

Welcome! SENSE is a service of the Energy Policy Unit of the Sustainable Energy and Climate Change Project (SECCP) of Earthlife Africa Johannesburg (ELA Jhb).

SENSE is a regular publication, edited by Tristen Taylor. We welcome any feedback and submissions. Also, let us know if you wish to get more information from ELA Jhb, or know someone else who should be receiving SENSE. Please note that the material in SENSE (in particular the Editorial) does not necessarily reflect the positions or policies of Earthlife Africa Jhb and/or the SECCP.

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1. Editorial

The latest rumour going through civil society's grist mill is that the Department of Environmental Affairs & Tourism (DEAT) is where idealism goes to die. Imagine it, wet-behind-the-ears graduates join DEAT to save our environment from wholesale devastation so that tourists can trample through the fynbos, hold 4x4 parties on pristine beaches, get lost on Table Mountain, and get so blinded on farmers witblits that fights break out over whether the springbok is part of the big five or tight five; all in the name of sucking as much pounds, euros and dollars out of them as we possibly can.

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Then what happens? One minute the rank and file at DEAT are reeling from the latest disaster predictions to come out of the Intergovernmental Panel on Climate Change (Africa is in for a beating, by the way), the next minute their beloved leader, Minister Van Schalkwyk, has signed off on a new coal-fired power station, increasing South Africa's carbon emissions by 25%. The Minister should really be kinder to his staff; they probably need counselling. Speaking counselling, the collective consciousness of Eskom also needs book itself in for lengthy time on the couch.

If Nero fiddled while Rome burned, the chaps at Eskom are throwing lumps of coal, petrol and uranium 238 onto the bonfire of climate change and local pollution. Their reasoning? Our generating capacity has been outstripped by demand (hence, SENSE will soon return to carrier pigeon for distribution) and we cannot supply electricity to everyone at the same, so we must A) turn off the lights, B) build more coal power stations, C) build more nuclear stations, D) give away electricity to heavy industry (the Alcan smelter, for example), E) tell ordinary citizens, who account for only 17% of all electricity usage, they must cut back and not boil water, and F) fail to even consider a different way of generating electricity that may just save the very planet we happen to live on. Obviously, the guys and gals at Eskom seem to think that good replacement planets are easy to find.

In related news, SASOL is goose-stepping its way to global domination with plans to build coal-to-oil plants in China, India, Nigeria, USA and Australia. Apart from the Peak Oil denialists (offspring of climate change denialists), the expansion of coal-to-oil technology will only increase coal prices while doing nothing to reduce oil prices. So, dear readers, stock hint for this month: Go long on coal and oil, for the price is only going one way. As Mike Bowlin, CEO of the oil company ARCO, once said, "We've embarked on the last days of the age of oil."

The machinations of global finance grind on. The latest is that both Davos and the IMF are urging Africa to privatise its energy market; that worked real well in California with those honest and kind-hearted folks at Enron actively manipulating power supply to drive up prices. Despite this brand of free market fundamentalism having completely failed African development over the last twenty-odd years, the Government of Botswana is selling off generating plant to the Japanese.

The good news is that local opposition to the Alcan smelter in Port Elizabeth continues to grow with a Friends of Live Earth concert to be held on the 7th of July (the main concert is in Jozi on the same day). The PE concert will focus on Alcan and the Coega Development Corporation's role as handmaiden to environmental destruction. One can only hope the leaders of this country will listen to the people of this country. Would make a nice change.

Tristen Taylor
Energy Policy Officer
Earthlife Africa Jhb
14th of June 2007

2. SECCP News

Eskom Begins to Crack over Alcan's Secret Deal
Earthlife Africa Jhb

16th of May 2007

After weeks of legal pressure and citizens' protests, Eskom has partially relented and disclosed more details about its deal with Alcan over the long-term selling of electricity. While Eskom's disclosure is not sufficient for an adequate accounting of the deal with Alcan (and the undisclosed subsidies of that deal), it represents a step in the right direction.

In its response to an internal PAIA appeal from Earthlife Africa Jhb, Eskom noted the following:

- 1) Alcan will not have the right to sell on electricity
- 2) Alcan will be subject to a "take-or-pay" arrangement
- 3) There will be no linkages between the aluminium price and the price that Alcan will pay for electricity.

On the matter of price, Eskom is still refusing to disclose the actual price (cents per kilowatt hour), citing that it would violate confidentiality agreements with Alcan. It seems that Eskom would rather talk to a Canadian multinational corporation than with the South African people.

What Eskom has stated, in regards to the price of electricity, is that the price will be no lower than the cost of supply (as far as possible, according to Eskom), not be subsidised by other users, and linked to Eskom's Forward Pricing Curve. All of this information is not exactly helpful.

Eskom's costs of supply (and "at the gate cost") and forward pricing curve are something of a mystery. While interesting to note that the price of electricity is linked to the forward pricing curve, that it essentially meaningless without detailed knowledge of the forward pricing curve. Likewise, what is Eskom's current cost of supply, and what is meant by the notion that Eskom will not charge below the cost of supply as far as possible?

According to a confidential document from Eskom (Confidential Briefing Note: New Build Programme: Revised Capital Expenditure for the Period 2007/8 to 2011/12), a new coal-fired power station will have at supply cost of 25c/kwh. Is this future cost the basis of cost of supply or would it be from the much cheaper current cost of supply?

Further, the issue of subsidisation is also unclear, given the massive R150 billion capitalisation period over the next five years. In order to finance this, R100 billion will be raised through debt. Eskom will have to borrow heavily, and the question is, will Alcan, as one of the largest, single users of electricity in the country, pay towards that debt? That question can only be answered by the disclosure of the actual price.

Already the Coega IDZ has had a variety of subsidies thrown at it, to the tune of R7.5 billion. In addition, Eskom is spending R6 billion on transmission lines to Coega (to service Alcan's smelter). Will Alcan pay a part of those costs, especially cost of the transmission lines? It is highly doubtful that Alcan will pay back Eskom (via a high cost of electricity) for the transmission lines; somebody else may have to that, namely consumers and taxpayers. Effectively, this is a handout to the very wealthy.

