Catalyst

SA's quarterly Private Equity & Venture Capital magazine

Vol 10 No 4
DECEMBER QUARTER 2013

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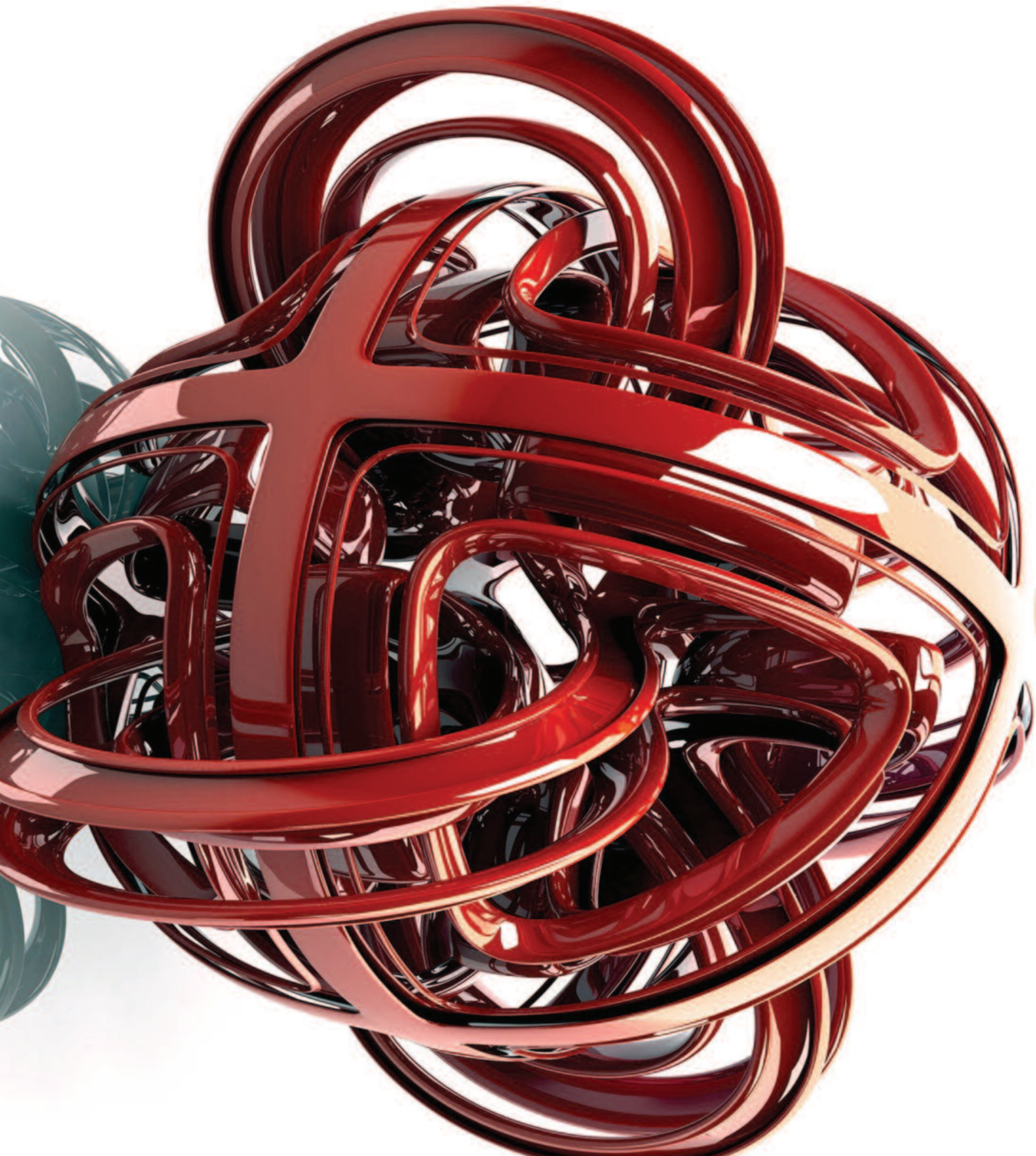

FROM THE EDITOR'S DESK

A big success story in government procurement

The government-private procurement Renewable Energy Independent Power Producer Programme (REIPPP) process has grown over the past two years to become a rare, major government success, lauded by almost everyone. There have even been calls to emulate it in other infrastructure and government procurement scenarios.

The process has also reflected how markets can produce much sharper prices than bureaucrat-decided prices (which were envisaged under the previous renewable energy feed-in tariff (Refit) programme). Initial tariffs set under Refit, before that system was abandoned, were much higher than Eskom's new electricity generation infrastructure cost.

Under the REIPPP process, within two years, a significant reduction in renewable energy pricing has seen the gap between fossil-fuel and renewable energy shrink with grid parity likely to be reached when compared with Eskom's new generation costs.

The latter has been a major, unexpected development. With it has come the shedding of the image of renewable energy projects as Greenpeace-type enterprises which must be subsidised.

And that in turn opens the potential for renewable energy to be used in industry on a strictly commercial basis in future.

The success of the REIPPP programme has also cast more negative light on Eskom. This is because, in stark contrast to the huge overruns in time and budget on Eskom's current vast coal-based power station projects (Medupi and Kusile, set to produce about 4,800MW each), the first REIPPP independent power producer (IPP) projects are generally on track to deliver electricity on schedule and on budget. And if they don't, the deficit will be shouldered by the IPP concerned.

And the IPP's tariff is pre-set – the developer cannot go back to the government and say, "sorry, our contractor's welding was bad and we are going to be late and we need more time and money (from the taxpayer)", as Eskom has.

The apparently virtuous cycle created in the REIPPP programme is also remarkable for the contrast to the cock-up which is the mining sector and mining policy, which has resulted in that industry stumbling along in recent years, having missed the commodities boom of the first decade of the new century (partly due to lack of electricity and rail infrastructure).

The three REIPPP rounds over the past two years have been the biggest and most complex private-public procurement exercise ever accomplished in South Africa. Brazil has a somewhat similar process for renewable energy project procurement, but given all the conditionalities and requirements for community participation and socio-economic expenditure in South Africa, our process is the most complex in the world.

Despite the complexity, the South African process has become a new benchmark. The process has also transformed South Africa from zero to hero in the world of renewable energy, and many eyes are now upon it.

