

SUSTAINABLE ENERGY NEWS on EMAIL (SENSE) number 25

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

SENSE is a monthly publication, edited by Claire Taylor. We welcome any feedback and submissions. Also let us know if you wish to be removed from this list, know someone else who should be receiving SENSE, or if you'd like to receive our separate Climate Change email newsletter, CCEN.

CONTENTS

1. **SECCP News:** Note from SENSE Editor, Report on Bonn renewables2004, Draft Energy Efficiency Strategy, Electricity Pricing Policy means icy winter for poor
2. **SA's Sustainable Energy Progress:** Energy Efficiency Appliance Labelling, Cape Town Presents a 10-Point Energy Plan, Renewable renaissance: local solar breakthrough brings hope, Tenders invited for rural solar power systems, Renewable Energy Summit 2004
3. **Unsustainable Energy: South Africa:** SA to invest R15 billion in new power plants – at the expense of renewables, Commissioning of 3 coal-fired power stations already in progress, Cabinet approves nuclear capacity-building project, Consortium begins study on Drakensberg power scheme, Eskom Watch. **Africa:** Backing sought for power plant, Audit for Lesotho's electricity network. **The Rest of the World:** World Bank to Be More Selective in Oil, Gas Loans.
4. **General Sustainable Energy News:** Renewables have great potential, Bonn Renewables 2004, African and South American countries reject NGOs call for large hydro to be disqualified, Lisbon to try sustainable living, Training Opportunity
5. **SA Energy Policy:** Draft Energy Efficiency Strategy, Electricity Pricing Policy
6. **Upcoming Events:** A preview of energy events in July and August 2004.

1. SECCP News

Note from SENSE Editor

As I finalise this edition of SENSE, the media is full of Minister Mlambo-Ngcuka's defence of nuclear and large-scale hydro projects in our future energy planning. Having just returned from the intergovernmental conference, Bonn renewables 2004, I am aware of how significantly the Minister's statement distances SA from the rest of the world. Globally the trend is an increasing use of renewable energies like solar, wind and small-scale hydro schemes, as countries recognise that

- Nuclear energy is not a "clean fuel" – leaving behind radioactive waste and contaminated equipment
- Big dams are not renewable because they emit significant amount of greenhouse gases, which cause climate change, and they have a limited lifespan – becoming silted up.

The Minister supports nuclear and large-scale hydroelectric schemes because they allow “South Africa to explore its own options,” instead of giving in to what she perceives as western countries wanting to sell their energy solutions to Africa. If the Minister has been persuaded that spending

- Over R10 billion on developing the Pebble Bed Modular Reactor,
- R15 billion into developing new (probably coal fired) power plants
- a large proportion of the R37.7 billion needed to develop hydroelectric Inga power scheme

allows SA to explore its own energy options, she’s been misguided – these technologies have all been imported from western countries.

If the Minister really wants South Africa to explore its own energy options, then we should start spending money on developing and promoting renewable energy technologies that are appropriate for SA. Unlike nuclear and large-scale hydro – renewable energy doesn’t damage the environment, cause hazardous waste, displace thousands of people or secure jobs for a small elite with the right technical skills in nuclear physics and civil engineering.

Other news just in is that the Renewable energy Strategy will only be available in September this year, and that SA is still in the process of ratifying its membership for AFREC – the African Electricity Commission. This body (having first received a mandate from the OAU in 1982, it was recently renewed under the African Union) should be establishing an energy database for Africa that will empower appropriate energy planning and regional co-operation. Given the increasing regionalisation of energy in Africa and plans to export electricity to Europe, establishing this body as a functional entity with access to information and the resources to provide independent advice and expertise, is essential if governments (not to mention civil society) are to play a meaningful role in shaping Africa’s energy path.

Report on Bonn renewables2004

Richard Worthington, Co-ordinator SECCP

Renewables2004 has just taken place in Bonn Germany from 1 to 4 June 2004. The Conference, a follow up to the Johannesburg-held World Summit on Sustainable Development, was well attended by 1400 delegates from 154 countries, including 121 heads of states and ministers. Delegates included South African government and civil society representatives.

It was heartening to see Department of Minerals and Energy officials being supportive of renewable energy at an international level – somewhat more supportive than they have been at the national level. DME officials played a leading role in supporting language recognising that renewable energy and efficiency are becoming the most important source of energy, with an important role to play in reducing poverty and extending access to energy. However, the strongest intervention was more in defence of the achievements of the 'Johannesburg Summit' than in support of explicit action on renewables. The intervention of Deputy Director General Dr Crompton suggested that if the Bonn Political Declaration did not go further than 'Johannesburg' then it ought to be abandoned. This jolted many delegates into becoming more progressive in the wording of the Declaration, so it now takes the agreements of the 'Johannesburg Summit' further.

South Africa’s commitments in the International Action Plan (IAP) are to implement existing policies and programmes, including the Renewable Energy policy and Energy Efficiency Strategy (theoretically subject to public comment at the time of submission to the IAP). Projects noted include the 100MW solar thermal power plant (which chief

director Kevin Nassiep mentioned in a post-conference report will be implemented starting in 2007 at Uppington).

The SA government is keen to see the development of large-scale hydropower projects in Africa and expressed solidarity with the Ugandan Minister of Minerals and Energy, who advocated the use of guidelines developed by the dams industry in preference to those of the World Commission on Dams (WCD). In a rather confusing input to the Plenary, Deputy Minister Xingwana endorsed both the WCD and the Ugandan position. Clearly the SA government is walking a thin line between maintaining the reputability of the WCD process, due to SA's lead role in the process, while not fighting for full implementation.