The issue of subsidisation runs even deeper when the externalised costs of electricity are taken into account. Coal-fired power stations produce local and global pollution. The SO_x and NO_x emissions from these stations cause damage to people's health, agriculture and nature. Dealing with these

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negative effects (acid rain and respiratory problems), costs money in health care costs and losses to business. Globally, the CO2 emissions from coal-fired power stations are a major contributor to global warming, which is set to cause extreme drought, famine and migration throughout sub-Saharan Africa. These externalised costs of coal-fired power stations have been estimated to be at least twice the current cost of electricity. Will Alcan be contributing towards these externalised costs or will it be the South African taxpayer? That can only be determined through the disclosure of the actual price.

Earthlife Africa Jhb calls upon Eskom and Alcan to fully disclose all the details of their deal, including the actual price of electricity. Confidentiality clauses can easily be dealt with if both parties decide to reveal the information and become the kind of honest and accountable public institutions and private investors that our country requires.

Copies of Eskom's Capitalisation Briefing Note and its PAIA response are available on request.

Development under toxic cloud
15th of June 2007
The Herald Online

WHILE the rest of the world, including thousands of the world's leading scientists, politicians and economists, are scrambling to come up with solutions to what is potentially the biggest crisis we have ever faced in global warming, the Coega Development Corporation seems to know better than everyone else.

Faced with increasing public concern and protest, the CDC has gone to great lengths in recent adverts in the local media to try to discredit the opponents of the Coega smelters, and some of the other highly polluting and toxic industries the CDC is trying to attract, such as the ferro-manganese smelter, the oil refinery and the chlorine plant.

The people of Port Elizabeth need to ask themselves whether, in light of global warming, the pollution of our air and water, and its effects on people's health and in consideration of the billions of rand needed for the construction of new power plants, the provision of subsidies for the smelter, the job losses in other industries that can either not expand or exist due to the smelter's proximity, are worth the 1 000 jobs created by Alcan. Of these at least 300 will only be available to highly skilled professionals, probably many from overseas.

In light of the fact that each job created at the smelter is estimated to be costing about R5-million and considering the massive impact the smelters will have on our environment and the air we breathe, the answer to this should be easy.

We reject the condescending manner with which CDC staff, including marketing and communications head Vuyelwa Qinga-Vika, are treating protesters. Those who have voiced their opposition to the smelters have been denounced as egotistical half-wits who are more concerned about clean air than the plight of the poor and fools that cannot distinguish fact from fiction, silly enough to believe the reports by leading scientists and politicians on global warming.

It is the lack of information to the public thus far which has enabled the CDC to execute its environmental impact studies and other required processes without enough public awareness and

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involvement. It is this very lack of information to and awareness of the public which is so startling and worrying.

The whole sorry saga of the Coega development in an environmentally highly sensitive, unsuitable area began with the controversial weapons deal, which brought us, as an offset deal, the Coega Industrial Development Zone. In their desperate effort to secure the ever-elusive anchor tenant needed to justify the billions of rand spent to date on Coega, the CDC and government have bent over backwards.

They are now giving, in addition to tax incentives, tax holidays and import/export duty exemptions, large subsidies and rock bottom prices for our water and electricity to the world's most polluting and energy intensive industries.

These currently include the Alcan aluminium smelter - a double-sized smelter with an output of 720 000 tons of aluminium per year. This makes it one of the world's biggest aluminium smelters, which will use three times as much electricity as our entire city.

The sheer size of the smelter boggles the mind - the entire area stretches more than 120 hectares, of which 50 hectares will be used for the actual plant.

The capacity of our existing power stations is already strained to breaking- point, so new power stations will have to be built just to supply Alcan with the power it needs. This will entail either the building of yet another coal-powered plant, with massive power grids snaking their way all the way through pristine country, including game farms, or the construction of a nuclear power plant on our doorstep.

This would be at additional cost to our environment and to the taxpayers' pockets. It will not be Alcan who has to pay for the new infrastructure, but the South African taxpayer.

Alcan will receive our electricity for a price far below anything that any of us or other industries are paying. Another question that needs to be answered is: Who, in times of power shortages, will have preference - the smelter or the South African people?

This is only part of the problem. The Coega IDZ is located in an environmentally highly sensitive and unique area.

It has six biomes and is situated right next to the Addo Elephant National Park, close to various game and citrus farms, and the city of Port Elizabeth.

The health implications for all are enormous. Toxic emissions into air and our water include fluoride, sulphur dioxide, polycyclic aromatic hydrocarbons, nitrogen dioxide, carbon dioxide, other greenhouse gases and others - all of which have severe impacts, such as respiratory diseases, cancers, Alzheimer's disease, brittle bone diseases, smog and acid rain.

Despite the latest findings by leading scientists that establish a clear link between the exposure to fluoride and lung and bladder cancers in smelter workers, and despite health warnings Alcoa sent out to 3 000 of its workers worldwide, the CDC continues to deny there could be any problems.

Whether or not fluoride or any of the other toxic substances occur naturally in the environment or

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not is beside the point - exposure to large amounts can and will have disastrous consequences.

As for the claims that "all is well in Richards Bay", various environmental organisations, including the Richards Bay Clean Air Association and Groundwork, most certainly differ. Richards Bay's residents are exposed to smog and pollution daily, with aluminium smelters being the prime suspects.

And let's not forget the issue of global warming - 1,8 tons of carbon dioxide is produced for every ton of aluminium. This figure alone should be enough to warrant a resounding "No" to the whole issue of aluminium smelters.

Another worrying factor, the issue of what will happen to the waste produced by the smelter, has not been clarified.

The spent pot linings, for example, is hazardous waste and needs to be stored in sealed waterproof containers. We would like to know where these will be stored and how it will be guaranteed that there will be no leakages and seeping of toxins into our water?

There are also serious concerns about the dust of the raw material, which will be easily spread by the wind.

Various community activists and environmentalists have presented suggestions and plans for environmentally friendly alternatives for Coega, including a multifaceted approach that combines agriculture, marine-culture, eco- tourism and the massive expansion of infrastructure. However, these seem to have been ignored .

We would like to remind the CDC, the government and the public that our Constitution guarantees that "everyone has the right a) to an environment that is not harmful to their health or well-being; and b) to have the environment protected".

We sincerely hope that the South African government will have a change of heart and reconsider the impact the proposed Coega smelters will have on South Africa's environment and therefore its citizens.

