

SUSTAINABLE ENERGY NEWS on EMAIL (SENSE) number 18

Welcome! SENSE is a service of the Sustainable Energy and Climate Change Partnership (SECCP), a project of Earthlife Africa Johannesburg in partnership with WWF, Denmark.

SENSE is a monthly publication, edited by Elin Lorimer. 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:** A note from the editor; NGO preparation for Bonn RE Conference 2004; Urgent push on RE Target(s).
2. **SA's Sustainable Energy Progress:** City of Cape Town leads the way with sustainable energy projects; Potchefstroom's "green" council chambers; CDM Designated National Authority announced.
3. **Unsustainable Energy:** PBMR court challenge continues.
4. **General Sustainable Energy News:** International Renewable Energy Conference 2004; EU Study on external costs of electricity production; RE still marginal in global energy supply; Solar PV on the increase; WWF warns EU they may miss renewables target.
5. **SA Energy Bills:** Energy Draft Bill progresses; RED's Establishment Draft Bill; Air Quality Bill presented to the Provinces; Earthlife call for better public participation in Radioactive Waste Policy.
6. **Upcoming Events** – a preview of energy events November – December 2003.

1. SECCP News

A note from the Editor

Well, you may have been wondering what happened to this month's SENSE edition. The reason this one's several weeks late is that I have just returned from honeymoon – as Elin Lorimer rather than Elin Oettlé.

The SECCP is currently going through a number of changes as the project approaches the end of its first phase. Luckily we can be fairly confident of gaining a six-month extension and funding for a Phase II in 2004. Sadly our Climate Change expert and SA-CAN co-ordinator, Mamashoabathe Noko, will be leaving us at the end of October. This leaves an important post vacant at the project which we would welcome suitable applications for.

With the year rapidly drawing to a close there are still a number of important energy events in South Africa and internationally, including the Cities Energy Strategies Conference and World Wind Energy Conference, both in Cape Town in November, followed by COP 9 in Milan in early December. Preparations have also begun for the Renewable Energy Conference in Bonn next year, and Richard Worthington our project co-ordinator joined NGO representatives from around the world in Germany this month to discuss what they hope this conference will achieve.

Elin Lorimer

NGO preparation for Bonn RE Conference 2004

The Project Co-ordinator attended an international NGO workshop in Germany to prepare for the International Renewable Energy Conference 2004 – announced by German Chancellor Schröder at the end of the World Summit for Sustainable Development (WSSD). Organised by the Heinrich Böll Foundation, with WWF International and the German NGO Forum, the event was attended by representatives from around the world, with a strong presence from South Africa.

The NGO workshop was briefed by a government official on the plans for the conference, as well as by NGO members of the International Steering Committee. A series of working group sessions were convened on specific issues decided in the plenary meeting, such as Financing and Off-grid options. A general theme was to elaborate the roles of relevant stakeholders in supporting the implementation of renewable energy, including the participants themselves.

A draft declaration had been prepared and circulated beforehand and comments were submitted to a drafting committee. Outcomes of the working groups were also fed into the drafting process and a final draft was presented at the end of the workshop. The draft will be 'cleaned up' and circulated to participants over the ensuing two weeks, then sent out widely for further endorsements. A co-ordinating committee was elected to facilitate on-going NGO engagement; it includes Richard Worthington of Earthlife Africa (SECCP) and Steven Karakezi of Afripren, based in Nairobi.

There will be an African preparatory meeting in Nairobi on or about 20-21 November, hosted by the Kenyan government. A number of NGOs are talking of meeting there, although whether the official event will extend beyond government discussions is not yet clear.

For more on the conference see: "International Renewable Energy Conference 2004"

Urgent push on RE Target(s)

By Richard Worthington

The SECCP has requested a meeting with the Department of Minerals and Energy (DME) to offer support for the research commissioned by the department on the macro-economic impacts of the proposed renewable energy (RE) target. Noting that we still have considerable funds for research work, we have submitted that: "We sincerely believe that by pooling resources or collaborating on the commissioning of additional research to be undertaken over the next two months, we can add value to the important and far-reaching work of your department. Analysis of the social and macro-economic impacts of targets for renewable energy additional to that currently being considered would also serve to inform the work of Treasury and the Department of Environmental Affairs and Tourism."