The over-all output and impact of the conference were disappointing but still positive - the outputs were more substantial than the WSSD Johannesburg Plan of Implementation. The role of renewables in extending access to energy services and reducing poverty were highlighted, as were the shortcomings of conventional energy, particularly large-scale and centralised infrastructure. The wealth of examples and expertise did seem to make an impression on many developing countries. While the US administration was tactful in its obstructive behaviour, Saudi Arabia was blatant in its defence of subsidies for fossil fuels. Both the unhelpful positions of countries defending business as usual and the unfair advantages and externalised costs of conventional energy were recognised by many participants. Nuclear power had far fewer defenders than large hydro.

The conference set a very positive precedent for stakeholder participation and NGOs played a strong role, finding much common ground with other stakeholder groups. Earthlife Africa (Johannesburg) was highly visible both in the NGO meetings and the plenary sessions of the conference itself, including being called upon to make the final input to the last session of real discussion on the penultimate day. The role of SECCP within CURES was welcomed by African participants – including helping to develop an African CURES Statement for the Conference, and Claire Taylor was elected onto the CURES co-ordinating committee as the Southern African representative.

Draft Energy Efficiency Strategy

Claire Taylor

The Minister of Minerals and Energy, Ms Phumzile Mlambo-Ngcuka recently released the Draft Energy Efficiency Strategy for South Africa for public comment.

In an initial submission on the Strategy, SECCP criticised it for not being sufficiently ambitious, for being short on details, specific requirements and time-lines, and for being too focused on end-use efficiency, neglecting efficiency considerations of the entire energy system. Please contact me if you'd like a copy of SECCP's initial submission.

For more information on the Strategy see Section 5 below.

Electricity Pricing Policy means icy winter for poor

Claire Taylor

While wealthier citizens can turn on heaters to beat the cold this winter, SECCP criticised government's draft Electricity Pricing Policy (which was released for public comment in April 2004, with the deadline for submissions being 18 June 2004) because it fails to make electricity more affordable for the poor.

Instead, the draft Policy (in line with current Policy) favours big electricity consumers. The more electricity you use, the more you benefit. This is because the price paid for electricity includes less than half of all the costs incurred in producing it. Externalised costs that are not integrated in the sales price include public health costs for pollution-related illness and environmental damage such as acid rain and climate change.

In its submission on the draft Policy, Earthlife Africa Johannesburg urged government to recognise the special needs of smaller electricity users, especially the poor, who currently don't benefit from the externalisation of electricity prices because they don't use enough electricity (since industry is the greatest consumer of electricity (67%), industry benefits about 4 times as much as residential users, whose consumption has recently risen to 17.5% - according to the National Electricity Regulator). Introducing a Stepped Block Tariff, where the initial block of electricity is charged at a lower rate, becoming more expensive the more that is used would compensate small-scale electricity users.

According to Richard Worthington, the Co-ordinator of SECCP, "this would have the twin effects of correcting the unfair benefits enjoyed by big electricity consumers, as well as encouraging efficient use and conservation of electricity."

The need for increased efficiency and conservation is especially relevant this winter in which large parts of Johannesburg have experienced power blackouts, as the electricity distribution system can't cope with increasing demand.

To further benefit the poor, Earthlife Africa Johannesburg urged government to provide Free Basic Electricity on a per person basis instead of per household. Currently each household is granted 50 free KiloWatt hours of electricity per month – which is enough to run a two bar heater for approximately 25 hours or a security light (250Watt) for 200 hours.

"This Policy initiative is an opportunity for the National Electricity Regulator to be given the power to address the inequalities in electricity pricing which disadvantage the poor," Says Worthington.

[Top](#)

2. SA's sustainable energy progress

Energy Efficiency Appliance Labelling

Adapted from article in e-SEED, Volume 3, number 3

May was Energy Efficiency Month. As part of its campaign to "Save energy, save money," the Department of Minerals and Energy launched South Africa's first appliance labelling programme, where the label attached to appliances will give a mark of the appliance's energy consumption.

Applying SA Bureau of Standards (SABS) standards, all applicable products will be marked in categories from A to G, indicating the product's energy-efficiency level. A is the most efficient in terms of energy consumption and G the least efficient. At the bottom of the label will be more detailed explanations regarding the energy consumption of the specific appliance. Manufacturers have to apply to the SABS to have their appliances tested and labelled.

Initially the labelling of household appliances will be voluntary, but the long-term plan is to make it mandatory and this may be adopted with the Energy Bill later on this year.

Cape Town Presents a 10-Point Energy Plan

Summary of article by Seshoane Masitha, [BuaNews](#) (Pretoria), May 26, 2004

The Mother City has unveiled a road map for energy development and management to help the city meet growing energy needs, thus contributing to sustainable development. Addressing the media, councillor Saleem Mowzer, the mayoral committee member responsible for trading services said the 10-point energy plan was the culmination of a report on the state of energy in Cape Town.

Mr Mowzer said the strategy followed the outcome of the World Summit on Sustainable Development and the Johannesburg Plan of Action, with regard to energy. He said the implementation of the Cape Town Strategy had enabled the expansion of energy efficiency interventions to an additional 2 300 households in Kuyasa in Khayelitsha. He also announced that 600 low-income households in Lwandle Township had been fitted with solar water heaters.

The plan aims among others to have ten percent of households installed with solar heaters by 2020 and achieve ten percent of renewable energy consumption by 2020. It will also harness the power of wind energy through the Darling Wind Farm on the Cape West Coast.

Mr Mowzer also said the city had invested R222.9 million for the upgrading, repair and maintenance of the city's energy distributing infrastructure.

"The plan strives to ensure affordable and accessible energy services to all through electricity tariff setting and accessible electricity vending outlets, especially to the poor by eradicating 'energy poverty' through the accelerated electrification of informal settlements and the provision of free basic electricity," councillor Mowzer said. He added that the city would expand energy efficiency initiatives through community participation, education and awareness.

