

SUSTAINABLE ENERGY NEWS on EMAIL (SENSE)

Number 39

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 Nkosana Rakitla. 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.

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1. SECCP News

Energy Policy Unit National Stakeholder Meeting

Dear Energy Stakeholder

CALL FOR EXPRESSION OF INTEREST TO PARTICIPATE IN THE ENERGY POLICY UNIT NATIONAL STAKEHOLDER MEETING

GIVE YOUR VOICE TO THE CIVIL SOCIETY SUSTAINABLE ENERGY? TOWARDS A CIVIL SOCIETY REVIEW OF SA ENERGY POLICY and IMPLEMENTATION

The Energy Policy Unit of the Sustainable Energy and Climate Change Project (SECCP), a project of Earthlife Africa Johannesburg branch, calls for expression of interest to participate in a National Stakeholder Meeting on the 21 July 2006, Booyens Hotel [Johannesburg]. This will be a half-day meeting, from **09:00 to 13:00**, succeeded by a meeting of the South African civil society energy caucus from 14:00 to 16:30. The meeting is for everyone wanting to influence South African Energy Policy. The requirement is - individuals interested in participating carry some form of organisational or institutional mandate. Please discuss the potential extent and most convenient means of input from your organisation or institution before the meeting.

2. SA Sustainable Energy progress

News - Revolutionary Solar Technology Commercialised

Source: *Talking Energy* – SANEA

Solar energy in South Africa broke new ground this month with the signing of an agreement to commercially produce Professor Vivian Alberts's revolutionary CIGS photovoltaic technology. The Central Energy Fund (CEF) and German company IFE, which has decades of experience in the Solar Panel industry, are equity partners in the new company, Johanna Solar Technology, which intends producing solar panels at a quarter of the price of current solar panels. Once the commercialisation process has taken off in Germany, the CEF in partnership with IFE and local partners, Anglo American and Richemont, intends setting up a production facility in South Africa to capitalise on the South African license.

EMM Energy and Climate Change Strategy **By Nkosana Rakitla**

Ekurhuleni Metro Municipality Energy and Climate Change Strategy

As reported in the last edition of this publication. Ekurhuleni Metropolitan Municipality held an external workshop on the 07 July. The purpose of the workshop was to table the draft energy and climate change strategy and the stakeholders to make around of final comments, mainly looking at the targets and measures set out in the strategy.

After the strategy is finalised, the EMM with the help of SEA, will be drawing up a plan of implementation of the strategy and conducting a study for estimating the cost of implementing the various targets and measures in the strategy.

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3. SA Unsustainable Energy: Eskom Watch

Global Warming may cause bears to turn on each other

The Star, June 1 2006

They feed primarily on ringed seals and use sea ice for feeding, mating, and giving birth. But a new study by American and Canadian scientists has found that polar bears in the southern Beaufort Sea may be turning to cannibalism because longer seasons with out ice keep them from getting to their natural food. The study reviewed three examples of polar bears preying on each other from January to April 2004 north of Alaska and western Canada, including the first ever reported killing of a female in a den shortly after it gave birth. Polar bears kill each other for population regulation, dominance, and reproductive advantage, the study said. Killing for food seems to be less common, said the study's principal author, Steven Amstrup of the US geological Survey Alaska Science center.

" During the 24 years of research on polar bears in the southern Beaufort Sea region of northern Alaska and 34 years in the northwest Canada, we have not seen other inducements of polar bears stalking, killing, and eating other polar bears. " said Steven Amstrup. Environmentalists contend shrinking polar ice due to global warming may lead to the disappearance of polar bears before the end of the century.

http://www.livescience.com/animalworld/060612_polar_bears.html
<http://www.usgs.gov/>

Africa scrambles for new energy as blackouts bite

Based on article by: Engineering News, 13 July 2006

Higher than expected economic growth and lack of past investment have left many economies, mostly oil importers, in race against time to avert widespread and damaging outages. According to the leading environmentalist Yogosh Vyas of the Africa Development Bank (AfDB), there is already, evidence the two factors identified can have a huge impact on countries, cutting Gross Domestic Product (GDP) growth.

Such problems have been brought sharply to the fore in South Africa, the continent's economic powerhouse, where top tourist city Cape Town endured months of intermittent power outages, causing traffic gridlock and closing factories. Power cuts have also hit the industrial centre Johannesburg as elderly electric distribution infrastructure labour to meet rocketing demand.