Members of Earthlife Africa, Nimble, The Zwartkops Trust, The Valley Bushveld Affected Parties, citrus farmers and concerned members of the public contributed to this article.

Eskom's power generation plans – 3% renewable input in 2027

By Richard Worthington

11th of June 2007

Thulani Gcabashe, CEO of Eskom Holdings, gave an address at the recent Power Conference in Johannesburg 'Strategies for Future Power Capacity in South Africa' that contains some interesting and revealing figures. The overview of plans over the next 20 years is clearly not comprehensive and does not rule out technologies being brought into the project portfolio that are currently (at least for Eskom) in the research and development stage, such as Concentrated Solar (thermal) Power (CSP). However, it is broadly indicative of where Eskom expects to be. As his headings is: Meeting Climate Change and Energy Security Challenges, it is implied that this is also where Eskom thinks

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it should be, which is rather scary.

The text is confused about what planned new generation capacity is additional to what approved new build and makes no mention of plant that reaches the end of its forecast life before 2027, but plans are to meet a forecast 4% demand growth. He notes: “total system capacity by 1 June 2007 will be 38 368 MW (includes 1050 MW from the newly commissioned Open Cycle Gas Turbines at Mossel Bay and Atlantis, and 1110 MW from the Return to Service project of previously moth-balled power stations – mainly Camden)”. Increase this at a 4% growth rate and we should have about 84 000 MW generating capacity in 2027.

The plan is also to increase reserve capacity, from about 5% as at June 2007, to 15%. Gcabashe also notes that: “Demand side management and energy efficiency schemes would be implemented to deliver a total of 8000 MW in savings over this period.” He does not specify whether this is taken into account in the demand growth forecast, so for this exercise I will off-set the DSM savings against the need for a 10% increase in reserve margin (i.e. additional to the demand growth). Thus at least 84 000 MW of actual operational plant is anticipated in 2027 for supply to meet the forecast demand growth.

As Mathabo le Roux has noted in Business Day (2 May: SA talks green, acts dirty, on carbon emissions) Gcabashe’s promise of “increasing renewable power generation by 1 600 MW” does not amount to much in this context, even if it is almost trebling from the current base of 865 MW. The total would constitute about 3% of total generating capacity. Given that the power rating of generating capacity does not reflect the actual output of plant, due to differences in availability, the actual contribution from renewables would be lower than reflected in the share of rated capacity.

The commitment that Eskom is planning for a future portfolio that “would reduce coal-based generation from 86% to less than 70% in 20 years.” is worrying. Firstly, because other sources put the share of coal in the generation mix at upwards of 92% - depending on the availability of Koeberg in any year. The Open Cycle Gas Turbines could reduce this by 2.7%, although, as this will be operated primarily to meet peak demand, this is not the proportion it will contribute to electricity despatched. Secondly, because it ignores the previous Eskom commitment, made in 2002 and reiterated in 2005, to reduce the share of coal by 10% in the ten years to 2012. Thirdly, because this is intended to be achieved almost entirely by nuclear power, thus sacrificing the multiple benefits that could be achieved if the required spending were used to develop local industries in renewable energy technologies (RETs).

The long lead time for new nuclear plant and repeated deferment of the PBMR programme, as the design has been reworked, would explain Eskom abandoning the 10% target, although it could still be achieved with RETs. However, an Eskom spokesperson last year claimed that they would meet the target – including through demand side management measures! It seems Eskom will claim that avoiding wasteful use is equivalent to reducing their dependence on coal. This will also presumably contribute to the targeted 8 000 MW of avoided generation over the 20 year period.

Energy Efficiency Agencies
By Richard Worthington
14th of June 2007

The CEO of the National Energy Efficiency Agency (NEEA) assured us that we would be informed

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when funds were received by the agency and we have received no such notification. It was our understanding that the agency would play a leading role in managing, or at least informing the use of, funds for efficiency and demand side management derived from the levy on electricity sales, currently held by Eskom. While the CEO, currently on secondment from Eskom, is known as a tireless worker, one person does not make a national agency. One might be excused for thinking that government is content to be able to say that they have created such an institution.

It was on 6 March 2006 that the Minister of Minerals and Energy told parliament: "I have [therefore] signed a directive to CEF to have the National Energy Efficiency Agency established by 1 April 2006."

Last month DME Director General Adv S. Nogxina announced (according to Business Report, 2 May): "new legislation will mandate the use of healthy, safe, energy-efficient and environmentally friendly energy appliances. It would also create parastatal bodies that would promote energy efficiency, renewable energy planning and environmental protection."

As we have also been informed by the Ministry that the NEEA would get a legislative mandate through the National Energy Bill (NEB), it seems to follow that the DG was referring to a revised version of this draft legislation, published in 2004 with a deadline for public comment of 12 November 2004.

One can only hope that local governments are not waiting for a national institution before developing agencies of their own, of which there are many examples internationally. A potential role for a city agency would be in enforcement and implementation of energy efficiency standards, as provided for in the National Energy Efficiency Strategy of 2005. One approach to this is to impose a charge on all commercial facilities (from building management to dry-cleaning companies) that do not conform to a standard of energy efficiency appropriate to their service and readily available equipment and then offer rebates (up to 100%) to finance improvements that will bring them into compliance with the standard. To reduce costs the agency provides relevant expertise, including a contracting service to bring in Energy Service Companies (ESCOs), monitor their performance and certify compliance with the standard.

This is basically a more formal, targeted, mandatory and transparent way of doing what Eskom is theoretically doing at a national level: using funds from a charge (levy on electricity sales) to finance the work of ESCOs; although in the latter case the beneficiaries do not correspond to those paying the charge, there is no progress in the use of standards (thus careless or recalcitrant business is not brought into the programme) and there is little transparency, as it is directed not by an accountable government department, but by a corporate entity apparently driven solely by the same dynamics as private capital.

There seems little prospect that the process of creation of the NEEA will be completed – i.e. that a National Energy Bill or equivalent will have been approved by cabinet, debated within NEDLAC, debated in parliament, possibly amended at every stage and finally enacted – before the end of 2008. The creation of municipal energy efficiency agencies is compatible with Constitutional provisions regarding powers of local government and with the creation of Regional Electricity Distributors.

