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A MONTHLY REVIEW OF ENERGY-RELATED NEWS

SOUTH AFRICA ENERGY ROUNDUP

DECEMBER 2018

Creamer Media's South Africa Energy Roundup – December 2018, covering activities across South Africa for November 2018

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ESKOM GENERATION AND SALES

Eskom to buy 'emergency' coal as load-shedding returns

Power utility Eskom has received approval from the National Treasury for the "urgent procurement" of four-million tons of emergency coal to help address stock shortfalls at several of its 15 coal-fired power stations. More than 1.1-million tons have already been secured and the first emergency coal will be delivered in December.

Ten Eskom stations currently have coal stockholdings below the 20-days of supply stipulated by South Africa's Grid Code, while five have less than ten days of stock.

Eskom CEO Phakamani Hadebe has said that, should the emergency procurement plan succeed, all stations will recover to "healthy" stock levels by the end of March 2019, by when the system could have stocks of more than 36 days.

The emergency procurement plan is additional to the short-term coal stock recovery initiative announced earlier in the year, when it first emerged that Eskom was running short of coal. Stock levels have declined precipitously since October 2017, when coal stocks across the Eskom system were above 40 days. The rapid depletion coincided with a decline in supplies from Tegeta, a company previously owned by the Gupta family and which is in business rescue.

Hadebe has said 27 new coal contracts have been concluded between January 2018 and October 2018 for the supply of 15.8-million tons in the current financial year.

Additional coal contracts will be signed soon and the State-owned utility is buying coal in line with the Preferential Procurement Policy Framework Act and the Public Finance Management Act and is, thus, not demanding that coal suppliers are majority owned by black shareholders. In fact, Hadebe reports that, of the contracts concluded to date, more than 70% have been signed with companies whose black shareholding is below 50%.

In the longer term, Eskom intends shoring up its supply of coal by extending cost-plus contracts, reinvesting in cost-plus mines, extending existing long-term fixed-price contracts and by conducting open tenders to source uncontracted coal for the life of power stations.

ESKOM CORPORATE AND FINANCES

Another Eskom equity injection mooted

Debt-laden State-owned power utility Eskom is in discussions with government about yet another equity injection, as well as various possible "debt-relief" options, as part of a turnaround plan, which chairperson Jabu Mabuza insists needs to be implemented immediately if the company is to be rescued from its "extremely perilous position".

Eskom, which Mabuza admits is locked into a lossmaking position and is no longer sustainable in its current form, has been in financial difficulties for more than a decade, despite a sharp increase in its tariffs and substantial shareholder support. The utility has drawn on all but R14-billion-worth of R350-billion in government guarantees and its debt currently stands at about R400-billion. In the absence of actions taken to contain its debt, Eskom's debt burden could rise to R600-billion by 2023. Mabuza says a three-pronged turnaround plan will focus on cost containment, revenue enhancement and reducing the group debt burden.

The overall objective of the strategy will be to improve the utility's financial and operational sustainability. It will also involve ring-fencing Eskom's generation, transmission and distribution units to improve visibility of where the main financial and operational risks reside. Eskom management will be responsible for the cost containment and revenue enhancement interventions, but reducing Eskom's debt burden will require the support of external stakeholders.

Big interim profit drop reported at Eskom

Newly appointed Eskom CFO Calib Cassim has reported that most of State-owned power utility Eskom's financial ratios have deteriorated during the interim period to September 30, and has warned that the situation will worsen further in the second half to March 31.

Net profit decreased 89% to R671-million from R6.3-billion last year, with sales declining by 0.8% period-on-period.

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Cash generated from operating activities was insufficient to cover debt servicing, with the funding raised during the period used for capital expenditure and to fund the debt-servicing shortfall. Debt-servicing costs surged by 94% period-on-period to R45.2-billion from R23.3-billion.

However, the figure was inflated by the repayment of a R20-billion bridging loan secured from South African banks in February to stave off the utility's governance-induced liquidity crisis.