Locally, none of the IPPs has publicly challenged any of the awards that have been made. Nor have there been allegations of corruption or attacks on the process by unsuccessful bidders.

And on the ground, in places like Cookhouse, Eastern Cape, where a wind project is being set up, Johan van den Berg, CEO of the South African Wind Energy Association (SAWEA), reports huge excitement both among the local community and among the project suppliers and owners.

Why is this important to the private equity industry?

This extraordinary success seems to prove that the private sector will invest in infrastructure and energy if the right structures are in place.

This is important because in the absence of strong private sector-led growth, government infrastructural spending may be the biggest game in town. Finding a way to invest in aspects of that prospectively huge programme must be on the minds of many managers of general and specialist private equity funds.

Also, African countries are reportedly keen to copy the REIPPP process. If they do, that will lead to more transparency and access to projects in those countries.

If the system can be extended for public-private procurement generally both in South Africa and elsewhere in Africa, it has the potential to restrict the number of deals that are done individually, in smoke-filled meetings between bureaucrats and politicians.

The designers of the system – mainly in South Africa's National Treasury, but also in the Department of Energy – should be thoroughly congratulated. ◆

Teigue Payne

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Catalyst

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Editor: Teigue Payne

Design & Layout: Janine Harms, Gleason Design Studio

Catalyst is published by the proprietor Gleason Publications (Pty) Ltd, reg no: 1996/010505/07 from its offices at 30 Tudor Park, 61 Hillcrest Avenue Blairgowrie, Randburg 2194.

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Gleason Publications

A deal which saw private equity firm RMB Ventures, in the FirstRand stable, buy a stake in Bluff Meat Supply of KwaZulu-Natal, will give the meat company the financial muscle to take the business to the next level.

Catalyst Private Equity

Deal of the Year 2013

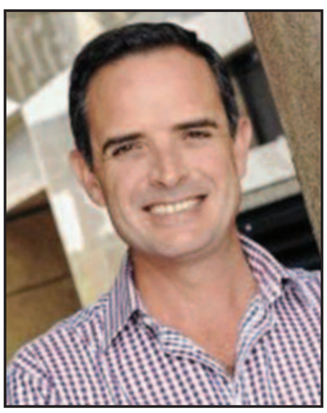
The percentage stake bought, and value of the deal, which was concluded in March 2013, has not been disclosed.

Mark Bielovich, MD of BMS Select Foods, says Bluff Meat Supply, which was founded in 1960 by his grandfather, produces private label brand polonies, smoked and cooked sausages, cold meat loaves, hams and bacon products for Pick n Pay, Boxer, Shoprite, Checkers, Spar and Cambridge Foods. It also sells to independent retailers using the Thompsons Tasty Meats brand and other brands, and owns nine BMS Select and six Mndeni Meats butchers in KwaZulu-Natal.

Polony's popularity has grown recently and it is now the second biggest source of protein in South Africa, after chicken. Bluff Meat Supply is expanding its role as KwaZulu-Natal's largest producer of polonies with a new processing facility. It is also expanding its retail footprint in the province.

Nick Hudson, who managed the deal on behalf of RMB Ventures, says it was complex and took around 15 months to conclude, as Bluff was made up of 27 different entities created over many years, often as partnerships.

"After our investments, Bluff Meat Supply will have the funds to expand in an unencumbered manner. But we do not intend to second-guess management on operational issues. The expansion of the retail footprint, for example, will be up to the management team."



Nick Hudson

Bielovich explains that the company's initial vision is to expand its base in KwaZulu-Natal by establishing bigger and destination-type outlets in Richards Bay and Empangeni that will appeal to the emerging black middle income market. "We then plan to establish a base in Gauteng, followed by individually quick frozen (IQF) sausage exports into sub-Saharan Africa markets in the next five years."

RMB Ventures' stake and funding allowed BMS Select Foods to establish the third processing facility in Springfield Park, which is dedicated to the production of IQF viennas and Russians as well as cold meat slicing and packaging.

> Nick Hudson, who managed the deal on behalf of RMB Ventures, says it was complex and took around 15 months to conclude, as Bluff was made up of 27 different entities created over many years, often as partnerships.

Bielovich says the processed meat market in SA is currently very competitive because input costs are increasing. "Additionally, recent months have been challenging with the rand being so weak – the majority of our polony and sausage ingredients and components are imported. The soya isolate is from China, the starch from Thailand, the chicken extract (MDM) from Brazil, while the casings and casing clips come from Europe. We use more than 60,000 of these clips daily, so even an increase of one or two cents adds up. Some of our casings are locally-produced, but these are usually more expensive than the imported ones.

"The economic recession has helped us in some ways, as consumers are more price-conscious and looking for value for money. As a low-cost producer we offer competitive prices - in some cases we are up to 40% cheaper than the supermarket chains - and maintain high manufacturing standards, process controls and personal service levels."

Hudson says that in the period since the deal was concluded, the company has done well and all parties are pleased with the deal. ◆

The three rounds of bids so far held for renewable energy projects in the Department of Energy's Renewable Energy Independent Power Producer Programme (REIPPP) programme began as a sideshow to the mainstream electricity supply and price questions facing South Africa. But they moved closer to centre stage in late 2013 because the latest round has produced wind and solar energy prices which are expected to compete, on a kilowatt hour to be produced basis, with Eskom's upcoming new coal-fired capacity.

Cheap renewable energy – a potential game-changer

There are potentially at least two more bidding rounds to come under the REIPPP. Each round is for about 1,000 MW of generating capacity, but the programme is a moving target which changes every time there is an update in the government's Integrated Resource Plan (IRP) and Integrated Energy Plan (IEP).

The three rounds have already produced a runaway success in two areas:

- The prospective price of power – the third round has provided a potential cap, or at least a reference point, on what increases Eskom can ask for in the future (although renewables tariffs cannot always be compared with baseload power tariffs).
- Fixed investment in South Africa (much of it foreign), and on associated socio-economic developmental projects in remote areas. In the three rounds, projects involving investments of about R110 billion, to generate about 3,800MW of electricity, have been committed.