Perhaps we need to accept that Eskom is not going to give up its control over funds raised at national level and at this level initiatives will remain ad hoc and purely voluntary. We can expect some transfer to the NEEA to lend it some credibility (there was talk of R20 million last year), but

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the recent announcement of R2 billion in subsidies for solar water heating as an Eskom programme, although not yet approved by the Board, suggests strong resistance to national competency for energy efficiency being transferred to an empowered, independent and accountable agency.

Perhaps we must look to local government to lead the way. In energy regulation and implementation of the National Energy Efficiency Strategy, as in planning, setting targets and introducing pro-poor tariff structures (e.g. Cape Town's stepped block tariff), we need pro-active local government, supported by progressive elements in the private sector. City energy efficiency agencies would complement other responsibilities (e.g. local air quality) and drive the development of ESCOs – many of which are struggling SMMEs – within a well-regulated and empowering context.

Energy Caucus Feedback

With an internal preparatory meeting concluded, processes are hopefully underway within the Department of Minerals and Energy to hold a meeting in July with Minister Buyelwa Sonjica to discuss Energy Caucus demands for 2007. These are:

- 1) Expansion of the current lifeline allocation of 50kwh per household to an increased per person allocation of free, basic electricity
- 2) Introduction of a Stepped-Block tariff to harmonize electricity tariffs, promote energy efficiency, and fund increased per person allocation of basic, free electricity
- 3) Concerns regarding the Draft Biofuels Industrial Strategy, including its lack of provisions to target poverty reduction and job creation
- 4) The on-going neglect of South Africa's potential to be a leading player in renewable energy development and the context within which the RE target will be reviewed in 2008

Members of the Energy Caucus will be making submissions to the Portfolio Committee on Environmental Affairs and Tourism at public hearings on Nuclear Energy on Wednesday 20 June, 2007.

3. SA Sustainable Energy progress

New energy law for Western Cape on the cards
Mail & Guardian
12 June 2007

Energy production in the Western Cape is set to become cleaner and greener with the introduction of ground-breaking legislation that will kick-start the renewable energy industry throughout the province.

The legislation includes a range of incentives, tariffs and tax breaks to stimulate the use of renewable energy across the residential, commercial and industrial sectors, the Cape Times reported on Tuesday.

It may even see the introduction of a mechanism that pays residents who produce their own renewable energy, to feed this energy back into the national grid.

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Tasneem Essop, provincial minister for both Economic Development and for Environmental Affairs and Development Planning, announced at the climate change and renewable energy conference held in the city that she would begin the drafting of a renewable energy Act for the Western Cape.

The new legislation will also improve energy security in a province plagued by blackouts, and will help reduce the country's carbon footprint. It is also likely to include regulations that make it mandatory for new large housing projects, such as golf course developments, to have solar water heating and energy-efficient devices in all houses.

The director of the province's strategic environmental management, Mark Gordon, said on Monday that because energy was not a provincial competency, the provincial government had to partner with the national government to draw up the new legislation, particularly with the Treasury, the Department of Minerals and Energy Affairs and the National Energy Regulator of South Africa (Nersa).

South Africa, which burns coal for over 90% of its electricity, is the seventh highest per capita emitter of carbon in the world.

The legislation is expected to be promulgated within two years.

'We'll toyi-toyi with our 4x4s'

Wheels24

24th of May 2007

By Lara Atson and Cherice Smith

Owners of 4x4 sports utility vehicles and car dealers have reacted sharply about possible taxation of new 4x4s. Should this proposal be accepted, existing owners of these luxury vehicles might also pay higher licence fees.

Dr Elsa du Toit, director of energy sufficiency by the department of minerals and energy on Tuesday proposed that the buying price of sports utility vehicles be taxed by 33%. This tax would be measured by the engine's kilowatt and was aimed at reducing energy consumption by 9% by 2015.

"This is only a proposal and we will investigate the implications," said Du Toit.

'Stuff the government, man'

Johan Geldenhuys, 4x4 collector from Parow, said he would be very upset about such taxation. "I will curse the government. V8 vehicles, such as Jaguars, emit more carbon dioxide than 4x4s. Stuff the government, man."

Justin Brody from Cape Town owns a Land-Rover. "It already costs between R700 and R900 to license my vehicle. They are robbing those who can afford these vehicles."

Greg van der Reis owns a Toyota Land Cruiser. He believed such taxation would be unacceptable. "They are trying to milk us for money. We already pay between R250 and R400 to use 4x4 routes over weekends."

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Dealers believed the possibility of taxation could harm the vehicle industry.

Peter Geldenhuys, sales manager for Land-Rover Cape Town, said a normal Land-Rover cost about R500 000. "If you add 33% tax, buyers would have to pay about R165 000 more. This would definitely deter people from buying such a vehicle. I believe we will have to toyi-toyi with our Land-Rovers."

Geldenhuys is also the chairperson of the Cape Land-Rover Club. "When we drive, we look after the environment. Other people with 4x4s don't care. But we have to suffer."

Guy Kilfoil, communications manager for Auto Motors BMW, said a more scientific approach should be used, such as determining a maximum carbon dioxide count. Any vehicle emitting more than that should be taxed.

"Why penalise a small group who owns premium vehicles, while buses and trucks in their thousands continue to emit carbon dioxide?"

He said BMW's X5 might be a 4x4, but it used 27% less fuel and emitted less carbon dioxide than a five-year-old sedan.

Environmental organisations welcomed the additional taxation for energy saving purposes.

Richard Worthington, co-ordinator for Earthlife Africa, said the taxation was a good idea. "I'm disappointed that it still only an idea and that it has not been implemented already."

Blessing Manale, spokesperson for the department of environmental affairs and tourism, said they welcomed the proposal which would curb energy consumption by motorists.

4. SA Unsustainable Energy

Minister Has a Cheek Threatening Electricity Consumption Fines

Business Day (Johannesburg)

4 June 2007

By Rob Rose

NOT many people know that Egypt's second-largest city, Alexandria, came perilously close to becoming a ghost town in the 19th century, as its population dwindled to fewer than 200 after various Arab and Ottoman conquests.

In fact, this once-great city founded by Alexander the Great about 334BC, which boasted the most important library in antiquity and a pretty famous lighthouse too, was little more than a fishing dorp in the 1800s, before its current reinvention as a city with more than 3,3-million people.

