

SUSTAINABLE ENERGY NEWS on EMAIL (SENSE)

Number 38

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

Stakeholder committee to the IEP process

SECCP represented Sangoco at the second meeting of the stakeholder committee to the IEP process, now known as the Advisory and Review Committee, on 4 May. Following ARC discussions of how public benefits can be factored into the scenario development and modelling processes, SECCP drafted a letter to the Minister, which has subsequently been endorsed by the Energy Caucus. This letter is reproduced in section 5, below, to serve as a report on IEP process.

Report on the Integrated Energy Planning II Demand Side Working Group

BY: Nkosana Rakitla

The first meeting of the Working Group was held on the 17th of May 2006, with members drawn mostly from the Integrated Energy Planning Advisory and Research Committee (IEPRAC). The Department of Minerals and Energy (DME) had met internally and decided that the working group will be reviewing and analysing data on demand side, which will be integrated to the four IEP scenarios and make recommendations to the IEPARC. The meeting looked at the roles, functions

and terms of reference of the DSMWG that includes the following, quoted from the draft IEP framework is to:

1. Development of energy demand forecasts for the different types of energy carriers.
2. Identification of the energy industry trends, investment, and disinvestments that will impact on the energy forecast and demand.
3. Prioritise the working groups activities and report to IEP steering Committee.
4. Identification, evaluation, quantification, implementation, monitoring, and selection of demand side management and energy efficient options that will help reduce the demand of energy.
5. Identification, estimation, and accessing of resources to undertake demand side activities.
6. Document all the relevant methodologies and recommendations made and make recommendations to IEP steering committee.

The department is currently finalising the terms of reference in light of input obtained at the first meeting of the Working Group.

Ekurhuleni Metro Municipality Energy and Climate Change Strategy

Ekurhuleni Metropolitan Municipality is in the process of developing an Energy and Climate Change Strategy (EMM ECCS) and will be holding one or more public participation workshops within the next two months. City officials are assisted by the organisation Sustainable Energy Africa, which is compiling a database of interested stakeholders to be invited to the workshops (see below).

EMM was formed in 2000 and is the fourth largest municipality in SA, with about 2.5 million people in roughly 750 000 household, east of Johannesburg and south of Tshwane. It is one of eleven cities participating in the programme Cities for Climate Protection (CCP), but, according to the draft strategy, “has the largest industrial and manufacturing base on the African continent, making it a centre for energy intensive industry.”

The strategy is intended to “institutionalise sustainable energy approaches and practices in the Municipality”. It embraces all sectors of energy demand and sets out strategic visions for the physical, economic and social landscapes, with energy efficiency as a strong crosscutting theme. Officials are currently discussing the viability and cost implications of the various goals and measures proposed in a draft. A revised text has been promised in advance of the public workshops.

To ensure an invitation to public participation events, send your organisational information and full contact details to: Audrey Dobbins, Sustainable Energy Africa
audrey@sustainable.org.za Tel: (021) 702 3622 Fax: (021) 702 3625

Commemoration of Chernobyl Day

The SECCP commemorated Chernobyl Day by launching the Renewable Energy is People Power poster and flyer at the Church Square, Pretoria. This was a joint event with Nuclear Energy Cost The Earth Campaign (NECTEC) of Earthlife Africa Jhb. Amongst the list of speakers were delegates from the National Union of Mineworkers (NUM) and Congress Of South African Trade Unions (COSATU).

To get copies of the poster and flyers contact:

Tel: 011 339 3662 or Email: nkosana@earthlife.org.za

Download on [http://www.earthlife.org.za/Files/RE is People Power Poster.pdf](http://www.earthlife.org.za/Files/RE%20is%20People%20Power%20Poster.pdf) and [http://www.earthlife.org.za/Files/RE is PP flyer.pdf](http://www.earthlife.org.za/Files/RE%20is%20PP%20flyer.pdf)