If future rounds continue in the same vein, questions will arise as to whether South Africa really needs as much nuclear or coal-fired power station capacity as has previously been projected (although a recent update of the IRP has pushed out the expected dates of more nuclear capacity considerably).

Because it is generally variable, renewable energy can normally not (depending on national conditions) supply more than a maximum of 30% of power generation – but that leaves a lot of room for expansion in South Africa currently.

Of course, the success of the third round may already conflict with the plans of certain politicians. This is because more scattered projects, allocated under a system which is relatively corruption-proof, is not great for large patronage-related deals.

The renewable energy developments should be of interest to the private equity industry if only because they must represent the largest aggregated investment by the private sector in South Africa currently. And if the REIPPP methodology is extended to other procurement of infrastructure, it holds the prospect of more transparent public-private procurement in future, in which private equity funds might participate.

In renewable energy, there are opportunities in the projects themselves, and in their construction (a large proportion of which is required to be sourced locally).

There is also possibly opportunity (though this is more debatable) in the development of a local manufacturing industry to supply solar, wind and other generating equipment. Though commitments regarding local content of equipment to be supplied have reportedly risen sharply between round one and round three, this is debatable because South Africa undoubtedly lacks the economies of scale and low costs to compete in an already-oversupplied market. For instance, the oversupply of photovoltaic panels made in China is well known.

Private equity companies involved in the three rounds so far have included Evolution One (a fund directed towards "clean energy" investments, consisting of the Consensus Business Group with Pan-African Capital and Capital Evolution); Lereko Metier (via its Sustainable Capital fund; and AIIM (African Infrastructure Investment Managers, a joint venture between the infrastructure and real assets business of Australia's Macquarie Group and Old Mutual Investment Group)); and Futuregrowth (the venture capital arm of Old Mutual).

So far, these companies have generally housed their investments in specialist funds which have been supported by development finance institutions. For instance, the Lereko Metier Sustainable Capital Fund (LMSC), which raised R690m, secured major commitments from Transnet Retirement Fund and the International Finance Corporation as well as development finance institutions DEG (of Germany), FMO (of the Netherlands) and South Africa's Public investment Corporation; it also gained support from the Seed Capital Assistance Facility led by the United Nations Environment Programme.

As news of the REIPPP programme spreads and the projects begin producing megawatts for the grid without failing, more conventional investors are likely to enter the process. This may also be reinforced by the development of cogeneration projects by major industrial companies and municipal and home technology - as well as considerable potential for development in the subcontinent.

Marc Immerman of LMSC says his fund expects to invest into southern Africa: "Given that renewable energy projects will mainly be competing with diesel, the renewable technologies can offer a cost reduction and less carbon-intensive energy generation. Another constant challenge in Southern Africa is the weak grid. Because renewable energy is now competitively priced (against diesel), offers the potential for distributed energy generation, and is quick to construct, it makes great sense for the region."

The caveat for further private equity investments in REIPPP projects is that bid prices have come down so much that margins are likely to be tight in the projects. Anthony Hewat, managing principal of LMSC, says that prices are unlikely to fall much further than they went in the third round, having achieved globally competitive levels. Then again, given the oversupply of certain equipment as well as the desire of many operators to be in the southern African market, and the competitive bidding process, prices are also unlikely to rise much, he says.

The new renewables energy scenario seems to indicate many areas of development – and obviously funds which have previous experience in the field will be at an advantage.

