

SUSTAINABLE ENERGY NEWS on EMAIL (SENSE)

Number 37

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

Launch of RE Poster – as part of Chernobyl Day

By Nkosana

We invite you to the launch of “**Renewable Energy is People's Power**” a poster produced by the SECCP of Earthlife Africa Johannesburg in cooperation with Henrich Böll Foundation. The poster is an easy to read version of the independent study into the “Employment Potential of RE in SA” by AGAMA Energy, November 2003 which finds that; If South Africa generates just **15% of total electricity** use in 2020 using Renewable Energy Technology, it will create 36 400 new direct jobs, without taking any jobs away from coal-based electricity. Over 1.2 million direct and indirect jobs would be generated if a portion of South Africa's **total energy needs**, including fuels, were sourced with Renewable Energy Technologies (RETs) by 2020.

**JOINS US AT THE CHURCH SQUARE, CNR PAUL KRUGER AND CHURCH STREET
PRETORIA, 25 APRIL 2006**

Chernobyl Day

April marks the 20th Anniversary on an international nightmare, which occurred on the 26th, 1986 – the explosion at the Chernobyl nuclear reactor in Ukraine. This accident, where a radioactive fire burned for 10 days and tons of radio nuclear materials were expelled into the atmosphere, blamed for the deaths of thousands a of people and affected millions. The disaster was the product of a flawed Soviet reactor design coupled with serious mistakes made by the plant operators. This

accident demonstrated, for the first time, that the effects of any nuclear accident are not localized but rather spill over into neighboring countries and have global consequences.

We the Earthlife Africa and Henrich Böll Foundation invite you to celebrate this day with us to remind ourselves of the Chernobyl accident and the inherent danger that comes from this kind of energy source. The commemoration is relevant for South Africa in the context of ESKOM's planned construction of a Pebble Bed Modular Reactor (PBMR). The commemoration is a link between the Chernobyl of 20 years ago and the South Africa of today. Nuclear energy is not a solution to the energy demands of Southern Africa.

**20th Anniversary of the Chernobyl Commemoration Day, Tuesday, 25th April 2006,
Time: 10h00-14h30, Venue: Church Square, cnr Paul Kruger and Church Street in Pretoria**

**For further information, please contact Betty or Mashile on 011 725 5415 or Email
mashile@earthlife.org.za or betty@earthlife.org.za**

Energy Policy Unit webpage

The Sustainable Energy and Climate Change Project is happy to announce that the Energy Policy Unit webpage is up and running. Visit the webpage http://www.earthlife.org.za/seccp/energy_policy_unit to read and download the latest publications and SA's energy policy documents. We are particularly inviting response to 'Sustainable Energy? Towards a Civil Society Review of Energy Policy and Implementation' – a discussion paper prepared by David Hallowes,

Integrated Energy Planning II (IEP)

By Richard Worthington (SECCP Co-ordinator)

Perhaps it was because of the very short notice of the first meeting of the Steering Committee for the Integrated Energy Planning (IEP) that I was the only civil society representative, representing Sangoco and with a mandate from the Energy Caucus. Dr Kevin Bennet of UCT also participated, but in his capacity as director of the Energy Research Centre (ERC), contracted to support the DME process.

Mr Damba of the DME (on secondment from Eskom) presented the draft IEP Framework for comment, noting that the list of departments and organisations to be represented is not final. It was agreed that Earthlife Africa and organised labour will be added. The main debate focused on the scenarios that will be modelled, which in the proposal are characterised by two key drivers – security of supply and climate change pressure.

The Energy Caucus call for public benefits to be taken as a primary driver for energy development was motivated at some length, leading into discussion of whether public benefits within the energy sector itself, as opposed to downstream benefits from providing low-priced energy, should be a planning priority. The meeting seemed to support rigorous study of the employment implications of different scenarios and quantification of the job creation potential of various supply-side options, although reference to further iterations of IEP (following a 4-year cycle) suggest that the issue requires on-going attention.

The meeting recognised the need to elaborate what is meant by security of supply, beyond the risks of constraints on importing energy, to include benefits of decentralisation, diversification and vulnerability of infrastructure. A case was made for including public benefits, or better understanding of social costs and benefits, under the objectives of IEP, and for a longer timeframe (30 rather than 20 or 25 years), with explicit recognition of the different cost projections that arise under different timeframes (and discount rates), whereby renewable energy offers lower costs (per unit) of energy over the medium (10 years) or long term.

