructure, particularly as he faces elections next year.

Tullow, meanwhile, surprised the market on 27 January with a share placing to fund higher spending. It said it planned to retain a higher than previously anticipated stake of up to 50% of its enlarged acreage position in Uganda. Pre-empting Eni's bid will cost the **Irish** company $1.35bn, plus a contingent deferred $150m in cash or assets, and the company said it expected additional capital spend of up to $600m over the next three years. "Accelerated drilling plans across the portfolio is key. However, the lack of volume guidance leaves question marks over potential impact," said *Jefferies* analyst **William Arnstein**.

Tullow needs a partner with development expertise to build a refinery and export pipeline to Mombasa. The Ugandan government has just contracted *Foster Wheeler* to undertake a feasibility study for an oil refinery with a capacity of up to 150,000 b/d (*see Downstream*).

The government has not yet approved Tullow's pre-emption of the Heritage sale, but parliament was expected to discuss it on 4 February as *African Energy* went to press.

Libyan lobbying

An added complication comes from behind-the-scenes lobbying by Libyan leader **Muammar Qadhafi** in support of Eni, whose need to secure energy supplies has led it to forge close ties with Tripoli. Qadhafi seems determined to get a hold over East African oil distribution, but has so far been thwarted. Last year, the Libyans lost out in a lengthy battle to gain control of the Mombasa oil refinery. The stake was sold to **India**'s ***Essar Oil and Gas*** in spite of an energy co-operation agreement between **Kenyan** President **Mwai Kibaki** and Qadhafi, in which the Kenyans pledged official support for a Libyan takeover of the refinery (*AE 138/19*).

Uganda's *New Vision* daily reported that a subsidiary of the state ***Libyan African Investment Portfolio*** (***Laip***) had offered to invest up to $1bn in the proposed Ugandan oil refinery. The newspaper quoted **Ibrahim Ibrahim**, manager of Laip subsidiary ***Oil Libya***, as saying that talks between the two sides were planned. ***Tamoil East Africa*** has won the contract for a petroleum pipeline from Eldoret in Kenya to Kampala (*AE 165/17*). The economics of these projects are tightly entwined. The Mombasa refinery supplies refined products to the whole East Africa region. By supporting a new plant in Uganda, Libya will be in direct competition with the project it had planned to invest in. A Ugandan refinery will also change the economic basis for the pipeline project.

Kings in play

On a local level, Qadhafi has been courting the traditional ruler of the Bunyoro kingdom, where the oilfields are located. The King of Bunyoro, **Solomon Gafabusa Iguru**, has made several trips to Tripoli, and Libya is funding development projects in the kingdom. At the same time, the kingdom is talking to central government about getting a share of oil revenues. Riots in September in Kampala by supporters of the King showed what could happen if expectations are not well managed.

Qadhafi also has close ties to the Toro kingdom in western Uganda, which used to be part of Bunyoro. The Libyan leadership has reacted angrily to Ugandan media reports suggesting Qadhafi had an affair with the Toro Queen Mother, **Best Kemigisa**. Kemigisa and Gafabusa were among over 50 African traditional rulers accompanying Qadhafi to an ***African Union*** summit that opened in Addis Ababa on 1 February. Qadhafi, who has failed to extend his one-year term as AU president, wanted them to take part in the debate but they were barred after political leaders said the summit was only for heads of state. The Ugandan authorities recently banned a Qadhafisponsored conference of traditional leaders in Kampala, arguing that the constitution did not allow traditional leaders to engage in politics.

Kasamene appraisal

Underlining the potential of the Lake Albert fields, Tullow said on 22 January that the Kasamene-2 appraisal well in the Butiaba region of Block 2, had encountered 39 metres of net oil pay and 8 metres of net gas pay within a 132 metre gross interval. The well is located near the crest of the field, 1km north-east of the Kasamene-1 discovery well, and was drilled to a total depth of 866 metres. Reservoir quality is excellent and the net pay thickness is the largest encountered in the Butiaba area, Tullow said. The well will be suspended as a future producer and form Phase 1 of the Albertine Rift Development.

Kasamene-2 is the first of two Kasamene appraisal wells being drilled to support the proposed development of the field. A further four appraisal wells will be drilled in 2010 to delineate other significant discoveries. "Encountering the largest net pay thickness in Butiaba to date is an outstanding result, confirming the lateral quality and extent of the Victoria Nile Delta reservoirs and enabling fast-tracked development of the Kasamene field," said chief operating officer **Paul McDade**.

NIGERIA

SPDC partners sell stakes in the Niger Delta blocks

Shell Petroleum Development Company of Nigeria (*SPDC*) has agreed to transfer its interest in three production licences in the Niger Delta to a consortium led by two Nigerian companies. The agreement covers Shell's 30% interest in oil-mining leases 4, 38 and 41 covering some 2,650km^2 in the north-western Niger Delta around Sapele. The buyer is *Seplat Petroleum Company*, a Nigerian company jointly held by marginal field operator *Platform Petroleum* and the little-known *Shebah Petroleum Development Company,* along with *Maurel & Prom* of **France.**

SPDC is operator of the joint venture between *Nigerian National Petroleum Corporation* (*NNPC*, 55%), Shell (30%), *Total E&P Nigeria Ltd* (10%) and *Nigeria Agip Oil Company* (5%). Total and Agip will also transfer their interest in the three blocks, which include the Sapele, Oben and Oben North fields. Some 30 wells have a production capacity of 50,000 boe/d. The wells also produce natural gas for domestic and industrial use. Crude production is shut down awaiting completion of repairs to an export pipeline damaged in late 2008. The rebel *Movement for the Emancipation of the Niger Delta* (*Mend*) ended a three-month ceasefire on 30 January and threatened to renew its attacks.