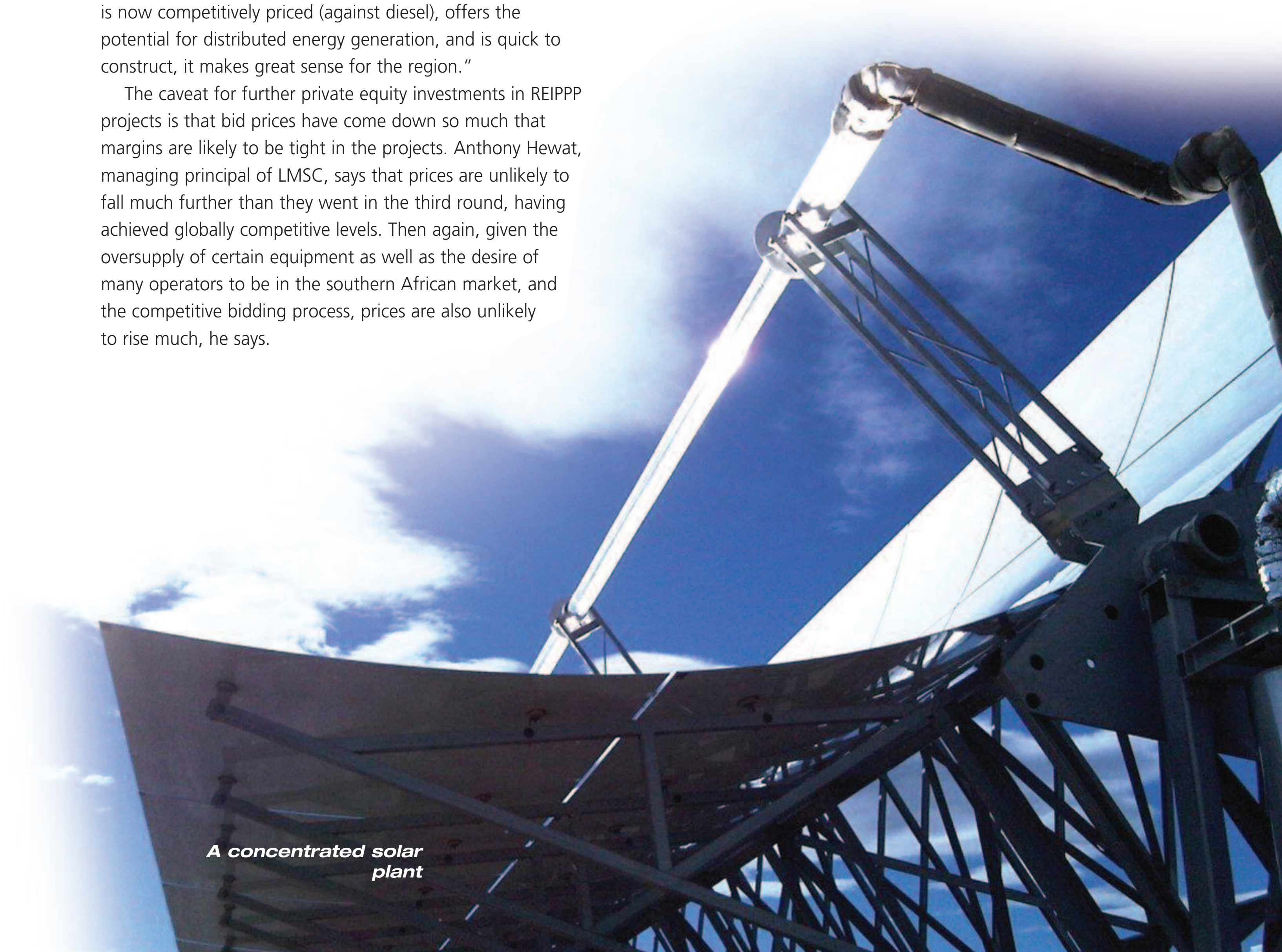
Where the new energy slots in

The new renewable electricity which will flow into the grid from early 2014 will be the first major boost to South Africa's generation capacity since the 4,100MW capacity coal-fired Majuba power station, which was completed in 2001. It will help narrow the electricity supply deficit that has plagued South Africa in the past five years.

In total, if all goes according to plan, the three rounds will result in 64 independent power projects producing a total of 3,800MW.

This compares with Eskom's 45,000MW installed capacity currently, and its projected installed capacity of 55,000MW by 2018.

While renewable energy is still much more expensive per kilowatt hour than Eskom's estimated average cost of generating power based on historic assets, tariffs contracted for over the three rounds dropped by 68% for solar photovoltaics to average 88c per kilowatt hour in the third round; and for wind, by 42% to average 74c (and a lowest price of 66.4c). These prices compare with one estimate of 105c from Medupi without payment for any "externalities"



A concentrated solar plant

(carbon taxes, pollution, etc) and on dubious accounting ("that 105c cost is in dreamland", according to one observer).

Mark Tanton of Red Cap Investments points out that Eskom's tariffs, which currently average at about 65c per kilowatt hour, will rise to 89 cents per kilowatt hour by 2018, again excluding any provisions which will have to be made for "externalities". By contrast, the rates for renewables are fixed (with partial inflation indexing) over 20 years.

According to a University of Pretoria and Greenpeace study, Eskom's full "externalities" costs range from an additional R0.97 to R1.88 per kilowatt hour.

Eskom has been subsidised to the tune of R350 billion by the government in the past 10 years for overruns on Medupi and Kusile, a figure larger than most bank bailouts internationally, following the 2008 financial crisis, says Johan van den Berg CEO of the South African Wind Energy Association (SAWEA).

By contrast, even though there was a 30% devaluation in the rand during the period of the second round of REIPPP projects, none has yet failed.

But what about the government?

Even if government does in future opt heavily for nuclear power (which is clean energy), commissioning of any nuclear power station will take 10-15 years.

In the meantime there will have been the commissioning of Medupi and Kusile coal-fired power stations and the Ingula and storage facility in the Drakensberg; another possible big coal power station project; potential supply from the Inga project in the Congo; and more. So South Africa's generating capacity will grow materially, possibly in the face of a more-sluggish-than-previously-expected economic growth rate.

Nevertheless, in the meantime, smaller, quicker projects will be needed, and renewable energy is likely to fill some of this requirement. This is especially in view of the government's 2009 promise to the international community to reduce greenhouse gas emissions by 34% below business-as-usual levels by 2020, and 42% by 2025; it is also in view of the need to retire some of Eskom's very old coal-fired power stations.

Gas projects can be set up quickly, but the regime for fracking is also not yet settled.

So, despite these huge projects in future, there is still a considerable gap for further renewable energy developments, especially given the price and the socio-economic development advantages. REIPPP-type renewable energy projects generally take 12-30 months to complete.

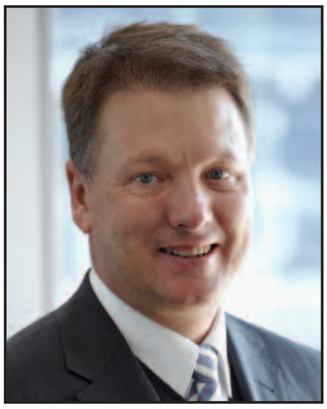
Energy Minister Ben Martins said recently that the projects emanating from the three rounds will contribute R4.4bn to socio-economic development, invariably in remote, underdeveloped areas.

Furthermore, by the time further big nuclear or coal power is commissioned on the grid, Eskom's tariffs might be even more unattractive, especially as non-clean energy power stations will inevitably have to increasingly pay for "externalities".

These extra payments are already gathering. The impending carbon tax is the best known one, but a huge, more immediate cost will be the new Air Quality Act. To comply, installation of flue gas desulphurisation technology will cost Eskom well over R100bn by 2020.

These days, Eskom suffixes any comment it has on these extra payments by saying "the costs of this will be passed onto consumers".

Mark Tanton of wind power company Red Cap says if price, community ownership and development and environmental factors were taken into account, "it would be a slamdunk decision in favour of the expansion of renewables and against vast nuclear and other projects".



Johan van den Berg, CEO of the South African Wind Energy Association (SAWEA)

In answer to critics of wind energy, like well-known engineer Andrew Kenny, who says that wind power is not proven and has been an expensive option elsewhere, especially compared to nuclear, Tanton says: "The REIPPP projects, which have contracted to produce at prices below both coal and nuclear (especially when environmental costs are factored in) are financed with unsubsidised private money. If Kenny is right, there are a host of sophisticated people who are wasting money because they are drinking some kind of renewable energy Kool-Aid. But they are not; they are investing in sophisticated technology which is now mature. And if all of these people *are* wrong, they, not the taxpayer, will lose a lot of money."

Anyway, observers will not have to wait long to see the truth of the matter: renewable energy will start flowing into the national grid early in earnest from February 2014.

And if the wind doesn't blow

The downside of wind and solar projects is indeed that the wind doesn't blow, and the sun doesn't shine, all the time. This means that capacity utilisation of facilities is around a third of the installed capacity. By contrast, coal power stations have capacity utilisation of around 80%.