It was noted that IEP is running in parallel with the National Integrated Resource Planning process, led by the National Energy Regulator (NERSA) and Eskom and that there needs to be explicit provision for interaction between these and other processes, including the development of scenarios under the National Climate Change Committee that will inform future national commitments under the Kyoto Protocol. It is not anticipated that the African Energy Commission (AFREC), which gained its legal mandate last year, will have significant capacity for a few years.

The functions, responsibilities and any decision-making powers of the steering committee (SC) have yet to be formally proposed and it is apparently intended to serve beyond this second round of IEP, which could give rise to a number of case studies to inform the next round, by which time data availability should have improved considerably. The framework proposed working groups of the IEP 2 SC on the following four issues: supply side; demand side; integration & externalities. The working groups may be able to co-opt members from beyond the SC itself, but it is not clear what resources are available to support their work.

There is a commitment to present the IEP2 report to cabinet in March 2007. The next SC meeting was proposed for 4 May, at which it is anticipated that process proposals will be debated and the working groups formally set to work.

Documents presented at the meeting (Background presentation, Draft IEP Framework & Scenarios) and are available through SECCP or DME: Goodman.nxumalo@dme.gov.za

PPC Environmental Impact Assessment

By Richard Worthington (drawing on a report of a similar meeting, by Bobby Peek)

Pretoria Portland Cement (Pty) Ltd is currently conducting Environmental Impact Assessments (EIAs) for using secondary fuels (waste) in six of their plants. SECCP had an initial and informal meeting with Environmental Business Strategies (EBS), the consultants running the EIAs and seeking to integrate public participation processes, where James Brice presented the project and emphasised a different approach from that of Holcim's Alternative Fuels and Resources project.

The Background Information Document (BID) had not yet been released, but they have already gained approval from provincial authorities for trial burns. These will start at the Hercules plant in Pretoria, over April and May, and be monitored by EBS, including taking samples to test for dioxins and furans (highly damaging chemicals for which there are no testing facilities in South Africa). EBS present the project as an optional extra for PPC, who are currently very happy with their business performance – presenting it as an intervention to reduce their environmental impact, from burning coal, rather than motivated by fuel cost savings.

Waste streams being considered under the EIA process are to be restricted to 4 to 6 types, principally sewage sludge, pulp and paper waste (excluding black liquor), plastics and tyres. Hydro-carbon residues, such as sludges from refineries and used oil, are apparently already used in cement production, including pot-lining coke from aluminium production. They maintain that future emissions will not exceed current emissions parameters, where these are known - this seems to apply to nitrous oxides, particulate matter -PM₁₀- sulphur dioxide and carbon monoxide. They will not be able to meet European Union emissions guidelines on a number of issues, but will adopt EU standards for heavy metals, dioxin and furans and acidic emissions (SO_x)

A community health risk assessment is currently been undertaken based on air dispersion modelling. Life-cycle analysis is promised to compare the total ecological footprint of this form of waste incineration in comparison to other waste management options such as recycling. The issue of potential leaching of toxins from the cement (e.g. once it is part of your house) will be considered in a "process risk assessment report".

This should be an interesting process to follow, given the positive picture being presented by the (independent) consultants. There was no public consultation within the process of securing approval for the imminent trial burns.

Download the plans of study www.envirobiz.co.za/ documents

2. SA Sustainable Energy progress

Proposed construction of a concentrating solar power (CSP) plant

Notice by: Bohlweki Environmental Consultant

Eskom is assessing the feasibility of constructing a Concentrated Solar Power (CSP) plant with a maximum capacity of 100MW electricity in the Northern Cape Province. This facility will use the energy from the sun as the fuel source. The CSP technology forms part of Eskom's renewable energy strategy where a number of feasibility studies are being undertaken on various renewable energy technologies.

The CSP plant requires [?] a technically feasible site, a Pre-Environmental Scoping study together with a Pre-feasibility study undertaken by Eskom, considered land availability and land use capability, fuel availability and costs, and other related aspects. The CSP Plant being considered is a molten salt type, Central Receiver technology. This technology is based on the concept of thousands of large two-axis, tracking mirrors (known as heliostats) which track the sun and reflect the radiation to a common focal point – the central receiver.