If South Africa is to develop local industries in renewable energy technologies such as wind power, which has a market growth rate of about 40%, we need to set a target for electricity supply alone at least ten times higher than that currently being researched. There is also a sound basis for additional targets for solar water heating and bio-fuels. SECCP is ready to commission research to substantiate the economic advantages of such targets.

Top

2. SA's sustainable energy progress

City of Cape Town leads the way with sustainable energy projects

With thanks to Craig Haskins

The City of Cape Town has been involved in a number of sustainable energy projects as part of their commitment to the Cities for Climate Protection (CCP) programme. A brief look at some of their current projects illustrates that saving energy and switching to more sustainable energy sources is not only good for the environment and the health of the community, but has already started to save the City money. The projects range from energy efficiency measures in council buildings to vehicle fuel switching and encouraging the use of bicycles for transport within the city.

One of the first projects the City of Cape Town initiated was the retrofitting of the Parow Council buildings to make them more energy efficient, as these buildings were estimated to be responsible for 18% of the City's corporate emissions. With energy efficiency measures in place, the Tygerberg Administration building should be able to save an estimated 130 000 KW hours of electricity per year, an equivalent of R37 000 and 140 tons of carbon dioxide (CO₂).

In August this year the Parow retrofit began with the replacement of 500 incandescent light bulbs with compact florescent bulbs and installing digital timers on geysers. Six weeks into the project, by early September, there was already a 12% drop in electricity consumption, equivalent to a saving of R2 174, and 7.9 tons of CO₂ per month. Further plans for the building in September included installing solar water heaters, another geyser timer and more efficient light bulbs; and introducing behaviour change for energy use such as air conditioners, lights, and computers.

With such promising results already, the council's target of a 20% reduction in energy consumption should be attainable within a fairly short timeframe, saving an average of R3 190 per month. With implementation costs of R40 000 in capital expenditure and R17 000 in consultants' fees so far, the pay-back period for the project would only be 26 months at the current rates, but as the funds were sourced from a CCP grant there has been no direct cost to the council to date.

A second project has involved the retrofitting of two council vehicles to run on Liquefied Petroleum Gas (LPG) and petrol. The project aims to reduce the emissions from the council's vehicle fleet, which is responsible for 15% of the City's emissions. The two vehicles from Water Services and Scientific Services were converted as part of a pilot project testing vehicle conversion to dual fuel usage. The costs of conversion (usually between R5 000 and R5 500 per vehicle) and driver training were therefore borne by the consultants, Kulani Africa. With average savings of R791 (and 1.25 tons of CO₂) per vehicle per month, this works out to a 6-7 month payback period depending on fuel prices and immediate benefit for the council.

In another transport-oriented project, the council has initiated a Bicycle Feasibility Study in Mitchells Plain, with the view to reducing emissions by switching means of transport. Cape Town already has 81km of bicycle lanes around the city, and there are also several bicycle planning projects being designed or underway, most notably the City of Cape Town Bicycle Master Plan. The Mitchells Plain Study aims to examine scholars' current means of travelling between school and home, quantify the emissions from these practices, examine the existing facilities for bicycle use, and look at the feasibility of the infrastructure. With the results of the initial survey, which will be available shortly, the council will be able to measure the potential emissions reductions and savings that a future programme might achieve.

Potchefstroom's "green" council chambers

With thanks to Mahesh Roopa

Potchefstroom's local authority is proud to have their new council chambers the first building in South Africa to be certified 100% "green". Participating in a pilot programme for the Department of Minerals and Energy's South African Energy Demand and Efficiency Standards (SAEDES), the local authority has stepped ahead to comply with expected future energy efficiency requirements for buildings. Without significantly increasing their costs, the council can now be sure that their new building will provide a pleasant working environment without considerable future energy costs.

Although the council chambers building was not initially designed with green principles in mind, when Potchefstroom became a member of the Cities for Climate Protection (CCP) programme, the local authority decided to put their building plans on hold. Working with professor LJ Grobler from Potchefstroom University's School for Mechanical and Materials Engineering, they put together a team to evaluate the building's efficiency and monitor the implementation of recommendations. As this coincided with the development of SAEDES, the council chambers building also became one of six buildings evaluated in the pilot program.