The South African government plans to spend billions of dollars to shore up the grid, adding 25 000 megawatts (MW) of capacity to the existing 37 000 MW over the next 18 years. But the problems is far worse in other countries with only a fraction of South Africa's resources. Daily blackouts in Uganda are hobbling economic activity and drought in nearby Tanzania has slashed output from the country's six hydropower stations, leading to power rationing.

Nigeria, Africa's top oil exporter and most populous country, needs four times as much power as it generates, while Kenya and Senegal in the East and West of the continent are looking urgently to build new power plants to stave off outages.

This power crisis has prompted the AfDB to accelerate efforts to develop alternative sources of energy such as solar and wind power. The bank is also helping to finance micro-electric plants, generating electricity from small rivers and streams to light up homes. With crude oil prices stubbornly high, some governments are now hoping a massive hydroelectric project at the mouth of the River Congo will provide power in the future.

The planned \$40 billion Grand Inga project – largest single hydropower initiative in the world is seen as the key to improving power supplies to large areas of central and southern Africa. Its target capacity of 39 000 MW form he base of an African grid that will link the continent's power pools, adding to smaller Inga projects that will generate some 4000MW.

Read more Africa's Dams

World rivers Review: <http://www.irn.org/pubs/wrr/issues/WRR.V21.N1.pdf>

<http://www.irn.org/programs/safrica/index.php?id=030601eskomfactsheet.html>

<http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=424&ArticleID=4738&l=en>

Good for business and the environment

Based on article by Andrew Etzinger [eskom dsm manager cape town]

The business case for 'demand side management' of electricity is truly triple-bottom line driven, with each of the three legs – financial, environment and social effects – playing an equally important part. The financial benefits to businesses and households of consuming less electricity, or for business of shifting electricity consumption to lower tariff periods, are largely self-evident. First National Bank's head office complex in Johannesburg saves more than R2m a year from energy efficiency conversions to its lighting and air conditioning systems; consumption out of peak demand periods to take advantage of the significantly lower off-peak tariffs.

The savings of ordinary households cannot be expected to be the same magnitude as those of business, but they are still significant. It is estimated, for instance, that an average family of four can save at least R3000 a year through improved hot-water management – that is, by insulating geysers and turning their temperature down, and by taking showers instead of baths. Taking a more inclusive view, during the financial year 2005-06, electricity savings projects to the value of

239MW were approved, and of this figure an audited 154MW in savings were achieved within 11 months as a result of the demand side management programme and energy efficiency drives. This saving equates to a massive R1, 5billion.

The cost saving not only benefits the electricity consumers directly but reduces costs on the supply side. By reducing peak demand usage, Eskom can prevent running additional generating units at its power stations; and by filling in the deep valleys between the peak demand periods through load shifting, the power station can be operated more effectively at more constant output levels. In both instances input cost are reduced. When power stations do not run, or run more efficiently, the second leg of triple bottom line come into play. The generation of electricity in SA is largely depended on coal based and also requires water - and SA's status as a semiarid country that needs to conserve water resources is well known **[PUT NOTE MATIMBA B WATER REQUIREMENT]**

The potential of demand side management to benefit the environment through the efficient use of resources is powerfully illustrated by using one compact fluorescent lamp as an example. Over its lifetime, as much as 140kg of coal and 360litters of water, which would have been required to generate the extra energy needed to keep conventional incandescent bulbs burning over the same period.

By implementing relatively simple efficiency measures – such as geyser insulation and temperature control, lighting efficiency and pool pump control –ordinary households can achieve dramatic results. At least a 40% saving on the total energy consumed, with more than 27litters of water, 11kg of coal, and 20kg of carbon dioxide emissions saved every day. That is more than 9940 litters of water, 4180kg of CO2 in just one year – in just one home.

Eskom's demand side management programme aims to save 425MW of electricity over 20 years, thus rendering the building of another coal fired power station unnecessary, and along the environment a tremendous favour. This programme has a direct and sustainable social benefit to the economy, in the form of energy services companies (ESCOs). Realising that demand side management can succeed only if is fully market driven, and understanding that setting up and maintaining the systems needed to achieve this was not its core business, Eskom embarked in 2003 on a programme to support the development of these companies that can create and implement demand side management solutions.