It is estimated that approximately 6000 heliostats will be required within the heliostat field in order to obtain a power output of approximately 100MW electricity, while also enabling 8 hours of energy storage (enabling solar energy to supply the main evening peak in electricity demand).

For information and to register as Interested and Affected Party, contact csp-eia@bohlweki.co.za

Key stakeholder workshop, Port Rex Venue, Eskom Convention Centre, Midrand, 10am, 18 April 2006!

R7bn Wave Power Plant

Based on article by Antony Squazzin in Business Day

South Africa could be getting a wave power project, at a cost of R7 billion, with an output of 700 megawatts electricity. Ocean Power Delivery, a company based in Edinburgh, is talking to the Department of Minerals and Energy and South African partner, Genesis Eco-Energy about developing a pilot plant at Mossel Bay. Ocean Power Delivery is hoping to have the pilot plant in operation by March next year. According to the company, sites are being considered in other locations like Port Elizabeth, Knysna, and Saldanha, to develop power plants that would generate between 100 and 300 megawatts.

Contact for more info?

R5.8 billion in carbon credits

Based on an article by: Business report

South African companies stand [or could] to earn at least R5.8 billion over the next 10 years from the sales of carbon credits earned on projects to reduce greenhouse gas emissions. Previous estimates of the economic benefits stood at R2.5 billions, the R5.8 billion projection applies to six South Africa projects that have either been approved or are in the final stages of approval by the Executive Board of the Clean Development Mechanism (CDM). This mechanism is a global system that allows trade in reductions of carbon emissions by signatories to the UN's Kyoto Protocol.

According to Harme Imminke, a manager in the sustainability solutions division at PriceWaterCoopers, the estimates was based on exchange rate of R10 to the euro and a price of €8 per ton of certified emissions reductions, the traded products that are the building blocks of the CDM. The multibillion rand figure excludes the potential income accruing to several other projects that are in the pipeline, 13 of which have already been registered with the South African authority that oversees the CDM.

Landfill gas projects are slow in taking off because of uncertainty from the treasury about whether the Public Finance Management Act classified certified emissions reductions as assets or financial instruments. The PriceWaterCooper's South African office has applied to become a designated Operational Entity for the CDM – in other words, to audit the projects that have applied for CDM by ensuring the projects meet the requirements of the Kyoto Protocol and verifying the proposed emissions reductions. A decision regarding this application is likely to be made in May.

The bureaucratic procedures for accreditation oblige auditors to present a “witness project” for each category. The PwC's witness project for the energy category was a small-scale project to convert biogas to energy at PetroSA, the state owned oil and gas producer. The PwC will be involved in the validation and verification process for small-scale projects. For large-scale projects, the CDM required auditors to conduct either validation or verification of emissions reductions.

Editor's note: CDM projects also have to be approved by the Designated National Authority (DNA), established within the Department of Minerals and Energy. The DNA has yet to establish a promised appeals procedure, whereby stakeholders should be able to challenge rulings on whether projects constitute sustainable development – a key requirement of the Kyoto Protocol, which is determined at the national level. (The Executive Board, through its Operational Entities, determine if projects are additional – i.e. would not have taken place without the CDM component of financing.)

To check what projects are under consideration by South Africa's DNA, go to <http://www.dme.gov.za/home.asp?menu=main>

3. SA Unsustainable Energy: Eskom Watch

Cement Kilns: South Africa's New Hazardous Waste Dump Sites Press Release issued by groundWork:

As South Africa gears up for the building boom in preparation for 2010, industry and government are proposing to dump South Africa's growing hazardous waste production in the cement kilns, which will produce the cement to construct the stadiums and sport villages for 2010. Holcim, Pretoria Portland Cement and Natal Portland Cement are all considering such proposals with the consent of provincial governments in the Eastern Cape, Gauteng, KwaZulu-Natal, Limpopo Province, Northern Cape, North West Province and Western Cape.

Since 2002, groundWork[1] and Earthlife Africa [2] has repeatedly written to the Department of Environmental Affairs and Tourism (DEAT) to raise concerns about the burning of waste, including tyres, in cement kilns. To date, no substantive response has been received. Civil society has called on government to develop policy that would guide the destruction of hazardous waste within South Africa. Government failed to respond to this call and, as a result, the cement industry is using this loop-hole to term what is really hazardous waste “alternative fuel” [3] to run their cement furnaces.