Energy Caucus meets the Minister of Minerals and Energy

Leila Mahomed of Sustainable Energy Africa, Wendy Annecke of Gender and Energy Training and Research, Thabo Sibeko of Ecocity Trust, Bobby Peek of groundWork and Nkosana Rakitla of SECCCP made up the delegation representing the Energy Caucus, which met with the former Minister of Minerals and Energy Lindiwe Hendricks on the 18th May, Cape Town. Present government officials Minister Lindiwe Hendricks, Saul Levin (Chief Director: Ministry) and Andre Otto (Director: Renewables – DME)

The purpose of this meeting was to introduce the Energy Caucus, voice our concerns as civil society and to establishing a long-term relationship with the Minister. Following a presentation of the “who is?” the caucus and how it works, discussions on various issues relating to access and affordability and handing over to her various advocacy materials including the letter mentioned in (section 1). The Minister said she is keen to meet regularly with the Caucus to discuss our concerns and for her to respond directly to specific issues.

It is unfortunate that after the warm and promising reception the delegates got from the Minister and the hustle and bustle of arranging for this meeting, the Minister was moved from Minerals and Energy to the Ministry of Water Affairs and Forestry (as report on section 4).

The view the principles of the energy caucus go to: [energy caucus](http://www.earthlife.org.za/Files/Defining%20Principles%20of%20Energy%20Caucus%20after%2017th%20Feb2006.pdf)
<http://www.earthlife.org.za/Files/Defining%20Principles%20of%20Energy%20Caucus%20after%2017th%20Feb2006.pdf>

In addition, at this meeting, we established that the Renewable Energy Strategy would be published for public comment, end of May. Follow up communication with Department Minerals and Energy (DME) gives us the understanding that the Strategy is delayed. The reason been DME and National Treasury are in a process of identifying synergies between the Strategy and the recently published Environmental Fiscal Reform and incorporating some components of the strategy into the Environmental Fiscal Reform.

2. SA Sustainable Energy progress

Tradable Renewable Energy Certificate (TREC) System Feasibility Study

Source Department of Minerals and Energy

The objective of this project is two folded, namely the: [1] provision to government of precise and specific detailed recommendation on the establishment of voluntary and sustainable TREC system for South Africa and [2] the development of an implementation plan to set about establishment of the system.

A TREC represents the beneficial attributes of renewable energy resources based electricity generation other than the physical electricity. The feasibility study seeks to determine precisely whether and at what level, government participation will be necessary in TREC activities. The study is being undertaken by a consortium comprised of SAB&T Business Innovations, Hofmeyer Herbstein & Gihwala Inc, Green Billing Systems, and Mr Dirk Ganz and led by Nano Energy (Pty) Ltd.

The process to undertake the study will allow the project team to lead and advise the members of the project steering committee comprising of the Department of Minerals and Energy (DME), the National Energy Regulator of South Africa (NERSA) and Energy Development Corporation (EDC) of Central Energy Fund (CEF), including other relevant stakeholders.

This study is primarily a desk top based research exercise to determine a suitable plan of intervention in the emerging renewable energy certificate market and ensure its compatibility with both national renewable energy support initiatives and mechanisms, and with international certificate trading schemes. The five tasks to be undertaken in this study are: [1] South African TREC system activity scan, [2] System analysis, motivation and recommendation, [3] Development of an implementation plan, [4] Conduct a stakeholder workshop and [5] Market assessment and target impact projection.

A government and stakeholder workshop will be held on the 18th of July 2006 to ensure that the motivation, recommendation and voluntary TRECs system implementation plan is acceptable, practical and realistic.

More information contact: sailas.mulaudzi@dme.gov.za or andre.otto@dme.gov.za

“Energisation” energy for remote areas

Based on article by David Poggiolini- African Energy Journal

The implementation of the hybrid mini grid systems in South Africa is the brainchild of former Minister of Minerals and Energy, Phumzile Mlambo Ngcuka. She mandated the National Energy Regulator of South Africa (NERSA) to pilot these projects in energy –starved regions of South Africa, after witnessing their success in other countries such as Australia.

Lucingweni (Eastern Cape) was chosen as a suitable site for a hybrid mini grid system. The system comprises six meter tall, 36 kilowatt (kW) wind generators and 560 1000 Wp photovoltaic (PV) panels. These, together with associated inverters, charge and discharge regulators, 30 t of batteries for power storage, distribution equipment and reticulation systems, bring power to 220 households.