The council chambers building, although considered "green", is nevertheless a conventional building constructed with conventional materials. Although linked to the existing council offices, the new building has separate amenities – it consists of a large auditorium, meeting rooms, a kitchen and ablutions. What distinguishes this building is that the energy efficiency of the design was optimised; with an assessment of the building envelope, electrical systems (lighting, heating, ventilation and air conditioning), pumps, controls and maintenance over time.

Despite the thorough assessment, the building did not in the end require major redesign. As any good building design should take into account the local climate and building orientation, and make use of passive measures to create a pleasant indoor environment, the structural changes in the end were minimal. Changes included an improvement in some of the insulation, for example external face-brick walls were replaced with thicker cavity walls, and natural stone flooring was recommended for heat absorption in winter. Dual flush toilets and low-flow taps were also substituted for the original specifications to reduce water consumption.

The changes did not add substantially to the cost of the building construction, since the SAEDES standards are designed to be flexible and take into account budget constraints and practical issues. Since the requirements are not all absolute, the standards can also be met in different ways, and can allow for compromises. Changes are generally required only where they are considered practically and economically viable. The SAEDES will also require that building receive ongoing and regular evaluations to allow for adjustments and upgrades where necessary.

Once finalised, the SAEDES standards will come into effect in the next few years. With the draft standards now complete, the DME has made a submission to the National Standards of South Africa (NSSA). The next step will be for the NSSA to put together a task team to review the SAEDES draft and formalise the standard.

CDM Designated National Authority announced

By Richard Worthington

Government has announced that the Designated National Authority (DNA) to deal with the Clean Development Mechanism (CDM - one of 3 'Flexible Mechanisms' provided for in the Kyoto Protocol) will be housed at the Department of Minerals and Energy.

This change from the original intention of locating it within the Department of Environmental Affairs and Tourism has raised some concerns, since the primary responsibility of the DNA is to determine whether proposed projects qualify as sustainable development – a pre-condition to qualify for the CDM.

An initial meeting between the departments, to re-start the process of constituting the DNA, is expected in coming weeks. NGOs are hoping that previous submissions on the matter will be taken into account, particularly a proposal regarding criteria and thresholds for determining sustainability. A key issue will be the extent to which renewable energy and energy efficiency projects may be side-lined by attention to so-called 'clean coal' projects.

[Top](#)

3. Unsustainable Energy

PBMR court challenge continues

In September the Legal Resources Centre lodged a High Court application on behalf of Earthlife Africa Cape Town against the Department of Environmental Affairs and Tourism (DEAT)'s approval of the environmental impact assessment (EIA) of Eskom's new nuclear project. Chippie Olver, Director General of the DEAT, approved the EIA for the demonstration model of the Pebble Bed Modular Reactor and associated developments despite concerns over serious flaws in the process.

Earthlife are seeking to have the approval for the EIA reviewed and the authorisation set aside due to the fact that critical information was not made available to the public for comment. They claim that the decision was made in a procedurally unfair manner, as the DEAT refused to listen to their concerns, and critical information was excluded from the debate.

Now that the application has been lodged, the DEAT will be allowed to study the arguments put forward by Earthlife and respond. Subsequently Earthlife will be given an opportunity to reply again, and only after this will a court date be set.

[Top](#)

4. General Sustainable Energy News

With thanks to RE Focus Weekly for keeping us informed

International Renewable Energy Conference 2004

By Richard Worthington

'RE 2004', as the Conference is becoming known in acronym-prone circles, will take place June 1 – 4 next year. It aims to bring together representatives of governments that are willing to make substantial commitments to renewable energy, as well as a wide range of civil society groupings. The following is taken from a background document:

"The character of the Renewables 2004 is somewhat unique: It is not a UN-Conference; at the same time it wants to achieve common activities by states, in a reliable (if not legally binding) manner. Explicitly. This approach is not to be set against UN efforts in the field of energy, climate etc., but rather serve as a support for these multi-lateral processes, through the in-road also of a single-issue approach."