Renewable renaissance: local solar breakthrough brings hope

Adapted from article by Irma Venter, [Creamer Media's Engineering News](#) June 11-17 2004

It looks like a small piece of blackened glass. What it can do, though, is produce 10 W of electricity – at a cost of over 50% less than anything else on the market.

It promises to make solar energy close in price to the electricity Eskom produces at its coal-fired power stations, which is known worldwide to be dirt-cheap. It is on this technology, years in the making, that inventor professor Vivian Alberts of the RAU department of physics believes a brand-new industry will be established in South Africa.

Only a small proportion of Africans have access to grid electricity, which means an alternative, less expensive, source of electricity should find a viable, willing market. To use the sun as an electricity source you need a photovoltaic device to transform solar radiation – sunlight – into electricity. The semiconductor used up until now to achieve this has been silicon, which is an expensive option, explains Alberts. Alberts, who read his masters and doctorate in silicon solar technology, ten years ago decided there must be a less expensive, more effective semiconductor than silicon for the purpose of solar devices.

“Silicon is actually a poor absorber of sunlight,” he explains. The solar panel typically in use in South Africa is based on an expensive 350-micrometre-thick slab of silicon – which is the minimum requirement to effectively absorb sunlight. Alberts’ invention is five micrometres thick, combining several semiconductor materials, which is as effective, if not more so, than silicon, he emphasises.

As it uses no silicon, costs are dramatically lower. It makes use of normal window glass as a substrate, with – and here is where it gets complex – molybdenum applied as back contact, followed by the core component being a compound semiconductor comprising five elements – copper, indium, gallium, selenium and sulphide, replacing the silicon – with cadmium sulphide as a buffer layer, followed by an intrinsic zinc oxide layer and, finally, a conductive zinc oxide layer. Alberts has registered three provisional patents on the breakthrough technology, namely the five-element compound. A pilot plant, based at RAU, is expected to produce commercial panels by July. This has been made possible by a R13,4-million grant from government’s Innovation Fund, R3,5-million from RAU and now a further R12-million from Alberts’ investor grouping. It is this investor grouping that hopes to establish a consortium with RAU to set up a large-scale commercial plant, as well as eventually a solar energy industry in South Africa.

The aim is also for the investor grouping to eventually enter the export market. The cost of silicon solar panel elements is about R35 to R40 says Alberts. “We can manufacture our panel at R10 to R15 a watt. And, if we move on to large-scale production of about ten megawatts a year, we can do so at around R7 a watt, which comes very close to Eskom’s current generation costs,” notes Alberts.

Tenders invited for rural solar power systems

Adapted from article by Khulu Phasiwe, Business Day, 1 June 2004

Government invited interested parties to bid for the contract to provide 40 000 solar power systems to rural areas as part of its electrification programme. The prohibitive cost of extending the electricity grid to remote rural areas and an inadequate demand has prompted the development of non-grid electricity programmes in SA. Although the operation and maintenance costs of renewable energy technologies are generally lower than conventional fossil-based technologies, the investment costs are expensive.

Government has secured a 15,8m funding from the German development bank KfW.

The minerals and energy department said the funds would be used to provide 40 000 solar home systems in rural areas in Eastern Cape and North West. The department's chief director for electricity, Ompie Aphane, said: "The overall objective of the project is the improvement of living conditions by way of environmentally friendly and cost-efficient energy supply to poorer segments of the South African population in the project areas."

Each of the identified households would be supplied with a solar panel and a battery capable of powering lighting, television and a radio. For cooking, heating or refrigeration, most consumers would still have to rely on firewood, coal, paraffin and other energy sources. **Editor: If the Minister spent more money on RE, then appropriate RET's for cooking and heating could be developed and/ or installed.**

Renewable Energy Summit 2004

Lerato Potele, SECCP

The RE Summit held in Sandton on 10th, 11th & 12th May 2004, was organised by IQPC.

The summit was not well attended, especially by NGOs. The reason for the poor attendance may be that it was too costly!

There were interesting and informative presentations from distinguished speakers who gave information on the environmental sector and on securing funding for RE ventures. One of the most interesting presentations for me was on the effectiveness of non-grid RE systems by Dean Cooper of Parallax (Pty).

Parallax is involved in providing sustainable energy solutions at affordable costs for rural communities (mainly Kwa Zulu-Natal); it also supports sustainable development projects in the communities by looking at programmes suited to energy demands through RE resources. "Switch On" was one of their projects that I found very interesting. It aims to demonstrate how RE sources can be used sustainably in rural areas – reducing greenhouse gases that contribute toward global warming, while addressing the community needs on grid.

The Switch On project promotes skills and training to rural communities. People from communities create a "Switch On Team" to install and maintain solar components; this enables the establishment of rural businesses for example, supplying monthly gas refills. There is buy-in from communities due to their involvement in the project (giving them a sense of ownership) and Parallax gives continuous support to community members. The project uses solar energy and gas to cope with community energy demands. Customers receive a 55W solar home system, 4 lights, an alarm, a 2-plate gas stove, a 6kg LPG cylinder, 36 monthly LPG refills and a loan. They have to pay a deposit of R200.00 and 36 monthly repayments of R150.00. Owners of the systems are responsible for the security of the solar panels (loss or damage not covered by guarantee).

For more information go to: www.parallaxonline.net or phone: (021) 422 2068

For those who are looking for funding for RE projects, and for potential entrepreneurs in rural area power solutions, you can contact RAPS Finance (investment capital by ABSA Bank, Industrial Development corporation, Shell Foundation etc) at (012) 998 8280 or visit their web site: www.raps.co.za

Top

3. Unsustainable Energy

South Africa

SA to invest R15 billion in new power plants – at the expense of renewables

Reuters Power News, 28 May 2004 <http://powermarketers.netcontentinc.net/>

Reuters reports that South Africa will spend about R15 billion over the next three years on three new 600 to 1,000 megawatt power stations to meet the country's growing energy needs.