The ESCOs assist business by conducting audits to identify and quantify opportunities for energy saving. They also act as intermediaries between Eskom and business owners to negotiate the level of Eskom support for a project, based on it s energy saving potential. Once a project had been approved by Eskom, the ESCOs implement and provide maintenance services. The development initiatives have yielded an established scorecard, evaluation criteria, and a national association for ESCOs. A number of exciting skills development programmes have also been initiated - for example, successful annual ESCOs capacity building conference, the industrial energy auditing and the industrial energy manager courses initiated by the minerals and energy department, and the building energy course, launched by the University of Johannesburg, with the Da Vinci Institute programmes in this field.

In a bid to ensure quality control and possible assurance to business owners, Eskom maintains a database of registered ESCOs to whom business are refer erred when they approach Eskom for assistance. The database comprises 120 companies, of which 38 are black empowered, and 12 are owned by women. It is estimated that about 500 direct and 4200 indirect jobs opportunities have been created by the DSM programme

4. SA general energy

Parliamentarians told seventh “national” RED unconstitutional

BY Nkosana Rakitla

On the first day, Eskom enthusiastically endorsed the idea of a seventh RED for all municipalities outside the six metropolitan REDs already provided for. According to Eskom, municipalities have an estimated electricity distribution infrastructure refurbishment backlog of about R9,3 billion but most of them were not making the required investments, therefore the creation of the “national” RED alongside six metro-based REDs would address the critical lack of investment in electricity distribution. In addition, Eskom could achieve the restructuring quickly without much cost or disruption to staff or customers. It has the skills, resources, and track record of delivery and could play an important role in the rural electrification drive. To address the concern by municipalities that they would lose assets including revenue, Eskom proposed that it would transfer its businesses within the metropolitan areas to metropolitan REDs, which would function as municipal entities under local government legislation; this would provide the municipalities with additional revenue.

Eskom’s CEO Thulani Gcabashe cautioned the committee that South Africa could well find, after Eskom’s R97 billion capital investment programme, that it had sufficient capacity to generate and transmit electricity but not enough to distribute locally because of lack of investment at this level.

The South African Local Government (SALGA) warned the committee to be cautious about Eskom’s endorsement given its obvious interest in the seventh RED. SALGA’s submission reaffirmed that no municipalities are interested in joining with Eskom in a “national” RED for rural areas, and to compel them to do so would be unconstitutional. Electricity reticulation is a municipal function in terms of the constitution, and for many municipalities revenue earned from electricity sales is critical as surplus is used to cross-subsidise other, loss making municipal services.

SALGA, the National Energy Regulator of South Africa (NERSA), the Association of Municipal Electricity Undertakings (AMEU), and Cape Town RED1 strongly supported and recommended that the blueprint of six wall-to-wall REDs be adhered to, and that key customers should be transferred to the REDs along with Eskom’s assets. Cabinet should create an environment where incentives are provided to the relevant municipalities to merge with an appropriate metro RED, ultimately leading to the six wall-to-wall REDs. Saleem Mowser CEO of RED1 pointed out that a national RED would compromise some 187 municipalities making consensus in policy formulation difficult.

The Congress Of South African Trade Union (COSATU) said it was opposed to the creation of standalone, metro-based REDs, because this model would lead to the privatisation of the entities. It called for immediate halt of the piecemeal restructuring until thorough engagement on the details of the phases and the end vision. The trade union is of the view that the propose model would prevent geographic cross subsidisation and reinforce disparities between urban and rural areas.

Parliamentarians also heard that the results of electricity distribution modelling exercise showed that the “national” option was not financially viable “cash negative” and would operate at a loss without external financial support for an unspecified period. This would have a negative impact on the economic growth of the areas served by the national RED and a broader negative impact on the cost of doing business in South Africa. This is despite Eskom’s claim that the “national” RED would be financial viable with projected revenue of R18,7 billion, gross profit of R12, 6 billion, and net income before tax of about R1,6 billion.

Power funding ‘is R1billion short’

Based on article by Linda Ensor, Business Day

Parliament's minerals and energy portfolio committee called on the national treasury to explain why allocations for the national electricity roll-out plan fall short of what is required to meet the presidential target of universal access by 2012.

An amount of R1,3billion was allocated for electrification this year but the minerals and energy department claims that another R1billion is needed if it was to electrify 3,2-million homes by the deadline set by President Thabo Mbeki. Minerals and energy department chief director Ompie Alphane claims that the R1 billion would allow the department to electrify an additional 450 000 homes this year. The department says, the biggest constraint holding back process is financial.

The committee's insistence on an explanation for the "under funding" relates to the fact that Parliament has no direct say over the formulation of the budget and no right to change its provisions after they have been tabled. The committee's stance indicates a renewed thrust by parliament to have a say over how treasury divides income.