The conference will start with a multi-stakeholder dialogue and end with a ministerial segment. It will include parallel meetings for parliamentarians, for municipalities/regions and for civil society. "The conference aspires to the following outcomes:

- Commitment to national and regional targets as important guidelines for policy-makers as well as a signal to the private sector for investment.
- Packages of political measures that can consist of either individual or joint actions by governments, organisations/institutions or enterprises. There is a strong intention to integrate all action into a single international action plan, also based on regional cooperation.
- Guidelines for good policies in the energy sector. These could conceivably be:
 - policy recommendations based on indicators;
 - action-oriented implementation of lessons learned; or
 - best practices.
- Establishment of a follow-up process which would include monitoring of goal achievement, measures, actions, and the meeting of political obligations as well as linkage to other international processes. The follow-up process should also enable continued discussion of institutional arrangements."

An initial announcement of the event has been sent out and official invitations should be out before the end of the year. Interested parties are invited to apply if they wish to hold side events.

More information available on the website – www.renewables2004.de

EU Study on external costs of electricity production

The European Union (EU) Commission recently released a new study, which aims to quantify the external costs for generating electricity from different sources. The study examines a range of technologies, from renewable to nuclear energy and traditional fossil fuels. The study is intended for possible use in setting future eco-taxes on damaging technologies (encouraging the internalisation of externalised costs) and to act as an incentive for less damaging technologies such as renewables. The study analyses seven types of impact, including human health, damage to buildings and crops, noise pollution and global warming.

Unsurprisingly, renewable energy technologies compared favourably with other technologies in the study, although solar photo-voltaic technologies were associated with relatively high damage costs in a life-cycle analysis. Wind energy was particularly noted for its environmentally friendliness, producing no emissions during electricity production. Not all technologies were studied in all 15 EU countries, and it was noted that impacts of the technologies do tend to be site-specific. An evaluation of external costs for transportation was also included.

RE still marginal in global energy supply

The International Energy Agency (IEA) last month noted that despite promising growth rates, Renewable Energy (RE) still has a long way to go as a global energy source. RE currently only contributes 13.5% of the world total primary energy supply, 77% of which involves solid biomass use, largely for traditional use in developing countries. The use of renewable sources is growing at a rate of 1.7% annually, a rate only slightly higher than the annual growth rate for energy supply as a whole.

New renewable energy technologies (RETs) show the fastest growth rates of all energy sources, although they still contribute little to the global supply due to their small starting base. This is followed by non-solid biomass combustibles such as solid waste, biogas and liquid biomass. Most new RET development has taken place in countries of

the Organisation for Economic Co-operation and Development (OECD). In terms of renewable energy sources, OECD countries have made extensive use of hydro energy although there is little potential for further exploitation. Wind and solar photovoltaics have shown particular growth, with significant wind energy developments in Spain, Germany and Denmark and the United States, and photovoltaic developments in Germany.

RE (at 18% of the total) is the third largest contributor to power generation as a whole behind coal and gas. However, as RE for power generation is growing at a slightly slower rate than the total, this share is currently dropping. OECD countries generally use more than half of their RE for electricity generation.

Solar PV on the increase

A new report by the International Energy Agency (IEA) indicates that solar photovoltaic (PV) installations are on the increase internationally, both for off-grid and grid-connected applications. The report notes that there was a 34% increase in PV installations in the last year in IEA member countries, 79% of which were installed in Japan and Germany alone. While the total proportion of grid-connected PV installations has increased from 29% to 74% in the last 10 years, most countries still have a larger proportion of off-grid applications.

Module production and production capacity for solar photovoltaics also increased by about 50% in 2002, up to 482MW and 792MW respectively, about half of which takes place in Japan. Each time the market size doubles, the price of crystalline silicon modules, the main type in production, drops by between 10 and 17%. On the whole off-grid applications still cost roughly double that of grid-connected systems per watt.

The report notes that PV currently seems to enjoy a good public opinion, while issues of security of supply and climate change debates have raised the profile of renewable energy technologies generally. Utilities are also identifying more opportunities for PV applications, which bodes well for the industry.