Now, the lessons on how to revive a ghost town are something you might expect the architects of Port Elizabeth's unsightly industrial development zone, Coega, ought to have been diligently swatting up on.

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If Coega is the local equivalent of a ghost town, it is one with a peculiar twist: government built it for R7,5bn with no inhabitants, threw open the doors and not even a car guard pitched up.

Thankfully, some small firms have ridden into the vast open halls at Coega of late and set up shop, but it is government's nail-biting efforts to woo an "anchor tenant" that have filled the zone's silent halls with the sweat of quiet desperation.

After six frustrating years, things began to look up when Canadian aluminium producer Alcan said it would fill the vacancy and build a R20bn smelter. But in recent days, there have been some pretty dewy foreheads in government as a number of beastly firms are stalking Alcan for a takeover.

Alcoa, for one, plans to make a \$27,7bn bid, and now it seems Norsk Hydro ASA and Rio Tinto are considering rival bids. Alcoa, at least, said it "stands ready to carry Alcan's projects forward" -- hardly surprising when you consider the generous deal Alcan has.

But given the energy needs for the smelter, it might be the best thing if it were scrapped.

After all, Alcan is being cut a special deal for the massive 1350MW of power it needs, through a bargain price with Eskom under the (bizarrely titled) "development electricity pricing programme".

Aluminium smelters are particularly energy intensive, and 1350MW is enough to run a city and equal to nearly 4% of SA's entire 37000MW capacity.

But Eskom, being Eskom, is keeping the exact price it has given Alcan a secret. Earthlife Africa reasonably says the danger is that Eskom may be subsidising a project that will create fewer than 1000 fulltime jobs.

But while you could afford to ignore this sideshow until now, this whole debacle assumed vivid life last week when Mineral and Energy Affairs Minister Buyelwa Sonjica threatened to impose fines on individual consumers who don't cut back on their electricity use. Sonjica says these fines aim to promote a culture of "energy efficiency".

But it seems energy efficiency wasn't foremost in the mind when the government cut a deal with Alcan at a discount tax rate for a project that will require a gobsmacking amount of energy.

This also smacks of a common tactic of the government to blame consumers for its defects.

It was the government's dithering over allowing Eskom to build new power stations from 1998 to 2004 that caused the present power squeeze.

As a result, surplus electricity capacity is now at 8% -- half the global norm. It's all rather a bleak picture as Eskom sets about its R150bn plan to increase capacity to 39000MW by 2012.

But Sonjica's sentiments about power-mad consumers, greedily buying new appliances just for the thrill of plugging them in, is even more objectionable considering that besides cheap power, government is also giving Alcan tax breaks.

It is also thought that most of the aluminium produced by Alcan at Coega will be shunted into the

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export market, rather than being beneficiated in this country. In the 1950s, aluminium was dubbed "congealed electricity" given the large amount of power needed to produce the metal.

Effectively, you could then argue that government is simply allowing Alcan to "export electricity" at a time when we won't exactly be overflowing with spare capacity.

The gall of the government's Lords of Darkness, in seeking to slap fines on its citizens for using electricity when these officials are willing to sell their souls to attract a power-guzzling smelter, tells you much.

And their efforts to sweep away the tumbleweeds from the forlorn industrial development zone hint at a desperation for political validation for Coega.

Coal-fired Mr Climate Change
Mail & Guardian
Jocelyn Newmarch
15 May 2007

In the same week that a major climate conference said that gas-emission cuts need to be both drastic and urgent, Minister of Environmental Affairs and Tourism Marthinus van Schalkwyk gave his go-ahead for a giant new Eskom coal-fired power station.

The world's leading authority on climate change, the United Nations's Intergovernmental Panel on Climate Change (IPCC), in Bangkok warned that the world has just 10 years to implement radical new strategies to combat global warming. Commentators stress the urgency by saying that it takes 10 years to build a new nuclear plant, the same period the IPCC recommends for the new policies to be in place.

The IPCC presented a best-case scenario for limiting global warming to between two and 2,4 degrees Celsius. To achieve this, greenhouse-gas emissions must start declining by 2015. The IPCC's report warns that emissions will have to be cut between 50% and 85% of year-2000 levels by 2015, and urges greater use of renewable energy sources.

Van Schalkwyk signalled that it is business as usual for South Africa and gave the go-ahead to Eskom for its first new coal-fired power station in Limpopo. Earthlife Africa has objected to the new facility, saying it will lead to a 25% increase in South Africa's carbon emissions. On Monday, Van Schalkwyk told the Star that urgent action is needed on climate change.

Currently, South Africa's only nuclear plant, Koeberg, supplies about 1 800MW of the country's power, mainly to the Western Cape. More than 40 000MW of new generating capacity is required over the next 20 years, says Eskom spokesperson Tony Stott, and this could come from a variety of sources. Currently, renewable sources such as wind and solar power are more suitable for peak electricity generation, to complement base load stations.

Only a few energy sources are suitable for base load electricity generation, which requires electricity to be generated continuously. These include coal, uranium, natural gas, hydropower and petroleum. Coal and uranium are the two fuel sources South Africa has in abundance, and until now we have relied mainly on coal for electricity. Eskom, Stott says, is investigating both.

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Worldwide, governments are shifting to investment in nuclear power and forcing coal-fired power stations to include external costs. Argentina aims to shift nuclear contribution to electricity generation from 6% to 27% and is exporting a reactor to Australia. Germany was slated by the European environment commissioner for its plan to build 26 coal-fired power stations, to make use of its large brown-coal reserves. The European Union is aiming to include the external costs, such as damage to the environment, of coal power in electricity generation, and some estimates see the price of electricity from this source doubling as a result.

The capital costs of nuclear power are higher than that for coal power, says Stott. But if costs are compared for the full life cycle, and carbon taxes are imposed on future coal stations, then nuclear power is more competitive. If these taxes don't materialise, coal power is likely to be more competitive.

The average efficiency of the United Kingdom's power stations in 2004 was just 38,5%. The best coal-powered stations have an efficiency of 40%, meaning that 60% of the coal's energy is wasted, according to George Monbiot's latest book, Heat. In South Africa, there is further energy wastage as power is transmitted over long distances, such as from Mpumalanga to the Western Cape.