Shell has a chequered history in the Niger Delta, but SPDC stressed the sale did not mean a full-scale pullout.

"This sale of assets supports the Nigerian government's goal of expanding opportunities for local energy companies," said SPDC managing director **Mutiu Sunmonu**. "We have been in Nigeria for more than 50 years and remain committed to doing business here. This transaction should be seen in the context of Shell's active portfolio management of its assets and interests across the world."

The agreement is subject to the approval of the federal government and the NNPC.

Oando to raise N21bn in rights issue for upstream plays

Oando has launched a rights issue involving 301.7m shares of 50 kobo each, at N70 per share, on the basis of one new ordinary share for every three shares held. The offer opened on 25 January and closes on 19 February. Proceeds from the issue will be used to refinance the acquisition of upstream assets, providing capital to fund the operation of the upstream business and short and medium-term investments in its gas and power business segment.

"We expect positive investor response from local and international stock markets in the execution of this mandate, as investors are well aware of Oando's strong fundamentals. We are encouraged by the feedback from our recent local and international road shows to institutional investors," said executive director and chief financial officer **Femi Adeyemo**.

In 2004, Oando became the first non-bank corporate to raise N15bn from the Nigerian stock market. The company had aimed to raise N5bn but the offering was heavily over-subscribed. In 2005, the company listed its shares on the *Johannesburg Stock Exchange*.

Chief executive **Wale Tinubu** said last year that Oando planned to raise funds to enable it to expand production by acquiring dormant fields (*AE 169/18*). It is Nigeria's leading downstream operator, and aims to pump 100,000 b/d within four years, with 300m bbls of reserves, compared to less than 5,000 b/d now.

KENYA

Centric Energy takes Block 10BA

Canada's Centric Energy has signed a production-sharing contract (PSC) for Block 10BA around the northern half of Lake Turkana in Rift Valley Province. The area has been the target of growing interest following *Tullow Oil* and *Heritage*'s success in **Uganda**, and with the prospect of a pipeline being built from Lake Albert to Mombasa. *Africa Oil Corporation* has blocks 10A and 10BB to the east and south of 10BA, while blocks 11A and 11B to the west of 10BA are held by **Philippe**

Edmonds' *Central African Mining and Exploration Company* (*Camec*), though exploration has been suspended as the company shifts its focus to biofuels (*AE 159/3*).

Centric described Block 10BA as relatively under-explored, with the most recent seismic data acquired in 1991. It covers 16,205km^2 in a part of the East African Rift System that includes portions of several Tertiary-age rift sub-basins, including the Kerio and Turkana basins and the northern part of the Lodwar Basin. The Loperot-1 well was drilled by *Shell Exploration (Kenya)* in 1992 in the southern Lodwar Basin, 75km to the south of Block 10BA, and encountered oil shows and mature source rocks. **China**'s *CNOOC* is drilling a well on Block 9 in the Anza Graben to the south-east of Block 10BA.

The PSC is split into a seven-year exploration term and a 25-year production term. In the first three-year exploration period, Centric will reprocess and study existing data, conduct geophysical and geological surveys including gravity and magnetic surveys, and acquire new 2D seismic. The optional second and third periods are of two years each and include obligations to acquire 2D and 3D seismic and drill exploration wells.

COUNTRIES AND MARKETS

ANGOLA: ONGC in Sonangol venture

India's state-owned *Oil and Natural Gas Corporation* (*ONGC*) has signed a memorandum of understanding with Sonangol to jointly explore for oil and gas in India and other countries, and to bid for blocks in Angola's next licensing round. The agreement was signed during a visit to Angola by petroleum minister **Murli Deora**. Deora, on a four-nation tour of Africa, met oil minister **José Maria Botelho de Vasconcelos** to discuss deepening ties in the energy sector. At the meeting, *Indian Oil Corporation* (*IOC*) chairman **Sarthak Behuria** offered to participate in the Sonaref project for a refinery at Lobito. He also offered IOC's assistance in upgrading Angola's two existing refineries. State-run gas utility *GAIL India* expressed interest in taking equity in the Angola LNG liquefied natural gas project. Sonangol also has a joint venture with **China**'s *Sinopec*.

EGYPT: Spectraseis completes survey for Shell

Zurich-based *Spectraseis* has announced the completion of a low frequency seismic survey for *Shell Egypt* in the North East Abu Gharadig Basin in the Western Desert. The survey covered an area of 60km^2 and was carried out with logistical support from *Ardiseis*, a regional joint venture between *CGGVeritas* and *Abu Dhabi National Energy Company* (*Taqa*) in the Middle East. "The size and remoteness of exploration activities in North Africa, the region's geological complexity, and the need to reduce exploration risk make this an ideal location for LF seismic surveys," said Spectraseis director **Karim Lassel**.

EQUATORIAL GUINEA: Gazprom Neft to take two blocks

Russia's *Gazprom Neft* has said it expects to sign a production sharing agreement (PSA) for two offshore blocks in March or April. The company made the announcement after it initialled the text of the planned PSAs with *GEPetrol* and the Ministry of Mines, Industry and Energy. The Russian company estimated the two blocks' combined reserves at 110m tonnes (803m barrels), and said it planned to carry out initial exploration on its own and invite farm-in partners later.