Due to this lack of guidance by the DEAT, provincial governments who are responsible for Environmental Impact Assessments (EIAs) have faced a barrage of applications from cement companies to burn hazardous waste. As a result of a lack of guiding policy, provinces are

responding differently to these proposals, and this could result in certain provinces attracting hazardous waste into their areas.

South Africa is signatory to the Stockholm Convention [4], which governs the process towards eliminating the production of dioxins and associated persistent organic pollutants. The Stockholm Convention identifies cement kilns firing hazardous waste as one of the source categories that have the potential for high formation and release of dioxins.

The burning of hazardous waste could possibly start as early as Monday, 3 April in the Holcim Cement Kiln in Ulco just outside Kimberley. The Northern Cape government gave permission for the plant to burn hazardous waste on the 2 March 2006. This was despite the fact that the North West Provincial government refused permission for Holcim to do undertake a similar venture in November 2005. [5]

In a letter to the Deputy Minister on Friday, 24 March 2006, groundWork, together with the support of other civil society organizations [6], called on the Deputy Minister to:

- Give guidance to the Northern Cape Department of Tourism, Environment and Conservation on this issue, which will allow for them to re-consider their decision;
- Issue a directive to all provincial departments on this issue and set in place a moratorium on applications for the incineration of hazardous waste in cement kilns until a policy, and the necessary regulations guiding the management of hazardous waste, is developed to protect the public health;
- Host a meeting with non-governmental and community organisations to hear their concerns;
- Stop DEAT from issuing new or amended APPA permits for any of the cement kilns in South Africa until there is an open and transparent consultation on these permits/licenses, and
- Mandate DEAT to start an engagement with civil society towards developing a policy on hazardous waste management.

“Allowing the burning of hazardous waste without there being a robust and transparent public debate on the best mechanisms for managing and destroying hazardous waste, will result in the increase of hazardous waste production as well as the possible import of hazardous waste into South Africa” cautions Bobby Peek, Director of groundWork.

“It is also clear that the destruction of potentially valuable resources for local economic development, poverty alleviation and job creation is contrary to the letter, intent and spirit of both the term ‘Sustainable Development’ and our National Environmental Management Act”, said Muna Lakhani of Earthlife Africa eThekweni. “Attempting to replace coal with waste that will release pollutants of higher toxicity is backward looking. Many sustainable alternative options exist.”

Footnotes:

- [1] groundWork is an environmental justice organisation working focusing on air pollution, waste and corporate abuse and works with community organisations living adjacent to petro-chemical and waste facilities nationally (www.groundwork.org.za)
- [2] Earthlife Africa (ELA) is a membership driven organization of environmental and social justice activists, founded to mobilize civil society around environmental issues in relation to people. ELA Johannesburg (Jhb) branch was established in August 1988 as the first branch of the organization, which grew to many branches in the early nineties and is currently concentrated in three branches in South Africa and one in Namibia (www.earthlife.org.za)
- [3] The cement companies blur this issue by indicating that they want to use “alternative fuels”. Hazardous waste is not an alternative fuel. It is simply hazardous waste.

- [4] The Stockholm Convention is a global treaty to protect human health and the environment from persistent organic pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife. In implementing the Convention, Governments will take measures to eliminate or reduce the release of POPs into the environment.
- [5] <http://www.groundwork.org.za/Press%20Releases/23Nov05CementKiln.asp>
- [6] Thabang Ngcozela Environmental Monitoring Group thabang@emg.org.za
 Leila Mahomed Sustainable Energy Africa
leila@sustainable.org.za
 Muna Lakhani Earthlife Africa Durban muna@iafrica.com
 Desmond D'Sa Sth. Dbn. Community Env. Alliance sdcea3@mail.ngo.za
 Maya Aberman Earthlife Africa Cape Town olivia@earthlife-ct.org.za
 Richard Pocock SolarWorks edufun1@iafrica.com
 Zini Mokhini Earthlife Africa JHB zini@earthlife.org.za

For more information call:

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Announcement of new base load investment soon

Based on an article by Terence Creamer, Engineering News

Public Enterprise Minister Alec Erwin says that an announcement of new inland base-load station will be made soon. It is widely anticipated that this investment will involve a new six-pack, coal – fired station located in Limpopo presently undergoing Environmental Impact Assessment. The new station, which has until now been dubbed ‘Matimba B’, would exploit the provinces largely untapped Waterberg coal resources.