Rob Adam, chief executive of the Nuclear Energy Corporation of South Africa, says that nuclear power is the only workable solution for far-flung provinces such as the Western and Eastern Cape. Nuclear stations can be located where the consumer is, rather than where the mine is. Coal-powered fuel stations are concentrated in Mpumalanga, but power is lost when transmitting over distance. In the absence of coal deposits, Adam favours nuclear stations, such as Koeberg, for these provinces.

"By a process of elimination, one gets to nuclear. Wind and solar have a role to play; we put research into them, but one can't guarantee their reliability. One won't bet on them for industrial base load," he says.

Nuclear power would reduce our carbon footprint, but opinion is divided on its suitability, given waste storage and safety concerns. Environmentalists resent the growing cost of the pebble-bed modular reactor (PBMR), which has already spent more than R2-billion and is projected to cost another R11,3-billion. This is before a single unit of power has yet been produced. Critics say that the focus on the PBMR as an alternative energy source has drawn investment away from wind and solar power.

According to Stott, Eskom is investigating the feasibility of both the PBMR technology and conventional nuclear power stations, including more advanced versions of Koeberg-type power stations. Nuclear power produces virtually no greenhouse gases, he says.

"Over its full life cycle -- from mining of the uranium, iron ore and other minerals, manufacture of the components and construction of the power station through to decommissioning of the station and the management and disposal of waste -- nuclear power emits less than 11g of carbon equivalent per kWh. This is the same order of magnitude as wind and solar power, including construction and component manufacturing, and two orders of magnitude below (that is, one-hundredth of) the average for coal, oil and natural gas," he says.

Stott says it is likely that both coal-fired power and nuclear will be used to meet future base load demand. Nuclear power, he adds, has the potential to make a substantial contribution to sustainable

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development and a significant contribution to reducing South Africa's greenhouse-gas emissions.

But because there is a longer lead time for nuclear power stations, Eskom's first new base load station will be the coal-powered Medupi plant. Stott says future base load stations could be either coal-fired or nuclear, depending on lead times, economics and government approval.

One overlooked advantage of Koeberg is that it uses sea water to cool its condensers, which is returned to the sea after use. According to Eskom, a coal-fired power station of the same size would use more than 160-billion litres of fresh water, and the water would be consumed entirely, compared with Koeberg's 7,5 tonnes of uranium over 21 years. Any nuclear station located in Gauteng would have to use fresh water, perhaps from the Vaal River, but this could potentially be reused for agriculture. Given that water is increasingly scarce in South Africa, this is a substantial advantage.

But environmentalists are sceptical of nuclear power. Earthlife Africa quotes a Friends of the Earth International claim that compared with renewable energy, nuclear power releases between three and four times more carbon dioxide per unit of energy produced, taking account of the whole fuel cycle. "If nuclear energy generation is to expand, demand for uranium will increase and lower and lower grades of this ore will be used," the organisation says.

Generating nuclear power also uses fossil fuels, and uranium is a finite resource. Earthlife Africa says that most uranium resources will be depleted in 60 years if global nuclear energy production is maintained. The remaining uranium will either be expensive to mine or unsuitable for electricity generation.

Instead, the organisation favours energy-saving measures to ease electricity demand and investment in renewable power, which it says will increase energy security and create jobs.

Link:

http://www.mg.co.za/articlePage.aspx?articleid=308382&area=/insight/insight__economy__business/#

Sasol to decide on \$14 bn China refineries investment next year: The world's largest producer of motor fuel from coal also plans to build plants in the US, Nigeria, India, Australia
Stewart Bailey/Bloomberg
16th of May 2007

Johannesburg: Sasol Ltd, the world's largest producer of motor fuel from coal, said it will decide late next year whether to invest as much as \$14 billion (around Rs57,400 crore) in two 80,000 barrel-a-day refineries in China.

Sasol, which uses technology first designed by German scientists and refined by South African engineers since 1950 to convert coal and gas into fuel, also plans to build new plants in the US, Nigeria, India and Australia.

The company started a study on the feasibility of the two coal-to-motor fuel plants last year after a visit by Chinese premier Wen Jiabao to South Africa, Herbert Naude, Sasol's investor relations representative, said. The plants won't be operational before the end of 2013, he -added.

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“We need to make sure certain things are in place, coal supply, product offtake and capital estimates, before we go ahead,” Naude told investors at an UBS Global Alternative Energy Conference in New York.

Demand for the company’s technology is rising as countries with coal and gas reserves seek to reduce their dependence on crude oil imports. The plants are planned for the Shaanxi and Ningxia provinces in China, Naude said.

The company, which produces more than 40% of South Africa’s motor fuel, plans capital expenditure of \$20 billion between this year and 2009. It is also studying the construction of a new, 80,000 barrel-a-day refinery in South Africa as the country is starting to import about 5% of its liquid fuel, he said. “There is a need for us, strategically and also economically to build another facility in the country,” Naude said.

Link: <http://www.livemint.com/2007/05/16235841/Sasol-to-decide-on-14-bn-Chin.html>

5. SA Energy Policy & Analysis

Eskom favours nuclear above renewable energy

Cape Times

8th of June 2007

By Melanie Gosling

Eskom has a budget of R6-billion for nuclear energy, but a mere R4,5-million for renewable energy.

This vast difference in South Africa's energy spending was highlighted at the Renewable Energy and Climate Change conference on Thursday, hosted by the Western Cape's department of environmental affairs and development planning.

Yaw Afrane-Okese, renewable energy specialist at the National Energy Regulator of South Africa (Nersa), told delegates that part of Nersa's job was to review Eskom's budget.

He said anyone who compared the amount Eskom spent on nuclear energy with the amount it spent on renewable energy, would be "amazed". "If you compare this (R4,5m on renewables) to the billions on nuclear energy, really, there is nothing green here, far from green," Afrane-Okese said.

Read the rest at:

http://www.iol.co.za/index.php?set_id=1&click_id=13&art_id=vn20070608011503150C550833

Analysis: power cuts in South Africa

Global Insight

14th of June 2007

The electricity sector’s contribution to overall GDP in South Africa halved from 1990 to 2006. The country is thus facing a serious electricity supply problem due to spiralling demand for power and rapidly dwindling excess capacity, according to analysts Global Insight.