ETHIOPIA: Dry well for Petronas

An exploration well drilled by *Petronas* on the Genale Block in the Ogaden Basin has failed to find hydrocarbons, *The Reporter* newspaper said. Petronas had contracted *Weatherford* for seismic and well services, and the well was drilled to a depth of 3,000 metres. Petronas acquired three blocks in the Ogaden Basin in July 2005 – the 24,420km^2 Genale Block, the 30,612km^2 Kallafo Block, and the 36,796km^2 Welwel-Warder. Petronas also has blocks 15 and 11 in the Ogaden Basin and plans to develop the Calub and Hillala gas fields, but relinquished Block G in Gambela State last year after drilling two dry wells (*AE 173/14*).

MOZAMBIQUE: Anadarko starts offshore drilling

Anadarko Petroleum has launched a four-well deep-water drilling programme in the Rovuma Offshore Area 1 with the spudding of a well on the Windjammer prospect using the *Belford Dolphin* drillship. Partner *Cove Energy* said evaluation was continuing of the results of the Mecupa-1 commitment well in the Rovuma Onshore area, which encountered hydrocarbon shows (*AE 176/18*).

COMPANIES AND PEOPLE

ERHC ENERGY: AIM listing plans

Houston-based *ERHC Energy* plans to seek a listing on London's junior *AIM* market. ERHC has appointed *Strand Hanson Limited* to act as nominated adviser to manage the flotation process and act as financial adviser. "After last year's landmark achievements in exploration of **Nigeria-São Tomé & Príncipe** Joint Development Zone blocks 2, 3 and 4, in which the company has interests, our seeking to list on AIM represents another important milestone in our progress," said **Peter Ntephe**, ERHC's chief operating officer. The company was previously led by **Nigerian** tycoon **Emeka Offor**, who was close to former president **Olusegun Obasanjo**. Offor resigned as chairman in August 2007, though he retains an equity stake of some 41% (*AE 138/18*). ERHC also has interests in the São Tomé & Príncipe Exclusive Economic Zone, where a licensing round is due to open this year, and last year signed memoranda of understanding to take a stake in the Eremor marginal field in Nigeria and in Nigerian well-testing company *WellTest Integrated Services* (*AE 176/16*).

TG WORLD: Loan facility, Niger hopes

Calgary-based *TG World Energy Corporation* has closed a secured loan facility for C$7.5m ($7m) with an institutional lender to fund exploration in **Alaska** and **Niger** and to pursue other oil and gas opportunities. TG World said in December that the security warning that has prevented drilling in Niger's Ténéré Block for the past two years has been lifted. When the security warning was imposed in November 2007, operator *CNPC International* had planned to drill the Facai-1 well to a depth of 3,700 metres to test a new Cretaceous play. The location of the proposed well is 100km north of the two 2007 wells drilled on the Ténéré Block and in the north-east sector of the Ténéré Rift Basin. TG World's costs are carried for the third well. TG World said it was waiting to hear from CNPC when and where the next well would be drilled.

Egypt's refineries await import duty decision

Plans to remove or cut the duty on equipment and capital goods will boost projects, with several projects in the pipeline but needing support, writes **John Hamilton**

The government may soon withdraw or reduce import duty on equipment and capital goods, removing one of the main obstacles to the development of downstream infrastructure in the hydrocarbons sector. According to **Marwan Elaraby**, managing director of Cairo-based private equity company ***Citadel Capital***, the duties are a bigger hindrance to projects such as the Mostorod domestic refinery than other tax increases introduced in May 2008 to raise basic salaries and pensions (*AE 140/4*).

Citadel is in the final stages of raising finance to upgrade the state-owned refinery in Greater Cairo to convert much of its output of fuel oil into diesel and other petroleum products (*AE 179/17*). Elaraby told *African Energy* that the company had asked the government to cut import duty on equipment, noting that refineries were very capital intensive. "Our hope and expectation is that this will be resolved before we get financing," he said, adding that there was "a lot of sympathy in the government for our position. They recognise that taxing capital goods is not a good idea."

Elaraby said the Mostorod project had been able to proceed while many others had failed in the past year because it was "an import substitution project and an inland refinery". He said many others were export refineries in ports, meaning that "whichever market they were targeting could be targeted by another refinery. They have no particular advantage."

Citadel was able to renegotiate financing after its initial plan to proceed with a largely commercial bank-funded package foundered at the start of the world financial crisis in 2008. In a deflationary environment, the company was able to renegotiate with engineering, procurement and construction contractors ***GS Engineering & Construction*** and ***Mitsui & Company***. Funding is now coming from credit agencies, which Elarabydescribes as being "counter cyclical by nature". "It is their job to help projects to succeed when the financial markets fail," he said. The company also took time to improve the cost-effectiveness of the project.

Mostorod will serve Greater Cairo, where there are "20m people consuming a great deal of petroleum products", said Elaraby, adding that all of its product will be sold on uptake agreements that have been signed. The refinery will meet only about half of Egypt's excess demand for diesel. It may be hard to replicate elsewhere – the next largest state-owned refineries which could be upgraded are on the coast at Alexandria and Port Said, making them both vulnerable to foreign competition.