That doesn't affect the final price bid by REIPPP IPPs, which takes this into account. But the variability of wind and solar electricity production does means that it has to be balanced with baseload generation, for instance, of coal, nuclear or gas.

However, if South Africa was more committed to renewable energy production and was more willing to disperse power generation - and, most vitally, put the national grid in the hands of an independent party beyond Eskom - then smart meters and a smart grid could increase the contribution of renewables closer to 30% of total offtake.

In moving forward on this, there are complex policy issues, particularly relating to cross subsidisation of poorer people and financing of municipalities - but those issues would not be insoluble if there was sufficient political will.

For instance, renewables can fit well in tandem generation arrangements with (non-renewable) gas. In a 24-hour cycle, wind and sunshine factors can now be predicted to an accuracy of over 90%, and if they are not going to be favourable, gas turbines can be used for backup. Gas generation can be started up almost immediately, unlike coal generation.

By 2025 ...

By 2025, we can be sure that the power scenario in South Africa will be very changed.

Most importantly, if by then the national grid has been released from Eskom's grip, then large concerns may have been freed to, on a willing-buyer, willing-seller basis, procure power from whomsoever they wish, including competitive renewable energy generators. Of course, to do that will require a change in a mountain of legislation.

Theoretically, government wants to deregulate the grid, as indicated by the Independent System and Marketing Operator Bill (the ISMO bill), which closed for public comment in June 2011 but has hardly progressed since then. The foot dragging on that bill (and on the process leading up to it in the previous 10 years) indicates that central planners have gained the upper hand. Whether they will be able to maintain that upper hand as renewables prices, and possibly gas prices, fall, remains to be seen.

But whatever the government does, a loosening and decentralisation of the power generation structure in future seems inevitable.

Even if South Africa holds out against the international trend of deregulation, sizeable companies are already voting with their feet in setting up their own co-generation power plants – and they are likely to do so increasingly as Eskom tariffs rise (partly to fund huge nuclear and other projects). For instance, Accelor Mittal, Kumba and Sasol have recently announced own-plant developments, mainly based on gas.

Deregulation of the grid is particularly necessary for the development of renewable energy projects because these power producers are very seldom in the places where the electricity is required – they must use the grid to transport electricity to their customers.

> With the latest renewable energy prices has come the shedding of the image of renewable energy projects as Greenpeace-type enterprises which must be subsidised.

In power, there are huge benefits in economies of scale - size makes a tremendous difference to costs and smaller projects cannot hope to compete. One factor is that transaction costs are high, and about the same for small projects as for large projects.

Nonetheless, if electricity tariffs rise with the need for public financing of huge nuclear and coal projects, the rooftop revolution – solar panels on domestic roofs – is likely to continue. Domestic makes up 18% of South Africa's power consumption. Eventually, this revolution could also take a sizeable bite out of consumption from Eskom. ◆

The REIPPP process is definitely not for the fainthearted or the under-resourced. It is complex and costly - but these qualities have also meant that, remarkably, there have been no failures of the 64 REIPPP projects approved so far.

The REIPPP process

The National Treasury and the Department of Energy designed the process and they drive the evaluation and selection of successful bidders.

A project begins with developers, who may be individuals who may come from the renewables industry or may represent some particular technology. They come up with an idea and a site, and they generally "develop" it by negotiating with the owner and by getting environmental, water, zoning and other authorisations.

It can take years to get all of these permissions – for Lereko Metier Sustainable Capital Fund's (LMSC's) Bokpoort project, it took four years.

Then the financial models are prepared and the shareholder and debt finance is organised.

In formulating a REIPPP bid, "it must be clear that you have the money and on what terms (equity and debt), that it's going to make a return, the technology to be used and that it is sufficiently proven," says LMSC's Michael Goldblatt. "All of this involves a lot of outsourced expertise."

At the cheapest, bids cost R5 million each, and often more. So, at least about R500 million was spent on each bidding process.

"There is a bid date, a selection date, and a close date. You bid, it is then evaluated and selected (if you're lucky), and it is then financially closed."

Says LMSC's Marc Immerman, who, with Goldblatt, brought the Bokpoort project to LMSC: "The adjudication process is hard-core. The documents for our project totalled 40,000 pieces of paper and seven full CDs. You transport these to Gallagher Estate (Midrand); the REIPPP officials open the boxes and do an initial check on whether you have the basic required documents; then everything is kept under lock and key. Relays of different independent consultants are allowed to access them – they may only take in a pencil and paper.

"It is complex and labour-intensive and any fatal flaw can cause you not to be selected.

"In the evaluation and selection of successful bidders, there is a price factor and there is a non-price factor. The evaluation is based 70% on price (on the lowest compliant bid) and 30% on economic development (on the highest compliant bid). You get points for each of them and they are added up and you are ranked.

"Black empowerment, local community ownership and local enterprise development are important criteria for success. The usual BEE involvement in construction, management, and South African employees, are required."

Having been selected, the project is built to a completion date, after which it produces electricity.

A few of the first-round projects are now reaching commissioning phase.

The lack of failures of projects so far is partly because the projects' plans are independently assessed. But, says Immerman, "the success is also because of what's required to be complied with. So simply to bid, you need all your money in place, equity and debt, with full board approval. The lenders must have detailed term sheets. And all licences must be in place.

"The advisers, consultants and lawyers … it's a spectacular lawyer-fest to bid and especially to close. Each project has to have the lenders' counsel, technical advisers for the lenders (an engineering company), etc.

"At the cheapest, bids cost R5m each, and often more. So, at least about R500m was spent on each bidding process. In the first round there were 53 bids, 28 of them successful; in the second, 79 bids, 19 successful; and in the third 93 bids, 17 successful (with the prospect of a second wave of approvals before end-2013).

"The successful projects aggregate to a total investment cost of about R110bn to build (besides the cost of bidding).

"In our Bokpoort project, the lead-up to the bid was three years of work. Between the bid and selection was 4-6 months. Between selection and financial close, you take all in-principle plans for financing and operations and the build part (which includes engineers and international and local people) and ongoing operations and maintenance; socio-economic development; etc.

"You put all this in your plan and at financial close you convert that plan into binding agreements. There is a co-incident point at which everything is binding. Once the bid is successful, this all turns into a binding agreement for offtake for 20 years.