Minerals and Energy deputy minister Lulu Xingwana said at a media briefing in Cape Town the total investment for the three power stations was estimated at around R15 billion. Investors will be invited to tender for the first station before the end of this year, with the contract awarded in 2005.

"With peak demand expected to exceed supply by 2007/08, the process has started to procure a new power station," she said. Neliswe Magubane, deputy director-general in the department, told Reuters further tenders would be awarded in 2006 and 2007 for two new power stations, also of between 600 to 1,000 megawatts. "The first station is expected to come on stream in the 2006/07 financial year... (but) we will require additional resources every year after that to meet our energy needs to 2010," she said.

Commissioning of 3 coal-fired power stations already in progress

Richard Worthington

Eskom is to spend about R6 billion this year to return mothballed power stations to service the expected capacity shortfall.

Eskom intends to commission three stations (Komatie, Grootvlei and Camden collectively known as Simunye) to start commercial electricity generation in 2008. The three stations were originally commissioned in the 1960's but have been out of use for at least 13 years.

Since the re-commissioning of the Simunye power stations is a proposal to add to South Africa's existing generation capacity (as reported by both Eskom and DME), alternative options for additional generation capacity should be considered, including generation technologies that draw on alternative energy sources and are market-ready. The potential for energy conservation and efficiency to meet anticipated growth in electricity demand should also be considered as an alternative for meeting the objectives of the proposed listed activities.

The technology options currently available for pre-combustion coal treatment or 'washing', coal combustion, post-combustion derivation of products, treatment of flue gasses and emissions control have advanced considerably since the Simunye power stations were designed. Many of the so-called 'clean coal technologies' have become commercially viable in recent years and competitive in countries with similar air quality standards to those that have been proposed by DEAT for South Africa.

The re-commissioning of the power stations requires substantial refurbishment and offers opportunities for affordable interventions to improve both their efficiency and environmental performance. Conservative estimates of the costs by the project proponent are upwards of one third of the costs of developing entirely new electricity generation capacity, and some commentators expect the costs to be substantially higher.

With the above in mind, Earthlife Africa Johannesburg has requested the Ministry of Environmental Affairs and Tourism to take a pro-active approach to ensure that commissioning of the Simunye power stations is subject to the full legally mandated EIA process.

Cabinet approves nuclear capacity-building project

Helmo Preuss , JSE Exchange, 11 June 2004

Cabinet has approved a programme to develop human capital and improve research and innovation in relation to the Pebble Bed Modular Reactor (PBMR) Project.

The most immediate beneficiary of the cabinet decision will be technology group, IST, who should now get a R260 million contract for the design of three key systems for the full-scale demonstration plant at Koeberg.

PBMR technology in South Africa has been under development for the past 10 years.

The PBMR project started life in 1993 when Eskom's then newly appointed research manager, Steve Lennon, commissioned a technology scan to assess future energy sources for the utility.

The scientist appointed by Lennon to oversee the technology scan, Dave Nicholls, now adviser to the PBMR project, came across a pebble bed modular technology that had been abandoned by German utilities. A PBMR corporation was formed to oversee the commercialisation of the mini-nuclear reactor and comprised Eskom (30%), the state-owned Industrial Development Corp (25%) and British Nuclear Fuel Limited (22.5%). A 10% stake has been earmarked for a black empowerment stake and the remaining 12.5% for foreign partners.

Talks are under way to find international partners to provide the full US\$1 billion required to construct a 110 Megawatt demonstration unit at Koeberg north of Cape Town, and a fuel plant at Pelindaba, west of Pretoria.

Consortium begins study on Drakensberg power scheme

Adapted from article by Martin Zhukwakinyu, Creamer Media's Engineering News, June 18-24 2004

The consortium selected by electricity utility Eskom Holdings to produce the basic engineering design for the proposed 1 330 MW Braamhoek pumped-storage scheme, on the Drakensberg escarpment, started working on the project in mid-May and should have completed it in 30 months.

The consortium, known as Braamhoek Consulting Joint Venture (BCJV), comprises Arcus Gibb, Knight Piesold and Stewart Scott, and will subcontract some of the work to foreign firms.

Eskom has been mulling over the Braamhoek scheme for decades, and if the scheme is built it will be the fourth of its kind in South Africa, after two operated by the power utility and one operated by the Cape Town Metropolitan Municipality.

A pumped-storage scheme consists of upper and lower reservoirs, with a power station located between them. The power station and reservoirs are linked by underground tunnels, and water from the upper reservoir runs through the power station's turbines, driving generators to produce electricity, which can be supplied to the national grid.

The upper reservoir is thus emptied and the lower one filled, but during periods of low electricity demand the water is pumped back into the upper reservoir, with only a small quantity of the water lost from the system. For this process, the generators in the power station become motors, while the turbines act as pumps. Pumped-storage schemes are used only to supplement electricity supply during peak-demand periods.

The reservoirs at the proposed Braamhoek scheme will each have an active volume of 19-million cubic metres.

Eskom hydro specialist Frans Louwinger says what will happen at the conclusion of the basic engineering design project will depend on whether Eskom is granted permission to proceed with the construction of the scheme, which carries a R4,2-billion price tag in January 2003 money terms and would only come on stream in 2012.

Eskom has already completed an environmental-impact assessment study, which has been approved by the Department of Environmental Affairs and Tourism on condition that the utility, if it is selected to implement the project, rehabilitate and conserve a wetland situated downstream of the upper reservoir.

Louwinger says Eskom has taken mitigation measures and has created a partnership with two nongovernmental organisations, which will manage the wetland and its associated flora and fauna to further reduce the impact of the scheme.