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The reserve margin recently fell to record low levels of only 8 per cent against an average international norm of 15 per cent.

The balance between electricity supply and demand is extremely tight, particularly during the winter season when demand peaks, and is likely to remain tenuous over the next few years. A series of power outages that ran into several days recently highlighted the urgency to expand electricity supply and led Eskom, the state-owned electricity supplier, to accelerate plans for the construction of new power stations at a cost of more than 150 billion rand (US\$21.5 billion) over the next five years.

Serious discussions have been held between Eskom, the public enterprises, minerals and energy departments of the government, and the National Energy Regulator of SA (Nersa), resulting in several reports highlighting the problems facing the industry and suggesting possible ways forward.

On the capacity-generating front, several options are to be explored. Eskom is accelerating the construction of new power stations at a cost of more than 150 billion rand over five years, and has called on consumers to cut back dramatically on power use.

Unfortunately, the construction plans are largely long term and do not focus on tackling the shortfall of supply in the short term. The most recent of these plans includes a base load, coal-fired power station of 66 billion rand - Project Alpha - with Exxaro Resources as the coal supplier in the country's northern region. Alpha Exxaro is South Africa's fourth-largest coal producer and the largest supplier of coal to Eskom, which generates the bulk of its electricity generation through coal-fired plants. Project Alpha was originally due to deliver 2,250MW of power, but has since doubled that planned capacity.

Other programmes aimed at increasing capacity include two open-cycle gas turbines in the Western Cape, the refurbishment of mothballed plants and another nuclear power plant in the Western Cape at an estimated cost of US\$400 million. Nersa has also recently approved a licence for private company Petroline to construct a petroleum pipeline from the Mozambique-South Africa border to the mainly coal-producing region of Witbank - about 120km east of Johannesburg - and for the construction of a petroleum storage facility. Importing more power, particularly from Namibia when Kudu Gas comes onstream and possibly from other sub-Saharan countries, is also on the books.

While concerns about the security of the electricity supply have largely concentrated on Eskom's underinvestment in generating capacity, little has been said about the state of electricity distribution in the country.

A recent report published by Nersa entailed an audit of 11 large distributors - including Ekurhuleni, Tshwane, Cape Town, eThekweni, Emfuleni, Mangaung, Msunduzi, Rustenburg, Nelson Mandela Metro and the Eskom southern and north-west regions - and painted a bleak picture of the state of electricity distribution in the country, especially in metro areas and small municipalities. A lack of investment and a critical shortage of skills are seen to be the main threats to the continued supply of power. Massive investment will be needed just to maintain the present service level, with annual capital expenditure estimated at 422 million rand, to which a refurbishment backlog - estimated at the end of 2005 at 431 million rand - should be added.

Distribution restructuring includes a proposal whereby national electricity distribution would be

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divided between six regional electricity distributors (REDs), which would take over the provision of electricity from municipalities.

The REDs would offer economies of scale and the advantages of focused and ring-fenced electricity businesses, but the legislation to put it all into effect is taking some time as it involves the transfer of assets from the municipalities and Eskom to the REDs, leading to a loss in revenue for the municipalities. The legislation is thus subject to much debate and is expected to undergo several amendments before it is implemented.

Concerns relating to climate change issues, aggravated by the use of fossil fuels, are pertinent as South Africa will be burning a lot more coal in future to power the economy. As these concerns grow, the global trend is to diversify away from finite fossil fuels towards renewable energy in an effort to mitigate the impact on the environment. Concerns arise that in the frenzy to meet electricity demand, the aim to decrease pollution is put on the backburner. Although Eskom has stated plans to cut coal-based generation and to almost treble the contribution of renewable energy to the energy mix, it may just not be possible to stick to these commitments.

The need to fund all the expansion programmes will also inevitably lead to rising costs as the sale of electricity is the main source of funds for Eskom. Eskom's managing director of resources and strategy, Steve Lennon, has indicated that the parastatal would ask Nersa for an 18 per cent increase in tariffs.

Although the regulator has already set the tariffs for the period up until 2008, it would have to consider the rapid dwindling of electricity supplies in determining future electricity price increases and the continued disruption to the economy, which in the longer term could only hurt the potential growth rate. It is unlikely that a further tariff increase would occur this year, but we do foresee sharper tariff increases to occur from 2008 onwards. Manufacturing and construction companies are already feeling the pinch of higher input costs as a result of the tighter monetary conditions in South Africa. A significant increase in energy costs could slow growth in these sectors over the short term.

The electricity sector's contribution to overall GDP has halved from 1990 to 2006. The electricity supply and distribution industry is thus in serious trouble in South Africa. Solutions to the problem involve huge investment spending, skills development and policy measures, which take some time to come into effect. Over the short term, the inevitable result would be upward pressure on prices and ultimately interest rates, increasing the already high input costs of the main engines of growth in the SA economy, the manufacturing and construction sectors. As a result, achieving the government's growth target could quite possibly come under threat. Global Insight foresees the monetary loosening expected from the beginning of 2008 to be mild and short-lived as capacity problems will maintain pressure on prices. Most of the electricity capacity-generating programmes are only expected to come online in 2010. Longer-term concerns include environmental problems resulting from increased pollution from more coal-fired power stations, which ultimately will impact negatively on growth.

Global Insight is an analysis and forecasting independent company providing economic, financial, and political coverage of countries, regions, and industries .

Link: <http://www.engineerlive.com/in-our-opinion/17708/analysis-power-cuts-in-south-africa.shtml>

6. African Energy News

Africa energy sector needs reform, funds, IMF says

1st of Jun 2007

By Orla Ryan

ACCRA (Reuters) - Africa's dilapidated energy sector urgently needs reform and fresh investment to combat chronic power shortages which undermine economic growth on the world's poorest continent, a senior IMF official said on Thursday.

The International Monetary Fund's Africa Director, Abdoulaye Bio-Tchane, told Reuters in an interview that many African countries had suffered long-term underinvestment and neglect of their power infrastructure.

In recent years, rising demand for electricity and drought, affecting hydroelectric generation, had led to power shortages which sapped economic growth.