Treasury officials declined to attend a meeting with the minerals and energy committee to explain the discrepancy, on the ground that this would set a precedent of allowing questions to be asked about the budget after Finance Minister Trevor Manuel had tabled it. But, the minerals and energy committee is counting on the adoption of a committee's report by the National Assembly, which will strengthen its request for a meeting with treasury officials, making it obligatory.

Peaking Power plants **By Nkosana Rakitla**

The Department of Minerals and Energy (DME) has released the draft scoping report for the proposed peaking power plant in the Eastern Cape. The proposed plant generation capacity is 500 MW, it will be established in the Coega Industrial Development Zone (IDZ) and forms part of the a \$1-billion project spearheaded by the DME to establish two peaking power plants [Eastern Cape and KZN], owned by independent power producers (IPPs), with a combined power output of around 1050 MW. The Eastern Cape peaking power plant will use three open cycle gas turbines. The plants will be used to augment the electricity supply into Eskom's transmission system during peak demand periods.

The draft environmental scoping report (ESR) focused on the potential biophysical, social and economic impacts and issues associated with the development of the peaking power plant in the IDZ and included some recommendations for more detailed assessment to be included in the EIA phase. In addition, the draft ESR state that the environmental impact assessment (EIA) phase would also look into associated road –traffic impacts during the construction period and thereafter on the fuel and water deliveries.

Xxx SOMETHING ABOUT air pollution

Submit comments to: e-mail: anthony@eims.co.za

Link to draft scoping report for Eastern Cape power plant

http://www.eims.co.za/projects/PPP_EC/Draft_Scoping/DSR_NewgenPE.pdf

Link to final scoping report for the KZN power plant

http://www.eims.co.za/projects/PPP_KZN/Final_SR/SdP_0553A_Final%20SR.pdf

5. SA Energy Policy

Feedback on the Integrated Energy Planning Demand Side Man agent Working Group
By Nkosana Rakitla

This was the second meeting of the DSM working group, the purpose of which was to analysing the gaps in data collection based on the requirements of the model.

On available data – it was noted that data is collected from various points that is academic institution, public institution etc and presented in differing formats. This confuses the process of planning, as the decision for using this data over that data becomes more complex and needs complex justification. The question is, which data is reliable as different forecasters use different GDP growth rates in their models. – the minerals and energy must come out stronger in driving the integration between various planning processes e.g. the National Integrated Resources Planning (NIRP by NER), Integrated Strategic Electricity Planning (ISEP), and Local Integrated Resource Planning (LIRP). This will make accessing a d using data very easy for the purpose of IEP.

Gaps – the demand input by sector and its subdivision prepared for the modelling is premises on the historical model of IEP one – where the economy value is still valued by Gold mining. The useful energy demand for mining sector, only specified demand for gold mining [intensive mining], but did not include other energy intensive mining sector like Iron Ore mining. Input to the modelling will also include the relationship of predicted output of mining to GDP i.e. future predicted growth in terms of contribution to GDP. It was established that after the first draft of IEP II come out, the minerals and energy department will undertake sensitivity studies, GDP growth is part of the sensitivity studies.

The fuel demand template for industry must include renewable as an energy source. Due to the nature of the cement industry tending to be energy intensive, it was recommended that the energy intensity data by industry should include data for cement industry. The minerals and energy department is currently gearing up to draw up a database, which will be supplemented by a manual that will explain how data must be collected and presented. This initiative will be undertaken with the view of monitoring the implementation of the energy efficiency strategy. The data collected, will be made available as input to the modelling process and also be use as standards for reporting and data collection.

The Energy Research Centre, commissioned to develop model is going to populate the framework with data, which will be presented for interrogation at the next meting. The demand side management will do a reality check and recommend to the IEP II.

Energy policies for sustainable development in South Africa: Options for the future

By Harald Winkler, ERC

The Energy Research Centre (ERC) publication presents a profile of energy in South Africa, it assesses trends and analyses some options for the future.

The first part of the book presents a profile of energy in South Africa against each of the major dimensions of sustainable development. In turn, social issues include affordable access to modern energy services, which are critical for helping energy poverty. Energy has been central to South Africa's economy, at the heart of which lies a minerals-energy complex. That economic structure and the countries dependence on coal have had significant implications for the environment - both in terms of local air pollution and global climate change.