Eskom to request big power tariff hikes as big users call for inflation-linked compact

South African State-owned power utility Eskom is preparing for yet another bruising encounter with consumers in the coming months, during which it will seek to justify its latest R762-billion, three-year revenue application. If successful with its fourth multiyear price determination (MYPD4) application, Eskom will be entitled to implement three yearly tariff hikes of 15% for the 2019/20, 2020/21 and 2021/22 financial years. The outcome will be an increase in the standard tariff from 94c/kWh currently to 143c/kWh by the end of the tariff period. The National Energy Regulator of South Africa (Nersa) has historically not granted Eskom the full increases for which it has applied.

The Energy Intensive Users Group, meanwhile, has called for an electricity price compact that sustains tariff increases as close to consumer price inflation as possible for the coming five years. Chairperson Dr Tsakani Mthombeni has said that electricity tariffs, together with price-path uncertainty, represent the biggest threat to large power users in South Africa and that the economy can "no longer afford Eskom's price shocks". Consumers have already absorbed nominal hikes of 467% over the past 12 years, which equates to yearly increases of 15.7%.

Further tariff increases of 57% over the coming three years, as requested by Eskom in its MYPD4 revenue application, will jeopardise the survival of its members, and threaten jobs in the productive sectors.

Nersa will hold public hearings in all nine provinces between January 14 and February 1, 2019. The regulator has also confirmed that it will deal with Eskom's regulatory clearing account submission for the 2017/18 financial year – the final year of the MYPD3 tariff period – as part of the adjudication process.

Masango resigns as Eskom capital division executive

Eskom group capital division executive Abram Masango has resigned after being suspended, pending an investigation into various allegations of impropriety against him relating to the Kusile power station build project.

Monopoly plunging South Africa into power shortages – DA

State-owned power utility Eskom needs a firm plan of action to make it more efficient and productive and its monopoly on electricity must be broken, according to the Democratic Alliance (DA). Shadow Minister of Public Enterprises Natasha Mazzone says that load-shedding is proof that South Africa needs a long-term solution to reshape the energy sector. She states that the crisis at the utility indicates a "lack of long-term planning and strategy" and that this is why the DA has introduced its proposed Independent System and Market Operator Bill, which will result in the company splitting into two – a transmission/grid entity and a generating entity.

The generating entity will then compete with other power producers on an equal footing, with price and efficiency being the main determinants of delivering power to the national electricity grid.

Parliament committee adopts Eskom inquiry report

Parliament's Portfolio Committee on Public Enterprises has adopted its final report into allegations of State capture at Eskom and Transnet and has recommended that some of the power utility's former board chairs and top executives appear before the ongoing judicial commission of inquiry into State capture.

The report refers to "undue influence" of private individuals over the board. It recommends that former Eskom board chairs Zola Tsotsi, Ben Ngubane, Matshela Koko, former interim board chairperson Zethembe Khoza, former CEO Brian Molefe, former CFO Anoj Singh, former acting CEO Sean Maritz and former board members Pat Naidoo and Devapushpum Naidoo be requested to appear before the commission.

S&P maintains Eskom's CCC+ credit rating

Standard & Poor's has maintained Eskom's foreign and local currency long-term credit ratings at CCC+, below

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subinvestment status. The rating agency has also affirmed Eskom's 'zaB' and 'zaB' long- and short-term national scale ratings.

Newly appointed CFO Calib Cassim has said the power utility is encouraged by the ratings agency's decision to affirm its ratings and views it as a further sign of improving sentiments towards Eskom as management seeks to steer it towards stability. S&P says that, while Eskom's financial and operational performances have deteriorated, the company's liquidity levels have improved significantly from what they were at the same time last year.

RENEWABLE ENERGY

Emvelo's 100 MW CSP project enters commercial operation

A new 100 MW concentrated solar power (CSP) plant, developed by black-owned independent power producer Emvelo, officially entered into commercial operation in November, providing Eskom with a new dispatchable generation option at a time of severe supply-side constraints. Located in Upington, in the Northern Cape, the R11-billion Ilanga CSP1 plant employs parabolic-trough technology and incorporates five hours of storage, which enables the power station to dispatch electricity during the evening peak and long after the sun sets.