The system is regulated in terms of 2 A and 950 Wh per day to each household. This is enough energy for each dwelling to use four lights, a colour television, a radio and cellphone charger. Excess power is used to power streetlights and will eventually be used for pumping water. At later stages Liquefied Petroleum Gas (LPG) Supply will be established to Lucingweni for its cooking and ironing needs, which are not being catered for by the project, although the hybrid mini grid system has the capacity to eventually supply 1400 Wh to each household.

The project takes precedent from an earlier hybrid mini grid system pilot project undertaken by NERSA and Shell Solar South Africa in the neighbouring Hluleka Game Reserves {Eastern Cape}. Here a system was implemented to replace two 75 kW diesel generators, which powered 12 guest chalets, offices and staff quarters. The generators operated for 10 hours per day, and consumed as much as 90 000 liters of diesel a year. The hybrid system at the game reserve comprises two 2.5 kW wind generators and three solar PV modules wired in series. The system powers most of the needs of the system while generator is used as backup.

The Lucingweni project costs more than R11-million – a sum that does not include the connection costs. While this may be sizeable investment, it outweighs the cost of linking to the national grid and powering it by traditional electricity. According to the project implementers, the cost of establishing other similar projects would be much lower, considering that both NERSA and Shell Solar South Africa have learnt much from the two projects undertaken in the Eastern Cape. Already, the cost of undertaking the project in Lucingweni was less than the one in Hluleka Game Reserve. With the Hluleka Game Reserve hybrid mini grid system, most of the technology was sourced from abroad. Difficulties experienced with equipment during installation meant that the technicians had to be sourced from Germany.

When tackling the Lucingweni project, on the other hand, only the turbines and PV systems were imported. The accessories were sourced from Cape Town based companies – a strategy that reduced the project's costs significantly.

Report Proposed concentrated Solar Power (CSP) Plant and associated Infrastructure key stakeholder meeting 18 April 2006

BY Nkosana Rakitla

The purpose of the meeting was to provide information regarding the proposed construction of a 100 MW power plant in Northern Cape Province, provide an overview of the of the Environmental Impact Assessment (EIA) and public participation process and provide an opportunity for stakeholders to raise concerns and interact with the project team.

According to the team the project qualifies for the Clean Development Mechanism (CDM) project as it meets the South African sustainable development criteria as defined by the DNA, and will potentially avoid 367 000 tCO₂ emissions per annum compared to what would have occurred without the project.

The twin requirements set in the international CDM requirement are:

- Projects must result in real, measurable, and long-term emission reductions, as certified by the third party agency. Emission reduction must be additional to any that would occur without the project.
- Project must be in line with sustainable development objectives, as defined by the national government. In South Africa, it is the Department of Minerals and Energy (DME), which is designated national authority (DNA) for the CDM.

The project is envisaged to employ 800 construction workers and create 1 500 to 2500 indirect job over a 3 year construction period. During the operation phase of the proposed CSP plant, it is envisaged that 35 to 45 people would be permanently employed.

The EIA process will be undertaken as follows: [Phase 1] Environmental Scoping Study, [Phase 2] Environmental Impact Assessment and [Phase 3] Environmental Management Plan (EMP); public participation is an ongoing process up to the time a Record of Decision is issued by the relevant decision-making Authority.

For background information and participation in EIA process contact: ashlea@bohlweki.co.za or csp-eia@bohlweki.co.za

3. SA Unsustainable Energy: Eskom Watch

Proposed coal-fired power station and associated infrastructure in Witbank area

Notice issued by Ninham Shand consulting services:

“As part of the electricity supply plan, Eskom is considering a coal fired power station in the vicinity of Witbank Mpumalanga. There are two sites being investigated between the N4 national highway and just south of the R555 provincial road to the west of Witbank. This power station is one of four similar coal fired power station being considered by Eskom. The other proposed new coal fired power stations are located at Matimba, Lethabo, and Grootvlei. Feasibility studies are proceeding for the locations of Matimba and Lethabo.