WWF warns EU they may miss renewables target

The WWF has warned the European Union that they are unlikely to achieve their stated goal of 22% power generation from renewable energy sources by 2010. In their progress report on the implementation of the European Renewables Directive, the WWF noted that given the current level of activities, the EU will not achieve more than 17% by the end of the decade.

The European Renewables Directive was set up in 2001 with the aim of promoting renewable energy to reduce Europe's greenhouse gas emissions. The Directive set a 22% total target for 2010, with each of the 15 member states having national targets to achieve. Although members are due to report this month on their progress, WWF noted that only Germany and Spain are near to achieving their targets. They point out the lack of effective policies in place in countries such as Italy, Britain, Greece and France.

The WWF emphasized the need for effective policy in order for renewable energy producers to overcome market barriers to compete with traditional fossil fuels. Germany and Spain have used a fairly effective feed-in law, which guarantees a market for renewable energy at a set price. WWF says that renewable energy producers need to know that their investment will be secure for a 10 to 15 year period, and smaller producers need to be able to access markets without being hampered by bureaucracy. The WWF is currently motivating for binding targets to be set for the next target period of 2020.

[Top](#)

5. SA Energy Bills

With thanks to Contact Trust for keeping us informed of developments

Energy Draft Bill progresses

The Department of Minerals and Energy (DME) is currently updating the draft Energy Bill to incorporate inputs from other government departments. The Energy Bill aims to present a fairly broad-based energy policy for South Africa, to ensure efficient, economic and environmentally sound energy supply and consumption. The Bill covers a range of energy issues from integrated energy and resource planning to environmentally sound energy sources and energy efficiency. The DME hopes that the Bill will also encourage further research and development in the energy sector.

Once the latest inputs have been incorporated, the Bill will proceed to Cabinet for approval before being released for public comment.

For more information contact Tony Surridge at (012) 317 9204 or email: surridge@mepta.pwv.gov.za

RED's Establishment Draft Bill

The Regional Electricity Distributors Establishment Draft Bill is currently being considered by Cabinet, and will subsequently be sent to the Portfolio Committee on Provincial and Local Government for further input.

The Bill is the cornerstone of the national restructuring of the Electricity Distribution Industry (EDI). This will entail the establishment of Regional Electricity Distributors (RED's), the transferral of all assets, liabilities, staff rights and obligations to these structures and the creation of a new (and amendment of the existing) legal framework. The RED's will be administered by the National Electricity Regulator.

For more information contact Llewellyn Brown at (021) 403 3764 or email: lbrown@parliament.gov

Air Quality Bill presented to the Provinces

At the beginning of October the Department of Environmental Affairs and Tourism (DEAT) presented the Air Quality Management Bill to the National Council of Provinces (NCOP). The new bill replaces the Air Pollution Prevention Act no. 45 of 1965, and represents a shift from limited source-based control to a focus on ambient air quality management. The bill addresses the adverse environmental impact of air pollution, and sets stricter ambient air quality standards. The bill will also provide for offences and penalties to act as a deterrent and encourage compliance.

In the next step of the promulgation process, the provinces will be briefed by the NCOP members, who will then receive a negotiating mandate.

Earthlife call for better public participation in Radioactive Waste Policy

With thanks to Green Clippings

Earthlife Africa has called for the public hearings finalising the Radioactive Waste Policy, due to continue until the 31st October, to be opened for full public participation.

Earthlife Africa Cape Town commented that the process seems to have been rushed through, possibly in order to have it finalised in time for the launch of the new nuclear PBMR project. They emphasise that the policy should not be finalised until appropriate studies on the health of populations living near current nuclear plants and of workers on the plants have been completed. A full audit of the clean-up costs of existing installations and an analysis of the full cost of nuclear power to the economy are also needed.

The current draft Radioactive Waste Policy allows waste generators to develop their own strategies for its disposal, based on the principle of "best available technology not entailing excessive cost". Plans will need to be submitted for approval by a committee of state officials. The policy also allows a loophole for the import and export of radioactive waste. As Earthlife Cape Town has pointed out, this seems unlikely to protect people's constitutional rights to as clean and healthy environment, let alone comply with some of our Environmental Act's key principles.