COUNTRIES AND MARKETS

SUDAN: Khartoum refinery expansion deal this year

Sudan expects to sign a final deal this year with ***China National Petroleum Corporation*** (*CNPC*) for the next stage of the Khartoum oil refinery expansion, *Reuters* quoted energy ministry secretary-general **Omer Mohamed Kheir** as saying. The plan is to expand the refinery by 50,000 b/d within three years to meet growing local demand. A further 50,000 b/d expansion would then be considered to double the refinery's current 100,000 b/d capacity. CNPC completed the first-stage expansion of the refinery in 2006, doubling output from 50,000 b/d (*AE 165/18*). ***Petronas*** has deferred plans for a new refinery at Port Sudan because of rising costs.

UGANDA: Foster Wheeler in refinery study

The government has given *Foster Wheeler AG*'s *Global Engineering and Construction Group* a contract to undertake a feasibility study for the development of an oil refinery with a capacity of up to 150,000 b/d (*AE 165/18*). Foster Wheeler's scope of work will include the development of the location and configuration of the refinery, which will process crude from Lake Albert. The study, which is scheduled for completion in mid-2010, will also include the assessment of options for the development of the oilfield, crude transportation, and an evaluation of the relative economics of developing the new refinery versus alternative options, including pipelines, for exporting the crude oil. Production is due to start late this year. "This process attracted 35 companies which expressed interest in undertaking the study. Out of these, six were contacted to submit their proposals and the proposal of Foster Wheeler was considered the best," said **Fred Kabagambe-Kaliisa**, permanent secretary in the Ministry of Energy and Mineral Development.

A study by the ***East African Community*** in 2007 identified regional demand of about 150,000 b/d of petroleum products, which was growing at 5%/yr, and recommended building a refinery in Uganda, geographically closer to markets such as **Rwanda** and **Burundi.**

COMPANIES AND PEOPLE

TOTAL: *Force majeure* declared after Angola swordfish attack

Total was forced to declare *force majeure* on shipments of Girassol crude from Block 14 after swordfish punctured an oil loading pipe. *Reuters* quoted traders as saying the three-day halt was lifted on 1 February and slight delays to cargo loadings scheduled in February and March were likely. Girassol produces around 250,000 b/d. Swordfish have hit Angolan crude oil loadings before, including Plutonio last year, the report said.

Nersa ruling to clarify Eskom's finances

An imminent decision on the future funding of the state-owned power utility may force it to revisit other capital expenditure and funding agendas, writes **Kevin Godier**

On 24 February, the *National Energy Regulator of South Africa* (*Nersa*) will decide whether to allow Eskom to increase tariffs by 35% per year over the next three years to plug funding shortfalls. A fall in electricity demand caused by economic recession saved the Johannesburg-based power giant from addressing major power shortages during 2009, and forced it to focus on coal-fired plants that can be developed quickly, rather than costly alternatives such as wind and nuclear. But questions remain over whether the beleaguered parastatal can fund a massive R385bn ($51.4bn) expansion plan that some analysts forecast may cost more than R1trn by 2025 to ensure that **South Africa** has sufficient generating capacity to meet growing domestic demand.

Even with the tariff increase, known as the multi-year price determination, Eskom will need to raise a lot of extra cash to finance its capital expenditure (capex) programme. Asked by *African Energy* to outline its most probable capex funding options, Eskom chose not to comment "until the Nersa process has been concluded".

Markets expect Eskom and the ***World Bank*** to reach agreement on a $3.75bn-5bn loan in coming months, after the Washington-based lender said in November it would decide by early this year whether to issue the credit, which would be used mainly to build the 4,764MW Medupi coal-fired power station in Lephalale, Limpopo Province (*AE 175/5*). The ***African Development Bank*** approved a €1.86bn ($2.6bn) loan for the €11.19bn Medupi plant in November (*AE 176/7*). Eskom has also mooted the sale of up to 49% in its planned 4,800MW Kusile power station to raise at least R40bn to help plug funding shortfalls.

Existing and potential lenders will have been encouraged by ***Standard & Poor's*** (***S&P***) announcement on 21 January that it had affirmed Eskom's BBB+ long-term foreign-currency rating. S&P said it had also removed Eskom from its credit watch category applied in early 2009 due to "an 'extremely high' likelihood that SA would provide timely and sufficient extraordinary support to Eskom in the event of financial distress". This will have given Eskom a much-needed confidence boost, following the recent resignation of chairman **Bobby Godsell** and subsequent departure of chief executive **Jacob Maroga** (*AE 175/4; 174/1*).

S&P said Eskom's near-term funding deficit "will most likely be covered by new loans from development finance institutions, and possibly by an international bond issue". S&P's SA country manager **Konrad Reuss** told *AE* that support from the government – in the form of an R60bn capital injection over three years via subordinated loans and a pledge to guarantee R175.9bn of its debt – was "very critical" in its rating action. "It took the government some time to get this through the procedural hoops, but in the last quarter of 2009 the actual guarantee was issued, which was a key step for us," he said in a telephone interview. "The unconditional guarantee makes Eskom equal to the government itself. Eskom's standalone credit profile is nowhere near to being investment grade on its own."

Tariff pivot

With regard to tariffs, the critical balancing act for Eskom will be to nudge prices to a level that can support the development of new generation capacity but stop short of stirring up SA's sensitive political environment. Nersa has already scaled back Eskom's proposed 45% tariff hike after objections from the ruling ***African National Congress*** (***ANC***), labour unions and businesses, which forced Eskom to rein back its investment plans. Another unfavourable Nersa tariff decision could eat further into the wide-ranging new-build programme brewing at Eskom, which says it will spend only what it can afford on capex. "Increasing tariffs is one of the three obvious ways for Eskom to fund a capex programme – the others being tapping debt or raising equity," said ***Absa Capital*** investment banking division director **Anand Naidoo**.