Eskom Watch

- Eskom recorded its **highest electricity demand** from consumers to date as winter settled in. The power utility said that demand reached 33.3MW on Wednesday 9 June, breaking the previous record of 31,9MW set in July last year (*Khulu Phasiwe, Business Day 11 June 2004*).
- The **export of electricity** from SA for April this year increased by 53,6% or 332 gigawatt-hours compared with April last year, says Statistics SA (Stats SA). The large increase in exports was due to the introduction of the Mossel Port line-2 in Mozambique and a new project that came into effect in Namibia. The **importation of electricity** for April this year increased by 17,2% or 94 gigawatt-hours compared with April last year. This increase is due to the high demand from Cahora Bassa. (*Madeleine van Niekerk, Business Day 10 June 2004*).
- Government has ruled out the sell-off of parastatals this year and would rather focus on public-private partnerships as a means of funding and unlocking the efficiencies of the public enterprises. This means that although government's privatisation policy would remain unchanged, the emphasis would be on other forms of private investment. **Eskom**, Denel and Transnet would **remain in state hands** but the private sector would be involved in partnerships and concessions with them, Public Enterprises Minister Alec Erwin said (*Wyndham Hartley Business Day, 15 June 2004*).

Externalising costs keeps Eskom cheapest supplier of power in world

Adapted from article by Khulu Phasiwe, Business Day, 20 May 2005

South African electricity prices are still by far the lowest in the world. This is according to an international electricity survey conducted by the US-based energy and telecommunications consulting company NUS Consulting.

According to the survey, SA's electricity prices remain the lowest in the world, despite an average tariff increase of 5,7% last year. "At 3,71c per kilowatt-hour, electricity prices in this country are a massive 24% lower than those in Canada, which has tariffs averaging 4,88c/ kWh," the report says.

The survey was conducted among 14 countries, which included the UK, US, Germany, Sweden, Australia, Finland, Spain, the Netherlands, Belgium, France and Denmark. Italy was found to be the most expensive country. At 10,97c/ kWh, its electricity prices are 34% higher than those of SA.

Last year Eskom, which favours a gradual tariff increase to enable it to build new capacity, applied for an 8,5% increase, which was rejected by the National Electricity Regulator. The state-owned power company was allowed a 2,5% increase.

Eskom's industrial clients face network fee

Adapted from article by Khulu Phasiwe Business Day 14 June 2004

In an effort to internalise some of the costs for electricity, Eskom is set to introduce network charges for industrial clients from January next year.

This means intensive electricity users such as Sasol and BHP Billiton's aluminium smelter facility in Richards Bay will not only be charged for electricity used, but for being connected to a network.

A network charge, which is meant to recover costs associated with providing and maintaining electricity networks, is payable every month whether electricity is consumed or not. The R11,52 per kilovolt-ampere tariff adjustment consists of a network access charge and network demand charge. Customers with substations for emergency supplies will also be charged, irrespective of whether electricity is used or not.

The proposed restructuring of retail electricity tariffs is aimed at reflecting true costs and removing cross-subsidies between industrial, residential and commercial clients.

Eskom's proposed adjustments would be open for public comment until July 23. The National Electricity Regulator is expected to make its decision in August.

Eskom budgets R350m for managing energy demand but doesn't spend it

Adapted from article by Laura Franz, Creamer Media's Engineering News June 11-17 2004

For the second year in a row Eskom has budgeted R350-million for its demand-side management (DSM) programme, which aims to promote the efficient use of energy resources. However, last year, the first year of the programme's implementation, saw a mere R2-million of this R350-million budget spent, reports Eskom.

The objective of demand-side management is to reduce demand by 4 255 MW over a period of 25 years – equivalent to saving more than the output of an entire six-pack (six-unit) power station.

For the 2003 year, Eskom recorded an actual reduction of 101 MW – which is equivalent to one generator at some of the power plants.

Eskom's DSM budget is based on the annual megawatt target as per government's National Integrated Resource Plan (NIRP). The NIRP target for peak reduction in 2004 is 153 MW. The NIRP is essentially a plan of how South Africa will meet its future electricity demand, and has recommended an annual reduction of between 2% and 4% in electricity demand for the next decade.

Eskom's ten-year DSM programme was approved in 2003, and was ratified by the National Electricity Regulator (NER). The NER, in turn, only recently finalised its Energy Efficiency and DSM (EEDSM) regulatory policy for the South African electricity industry. This policy, which was approved by the NER board at a special meeting on May 25, is effectively an implementation mechanism for the targets set out in the NIRP.

Africa

Backing sought for power plant

Adapted from article by John Fraser, Business Day 03 June 2004

Two businessmen from Botswana are canvassing support from Eskom for the development of a R2bn coalmine and power station project close to the border with SA. The project would help to reduce Botswana's dependence on SA for electricity, and would bring new capacity for SA at a time when many fear the region could face a shortage of power.

However, another motivator for developing the plant in Botswana rather than in SA is that a plant in SA would probably have to meet the strictest, and therefore most costly, environmental improvement regulations if it were to build a new coal-fired power station, under the Kyoto Protocol on gas emissions. However, there is likely to be more flexibility in meeting environmental norms if the new coal fired power stations were to be sited in Botswana.

Audit for Lesotho's electricity network

Adapted from article by Khulu Phasiwe Business Day 15 June 2004

The Lesotho Electricity Corporation has invited tenders for a three-month consulting contract that will undertake an audit of the parastatal's power supply network. The audit is aimed at improving efficiencies in the parastatal's power supply network, particularly for large industrial customers.

The audit is of interest to Eskom, which is trying to position itself strategically while it deliberates on whether to buy a 70% stake in the corporation as part of Lesotho's privatisation process.

The Lesotho government has a \$28,6m credit line from the International Development Association, the World Bank's lending arm, to assist in the privatisation of its state-owned enterprises.