The project was procured following Bid Window 3 of South Africa's Renewable Energy Independent Power Producer Procurement Programme and achieved financial close in 2015, before entering into construction in November of that same year. The project has been engineered, procured and constructed by Dankocom EPC, whose consortium partners include Cobra Energia and Sener, of Spain, as well as Emvelo.

The power station has been officially handed over to the plant's owner, Karoshoek Solar One, which is itself a consortium comprising Emvelo, the Public Investment Corporation, the Industrial Development Corporation, Karoshoek SDI Trust, Grazigystix and HCI. Eighty per cent of the shares are held by South African entities, with the 20% balance owned by Spanish companies. In line with the plant's power purchase agreement with Eskom, Ilanga CSP1 receives a daytime tariff of 165c/kWh, but is able to secure a 207% premium when dispatching electricity between 17:00 and 22:00.

Flexibility to take on 'unprecedented importance' as renewables rise

The International Energy Agency (IEA) says that higher shares of variable renewable energy in electricity systems will require a "step change" in the requirement for flexibility, which is the capability to balance electricity supply and demand at all times so as to keep the lights on. The agency, which released its World Energy Outlook 2018 in November, is forecasting that electricity will become the "fuel of choice" and is poised to play a greater role in transportation, through electric vehicles, as well as in heating and cooling. Electricity is expected to grow by 60% by 2040, by which time the energy carrier's share of total final energy consumption – which has already risen to 19% from 15% in 2000 – will reach 25%. Within the power sector, wind and solar photovoltaic (PV) have emerged as the technologies of choice and are expected to make up almost two-thirds of global capacity additions to 2040.

In the report's main scenario, dubbed the New Policies Scenario, renewables and coal switch places in the power mix, with the share of generation from renewables rising from 25% to around 40% in 2040. The IEA's Laura Cozzi says that, while electricity will grow at twice the pace of overall energy demand over the period, wind and solar PV will grow four times faster than electricity. This rise in the share of solar PV and wind power means the flexible operation of power systems will take on "unprecedented importance", with flexibility "to become the cornerstone" of the future power system. "In the future, we will be asking the electricity system to operate in a very different way. When the sun doesn't shine and the wind doesn't blow, we still want to keep our lights on and we will be asking the system to move up and down and match supply and demand four times more than we are asking today," Cozzi explains. She says that, at low levels of penetration, or below 10%, the variability of renewables can be managed using the current system flexibility available from coal and gas power plants.

Kathu CSP to enter commercial operation in early 2019

The 100 MW Kathu Solar Park concentrated solar power (CSP) plant, in the Northern Cape, has been synchronised

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to the national grid and the power station is expected to enter into full commercial operation in early 2019.

Construction of the parabolic-trough CSP plant began in May 2016, following the project's selection, in December 2014, as a preferred bidder during Bid Window 3.5 of South Africa's Renewable Energy Independent Power Producer Procurement Programme. A consortium led by international energy services group Engie owns the power station, which is being built in the John Taole district municipality by an engineering, procurement and construction consortium comprising Acciona and Sener. The Kathu Solar Park CSP plant is equipped with a four-and-a-half-hour molten-salt storage system, enabling the plant to dispatch electricity when the sun is no longer shining, including during the evening peak. Sener Southern Africa regional MD Siyabonga Mbanjwa says the plant's first synchronisation signals that the project has entered its final stages of construction and commissioning. He adds that the power station should enter into full commercial operation "in the next couple of months". About 1 200 jobs have been created during the construction phase.