According to ***Nedbank Capital*** energy sector head **Sakkie Leimecke**, the first of the three options has proved the most difficult to implement. "Most market observers would agree that trying to fund capital expenditure through tariffs is far from ideal, but the drive to have cost-reflective tariffs is justifiable. It remains to be seen to what extent the current proposed tariff increase will affect Eskom's existing long-term power purchase agreements (PPAs)," he said.

Leimecke stressed that Eskom's success in securing long-term funding would be "reliant on the extent to which the South African government supports these funding programmes". He noted that the drive to sell an equity stake in the Kusile coal-fired project "could also be a challenge" as the project was not initially structured as a standalone limited recourse project finance transaction.

Both bankers said export credit agency (ECA) funding should play a significant further role when capex targets are firmed up after the Nersa decision, noting that **France**'s ***Coface*** recently backed 12-year export credits from French banks worth €1.185m to pay for turbines for Medupi and Kusile. **Germany's** ***Euler Hermes Kreditversicherungs-AG*** has also played a major role in supporting Medupi with 12-year export credits, and is lining up loans for a 1,332MW pumped storage hydroelectric plant at Ingula (*AE 146/12 AE 164/10*).

"Other ECA facilities are expected for Eskom going forward, as export credits are one of the most attractive options for large capex spending," said Naidoo. "Banks receive protection against general commercial and country risk from an AAA-rated entity, which allows us to lend very large and long."

Potential limits on ECA-backed borrowing could be imposed by the hard currency form in which most export credits arrive, given that Eskom runs a rand business. "Any hard currency exposure at Eskom gets swapped into rand immediately," said Naidoo, noting that long-term FX options and swaps are thus "very important" risk management tools. He noted that ***Barclays***/Absa had mobilised rand-denominated export credits for SA's ***Transnet***.

Financiers have also stressed that development bank funding inevitably brings constraints for a borrower that derives the bulk of its generation from plants fired by cheap coal, and that an international bond, backed by the Pretoria government, could fill some of the shorter-term funding gap.

On the equity side, the options include direct government injections, private sector development of power assets or future asset sales. Another possibility was an initial public offering (IPO) providing for the sale of a minority stake in Eskom, said Naidoo. "We have seen an IPO done very successfully in **Kenya**, by ***KenGen***, but in South Africa there are always key stakeholders outside Eskom that must be considered. Privatisation would be unwelcome in some parts, and there are a number of factions within the government and the ANC that are totally against any form of privatisation," he said.

IPP scenarios

Some 26 companies have pre-qualified to develop baseload independent power projects (IPPs) in SA, but the initiative has made little progress. ***CIC Energy Corporation,*** developer of the planned 1,200MW Mmamabula IPP in Botswana, said in December 2009 that it had again deferred its development programme for Mmamabula. This followed the government's announcement in early December that its requirements for new generation capacity for 2013-14 and beyond – the years when SA is expected to need 900MW of Mmamabula's output – would be addressed in a second integrated resource plan targeted for completion in mid-2010.

"Eskom should be able to conclude a PPA for the Mmamabula project if it is included in the second integrated resource plan," said Leimecke.

Private IPP stakeholders would favour the higher tariffs envisaged by Eskom, which has said the proposed 35% increase would lead to a real price of R0.43/kWh in 2010-11, R0.55/kWh in 2011-12 and R0.70/kWh in 2012-13. But there remains strong resistance to independent producers both from within Eskom and the wider political class (*AE 161/5*). "Despite the huge interest, this [IPPs] hasn't gone too well in the past," said Naidoo. "The key question, as yet unanswered, is who would be the purchaser? The single-buyer IPP model needs a purchaser with clout. If this was Eskom, what would the government support package consist of?"

AE view: Ghana's hopes for Jubilee field

Continued from page 24

of crude flows from Q4 10, it is not impossible that GNPC could raise funds from the markets on its own account to invest in securing a much bigger Jubilee stake.

• **Consolidating governance** – a new oil law is still awaited, and there is increasing controversy around the *Petroleum Authority Bill* (*AE 165/14, 162/4*). Recent debates have focused on whether GNPC should have a central role in the new industry or focus on acting as regulator. It remains unclear whether proposed legislation will fully separate GNPC's commercial and production activities from its role as regulator, or whether the new-look NOC can escape ultimate control by the presidency to establish genuine independence.

• **Difficult financial situation** – Ghana has a good reputation with the markets, but there never seems to be enough money to keep national finances under control. Helped by the usual excessive spending during election years, levels of indebtedness rose to their pre-2006 level in 2009; 2006 was the year Ghana negotiated its major debt reduction agreement. Huge short-term pressures to meet spending commitments tend to cloud decisions of long-term import.

Battling over history

The NDC government is unhappy with the original contracts signed by the Jubilee partners, especially the Kosmos deal. Analysts say they lacked rigour, although this rather reflected the prevailing situation: Kosmos and a few other IOCs took acreage in highly speculative deals, in a frontier with a poor track record for exploration and production. In this context, it is no wonder the cost-recovery terms that are now so bitterly criticised in Accra were so favourable to the IOCs.