Meanwhile, the Lesotho government has invited tenders for the controlling stake in its power utility. The privatisation process is expected to be completed by the beginning of next year at the latest.

The Rest of the World

World Bank to Be More Selective in Oil, Gas Loans

Adapted from Reuters USA Report: June 21, 2004

The World Bank will continue to fund oil, coal and mining projects but will be more selective, it said in response to a review that recommended it phase out support for such projects.

"Our future investments in extractive industries will be more selective, with greater focus on the needs of poor people and a stronger emphasis on good governance and on promoting environmentally and socially sustainable development," the bank said in a summary of its response to the Extractive Industries Review report

World Bank President James Wolfensohn commissioned the independent review in 2000, following concerns by environmental and human rights groups that its participation in oil, coal and mining contributed to poverty instead of alleviated it. Led by Emil Salim, Indonesia's former environment minister, the review suggested the bank radically change its approach to funding such projects and even stop supporting some.

Bank directors met earlier in mid-June to discuss its official response to the review following three months of consultations with governments, industry and civil groups.

The bank's executive board will meet to authorize the response after 30 days of public comment. In its response, the bank said it would dramatically increase its support for more environmentally friendly renewable energies and clean energy sources like natural gas. It said its participation in oil, coal and mining projects is expected to remain relatively small at less than 5 percent of its total lending per year.

Environmental groups said the bank's response was unclear and ignored the recommendation to get out of oil and coal. "The World Bank's response is fuzzy and lacks clarity," said Jon Sohn, campaign director for Friends of the Earth. "Judging from past bank behaviour, unless implementation is absolute, binding and subject to public input, a historic opportunity to alleviate poverty will be missed," he said.

To see a copy of the Review, as well as the World Bank's response visit <http://www.eireview.org/>

Editor: At renewables2004 the World Bank committed to increase financing of renewable energy and efficiency projects by 20% per annum, which would mean an increase from 6% to 7.2% of its total energy portfolio – hardly a dramatic increase.

[Top](#)

4. General Sustainable Energy News

Renewables have great potential

Refocus Weekly, 9 June 2004 <http://www.sparkdata.co.uk/refocus/>

Renewables still have a “long way to go” before they can play a key role in the world’s energy mix, says the head of the International Energy Agency.

Renewable energy shows great potential for solving today's energy security and environmental challenges, but they must become more cost-effective says Claude Mandil. His new report, 'Renewable Energy - Market & Policy Trends in IEA Countries,' documents the experience of IEA countries since the oil crises of the 1970's and provides statistical data on 100 specific markets and 400 policies that IEA countries have established.

The overall share of renewables in total primary energy supply in IEA countries increased from 4.6% in 1970 to 5.5% in 2001, with most increases between 1970 and 1990 of 2.8% a year. From 1990 to 2001, hydro, bioenergy and geothermal grew more slowly and, as a result, green power dropped from 24% of the world's total generation in 1970 to 15% in 2001.

Solar and wind generation grew by 18% a year from 1970 to 2001, and the last decade has seen a 20% annual increase, “but these renewables have started from a very low level and are concentrated in just a few countries,” and their rapid growth “does not compensate for the slower growth of mature renewables.” In 2001, 86% of installed wind capacity was in Denmark, Germany, Spain and the U.S., with 85% of installed solar PV capacity in Germany, Japan and the U.S.

“Our commitment to renewables should be more widely shared,” says Mandil. Renewables received only 7.7% of total government energy RD&D funding from 1987 to 2002, with solar PV receiving 2.7%, wind 1.1% and bioenergy 1.6%.

“As a percentage of total RD&D (research design and development) funding, renewables have received less since 1987 than in the earlier period of 1970 to 1986,” he says. “The declining share of public funding for energy RD&D allocated to renewable energy appears to be inconsistent with the political intentions of many IEA countries to increase the share of renewables in TPES (total primary energy supply).”

Significant market growth is the result of combining policies rather than single policies,

the report explains, with Spain supporting wind technology by feed-in tariffs, low-interest loans, capital grants and local support for turbine manufacturers. In Japan, PV is supported by extensive RD&D investments to increase competitiveness, demonstration projects, financial incentives and net metering rules.

Bonn Renewables 2004

From 1-4 June 2004 delegates from 154 countries met in Bonn to agree on policies and practices to take advantage of the potential RE offers. At the conclusion of the International Conference Federal Environment Minister Jürgen Trittin and Federal Development Minister Heidemarie Wieczorek-Zeul described the conference as “a complete success.”

While SECCP wouldn't go this far in its praise, we must acknowledge that the Conference was a success in the sense that by having taken place, it gave RE a higher status on the political agenda.

Bonn renewables2004 had 3 'paper' outcomes:

The Political Declaration

Although weakened considerably over the 4 days of the Conference, as countries like Iran, Saudi Arabia and the US watered it down, the Political Declaration still has some important points to make.

- First, it recognises that renewable energies are “a most important and widely available source of energy” and that they can significantly contribute to “providing access to energy, especially for the poor, to mitigating GHG emissions, reducing harmful air pollutants, thereby creating new economic opportunities, and enhancing energy security through cooperation and collaboration.”
- Secondly, it recognises that barriers must be removed and fair competition allowed in energy markets, with consideration of internalizing external costs for all energy sources that are “essential to realizing the potentials for renewable energy technologies in an effective and efficient manner” and to creating favourable conditions for public and private investments in renewables.
- Thirdly, it recognises that global cooperation for capacity building and advanced policies by Export Credit Agencies are “crucial” to expanding finance for renewables, and financial incentives should be considered. The World Bank, regional development banks and other international financial institutes should “significantly expand their investments in renewables and energy efficiency and should establish clear objectives for renewable energies in their portfolios,” it adds.
- Finally, it makes provision for follow up by means of a “global policy network” which will consist of ministers and government representatives, as well as “representatives from parliaments, local and regional authorities, academia, the private sector, international institutions, international industry, associations, consumers, civil society, women's groups.” In addition, the Declaration states that “an appropriate arrangement for follow should be identified in a future meeting in preparation for CSD 14/15.”