Nordex to install more turbines at four South African wind farms

Wind turbine designer and manufacturer Nordex will double the number of local employees and install another 174 wind turbines on four wind farm sites in South Africa. Nordex South Africa MD Anne Henschel says the investment follows the signing of Round 4 of the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP), in which Nordex was awarded four projects and an additional 547 MW of wind capacity. The company, which has been active in South Africa for the past six years, will be installing its AW125 wind turbines on four sites. It will also have local concrete tower production facilities close to all the sites. Nordex Group has been awarded a total of nine REIPPPP contracts for wind turbine manufacturing and service maintenance, of which five projects are fully operational. With more than 1 GW, this will be highest amount of wind capacity provided by one wind turbine manufacturer in South Africa once operational.

South African wind farm yield forecasts in line with global norms – study

South African wind farm yield predictions, which represent key inputs for the calculation of a project's revenue and for the valuation of a potential investment, are as accurate as those from other established wind markets in Europe and North America, a new study shows. Conducted by Lloyd's Register, the analysis is based on data provided by six of the eight facilities constructed following the first bid window of South Africa's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). The wind farms have a combined capacity of 562 MW and the information assessed represents about 850-turbine years of data. The assessment was undertaken to assess the accuracy of yield forecasts made by it and other consultancies ahead of the projects in 2012. The study found that wind resource assessments used for the first bid window on average overpredicted the energy yield by 4.9%, which was in line with international benchmarks. Using the latest techniques, Lloyd's Register found that wind resource assessments provided more accurate estimates with a remaining bias of only 1.4% across the sites studied. Accurate forecasting will become increasingly important as the tariffs bid by wind independent power producers fall and as competition under the REIPPPP increases.

Study to help shape policy needed to transition to renewable-energy systems

As more renewable-energy capacity is added globally, thermal coal-fired power stations are likely to operate, in future, for only short periods of time to balance the shortfall in electricity when renewable capacity is not available, according to University of Johannesburg professor Bilainu Oboirien. He notes, however, that the start-up costs of coal power stations during load cycling can be high and suggests that those costs can be reduced by using cheaper alternative fuels. In this regard, Oboirien and some of his colleagues have embarked on the South Africa–Poland project, which seeks to investigate the use of alternative fuels to reduce the high start-up cost of coal boilers in South Africa and Poland. Overall, he believes the outcome of the study will help to shape the required policy that will be needed in the transition from a largely coal-based energy system, to one with a significant renewable-energy contribution.

Wind energy OEMs call to boost procurement gap; promise to boost localisation

Major manufacturers and suppliers of wind energy turbines and equipment to South Africa are relieved that the wind industry is on a roll again, but have called on government to close the procurement gap in the draft Integrated Resource Plan (IRP). The current draft IRP has a gap in the years 2022, 2023 and 2024, when no wind energy will be procured.

Goldwind Africa CEO Jianqing Zhou says the wind industry has the potential to be dynamic and create many jobs, but it needs a long-term predictable market in which to operate and survive.

ENERCON country sales manager Allan Palmer says consistency has proved to make investment smoother and easier in other countries in which it operates, such as Portugal, Germany, Brazil and France. It is also essential to support and sustain employment. A stop-start situation will make things very difficult, he notes. The South African Wind Energy Association has pointed out the anomaly in its submission to Parliament's Portfolio Committee on Energy on the draft IRP.

TRANSMISSION AND DISTRIBUTION

Eskom, AfDB sign loan agreement to expand power pool in Southern Africa

The African Development Bank group (AfDB) and South African power utility Eskom have signed a loan agreement of about R2.9-billion, or $25-million, to improve power transmission across Southern Africa. AfDB Southern Africa bureau director-general Dr Kapil Kapoor explains that the financing of the Eskom transmission project will result in a significant strengthening of South Africa's transmission infrastructure. "Not only will this improve the reliability and security of electricity supply but it will also allow for the integration of large-scale renewable energy into the transmission network, enhance network capacity for future load growth and ensure reduction in transmission losses."

The new loan agreement will result in the construction of 552 km comprising 436 km of 400 kV and 116 km of 132 kV transmission lines and associated substations across Mpumalanga and KwaZulu-Natal provinces, as well as the upgrade of substation equipment, including earthing systems at various existing substations in Mpumalanga. This will translate to the integration of distributed generation, mainly large-scale renewable energy, into the transmission network; and ensure reliability and security of supply, reduction of transmission losses, improved regional integration and safety of operations and maintenance personnel.