But critics of Kosmos say that, unlike Jubilee field partners ***Tullow Oil*** and ***Anadarko Petroleum Corporation***, the US firm dabbled in Ghanaian politics. The Kosmos management team – several of whom had cut their African E&P teeth with ***Triton Corporation*** in **Equatorial Guinea** – became identified with the Kufuor government.

It remains uncertain who will win out in the battle for the Kosmos stake. In normal circumstances, Exxon would be the partner of choice for Ghana, but there is some rancour at it dealing directly with Kosmos rather than with the government – even though this is normal industry practice. One argument used to block the deal is that the data Kosmos showed to Exxon belonged to GNPC, which had not given its permission.

While the Chinese and Ghanaian governments have agreed to co-operate in developing the energy industry, ***New York Stock Exchange***-listed CNOOC may not be the chosen partner. Cynics suggest the Kosmos camp talked up CNOOC interest to smoke out a bigger offer from Exxon, BP or others. Meanwhile, CNOOC's decision to employ former Florida governor **Jeb Bush** to lobby for its entry into Ghana did not go down well in Accra, where his brother, former president **George W Bush**, is generally held in low esteem.

While doubts over eventual partners remain, the best news is that the existing developer group has sufficient funds and know-how to bring Jubilee's initial phase on stream by year-end. Ghana will thus emerge as a significant West African oil producer by H1 11, although what that means for its longer-term future remains worryingly unclear.

GHANA

Government starts actions against contracts it doesn't like

The acrimony that has accompanied the emergence of Ghana as a significant offshore oil producer is becoming ever more apparent, with two companies threatened with litigation or the cancellation of a petroleum agreement (PA) already ratified by parliament. The Jubilee field is due to come into production in Q3 10, producing up to 120,000 b/d after two years. Current estimates put the field's reserves at 1.8bn bbls (*see also AE view*).

First in the sights of the ***National Democratic Congress*** (***NDC***) government's attorney-general and justice minister, **Betty Mould-Iddrisu**, is ***EO Group***, owned by **George Yaw Owusu** and **Kwame Bawuah Edusei**. EO holds a 3.5% stake in the West Cape Three Points Block (WCTP), which straddles the Jubilee field. Owusu has been under investigation by the state security service, the ***Bureau of National Investigations***, since mid-2009 on suspicion that EO used improper political influence with the former ***New Patriotic Party*** (***NPP***) government, now in opposition, to secure its petroleum agreement in partnership with ***Kosmos Energy***, the Dallas-based company which made the first Jubilee discovery in June 2007.

Owusu is close to NPP members, but he strongly denies using political connections to bring in Kosmos in 2004. At the time, other foreign exploration and production (E&P) companies were leaving Ghana's offshore due to the complex geology and cost of rigs to explore deep and ultra-deep blocks. Some point to the fact that Edusei was appointed Ghana's ambassador in Geneva just days after the PA was signed, and that he was rewarded for having been the personal physician of the former NPP president **John Agyekum Kufuor**. Edusei was later appointed ambassador to the **United States**, and has since returned to revive his practice in Virginia.

Mould-Iddrisu says she is determined to pursue Owusu and his associates through the courts (despite Bawuah living outside her jurisdiction) following the theft last month of a draft charge sheet from her office. The charges range from forgery and giving false information to a government agency to money laundering and causing financial losses of $1.55bn to the state-owned ***Ghana National Petroleum Corporation*** (***GNPC***).

Since no officials from GNPC or another state agency appear on the charge sheet, it is difficult to see how charges of corruption can be made to stick in a competent court of law. EO's lawyers argue that the company should be praised rather than prosecuted for bringing an IOC into Ghana at a time when few dared to invest. Kosmos has invested $500m-600m so far. But since the discovery, its Ghana assets are believed to be worth upwards of $4bn, and ***ExxonMobil*** had signed an agreement to take over the stake by end-January. This deal appeared to be on ice as *African Energy* went to press because the government is determined to drive down the value of Kosmos' stake, the company alleges. At this valuation, EO Group's stake is worth about $250m, as it has a 3.5% carried interest in WCTP. The NDC has made clear its concern that, given the EO principals' NPP affiliations, it would be loath to see such a sum fall into the hands of a company that would almost certainly throw its financial weight behind the NPP in the 2012 elections.

The other E&P company in the government's sights is ***Aker ASA*** of **Norway**, which acquired 90% contractual rights to the South Deepwater Tano Block in November 2008. Aker says it has shot the biggest 3D seismic survey in the country's history, covering some 2,600km^2. Aker's partner is a local concern, ***Chemu Power***. But energy minister Dr **Joe Oteng-Adjei** has told Aker it failed to stick to the letter of the law before the PA was signed, and that "it has been established that, based on an application that preceded yours, negotiations had been at an advanced stage for a PA with another consortium of companies and those negotiations were not completed because the consortium would not accede to a demand to include a particular 'local partner'. In the interest of transparency and fairness, therefore, I am allowing that consortium to be given the chance to conclude the negotiations they had begun."

Oteng-Adjei appears to be alleging that the "other consortium" – believed to be ***Anadarko Petroleum*** and ***Hess*** – refused to take on Chemu Power as their local partner. Chemu's owners, **Nik Amarteifio** and Dr **Charles Mensa**, are known to be close to Kufuor. Anadarko – a partner with Kosmos and ***Tullow Oil*** in the Jubilee field development – has spent a large sum investigating alleged violations by business rivals of the US *Foreign Corrupt Practices Act*, and has passed on its conclusions to the US Department of Justice and NDC.