Top

7. Events

South African Events

- Nov 01 – 03** Environmental Justice Week
EJNF
- November** Global Village Energy Partnership (GVEP)
Pretoria
- Nov 19 – 21** City Energy Strategies Conference
Cape Town international Convention Centre
The conference will be inspirational and practical and will build on why a city energy strategy is so important, what it is and how to do it.
Registration before 30 September 2003
Cost: R900 per delegate incl. R300 carbon tax
On content contact: Sustainable Energy Africa: info@sustainable.org.za
For logistics: African Equations
Tel: (021) 461 5735; Fax: (021) 461 5775
E-mail: geraldo@africanequations.co.za
Website: www.sustainable.org.za/CESConference.htm
- Nov 21 - 22** Earthlife Africa Annual Congress
Cape Town
- Nov 23 - 26** World Wind Energy Conference and Renewable Energy Exhibition
Cape Town, South Africa
Contact: The Registrar, Strategic Business Services,
P O Box 1059, Bellville 7535, South Africa
Tel: (021) 914 2888
Fax: (021) 914 2890
E-mail: registrar@sbs.co.za
<http://www.sbs.co.za/wwec2003>

Nov 24 – 26 Successfully Implementing Environmental Impact Assessments
Volkswagen Conference Centre, Midrand
Conference
Cost: R7180.86 – R10 258.86
Contact: IQPC South Africa
Tel: (011) 707 9200
Fax: (011) 707 9219
E-mail: registration@igpc.co.za

Nov 21 - 22 African Preparatory Meeting for RE Conference 2004
Nairobi, Kenya

International Events

Oct 28 – 31 CIER 2003, 3rd International Conference for Renewable Energy, Energy Saving and Energy Education
Havana, Cuba
Contact: Dr Conrado Moreno
Technical University for Renewable Energy,
CUJAE, Marianao 19 390, Ciudad Habana, Cuba.
Tel: +537 260 5060
Fax: +537 267 1644
Email: cier2003@ceter.ispjae.edu.cu
Web: www.ispjae.cu/eventos/cier

Nov 03 – 06 Hydro 2003
Dubrovnik, Croatia
Organiser: Hydropower & Dams with NetWork Events Limited
Contact: Linda Wells
Tel: (+44 23) 9263 1331
Fax: (+44 23) 9263 1797
hydro@networkevents.co.uk
View Website

Nov 03 - 06 Fuel Cell Seminar 2003: Fuel Cells for Secure, Sustainable Energy
Miami Beach, Florida, USA
Contact: Fuel Cell Seminar Headquarters,
c/o Courtesy Associates, 2025 M Street, Suite 800,
Washington, DC 20036, USA.
Tel: +1 202 973 8671,
Fax: +1 202 331 0111.
Email: fuelcell@courtesyassoc.com
Website: www.gofuelcell.com

Nov 04 - 06 The International Conference and Exhibition 'Renewable Energy 2003: Modern Situation, Problems, Trends'
St Petersburg, Russia
Contact: Ms Galina Levina or Ms Anastassia Solovieva,
Conference administrators, Peterhoff Congress Center, Russia
190000, St Petersburg, Chernomorskiy perelok 4.
Tel: +7 (812) 31 9783
Fax: +7 (812) 315 6088
E-mail: conference@lots.spb.ru www.lots.spb.ru

Nov 04 - 07 PowerIndia 2003, 5th International Infrastructure Summit and Expo

Mumbal, India.
Contact: Winmark Services Pvt. Ltd, A/208, Rizvi Nagar, S.V. Road,
Santacruz (W), Mumbai-54, India.
Tel: +91 022 2 6195595
Fax: +91 022 2 6195040
E-mail: info@indis-tech.com