Ninham Shand Consulting Services has been appointed by Eskom to undertake an Environmental Impact Assessment [EIA] process for the activities relating to the proposed coal fired power station and associated infrastructure in the Witbank area.

The proposed project comprises the following: the construction of a 3600 to 4200 Megawatt (MW) greenfield, coal fired power station in the area to the west of Witbank. The construction and operation of associated infrastructure such as a high voltage yard¹, water treatment and supply facilities, ash management system, coal transportation, storage and handling facilities, service roads etc.

The extent of the site required for such a power station and associated infrastructure is approximately 1500ha, although the structure themselves would only occupy a small portion thereof. The most environmentally appropriate technology is being considered for the proposed power station, e.g. direct dry cooling for heat dissipation and flue gas desulphurisation to minimise air pollution.

To receive a copy of the background information document and/or register as interested and affected party contact enviro@shands.co.za “

Power Shift

Based on article by Thamashni Naidoo and Laura Tyrer – Engineering news

A detailed revision of State-owned power utility Eskom's capital expansion plans which is likely to result in an accelerated and scaled up investment programme will be presented for board approval by the third quarter of this year. Work on new plan began in February, following a decision to align the group's investment to the South African government's six percent gross domestic product (GDP) growth ambition. Hitherto; planning had been based on GDP growth projections of four per cent. It also follows on from higher than anticipated demand growth, which saw Eskom's reserves margin fall below 10%, as well as a power crisis in the Western Cape, triggered primarily by problems at the Koeberg nuclear reactor.

The new plan will offer a project-by-project breakdown of what is to be built over the next five years and beyond. It is likely to see Eskom increasing, by 2010, its overall generation capacity, which stands at 37 000 MW, by more than 8000 MW and restoring the reserve margin to around 15%. This would be a significant enlargement on the current plan, which was designed to add 5000 MW of additional generating capacity by 2010. It will also, no doubt, have a knock on effect on investment finance provision, which currently stands at R84 billion, R53 billion of which is dedicated to generation related expenditure.

According to Eskom's CEO Thulani Gcabashe, the personnel engaged in the review are running detailed models, right down to project level, in a bid to understand what any acceleration would mean for system, Eskom's organisational capacity and for its financial position.

To read more about Eskom plans go to [www.earthlife.org.za / seccp / Sustainable Energy News by Email](http://www.earthlife.org.za/seccp/Sustainable_Energy_News_by_Email)
<http://www.earthlife.org.za/topic.asp?TopicID=24&Topic=Sustainable%20Energy%20News%20by%20E-mail>

Mmamabula progresses

By African Energy Journal - 29-May-2006, BULLETIN #27

The bulk feasibility study for the Mmamabula Energy Project in Botswana – a large-scale coal-fired power station near to the SA border, on the Waterberg deposits - has started. The scope of the project will include resource modelling and mine planning by Snowden Mining Industry Consultants, power station design and technology selection by Black and Veatch International

¹ Note that the transmission lines required to link the new powers station to the national grid are the subject of a separate Environmental Impact Assessment.

Company, transmission and integration solutions and market and regulatory studies by Sad-Elec and World Bank-compliant water and environmental studies by Digby Wells and Associates. Meanwhile, CIC Energy Corp; its wholly owned subsidiary, Meepong Resources; and Eskom have concluded a memorandum of understanding. It is envisaged that the majority of the power generated by the project could be sold to Eskom under a long-term power purchase agreement

4. SA general energy

Change of Guard at Minerals and Energy

By Nkosana Rakitla

President Thabo Mbeki on 22nd May moved both the Minerals and Energy Minister Lindiwe Hendricks and her Deputy, Lulu Xingwana out of the high profile department and into new portfolios in a cabinet reshuffle. Minister Lindiwe Hendricks swops portfolios with Water Affairs and Forestry Minister Buyelwa Sonjica while Lulu Xingwana has been promoted to Minister of Agriculture and Land Affairs.