The NDC government appears intent on prosecuting EO and abrogating the contract with Aker. Many believe this strategy, which goes against advice from the government's own advisers, is being pushed by **Tsatsu Tsikata**, a former chief executive of GNPC and unofficial adviser on energy to President **John Evans Atta-Mills**. Tsikata's company ***Strategic Oil and Gas Resources*** (***Stratoil***) is believed to be positioning itself to play a major role in Ghana's developing oil and gas business. One way to achieve this might be to help secure ***CNOOC***'s bid to buy Kosmos' Ghana assets. Sources said a deal has been proposed by which the **Chinese** bidder would lend the money to GNPC, which claims it has first right of refusal over the stake. CNOOC might then be brought into the deal.

Politicians on both sides are making claim and counter-claim. NDC majority leader in parliament **Alban Sumana Kingsford Bagbin**, who has just been appointed minister for water resources, works and housing, has criticised the return to head GNPC last year of **Nana Boakye Asafu-Adjaye**, Tsikata's one-time deputy and former ***Vanco Energy*** country manager. Now that Kosmos' 2007 discovery has substantially de-risked the Tano Basin, observers expect the struggle for offshore blocks (and an increasingly politicised debate on GNPC's role) to intensify.

22-24 February: Power Indaba, Durban

Web: *www.spintelligent-events.com/power-indaba-2010/en/index.php*

22-25 February: African Utility Week, Durban

Web: *www.spintelligent-events.com/auw2010/en/*

22-25 February: Nigeria Oil & Gas, Abuja

Contact the CWC Group. Web: *www.cwcnog.com*

24-26 February: Energy Indaba 2010, Sandton

Email: *liz@siyenza.za.com* Web: *www.energyafricaexpo.com*

4-5 March: SADC Energy Infrastructure Development Conference

To be held in Frankfurt. Web: *www.sadc-energy.de/en/index.php*

8-12 March: African Refiners Association Week, Cape Town

Email: *info@afra.org* Web: *www.afra-en.org*

9-10 March: Africa Trade & Export Finance Conference

To be held in Cape Town. Web: *www.exportagroup.com/events/conferences*

9-11 March: Offshore West Africa, Accra

Tel: +44 (0) 1992 656 668. Web: *www.offshorewestafrica.com*

15-16 March: Acquisition & Divestiture Summit 2010, London

Web: *www.acquisitiondivestituresummit.com*

15-19 March: Power & Electricity World Africa, Johannesburg

Web: *www.terrapinn.com/2010/powerza/*

16-18 March: Oil & Gas Africa Week 2010, Cape Town

Tel: +27 21 713-3360. Web: *www.fairconsultants.com*

17-18 March: Peace in the Niger Delta Conference, London

Contact: Business Council for Africa. Email: *info@bcafrica.co.uk*

22-23 March: LNG 2010, London

Email: *agibbons@smi-online.co.uk* Web: *www.smi-online.co.uk/10lng10.asp*

22-24 March: The Ghana Summit, Accra

Tel: +44 20 7978 0000. Web: *www.thecwcgroup.com*

24-27 March: CAPE IV, African Petroleum Congress & Exhibition

To be held in Kinshasa. Web: *www.cape-2010.com*

6-8 April: Oil and Gas Outlook Africa 2010, Cape Town

Web: *www.terrapinn.com/2010/oilza/*

12-15 April: Senegal International Mining Conference & Exhibition, Dakar

Tel: + 44 (0) 207 700 5044. Web: *www.simsenegal.com/*

18-21 April: 16th International Conference & Exhibition on LNG

To be held in Oran. Tel: +44 (0)207 596 5000. Web: *www.lng16.org*

19-21 April: 5th German-African Energy Forum, Hamburg

Organised by Afrika Verein. Web: *www.energyafrica.de*

22-23 April: Mozambique Mining & Energy Conference

To be held in Maputo. Website: *www.mozmec.com*

29-30 April: Sub-Saharan Africa Oil & Gas Conference, Houston

Tel: +1 713 271 7778. Web: *www.energycorporateafrica.com*

4-5 May: 2nd North Africa and Middle East Solar Conference

To be held in Egypt. Web: *www.newsolartoday.com/solar-conference*

4-5 May: iPAD Angola, Luanda

Tel: +27 21 700 3500. Web: *www.ipad-africa.com/angola*

6-7 May: The Power Industry Forum for Southern Africa, Luanda

Tel: +27 21 700 3500. Web: *www.ipad-africa.com/powerforum*

10-12 May: MINEPEC Niger 2010, Niamey

Email: *minepec@ametrade.org* Web: *www.minepec.com*

10-12 May: Eastern Africa Energy Conference 2010, Nairobi

Email: *tanya@glopac-partners.com* Web: *www.petro21.com*

10-12 May: 10th World XTL Summit, London

A CWC Group event. Web: *www.cwcxtl.com/*

18-20 May: Mediterranean Offshore Conference & Exhibition

To be held in Alexandria. Web: *www.moc2010.org*

25-28 May: Equatorial Guinea Gas Conference, Malabo

A CWC Group event. Tel: +44 20 7978 0000. Web: *www.cwceg.com/*

2-4 June: Western Africa Energy Week, Accra

Global Pacific & Partners' week of events. Web: *www.petro21.com*

2-4 June: Eastern African Power Industry Convention (EAPIC)

To be held in Nairobi. Email: *nicole.smith@spintelligent.com*

21-24 June: World National Oil Companies, London

Tel: +44 (0)207 827 5997. Web: *www.terrapinn.com/2010/nocs*

28-30 June: Libya Gas, Rome

Tel: +44 20 7978 0000. Web: *www.thecwcgroup.com*

29 June-1 July: Africa Energy Forum, Basel.

Web: *www.energynet.co.uk/AEF/AEF2010/index.html*

13-15 September: Co-Generation World Africa, Johannesburg

Web: *www.terrapinn.com/2010/cogenza/index.stm*

27-30 September: Africa Energy Week, Cape Town.