"Then you go live into the build phase. In our Bokpoort technology of CSP (concentrated solar power) it is 2½ years, but in PV and wind it's a shorter cycle," says Goldblatt.

"The complexity is a positive for the country and the government. Internationally, the success rate of projects that actually finally produce after being selected has been considerably lower than here because, for instance, in the US, in one exercise, projects were approved solely on the basis of tariffs. The South African process means only the strongest and best organised projects succeed."

The good news is that, according to Immerman, this bid method can be easily copied for other public-private infrastructure procurement, and there is some chance that the government will in fact do this. ◆

A prominent local supplier of wind projects is Red Cap, which participated in the first round and the third round of the REIPPP process.

Red Cap in the wind

Mark Tanton, managing director of Red Cap, says Red Cap was the cheapest successful bidder in the third round, with a price of 66.4c per kilowatt hour (it was the most expensive in the first round).

Both of Red Cap's projects are in the Kouga area south of St Francis Bay in the Eastern Cape.

The first project is 26% community owned and the second project is 40% community owned. In both cases, the communities' shares are vested in a trust; the trust will repay the loan procured for their stakes, and benefits from the trust will be for the communities concerned and not individuals.

Both the low price and the higher community ownership of the second project were primarily due to financing guarantees provided by Red Cap's main partner, Enel Green Power of Italy.

On the generous allocations to the community trusts, Tanton says: "As a developer, we have motivations for this; the ultimate owner of the project might have other motivations. We have capitalist intentions of making a profit, but we also believe strongly in the triple bottom line – meeting environmental, social and financial imperatives."

Tanton says that the classic business model internationally for development of wind and solar projects is that developers control the projects for a while, and then there are companies which are better orientated to owning and operating the assets.

In South Africa, because of the bidding process, there are more hybrids of this model.

In the first bidding round, Red Cap brought investors on board and kept a small share of ownership. In the second, Red Cap is a pure developer and Enel will have full ownership (with the community trust).

"As the bidding becomes more competitive, it obviously lends itself to bigger entities. But there is no evidence that all projects will be done on balance sheet. There are, and will be, more novel financial structures that are likely to be hybrids between balance sheet and project financing. The goal is to be bankable."

Mark Tanton, managing director of Red Cap

A montage of wind turbines on the land where Red Cap will in fact erect wind turbines in February 2014

Tanton says Red Cap started as a group of engineers who wanted to set up wind power projects. It is now moving into an investment phase where it will participate in renewable energy projects as an investor through a new black-owned entity. ◆

Albert Wenger, a partner at New York-based technology venture capital firm Union Square Ventures, and an early investor in Silicon Valley success stories that include Twitter and Tumblr, recently discussed with William Mougayar, founder of the magazine Startup Management, aspects of the internet.

Pinning down internet networks for venture capital

Responding to a question about the Union Square Venture's "thesis" of pinning down large networks of engaged users very early on, he said the internet has some "very interesting characteristics … It's global. It's instantaneous. It's free. It's connected. It's ubiquitous.

"Those five characteristics are different from any other technology that's come before. What does this make possible that wasn't previously possible?

"We're very much trying to find things where you're using the internet to do something that could not have been done before. For instance, try to imagine Wikipedia being done with a fax machine – it simply wouldn't be possible.

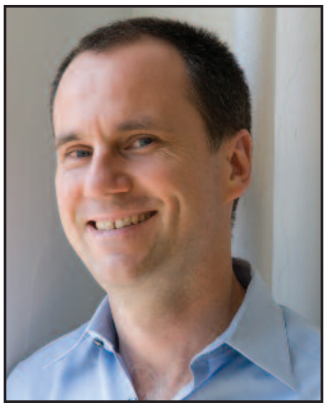
"One of the things the internet makes possible is the formation of many, many new networks. We're particularly interested in finding businesses that have a 'network effect'. In historic manufacturing businesses, if you grow your volume, your unit costs decline - the traditional scale effect. But network effects mean that as your service grows, the value of your service to each participant increases.

"Where we found a lot of network effects early on was in these networks of highly engaged consumers. We've later begun to understand that these network effects exist in other businesses as well.

"A business where it may not be obvious that there's a network effect is a search engine. It would seem you use a search engine by yourself and there's no network effect. But it turns out every user who uses a search engine makes the search engine slightly smarter, because the user will have given the search engine a query, the search engine will have returned a result set, and the user is then making a choice of which result to pick. That's why it's been very hard for anybody to catch the dominant search engine.

"When we approached investing, we discovered that there were certain types of business in finance that seemed to have strong network effects. So peer-to-peer lending has network effects, which is that the lenders want to be where the borrowers are and the borrowers want to be where the lenders are. The more lenders, the more value for every borrower, and vice versa."

On "smart" machines, Mougayar said: "We now actually have machines that are better than humans at many interesting tasks. Such as image recognition. Such as driving a car safely. The rate of improvement here is really, really dramatic. As recently as 2005 the best [self-driving] car got 50 miles into a desert circuit that had no other cars, no traffic lights, no intersections. And now we have self-driving cars that have driven hundreds of thousands of miles on public roads accident-free.



Albert Wenger

"What are the areas where we're going to use smart machines so they are useful for most people? If we can build something that is better at diagnosing human disease, how do we make that widely available?

"The other big challenge is what do we do about work? We've (in the US) had this very strange economy for 10-plus years now where the economy keeps growing, but wages are stagnant and the share of labour in gross domestic product is declining. I believe that's the beginning of the post-industrial age, where machines are better than humans at a lot of things. So the demand for human labour is decreasing. That will be a huge challenge for how we organise society. This will be a huge challenge for the system as we know it."

On surveillance and privacy, he said: "Your privacy is, in fact, dead. There's a start-up in New York that's letting people turn their old android phones into cameras that people can put out in their windows to film the streets to measure where people are walking. You're going to be taped. You're going to have an electronic footprint. It's just a fact. The big question is what do we do about it and how does government operate?

"The fundamental problem that we have is not that surveillance exists, but that governments are trying to be secretive about it, which is completely undemocratic. We need to figure out how to avail ourselves of these technologies. We cannot fight these technologies; we cannot put the genie back in the bottle. But I think we can apply these same sorts of technologies to government. Again, it's very far from what our thinking is today.