Investment in cleaner household energy yields major health and economic benefit

Report by World Health Organisation 04 May 2006

A new report titled Fuel for Life: Household Energy and Health produced by the World Health Organisation, reports that approximately 485 000 people in the next ten years would need to access to cleaner fuels in order to halve by 2015 the population relying on solid fuels. This report demonstrates that investing in cleaner household fuels can yield a seven-fold economic benefit in health and productivity gains.

Cooking with wood, dung, coal and other solid fuels on open fires or simple stoves are a daily reality for more than half of the world's population. This leads to high levels of indoor air pollution, a major risk factor for pneumonia among children and chronic respiratory disease among adults. Globally, pneumonia remains the single most important child killer and is responsible for two million deaths a year.

Every year, indoor air pollution is responsible for 1.5 million deaths. Sub-Saharan Africa and South East Asia are particularly affected, with 396 000 and 483 000 annual deaths respectively. The 'killer in the kitchen' also disproportionately affects women and children. In 2002, cooking with solid fuels was responsible for nearly 800 000 deaths among children and more than 500 000 deaths among women.

The good news is that effective solutions are available. Liquefied petroleum gas, biogas and other cleaner fuels represent the healthiest alternative. Switching from a traditional stove to an improved stove substantially reduces indoor smoke. Improving the stoves available to millions of poor people in developing countries will reduce child mortality and improve women's health, in addition to the health gains, household energy programmes can help lift families out of poverty and accelerate development progress. On average, 100 million more homes using liquefied petroleum gas, biogas or modern fuels for cooking would lead to 473 million fewer women, children and men exposed to harmful indoor air pollution, and 282 thousand fewer deaths from respiratory diseases per year.

The economic case for adopting practical solutions on a large scale is just as strong as the humanitarian case. For as little as six dollars, families can install better ventilated and fuel efficient stoves. Making improved stoves available to half of those still burning biomass fuels and coal on traditional stoves would save USD 34 billion in fuel expenditure every year, and generate an economic return of USD 105 billion every year over a 10 year period.

The report also shows that halving the number of people worldwide cooking with solid fuels by 2015 would cost a total of USD 13 billion per year and would provide an economic benefit of USD 91 billion per year.

The majority of these costs are borne at the household level, which is also where the majority of the benefits occur. Nevertheless, donor investments are required upfront for designing appropriate technologies, setting up local businesses, and putting micro-credit systems in place. Developing energy infrastructure in this way would not only mean less illness and death but also less time spent ill, collecting fuel and cooking. With more time available, children would do better at school, while their mothers could engage in childcare, agriculture or other income-generating activities as a way to break the vicious cycle of poverty.

Download a complete version of the report on

<http://www.who.int/mediacentre/news/releases/2006/pr22/en/index.html>

5. SA Energy Policy

Report on the Integrated Energy Planning II (IEP)

By Richard Worthington (SECCP Co-ordinator)

Following the first 2 meetings of the Integrated Energy Planning Advisory and Review Committee, we are concerned that the issue of potential employment within the energy sector is not receiving due attention. The modelling experts clearly indicated that employment within the energy sector could be integrated in the modelling (using MARKAL) and no justification was provided for the contention in the minutes of the first meeting that “there are some issues for example, job creation that cannot be address with the IEP exercise...” The team may decide not to address job creation within the IEP exercise, for example because it would entail some more work, but a decision to exclude the issue of employment from the IEP process would be of grave concern to the participants of the Energy Caucus.

We have previously written to the Minister of Minerals and Energy Lindiwe Hendricks to motivate for ‘public benefits’ to be used as one of the main drivers in elaborating scenarios. The principal public benefits that could be considered are job creation and opportunities for reducing poverty through community, or ‘second economy’ participation in the energy sector (also referred to as democratising the energy sector), including decentralisation and providing recognition and where possible economic return for the central role played by women in accessing energy services. Public benefits would also embrace energy security.

It was evident in the discussions on scenario development that ‘public benefits’ could be treated as a driver or an outcome within scenarios definition and development, as is the case for energy security and climate change. Just as possible future measures to incentivise emissions limitation would impact sector development, so too popular demand for public benefits (possibly expressed through withholding payment for highly centralised commercial energy supply) could impact on sector development.