"I know countries on the continent that have seen industrial output fall by 20 percent, 20 to 30 percent (due to power problems), with the same impact on growth," Bio-Tchane said. "So clearly it is one of the biggest challenges on the continent today," he added, pointing to power shortages in Tanzania, Benin and South Africa.

In some cases, power deficits had been exacerbated by slow or non-existent reform of the energy sector, Bio-Tchane said.

"That has not led to additional supply or has led to insufficient supply," he said.

NO INCENTIVE

"If you have energy costing more to produce than is billed to the customer, there is no incentive to create additional generation," Bio-Tchane added.

So reforms were needed if private firms were to invest in the continent's under-resourced energy sector, he said.

"If you have an appropriate institutional framework and an appropriate incentive package, you clearly create an environment that will allow private investors to come in and generate and sell electricity," the IMF official said.

Until that happened, many ordinary consumers would continue to suffer without power, while businesses carried the cost of generating their own electricity. Increasingly, the African Union and regional groupings like the Economic Community of West African States (ECOWAS) have called for big infrastructure investments in power generation. Companies from China are among those investing in African power projects as the country boosts its economic and political ties with the continent.

Analysts put the cost of power shortages to the corporate sector in Ghana -- the world's No. 2 cocoa producer and Africa's second biggest gold miner after South Africa -- at just over \$60 million a

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month. Since August last year, poor rainfall has led to power rationing in the West African country, which relies on hydroelectric generation. Despite the power cuts, Ghana's central bank has said it is confident that the economy will grow about 6 percent this year, a forecast many analysts view as optimistic.

Similarly, Senegal has also been hit by a spate of recent power cuts, due to high fuel prices and a cash crunch at the state-run electricity company, Senelec.

<http://africa.reuters.com/business/news/usnBAN123216.html>

Davos forum tackles Africa energy poverty
June 13, 2007

CAPE TOWN, South Africa, June 13 (UPI) -- Lesotho and Congo will benefit from renewed private interest in providing energy to poor African nations.

On Wednesday, the World Economic Forum said that Canada's British Columbia Hydro and Power Authority, as well as South Africa's Eskom and Vateenfall of Sweden have committed to projects that will provide electricity in those two countries in partnership with the Development Bank of Southern Africa.

The projects, which are part of the WEF's energy poverty alliance, will "link international business capability with local community needs, to develop a brand for electrification projects, and help develop financing mechanisms," said the forum's Energy Director Christoph Frei.

Meanwhile, participants stressed the need for the local governments and communities to take ownership of the endeavors which and expected to provide electricity to more than 70,000 in Lesotho and Congo.

"The key element is local empowerment and local economic sustainability, i.e. that the power systems are operated and maintained without the need for subsidies or transfers from the outside," said Steve Lennon, managing director of resources and strategy at Eskom.

The Geneva-based WEF is best known as the organizer of its annual meeting in Davos, Switzerland, that brings together business executives, experts and celebrities to discuss global issues.

Link:

http://www.upi.com/Energy/Briefing/2007/06/13/davos_forum_tackles_africa_energy_poverty/7557/

CIC May Sell Stake in Botswana Power Plant to Japanese Investor
May 25, 2007
By Joseph Balise and Stewart Bailey

May 25 (Bloomberg) -- CIC Energy Corp. may sell a stake in a planned \$5.9 billion power project in Botswana to a Japanese partner to access funding from the state-owned Japan Bank for International Cooperation. CIC, based in Toronto, and International Power Plc expect to start

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developing the Mmamabula coal mine and power plant early next year, said CIC Chief Executive Officer Greg Kinross.

"A third Japanese equity partner may eventually join CIC and IPR in order to access attractive Japanese Bank for International Cooperation financing," Kinross said told journalists today in Gaborone, Botswana's capital. He didn't name the potential Japanese partner.

CIC and International Power will exploit a power shortage in southern Africa and the desire of Botswana, the world's largest diamond producer, to diversify its economy. Most of the power will be sold to South Africa's state-owned Eskom Holdings Ltd. under a 40-year contract. Negotiations for the sale of power to Eskom and state-owned Botswana Power Corp. are "advancing well," Kinross said.

CIC's stock has more than doubled over the past year, giving it a market value of C\$691 million (\$636.5 million).

The Mmamabula plant is expected to start generating electricity in July 2012, Kinross said, later than the original planned start-up in 2011. That's a year after the adjoining mine, which will supply the plant with as much as 9 million tons of coal a year, starts production, he added.

Link: <http://www.bloomberg.com/apps/news?pid=20601082&sid=aIS4NqrCUmKY&refer=canada>

7. Events

Appeal to Readers: The Department of Minerals and Energy is rumoured to be holding an uber-important conference in the 3rd quarter of this year. If anyone has information about this, please do let us know. We are interested.

June 2007

2007 AFRICA ENERGY FORUM

Date: 27 to 29th June 2007

Venue: Hamburg, Germany

Contact: (Tel) +44 208 547 0698

E-mail: bruno@energynet.co.uk

July 2007

CLEAN AIR 2007

Date: 2nd to 5th July 2007

Venue: Pova de Varzim, Portugal

Contact: Maria Fernanda Afonso (Conference Secretary)

Tel: +351 21 841 7378

Fax: +351 21 847 5545

E-mail: cleanair@ist.utl.pt

Website: <http://rgesd.ist.utl.pt/cleanair>

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August 2007

FRONTIERS IN MANAGING REFORM AND REGULATION OF INFRASTRUCTURE UTILITIES

Date: 13 to 17th August 2007

Venue: Graduate School of Business, University of Cape Town, Cape Town, SouthAfrica

Contact: Gamieda Gierdien

Tel: +27 (0) 21 406 1361

Fax: +27 (0) 21 406 1070

E-mail: mir@gsb.uct.ac.za

Website and online registration: www.gsb.uct.ac.za/mir

SUSTAIN

Date: 15 to 17th August 2007

Venue: Sandton Convention Centre, Johannesburg, South Africa

Contact: Tel: (011) 886 3734

E-mail: ziat@exhibitafrica.co.za

CLIMATE CHANGE ACTION AFRICA

Date: 28 to 30th August 2007

Venue: Midrand, Johannesburg, South Africa

Contact: +27 (0)11 669 5000

E-mail: info@iqpc.co.za

Note: SECCP Coordinator will be chairing

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