However, Minister Alec Erwin also indicates that Eskom would ‘definitely’ pursue new base load options for Western Cape itself. It is widely known that Eskom would like to pursue a combined – cycle gas power station in the province, but that decision would hinge materially on access to well priced natural gas from resources offshore South Africa and Namibia. Therefore, Erwin also indicates that the State has given Eskom the go-ahead to study a second conventional nuclear power station along the line of Koeberg as well as an enlarged configuration for the new generation pebble-bed modular reactor (PBMR). Because the PBMR technology still has to be demonstrated, it is likely that a traditional type station could come into play earlier than any large scale PBMR option.

In the meantime, Eskom is spending R84 billion on its investment programme, which includes returning mothballed power plants to service; the delivery of two new open cycle gas turbines (OCGT) peaking plants in the Western Cape, the Braamhoek pumped- storage peaking project in the Drakensberg; as well as on significant transmission-infrastructure strengthening projects. The demothballing of Camden and Grootvlei should add about 3500MW to the system, while the two OCGT facilities will add 1000MW and will now most likely be used as middling plants and not simply for peak morning and evening periods, as initially envisaged.

Ed note: Due to the low efficiency of open cycle gas turbines (often below 20%) and the high price of the kerosene fuel, their use for middling plants will add significantly to the over-all cost of electricity generation. This is a substantial change to original plans that will have consequences for the competitiveness of alternative generation options.

4. SA general energy

The heat is on for South Africa

Based on an article by: Bobby Jordan, Business Report

Sub-Antarctic, Marion Island, which houses a South African weather station is drying up - and scientists maintain it is one of the clearest signs to date of global warming. Alarming new rainfall, temperature, plant and animal data from the Island, situated 1 700km southeast of Cape Town, reveal that it has lost more rainfall per month than the total annual figure for Pretoria – and it is hotter than ever.

It is also overrun with rats, mice and alien vegetation – all this on an island that normally receives about two and a half meters of annual rainfall in one of the most isolated places on Earth. Scientist and government officials warned that such changes were likely to be commonplace throughout South Africa as the planet heats up because of the increase in green house gasses caused by human activity.

The government of South Africa has set up an inter-ministerial committee to deal with the situation and announced it was about to embark on a second national survey to assess what could be done locally to help solve the problem.

South Africa is expected to experience numerous changes to its climate.

- Port Elizabeth is likely to lose its status as South Africa's windy city. It already averages much less than its previous averages of 5.5meters of wind per second;
- Potentially flammable, invasive grass species in the Karoo will increase the likelihood of fires;
- Warmer temperature and a decrease in rainy days in winter in the Western Cape; which already affect deciduous fruit farmers, will also put maize and sugar farmers at risk;
- An increase in the rain in the eastern half of the country is likely to prompt animal migration in that direction;
- Temperature increases are likely to increase the risk of the spread vector borne diseases;
- The national estuarine fishing catch could decrease by 35% and the in-shore catch by 18% according to a economic impact study; and
- A 3% decline in Gross Domestic Product could occur because of a decrease in tourism income, according to the same UCT economic impact study.

Overall, there has been a 30% increase in carbon dioxide in the Earth's atmosphere over the past 150 years and its rate of acceleration may be increasing. "Overwhelming evidence points towards human influences", said Professor Steven Crowm, director of the centre of Excellence for Invasion Biology Stellenborch University and researcher on Marion Island.

Deputy Director General Joanne Yawitch said, "We want climate issues to be integrated into all levels of government. Even if there was not another greenhouse gas emitted from tomorrow, there is already going to be damage".

According to Hugh Van Niekerk, Eastern Cape Regional Manager of the South African Weather Service, the annual rainfall has steadily declined over the past 20 years – from around 2500mm to around 1750mm- and the latest aerial photos show shocking changes to the island's vegetation.

Lightening the load

Electricity Utility Eskom's demand side management (DSM) programme, which is aimed at reducing the consumption of electricity in South Africa, is gaining momentum in the residential

market. The company's demand side management programme is currently rolling out three million compact fluorescent (CFL) light bulbs in low cost housing areas in all nine provinces.

The Western Cape province is receiving priority in the programme owing to the recent power failures in the region. Although the CFL project is still in progress and the reduction in electricity consumption that it will achieve can only be measured upon completion, it is estimated that the project will save users tens of millions of rands every year.