Given the clear commitment of the IEP II team to Climate Change and Security of Supply as their primary drivers, and the symmetry of their current scheme, the South African Non-Governmental Organization Coalition (SANGOCO) representative went on to motivate for an additional scenario to tell the story of what our energy sector may look like, if achieving direct public benefits were a major driver of investment and policy decisions. This was dismissed as implying an endless proliferation of scenarios, which it does not. We fully appreciate the challenges and resource constraints facing the first in-house implementation of IEP. However, this vital process merits allocation of sufficient resources to allow for critical consideration of the potential contribution that the energy sector could make to our national priorities of poverty reduction and job creation.

While the approach of a supplementary scenario may break with the conventions of IEP process developed by highly industrialised countries where the tools were developed, this should not constrain innovative approaches appropriate to South Africa. A key requirement is that employment potential in the energy sector is subject to modelling (as was initially promised in IEP I). As a scenario is the story that informs the inputs into a modelling run, we are concerned that without a scenario there will be no rigorous modelling of the employment impacts of different energy futures. It was suggested that macro-economic analysis of the scenarios and modelling outputs would provide an indication of the likely levels of employment under each of the proposed scenarios. While this should indeed take place, this is very different from looking at *how employment and poverty reduction could be optimised*.

Currently 'least cost' or lowest price energy provision is a much higher priority in the energy sector, in the pursuit of global competitiveness, than direct employment. In motivating for such a scenario and modelling, we are not insisting that this macro-economic approach be changed herewith, but simply that the costs and benefits of this approach be examined, in light of possible alternatives. This is surely a vital function of integrated energy planning.

We firmly believe that the additional resources necessary to include investigation of the employment and poverty reduction impacts of energy sector development options are fully justified by the value this would add to IEP II. These issues, these national objectives, are too important to be deferred for consideration under some future process that does not enjoy the oversight of a multi-stakeholder committee or the mandate of (imminent) national legislation.

Since the scenarios design is not under consideration in the Working Groups and the Committee discussion appears closed, we appeal that you exercise your discretion to include a public benefits scenario that gives due consideration to the employment potential of competing energy development options.

Environmental Impact Assessment process for the proposed waste-blending platform to be established in Gauteng Province

Holcim (South Africa) (Pty) Ltd and Enviroserv Waste Management (Pty) Ltd propose to establish a waste processing facility on a site to the south of the Holcim Roodeport Cement Factory. The proposed blending platform would function to produce waste derived fuels by processing and blending industrial solid, liquid or sludge wastes into a homogenous fuel for use as a source of energy (fuel) in the production of cement.

As part of the Environmental Impact Assessment (EIA) and public participation process, an Environmental Impact Assessment Report is available for public review, it includes a Social Impacts Study, and a Commissioning Report containing an Environmental Management Plan, Emissions Monitoring Protocol, and the Sigma Aldrich Catalogue.

The document will be available for review from 8 June 2006 to July 2006 on www.bohlweki.co.za and submit your written comments to blendingplatform@bohlweki.co.za

To read civil society press releases go to:

<http://www.groundwork.org.za/Press%20Releases/23Nov05CementKiln.asp>

<http://www.earthlife.org.za/Files/SENSE%2035.pdf>

<http://www.earthlife.org.za/Files/NR%20SE%20NEWS%20on%20E-MAIL%2037.pdf>

7. Events

Information Seminars on New EIA Regulations

2 June 2006, Durban, Ms S Hlela, 033 355 9429

5 June 2006, Pretoria, Ms A Britz, 012 310 3485

9 June 2006, Johannesburg, Ms M Makgonye, 011 355 4698

15 June 2006, Rustenburg, Mr N Nkosi, 018 389 5341

22 June 2006, Polokwane, Mr T Hatlane, 015 293 8561

African Biodiesel: E10 & biodiesel Conference

5 & 6 June 2006

Cape Sun, Cape Town

Tel: +27 011 771 700

Fax: +27 011 880 6789

Email: esteward@iir.co.za

Website: www.iir-conference.co.za

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

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/