One of the debates at renewables2004 was whether large scale hydro schemes are an RE source. Read more about this in the box below.

African and South American countries reject NGOs call for large hydro to be disqualified

Adapted from article in Refocus Weekly, 16 June 2004

<http://www.sparkdata.co.uk/refocus/>

Despite a declaration calling for large hydropower to be excluded as a renewable energy that was endorsed by 260 groups in 62 countries, some governments insisted that large hydropower is renewable.

The declaration, which identifies twelve reasons to exclude large hydro from renewable energy initiatives, was developed by International Rivers Network and released at Bonn renewables2004. In total, 260 organisations from around the world endorsed the declaration, thereby "saying no to the large hydro lobby's attempts to hijack concern over poverty and climate change to promote their destructive technology," says Patrick McCully of IRN.

Funds allocated to reduce environmental impacts of energy and to increase energy security should be used to promote modern biomass, geothermal, wind, solar, marine energy and small hydro sites that are less than 10 MW capacity, says the declaration. It explains that the recommendations are in line with an earlier report from the World Commission on Dams.

"Large hydro does not have the poverty reduction benefits of decentralized renewables," and including large hydro in funding initiatives would crowd out funds for new renewables," it explains. Promoters of large hydro "regularly underestimate costs and exaggerate benefits" and their projects have "major social and ecological impacts." For instance, there's a growing body of evidence indicates that dams and reservoirs are globally significant sources of emissions of CO2 and methane, and field studies at 30 reservoirs found GHG emissions at all.

However, despite efforts by NGOs to ensure that large hydro be barred from support under any initiatives announced in Bonn renewables, Uganda and Brazil in particular called for large hydro to be recognised as an RE source. In addition, they rejected any controls on large hydro projects – particularly the recommendations made by the World Commission on Dams.

Copies of the Political Declaration can be downloaded from:

http://www.renewables2004.de/en/2004/outcome_declaration.asp

The Policy Recommendations

Adapted from article in Refocus Weekly, 16 June 2004

<http://www.sparkdata.co.uk/refocus/>

The Policy Recommendations aim at giving practical advice on how to promote the development of the market for renewable energies in the North and in the South. In doing this, the document first recognises the benefits provided by renewables – "enhanced security of energy supply, reduced threat of climate change, stimulation of economic growth, jobs creation (often in rural areas), higher incomes, poverty reduction, improved social equity, and protection of the environment at all levels."

It then notes that for the RE market to develop, "it is essential to establish a level playing field in the energy market, free of subsidies, and to internalize external costs. It identifies the two major conditions that bias current markets against renewables as being subsidies for conventional energies and a lack of accounting for external costs in market conditions, especially prices.

Global subsidies for conventional energies are estimated at \$200 billion a year, which makes it "significantly more difficult" for renewables to increase market share and attain the necessary economies of scale. External costs for health, safety, security and

environmental are "typically much larger for conventional energies than for renewable energies, and the limited accounting of these costs in the market place works strongly against renewables."

"At the same time, renewables provide benefits that are not reflected in energy policies and market conditions, including increased employment, reduced import dependence, and reduced burdens on foreign exchange," it adds. "The market place should be corrected to reflect the full costs and benefits of all energy options" under the process referred to as a 'level playing field.'

Most countries lack the enabling policy framework required to advance renewables, and clear targets create an environment that is conducive for long-term investments and provide planning certainty for stakeholders and consumers. No single policy instrument is appropriate for every application or energy carrier, and an "appropriate and effective mix of policy instruments becomes essential" for many renewable energy technologies.

To read the Policy Recommendations, visit

http://www.renewables2004.de/en/2004/outcome_recommendations.asp

In the **International Action Programme**, governments, international organisations and stakeholders have committed to a number of activities that are geared towards the increased use of renewable energies. So far, 165 of the proposals for voluntary measures have been endorsed while many further submissions for action are being screened at present.

http://www.renewables2004.de/en/2004/outcome_actionprogramme.asp

Apart from the three 'paper' based outcomes of renewables2004, there were other outcomes. The most spoken about involved target setting. In particular, target setting by China. As Mark Lander (New York Times, 5 June 2004) explains, "China, which has rattled energy markets with its ravenous appetite for oil, declared at Bonn renewables2004 that it would generate 10 percent of its power through renewable sources by 2010. The pledge surprised experts with its ambition. If China achieves its goal, they said, it will become a world leader in developing alternatives to fossil fuels, rather than just a world-class consumer. China is saying that it sees the rapid development of renewable energy as being in its strategic interest."

In setting a numeric goal, China has lined up with the European Union, which has pledged to generate 22 percent of its electricity, and 12 percent of all its energy, from renewable sources by 2010.

Critics of target setting at renewables2004 note that they are purely voluntary, with no sanctions if they are missed and no well-established review process to determine how well they are being met. The European Union warned recently that its 25 member states might fall short of their target for 2010. Moreover, energy consumption in China is rising so rapidly that even a national campaign to build windmills or solar-powered houses will barely reduce the country's dependence on fossil fuels.

And in another type of target setting, government's and funding institutions have committed money for developing and promoting RE. Some of the more spoken about commitments were made by:

- The German chancellor, Gerhard Schröder, who announced 500 million euros (R4 000 million) in low-interest loans to support RE and EE projects in developing countries
- The World Bank, which said it would increase lending for projects by 20 percent a year over the next five years.

- The United States, which also promised research money to make solar and geothermal energy more cost-efficient.