The second part presents possible energy futures for SA and demonstrates how indicators of sustainable development can be used to assess options. A range of energy policy option are identified, these includes energy efficiency in industry and commerce, as well as cleaner and more efficient use of fuels by household. On the supply side, the publication considers options for electricity supply – imported – electricity or gas, domestic use of renewable energy or the PBMR. The possibilities of future policy options are modeled up to 2025.

The report concludes that, over the 25-year timeframe considered here, energy efficiency makes the greatest impact when seen against indicators of sustainable development. Industrial efficiency, in particular, shows significant savings in energy and costs, with reductions in air pollution. Commercial energy shows a similar pattern, although at a slightly smaller scale. Residential energy efficiency is particularly important for social sustainability. Even small energy savings can be important for poorer households. In the short-term – the 2006 to 2015 decade – we can conclude that energy efficiency will be critical to making South Africa's energy development more sustainable. In the longer-term – the next several decades – transitions that include the supply-side will become increasingly important. To achieve greater diversity there will need to be a combination of policies, since single policies on their own will not change the share of coal in TPES by very much.

The various alternative electricity supply options show potential for significant emission reductions and improvements in local air quality. However, they will require a policy of careful trade-offs in relation to energy system costs, energy security and diversity of supply. The global costs (discounted total energy system costs) for the combined scenario are lower than for the base case by some R16 billion over the full 25-year period (2000-2025). Thus, the savings due to the combined efficiency measures more than justify the additional costs of investing in a diversified electricity supply.

Link to the copy of the study:

<http://www.erc.uct.ac.za/publications/Energy%20policies%20for%20SD.pdf>

7. Events

Climate Change Policy and Strategy: Managing Risks and Benefits in the Carbon Economy Course

Date: 25 – 28 July 2006

Venue: MEETI offices at: Level 9 Block 9, Mintek Campus, 200 Hans Strijdom Drive

Randburg, Johannesburg

Tel: +27 11 709 4311

Fax: +27 11 709 4657

e-mail: info@meeti.org.za

Sustainable building: mitigating social and environmental poverty

26 - 28 July 2006

Venue: University of the Free State

C o n f e r e n c e R e g i s t r a t i o n

<http://www.sessa.org.za/energyevents/SBE2006%20Conference%20Registration.pdf>

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Tel: +27 11 709 4311

Fax: +27 11 709 4657

e-mail: info@meeti.org.za

[Sustainable Energy for Africa \(SA511\)](#)

Click link above for brochure
16 - 18 August 2006
Park Hyatt, Rosebank, Johannesburg

Energy and climate change short course

The Energy Research Centre is hosting a 5-day short course for executives and policy-makers in South Africa, on *energy and climate change*.

Dates: 28 August 2006 – 1 September 2006

Venue: University of Cape Town

Contact: Ms Abeedah Adams by 31 July 2006.

aadams@ebe.uct.ac.za

Download application form

<http://www.erc.uct.ac.za/misc%20downloads/Energy%20and%20climate%20change%20course%20application%20form.doc>

Sustainable Energy for Africa (SA511)

(Click link above for brochure)

Date: 16 - 18 August 2006

Park Hyatt

Rosebank

Johannesburg

Liquefied Fuels Conferences

Date: 12, 13 & 14 September 2006

Venue: VW Conference Centre, Midrand, Johannesburg

Contacts: 011 771 7000

Clean Development Mechanism

2 Day environmental management course

10 & 11 October 2006-07-10

Indaba Hotel, Fourways, Johannesburg

Contact: 011 669 5000

www.iqpc.co.za

5th World Wind Energy Conference and Exhibition 2006 (WWEC 2006)

By-World Wind Energy Association (WWEA) & the Indian Wind Energy Association (InWEA) will hold

Delhi, India

6-8 November 2006. Tel. +49-228-369 40-80

Fax +49-228-369 40-84

secretariat@wwindea.org

www.wwindea.org

Building Energy Audit Training Course

Venue: Emperors Palace (Caesars)

Gauteng

Tel: 082 334 0923

Fax: 018 294 7174

Email: cemanager@intekom.co.za

Certified Energy Manager Course

Venue: Emperors Palace (Caesars)

Gauteng

Tel: 082 334 0923

Fax: 018 294 7174

Email: cemanager@intekom.co.za

8. Appendix 1

Potential Contribution of Renewable Energy in South Africa (study – Raps Consulting and Nano Energy 2006) can be downloaded from our website www.earthlife.org.za/seccp/