Last year, the different initiatives that were implemented under Eksom's DSM programme resulted in a saving of electricity worth more than R1, 2 billion. The residential market consumes 35% of the electricity generated in South Africa and lighting contributes to the high demand for power experienced in peak load demand.

[anything on SWH? – John Ledger's figures in newspaper that also showed avoided pollution?]

Ed note: The 35% presumably applies to the Western Cape, since the most recent Energy Balance available from the DME shows that in 2002 Residential consumption constituted 16.4% of total electricity consumption

5. SA Energy Policy

Electricity Distribution Industry Restructuring Bill

Based on an article by: Khulu Phasiwe, Engineering News

The much-awaited Electricity Distribution Industry Restructuring Bill, which seeks to make it mandatory for municipalities to participate in the reform process of the electricity distribution sector, is now awaiting President Mbeki's signature to become law. According to the Department of Minerals and Energy (DME), the proposed new law would be implemented "as soon as possible". The legislation will end the decade-long stranglehold that some municipalities have put on restructuring electricity provision at local government level.

The participation of municipalities in the restructuring process of the R30billion industry has to date been voluntary, a loophole that some local authorities have exploited to stall the process. According to the Director General of electricity and nuclear power Nelisiwe Magubane, the proposed law was presented to the National Council of Provinces in February and was waiting for President Thabo Mbeki's signature. The restructuring of the industry will see the creation of six or seven Regional Electricity Distributors from the merger of SA's 187 municipal distributors and Eskom's seven distribution business units.

Draft Environmental Fiscal Reform Policy Paper for public comment

The National Treasury has undertaken research and stakeholder consultation in the area of Environmental Fiscal Reform over the past few years. In October 2002, the Department commissioned a study on environmental taxes. Subsequently, the department developed a Draft Policy Paper entitled "A Framework for Considering Market-Based Instruments to Support Environmental Fiscal Reform in South Africa".

The policy document considers wide-ranging tax reform, such as higher taxes on coal-derived electricity and dirty transport fuels and new taxes on waste water discharge. According to a press release by National Treasury, the policy paper seeks to outline the role that market-based instruments, specifically environmentally related taxes and charges, could play in supporting sustainable development in South Africa, and to provide a framework for considering their possible application. Treasury notes that as the South African economy grows and imposes

increased demands on its environmental assets base, it is vital that it does so in a sustainable manner and that issues such as poverty, inequality and international competitiveness are effectively addressed.

The document focuses and elaborates on the options for environmental fiscal reform and the policies and measures that could be used to achieve both environmental and revenue-raising objectives. The document is available for public comments on <http://www.treasury.gov.za> and comments can be sent to sharlin.hemraj@treasury.gov.za by Monday, 31 July 2006.

The South African civil society Energy Caucus is currently engaged in a process to make a joint submission. Any suggestions for this submission can be sent to nkosana@earthlife.org.za

7. Events

Renewable Energy Round Table
Central Energy Fund/EDC
25th April

ENERGY FOR AFRICA
Park Hyatt hotel Rosebank
15 - 17 May 2006

Industrial and Commercial Use of Energy (ICUE) conference
Date: 22-23 May 2006
Lagon Beach Hotel, Minetown, Cape Town

African Utility Week
Date: 7-10 May 2006
Venue: Cape Town, Contact: Andrew Evans
Contact: +27 011 700 3500, Fax: +27 011 700 2501
Andrew@spintelligent.com

Commission on Sustainable Development (CSD) 14
Date: 1 – 12 May 2006
Venue: New York

ENERGY EFFICIENCY CONFERENCE
5, 6, & 7 June 2006
Sandton, Southern Sun Grayston Contact: +27 011 771 7000
African Bio-Fuels: E10 & Bio-Diesel
Date: 5,6 & 7 June 2006
Venue; Southern Sun Cape Sun, Cape Town
Contact: csteward@iir.co.za

International Ministerial Meeting on Climate Change
(Follow-up to the Greenland meeting of 2005)
Date: 16 – 18 June
Venue: Cape Town

The 2006 International Energy Workshop
27-29 June 2006,
Cape Town, South Africa.
Organised by: ERC's modeling group and IIASA
Link to the workshop page:
<http://www.iiasa.ac.at/Research/ECS/IEW2006/index.html>

5th World Wind Energy Conference and Exhibition 2006 (WVEC 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

Sustainable Energy Briefings 1-9: can be downloaded from our website
www.earthlife.org.za/seccp/