Lisbon to try sustainable living

Adapted from article by Alex Kirby, BBC News Online environment correspondent

<http://news.bbc.co.uk/go/pr/fr/-/1/hi/sci/tech/3746535.stm>

An ambitious experiment in sustainable living has been started by green groups near the Portuguese capital, Lisbon. The project, the first of five, will provide homes, leisure facilities and work spaces for up to 30,000 people. It is planned to show how communities can eliminate damaging pollution and rely on renewable energy, with zero carbon emissions and almost zero waste.

The project is the brainchild of WWF, the global environment campaign, and a UK. It is intended to demonstrate how the Earth's rising population and its desire for higher living standards can be accommodated with the resources available.

The Lisbon project, Mata de Sesimbra, costing 1bn euros (R8 billion), will cover 5,300 hectares (13,000 acres) when it is completed in about 10 years' time.

Similar developments, each providing for about 5,000 people, are planned in South Africa as well as in the US, China and Australia, with homes, schools, factories, health and leisure facilities, local food sources and sustainable transport networks.

A nature reserve and forest restoration project will occupy 4,800 hectares (12,000 acres) of Mata de Sesimbra. Corridors will link it to protected areas nearby. All the energy the residents use will come from renewable sources, and rainwater collection and waste-water recycling should mean big cuts in water consumption and irrigation.

Training Opportunity

InWent Capacity Building International, an NGO based in Germany, is calling for nominations to be part of a year-long training programme in Germany on wind energy converters for decentralised and grid-connected applications. At the end of the programme, which begins in September, participants will be in a position to advise political decision makers in the formulation and implementation of the political, legal and economic conditions to support renewable energies.

To apply for the course you must:

- Have a university degree in a technical field of study
- Have three years work experience in the renewable energies field
- Not be older than 35 years

If you'd like more information about the Programme please e-mail me.

[Top](#)

5. SA Energy Policy

Draft Energy Efficiency Strategy

The Minister of Minerals and Energy, Ms Phumzile Mlambo-Ngcuka recently released the Draft Energy Efficiency Strategy for South Africa for public comment. The Strategy aims to encourage sustainable energy sector development and use in order to

minimise the negative impact these have on people's health and the environment, and to contribute towards "secure and affordable energy for all."

The deadline for submissions has been extended until 12 July 2004. Send submissions to

Tony Golding
Deputy Director: Energy Efficiency
tel: +27 (012) 317 9213
fax: +27 (012) 322 5224
email: tony@mepta.pwv.gov.za

The Draft Energy Efficiency Strategy is available on the Department of Minerals & Energy website www.dme.gov.za/energy.html

Electricity Pricing Policy

The submission deadline for commenting on the Electricity Pricing Policy was 18 June 2004. In its submission, Earthlife Africa Johannesburg criticised the draft Policy (in line with current Policy) for favouring big electricity consumers – where the more electricity you use, the more you benefit. Instead, Earthlife Africa Johannesburg urged government to introduce a Stepped Block Tariff, where the initial block of electricity is charged at a lower rate, becoming more expensive the more that is used would compensate small-scale electricity users and to provide Free Basic Electricity on a per person basis instead of per household.

Top

6. Events

June 28 – July 01 Renewables 2004 - International Conference on New & Renewable Energy Technologies For Sustainable Development

Evora, Portugal
Contact: Maria Fernanda Afonso, Instituto Superior Técnico
Tel: +351 21 841 7378/841 7186
Fax: +351 21 847 5545
E-mail: renewables@navier.ist.utl.pt
Website: <http://navier.ist.utl.pt/renewables2004>

July 06 - 09 3rd International Conference on Marine Renewable Energy - MAREC 2004

Blyth, UK
Contact: Eyda Moot, The Institute of Marine Engineering
Tel: (+44 20) 7382 2620
Fax: (+44 20) 7382 2667
E-mail: eyda.moot@imarest.org
Website: <http://www.imarest.org/>

July 09 – 14 Solar 2004

Portland, Oregon
Contact Becky Campbell-Howe, American Solar Energy Society
E-mail: bchowe@ases.org
Website: http://www.ases.org/conferences/2004_call_for_papers/main.htm

Aug 08 - 10 Energy, Environment and Economics in a New Era
Washington DC, USA
Contact: USAEE / IAEE
Tel: (+1 216) 464 2785
Fax: (+1 216) 464 2768
E-mail: usaee@usaee.org
Website: <http://www.usaee.org/>

Aug 08 – 11 Energy 2004 - The Solutions Network
Seventh Annual National Energy Efficiency Workshop and Exposition
Rochester, USA
Contact: JoAnn Stirling, U.S. Department of Energy Federal Energy Management
Programme
Tel: (+1 800) 395 8574
Fax: (+1 703) 921 1610
E-mail: joann@fsec.ucf.edu
Website: <http://www.energy2004.ee.doe.gov/>

Aug 16 - 20 HydroVision2004
Montreal, Canada
Contact: HCI Publications
Tel: (+1 816) 931 1311
Fax: (+1 816) 931 2015
E-mail: hydrovision@hcupub.com
Website: <http://www.hcupub.com/hydrovision/>

Aug 22 – 28 International Seminar on Renewable Energies & Social
Change
Pola de Lena (Asturias, Spain)
Organized by Escanda and INFORSE Europe
(International Network For Sustainable Energy)
Contact: escanda-info@gmx.net

Aug 31 - Sept 03 7th International River Symposium
Brisbane, Australia
Contact: Brisbane City Council
Tel: (+617) 3846 7660
Fax: (+617) 3846 7660
E-mail: riverfestival@riverfestival.com.au
Website: <http://www.riverfestival.com.au>

A full calendar of energy events for 2004, local and international, is available on
request from: seccp@earthlife.org.za