- Nov 10 - 14** International Solar Concentrator Conference for the Generation of Electricity or Hydrogen
Alice Springs, Australia
Contact: Melody Mountz, SCC Program Coordinator, 1617 Cole. Blvd.,
National Renewable Energy Laboratory, Golden, Colorado, 80401,
USA.
Tel: +1 303 384 6406,
Fax: +1 303 384 6481,
Email: melody_mountz@nrel.gov
www.nrel.gov/ncpv/scc
- Nov 10 - 15** Tecnoure, VI International Conference on Technologies for the Rational Use of Energy and Renewable Energy Use
Havana, Cuba.
Contact: Dr. Oscar L Jimenez, Energy Project Manager, GEPROP,
Calle 20 No. 4112 Alturas de Miramar, Playa. Ciudad Habana, Cuba.
Tel: +53 7 2027096
Fax: +53 7 2029372
E-mail: oscar@geprop.cu www.geprop.cu
- Nov 12 - 14** Greenbuild 2003
Pittsburgh, PA, USA
Contact: Tel: +1 215 428 9655
E-mail: abstracts@usgbc.org
www.usgbc.org/expo/abstracts.asp
- Nov 13 - 17** CIES 2003
1st International Convention on Energy and Environment,
III Symposium on Renewable Energy and Energy Efficiency,
Spanish and English.
Cuba
Info: PhD. Luis Oliva Ruiz, Energetic Efficiency
Studies Center. Universidad of Oriente,
Ave. Las Américas s/n. Santiago de Cuba, 90900,
Ph: 053- 22- 644509, 053- 22- 643120,
Fax: 053- 22- 687286, 053- 22- 632689
e-mail: oliva@ceefe.uo.edu.cu
tony@ceefe.uo.edu.cu
cies2003@cies.ciges.inf.cu
- Nov 15 - 19** 20th International Electric Vehicle Symposium & Exposition, EVS-20
Long Beach, California, USA
Contact: Pam Turner, EVS-20 Symposium Manager;
Tel: +1 408 741 5870,
Fax: +1 408 741 5872.
E-mail: EVS20Symposium@aol.com www.evs20.org
Or contact: Kara Elsdon, Conferences Director,
Electric Vehicle Association of the Americas, 701 Pennsylvania Avenue
NW, Third Floor, Washington, DC 20004, USA.

Tel: +1 202 508 5995,
Fax: +1 202 508 5924.
Email: kelsden@evaa.org www.evaa.org or www.evs.org

- Nov 18 - 19** Sustainable Energy Asia and Energy Efficiency Asia
Raffles City Convention Centre, Singapore
Contact: Caroline Watson, Marketing Director (Asia) IIR Exhibitions Pte Ltd, 101 Cecil Street, 09-03 Tong Eng Building, Singapore 069533.
Tel: +65 6227 6252
Fax: +65 6227 0913
E-mail: caroline@iirx.com.sg
www.iirx.com.sg
- Nov 19 - 21** CIB 2003 International Conference on Smart and Sustainable Built Environment (SASBE2003)
Brisbane, Australia
Contact: Conference Secretariat, SASBE 2003, Queensland University of Technology, GPO Box 2434, Brisbane Qld 4001.
E-mail: sasbe2003@qut.edu.au
www.sasbe2003.qut.com
- Nov 28** 2nd Symposium 'Renewable Energy in Developing Countries'
Basel, Switzerland
Contact: Ökoentrum Langenbruck (CATSE), Schwengistrasse 12, CH-4438 Langenbruck, Switzerland.
Tel: +41 062 387 31 56
Fax: +41 062 390 16 40.
E-mail: info@oekozentrum.ch www.oekozentrum.ch
- Dec 01 - 12** UNFCCC COP-9
Milan, Italy
Contact: UNFCCC Secretariat;
P.O. Box 260124, D-53153 Bonn, Germany.
Tel: +49-228-815-1000;
Fax: +49-228-815-1999;
E-mail: secretariat@unfccc.int;
Internet: http://www.unfccc.int/
- Dec 09 - 11** POWER-GEN International 2003
Las Vegas, NV, USA
Contact: PennWell Corporation, PennWell House, Horseshoe Hill, Upshire, Essex EN9 3SR, UK.
Tel: +44 (0) 1992 656600;
Fax: +44 (0) 1992 656700;
E-mail: powergen@pennwell.com;
www.pennwell.com

A full calendar of energy events for 2003, local and international, is available on request from: seccp@earthlife.org.za

[Top](#)