OIL AND GAS

Moratorium on oil, gas applications lifted

Mineral Resources Minister Gwede Mantashe has announced he will amend the moratorium currently in place for the oil and gas sector, to allow for the processing of applications currently in the system.

The moratorium, which was originally put in place in June, restricts the granting of applications for technical cooperation permits, exploration rights and production rights until a notice of invitation for applications is published. Mantashe has also welcomed the news that integrated oil and gas company Total will resume its drilling operations on a deep-water exploration well in South Africa, saying that it affirms confidence in the country as an investment destination for oil and gas.

Meanwhile, the Department of Mineral Resources (DMR) and the Council for Geoscience (CGS) are upbeat about the prospect of shale gas in the Karoo. Mantashe told oil and gas investors at an event in Cape Town in November that exploration for shale gas would not be a "free for all" if the process went ahead and urged environmentalists to work with the department to ensure any development was sustainable. CGS is involved in the Karoo Deep Drilling Project – a five-year geo-environmental baseline programme designed to better understand the potential impact of geo-resource exploration activities such as minerals, gas, deep groundwater and geothermal, on the Karoo geo-environment.

The project involves drilling a deep borehole down to 3 500 m, monitoring holes down to 750 m and observation holes down to 150 m. It also includes rock core and groundwater sampling. "At this stage we are very confident about the work our team is doing on the ground and that the regulations and policy predisposition we will be advancing will be informed by the science," says CGS CEO Mosa Mabuza.

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OTHER

SAPP to prioritise Malawi, Tanzania, Angola for regional grid integration

The Southern African Power Pool (SAPP) will prioritise connecting Malawi, Tanzania and Angola to the regional electricity grid by 2021, with an additional 22 000 MW of electricity generation capacity to be added to the regional grid by 2022. The SAPP currently serves about 300-million people, with available generation capacity of 59 GW, at a consumption rate of 400 TWh, across 12 member countries, including the Democratic Republic of Congo, Zambia, Zimbabwe, Mozambique, Botswana, Namibia, eSwatini, South Africa and Lesotho. The generation mix of the SAPP currently comprises 62.05% coal, 2.94% solar photovoltaic, 4.03% wind, 21.02% hydro, 0.97% concentrated solar power, 3.01% nuclear and others.

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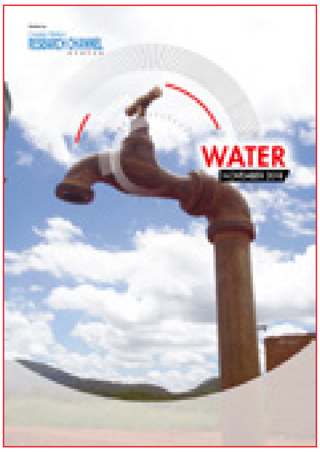

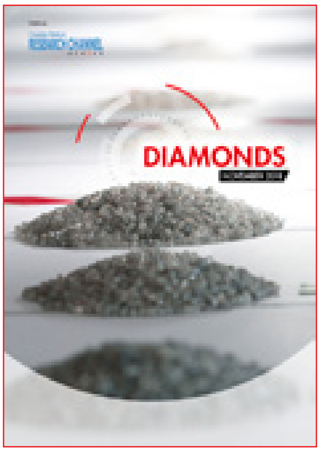

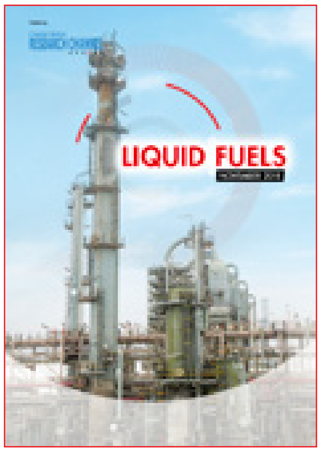

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