"The way forward is not for us to try and have better encryption and to figure out how we can stash our data away and prevent government from snooping. We have to have a government where we know what snooping they're doing and where we can trust that the snooping they're doing is actually in our interests, as opposed to being used to oppress dissent." ◆

Local and international news

Barely worth it

Investing in private equity funds in the US is barely worth it, according to a National Bureau of Economic Research (NBER) study.

NBER is a US private non-profit research organisation which does unbiased economic research among public policymakers, business professionals, and the academic community.

In a working paper "Valuing Private Equity", authored by Columbia business school associate professor Morten Sorensen, limited partnership portfolios were analysed. The conclusion was that private equity investors essentially only break even when illiquidity, risk-of-losing-money and other costs are taken into account.

According to the research, private equity firms such as Blackstone Group, KKR & Co, or Carlyle Group, must generate a so-called public market equivalent of about 1.30 on average to break even.

The number compares private equity fund returns to an index like the Standard & Poor's 500. A figure greater than 1 signifies that the PE fund outperformed.

The average return for private equity funds is 1.27, according to a CNBC report. ◆

Appear Here gets £1m

Appear Here, a start-up founded by a 21 year-old British entrepreneur, has secured £1 million in venture capital from leading British investment firms including HOWZAT Partners, MMC Ventures and Forward Investment Partners.

Appear Here, which was founded in late 2012 by entrepreneur Ross Bailey, provides an online booking platform used by the likes of British Land, Legal & General and Capital & Regional to secure short-term rentals for retail spaces. The business was established off the back of a pop-up T-shirt shop set up by Bailey during Queen Elizabeth's diamond jubilee celebration on Carnaby Street.

Bailey will be using the capital secured to aid geographic expansion and build out Appear Here's technology team.

Bailey said: "This funding round allows us to continue laying the foundations of our disruptive business, based upon helping landlords and tenants use retail space in an efficient and profitable manner." ◆

US leads in venture capital funding – study

A report from Ernst & Young (EY) in Forbes says the venture capital community in the US still leads worldwide in giving entrepreneurial businesses access to funding and fostering a culture of entrepreneurship.

According to the report, the US ranks very well in three of the five pillars of the EY Global Entrepreneurship Barometer. The categories which countries can use to gauge their progress in entrepreneurship include access to funding, entrepreneurship culture, tax and regulation, education and training, and coordinated support, EY's report said.

The US was found to be number one in providing access to funding and entrepreneurship culture. It ranks third in the education and training category.

However, it still has room for improvement on the other categories, EY said. It is 13th in tax and regulation, and is even further down at 20th place in coordinated support.

EY added that emerging markets like Russia, Brazil and Mexico were higher in the area of coordinated support while countries that ranked higher in tax and regulation include Saudi Arabia, Korea and Canada.

According to the report, government policies are integral in facilitating the appearance of deeper and more varied funding options. One example is Saudi Arabia, which has a government programme that guarantees half of particular bank loans as well as a corporate venture capital fund backed by the state oil company Saudi Aramco.

As far as coordinated support goes, the report cited the government initiative launched by Indonesia called the National Entrepreneurship Movement. The programme fosters strong relationships among entrepreneurs, successful enterprises and schools. This led Indonesia to rank fourth in the study for coordinated support, EY said.

There is also widespread optimism among emerging markets as far as venture capital access is concerned, EY stated. The report said 48% of entrepreneurs in Russia, 42% in Indonesia and 41% in Brazil think that access to funding has improved. ◆

PRIVATE EQUITY DEALS Q1 – Q4 2013 – SOUTH AFRICA

NATURE OF DEAL	PARTIES	ADVISERS	ESTIMATED VALUE	DATE
Acquisition by	Standard Chartered PE and Ashmore Investment Management of a minority stake in GZ Industries		undisclosed	Jan 14
Acquisition by	Investec Private Equity of a 30% equity stake in Assupol	Investec Bank	undisclosed	Feb 8
Acquisition by	TP Hentiq 6132 (RMB Corvest) from Harrison & White Investments of Sectional Poles	Cliffe Dekker Hofmeyr	undisclosed	Mar 20
Acquisition by	RMB Ventures of a stake in Bluff Meat Supply		undisclosed	Mar 25
Disposal by	Murray & Roberts to consortium comprising Capitalworks and certain senior management and executives of Much Asphalt and RMB Ventures and senior management of Ocon Brick of the Construction Products Africa businesses	Deutsche Bank; Rand Merchant Bank; Webber Wentzel; ENSafrica	R1,33bn	Jun 28
Acquisition by	Ascendis Health (Coast2Coast) of a majority stake in Marltons Pets and Products cc	Cliffe Dekker Hofmeyr	undisclosed	Jul 12
Acquisition by	Ascendis Health (Coast2Coast) of Solal Technologies	Java Capital; Cliffe Dekker Hofmeyr	undisclosed	Jul 12
Disposal by	Transaction Capital to Actis of Paycorp	Grant Thornton; ENSafrica; Werksmans; Webber Wentzel; Deloitte	R939,5m	Aug 7
Disposal by	Times Media to a consortium led by Medu Capital of its interests in Van Schaik Group and Exclusive Books (100% stake in Van Schaik Bookstores, 69,98% stake in Bookmark at UP, 70% stake in Van Schaik Namibia)	Rand Merchant Bank; PSG Capital; Werksmans; ENSafrica; Webber Wentzel	R325m	Sep 19
Disposal by	Times Media to a consortium led by Global Capital of 100% stake in Exclusive Books	Rand Merchant Bank; PSG Capital; Werksmans; ENSafrica; Webber Wentzel	R90m	Sep 19
Acquisition by	Premier (Brait SE) from Electra Private Equity plc of LiHets	Rand Merchant Bank; Webber Wentzel	£37m	Oct 9
Acquisition by	RMB Corvest of a 30% stake in Auto Trader		undisclosed	Oct 9
Acquisition by	Agri-Vie of a 63% stake in Cape Olive		undisclosed	Oct 14
Acquisition by	Zungu Investments of a 30% stake in Seemann's		undisclosed	Oct 18
Acquisition by	RMB Corvest of a 25% stake in Summit Garnishee Solutions		R50m	Nov 5
Acquisition by	Silvertree Capital of a 24% stake in Cybercellar.com		undisclosed	Dec 2
Acquisition by	Agri-Vie of a 49.9% stake in Intelichem		undisclosed	Dec 4
Disposal by	Barclays Africa to syndicate led by HarbourVest Partners comprising funds managed by HarbourVest and Coller Capital of a 73,37% stake in Absa Capital Private Equity Fund 1	Absa/Barclays; Deutsche Bank; Norton Rose Fulbright; Bowman Gilfillan	not publicly disclosed	Dec 31
Acquisition by	Investec Bank (Private Equity) of 43.2% of FFS Calpet	Cliffe Dekker Hofmeyr	undisclosed	not announced
Acquisition by	Management and MIC Capital Partners from RMB Ventures of a stake in Puregas Webber Wentzel		not publicly disclosed	not announced
Acquisition by	Zico Capital and PSG Private Equity of an additional 18.8% stake in Precrete	Cliffe Dekker Hofmeyr	undisclosed	not announced
Acquisition by	Investec Principle Investments and management of CJP Chemicals	Standard Bank; Cliffe Dekker Hofmeyr	undisclosed	not announced