Tel: +44 20 7978 0000. Web: *www.thecwcgroup.com28-30 June: Libya Gas*

For further details of events please visit *www.africa-energy.com*

Ghana assailed by critical political and industry questions over Jubilee

When, in December 2008, power was transferred from the ***New Patriotic Party*** (***NPP***) government to the rival ***National Democratic Congress*** (***NDC***) in a hotly contested election that came down to a few hundred votes, Ghana showed a political maturity that bodes well for the future. Similarly, an impressive cadre of politicians and technocrats continue to persuade international capital markets and donors that Ghana is a credit-worthy partner (*AE 142/24*). The prospect that from Q4 10 Ghana will be producing oil from the offshore Jubilee field adds to the feelgood factor. But Ghana's relative political maturity and vibrant public life do not mean it is immune to bitter political battles, and the arrival of oil risks poisoning the polity, rather than enriching it (*AE 146/1*). In Accra, factional differences are widening, and the Western Region, where the Jubilee field's onshore infrastructure will be sited, is looking for a substantial dividend for its population (*AE 154/5*).

Political backbiting has come to the fore with **US** independent ***Kosmos Energy***'s plans to sell a 23.5% stake in Jubilee (*AE 167/14, 158/1*). ***ExxonMobil*** has offered $4bn; ***BP*** has been unusually attentive; and **China**'s ***CNOOC*** and possibly others have entered the fray. Ghana had only one small operating field (Saltpond, which began production in 1969) and was largely ignored by international oil companies (IOCs) until Jubilee attracted their attention. Now ***Ghana National Petroleum Corporation*** (***GNPC***) – a somewhat moribund operation since **Tsatsu Tsikata**'s efforts to make it a player during the last NDC administration – wants to become a substantial national oil company (NOC) in a possible strategic alliance with a major IOC or Asian giant.

There is much to play for during a potentially critical period in Ghana's history. Key issues include:

• **Political battles** – President **John Evans Atta-Mills**' government believes Kosmos provided significant funding for former president **John Agyekum Kufuor**'s NPP (*AE 154/24*). Worse, critics say, through funds from minority partners in the Jubilee field, the NPP will continue to profit because it was the ultimate beneficiary of their equity. The 'E' in minority shareholder ***EO Group*** was Kufuor's personal physician **Kwame Bawuah Edusei**, who was ambassador to Washington; 'O' was another ally, **George Owusu**. With the NDC government investigating the former administration's activities, EO's role is under intense international and local scrutiny. NDC leaders fear the money involved would finance a steamroller election campaign for the NPP in 2012, while the NDC government would not yet benefit from similar levels of oil revenues under the Jubilee field's production-sharing terms. There are suggestions that anti-NPP sentiment is behind government efforts to revoke ***Aker*** and ***Chemu Power***'s licence for the South Deepwater Tano Block (see *Finance and policy*).

• **Energy industry development** – the previous government wanted the speedy development of an oil export industry based on Jubilee to produce much-needed revenues. The NDC government wants those revenues but it also wants Jubilee to anchor wider industrial development. The failure of **Nigerian** gas piped through the West African Gas Pipeline to arrive in Ghana has convinced Accra that gas produced from the Jubilee field and other future developments should feed into a new national gas-gathering system to fuel power stations and industry. But, pending more impressive finds, such a goal may be over-ambitious. Jubilee is a big field, but not a mega-resource; production will peak over five years and is then forecast to decline sharply.

• **Building capacity** – GNPC's last effort to expand ended in failure, but there is considerable pressure within Ghana for investment in the parastatal to become a national champion, and not to leave the industry to IOCs. Speedy growth could be achieved through strategic partnerships – with a Chinese giant or major, or in joint ventures of the sort developed elsewhere in West Africa by **Norway**'s ***Statoil***. Given the markets' favourable disposition towards Ghana and the advent

Continued on page 21

AFRICAN ENERGY

Subscribe to African Energy

☐ **I wish to subscribe to African Energy**

☐ **Please renew my subscription to African Energy**

☐ **Please send details of corporate packages**

Name ____________

Title ____________

Organisation ____________

Address ____________

Postcode ________ Country ________

Tel ____________

Fax ____________

E-mail ____________

	Sterling	US dollars	Euros
Email	☐ £ 825	☐ $ 1,445	☐ € 1,030
Print	☐ £ 825	☐ $ 1,445	☐ € 1,030
Internet*	☐ £ 925	☐ $ 1,615	☐ € 1,155

☐ Please charge my Mastercard/Visa/Amex Card

Card number ____________

Expiry date _____ | _____ Security Code ________

Signature ____________ Date ________

☐ Enclose a cheque made payable to **Cross-border Information Ltd.**

☐ Please invoice me/my organisation.

* **Includes PDF and access to all African Energy's online searchable archives. Prices subject to VAT at the prevailing rate.**

Cross-border Information PO Box 124, Hastings, East Sussex TN34 1WP, United Kingdom • Fax +44 (0) 1424 721 721