PRIVATE EQUITY DEALS Q1 – Q4 2013 – REST OF AFRICA

COUNTRY	NATURE OF DEAL	DETAILS	ADVISERS	ESTIMATED VALUE	DATE
Africa	Investment by	Leapfrog Investments (Mauritius) in Bima		$4,25m	Feb 21
Cameroon	Acquisition by	Actis from AES of a 56% stake in Societe Nationale d'Electricite and 2 power plants, Kribi and Dibamba		$220m	Nov 7
Cote d'Ivoire	Acquisition by	The African Agricultural Fund of a minority stake in Continental Beverage Company		undisclosed	Feb 28
Cote d'Ivoire	Disposal by	Emerging Capital Partners of it's stake in MTN Cote d'Ivoire		undisclosed	Dec 5
Democratic Republic of the Congo	Investment by	XSML in Starz-kin		undisclosed	May 10
Egypt	Acquisition by	Actis of a 30% stake in Edita Food Industries		$102m	Jun 24
Ethiopia	Acquisition by	Catalyst Principal Partners of a 50% stake in Yes Brands Food & Beverages		undisclosed	May 14
Ghana	Acquisition by	Abraaj Group and Danone of Fan Milk International (51% : 49%)		undisclosed	Jun 19
Ghana	Disposal by	Abraaj Group of it's stake in HFC Bank to Caribbean Bank Republic Bank		undisclosed	Jul 31
Ghana	Acquisition by	Fortiz Private Equity of a 90% stake in Merchant Bank Ghana		undisclosed	Nov 1
Ghana	Disposal by	Leapfrog Investments to Prudential Plc of it's 90% stake in Express Life		undisclosed	Dec 5
Kenya	Acquisition by	Kilele (Centum 79% : Cassia Capital Partners 21%) of a 45% stake in Platcorp		undisclosed	Jan 28
Kenya	Investment by	Amethis Finance in Chase Bank	Genghis Capital Corporate Finance	$10,5m	Mar 6
Kenya	Investment by	GroFin in two public transaportation firms : Wargen and Centaurus		$2,3m	Jun 17
Kenya	Acquisition by	Al Futtaim Group of CMC Holdings		$86m	Sep 9
Kenya	Investment by	Fanisi Capital in retail pharmaceutical chain Haltons		Sh262m ($3m)	Sep 11
Madagascar	Investment by	Databank Agrifund Manager's AAF SME fund in Guanomad		undisclosed	Jul 26
Malawi	Acquisition by	The African Agricultural Fund of a majority stake in Farming and Engineering Services Ltd		undisclosed	Nov 25
Mauritius	Capital Raise	Bayport Management : subscription agreement with Kinnevik (300 394 shares), Grant Kurland (281 057 shares), Groundsel (1 517 707 shares) and Takwa (Helios) (5 621 135 shares)	BDO Corporate Finance; ENSafrica; Deloitte	$137,3m	Oct 22
Mauritius	Acquisition by	Amethis Finance of a nerly 1/3 stake in Velogic, a logistics services company		undisclosed	Dec 4
Morocco	Acquisition by	Actis from Veolia Environment of it's water, wastewater and electricity services operate by Redal and Amendis		undisclosed	Mar 8
Morocco	Investment by	Abraaj Group in Steripharma		undisclosed	Sep 10
Namibia	Investment by	VPB Namibia in Ongwediva Medipark		undisclosed	Feb 11
Nigeria	Acquisition by	XerXes Global Investments and Copperbelt Energy (KANN Consortium) of a 60% stake in Abuja Electricity Distribution Company		$164m	Mar 5
Nigeria	Investment by	Summit Partners in the Jumia brand		$26m	Mar 19
Nigeria	Investment by	Silvertree Capital in two e-commerce sites : sunglasses.com.ng and glamour.com.ng		undisclosed	Jun 18
Nigeria	Disposal by	MPI to Mercuria Capital Partners (6%) and Blakeney Management (4%) of 10% of it's 45% interest in SEPLAT	Standard Bank Plc	$98m	Aug 22
Nigeria	Investment by	Rise Capital, Tiger Global and Kinnevik in iROKOtv, a consumer entertainment company		$8m	Dec 17
Senegal	Investment by	Cauris Management in Axxend Corporation		€5m	Jun 10
Tanzania	Acquisition by	Catalyst Principal Partners of Chai Bora from Transcentury		undisclosed	Jan 16
Tanzania	Investment by	Jacana Partners and Soros Economic Development Fund in DSM Corridor Group		undisclosed	Sep 30
Tunisia	Investment by	International Finance corporation and two funds managed by IFC Asset Management Company in Amen Bank		$48m	Jan 25
Tunisia	Disposal by	Emerging Capital Partners of it's stake in Societe d'Articles Hygieniques (SAH) via an IPO		undisclosed	Dec 23
Uganda	Investment by	Abraaj Group in Vine Pharmaceuticals		undisclosed	Jan 30
Uganda	Disposal by	Actis to Rabo Development Bank and Norfund of a 45.02% stake in DFCU	Stanbic Bank Uganda	$43,28m	May 3