

SUSTAINABLE ENERGY NEWS on EMAIL (SENSE) number 28

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

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

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1. SECCP News

Note from SENSE Editor

Welcome to the last substantial copy of SENSE. While I will do a final version in December to report on progress made on the RE Strategy and on the Energetic Solutions conference being held in Nigeria later in the month – it will be much shorter than this SENSE.

Which indicates how full this SENSE is!

The first article to sink your teeth into is the third briefing in the Sustainable Energy Briefing series that SECCP launched earlier this year. In this briefing we examine the

consequences of and alternatives to the trend of burning waste for energy. We also report back on SA's sustainable energy progress – which includes progress made on using landfill gas to generate power, and news in that the Energy Efficiency Strategy will soon be published. A report on the growth of wind energy in China gives an interesting view on how China hopes to meet at least part of its renewable energy target of 12% by 2020. Unfortunately, as Patrick McCully from the International Rivers Network reports, the Chinese "renewable" target is mostly large made up of large - or at least "medium" hydro. China's contribution to the Bonn 'International Action Programme' (IAP) shows that by 2010 the country will have 60,000 MW of renewables of which 50,000 MW would be "small-scale hydropower." While no definition is given for "small-scale hydro" in the IAP, the most common definition for small hydro in China is up to 50 MW. China's announcement that it will host the follow up conference to Bonn renewables2004 next year is an opportunity for NGOs to at least ensure that hydro schemes comply with the recommendations made by the World Commission on Dams.

The article "rising fossil fuel prices boost prospects for renewable energy" is good news – though G7 finance ministers are reported to have responded to rising oil prices by first calling on oil producers to provide adequate supplies to ensure that prices moderate, and only then noting the importance of energy efficiency. "It seems," said a CURES member "we have to put some pressure to the finance ministers to stop issuing such imbalanced views."

I hope you find SENSE an informative and interesting read. Remember that we're always looking for news and views on energy issues to include in SENSE. So, if you have anything you want to share please send it to me at: Claire@earthlife.org.za Please also feel free to circulate SENSE to your networks, particularly to anyone you think would be interested in joining SECCP as an intern – see the advert below.

Research into the potential of RE

SECCP has commissioned RAPS Consulting to map how energy demands can be met from now until 2050, taking into account various factors such as economic growth, rising fossil fuel prices and the contribution of renewable energy. The research is a limited study, which lays the foundation for other research and planning processes, including Integrated Energy Planning.

The findings of the research will be launched at a Sustainable Energy Symposium scheduled for 9 March 2005 – make a note in your diaries.

Sustainable Energy Briefing 3: Waste to energy projects

A growing number of projects are being proposed for South Africa under the label of 'Waste to Energy' where waste (such as anatomical hospital wastes, bio-hazardous wastes, electronic scrap, municipal/ domestic and industrial waste, worn out tyres, solvents, plastics and sludge) is burned instead of coal. This briefing looks more closely at why this is the case, the consequences of burning waste for energy and the alternatives to this trend.

Why burn waste for energy?

About 70% of South Africa's energy needs are met from coal (including over 92% of electricity generation and about 30% of transport fuels). Although cheap by international standards, buying coal involves significant costs for energy-intensive

processes. For example a single cement kiln can burn up to 180 000 tons of coal a year. Coal becomes more expensive the further you are from the coal mine.

According to a recent Environmental Impact Assessment Report into the feasibility of using waste (or 'alternative fuels') in a cement kiln, between 35 to 50% of coal can be replaced a year, depending on the composition of the waste. This means a cement company will avoid the costs of 40 000 to 90 000 tons of coal just for one of its cement kilns.

When you consider that this waste is either free, or that companies are paid to take it - then a central reason for burning waste for energy becomes clear - to make money. Indeed, there's a real risk that companies will be paid to import waste into SA from countries that have more stringent standards on burning waste for energy than SA does. We have already seen companies importing materials regarded as waste in their country of origin (and thus attracting waste disposal fees) under the guise of recycling - since very small percentages of usable materials may be economically recoverable under local economic conditions and environmental regulation.

After the World Summit on Sustainable Development there was a global commitment to 'triple bottom line accounting' i.e. to development that included social and environmental factors in addition to economic considerations. As a consequence, waste to energy projects are being re-packaged to highlight selected social and environmental benefits. So, for example, waste to energy projects are promoted by industry because they:

- "reduce the environmental impacts of using coal...as well as reduce the amount of waste material that would traditionally be disposed of to landfill or incinerated."
- Are "in line with initiatives of National Government, particularly the National Waste Management Strategy (NWMS) which focuses on waste prevention, waste minimisation and the re-use of waste materials."

However, as shown below, burning waste for energy has many negative consequences and would legitimise the generation of waste when we should be re-designing production to avoid waste.

What are the consequences of burning waste for energy?

From the outset, its important to note that the consequences of burning waste for energy depend on what waste is being burned. Certain wastes, e.g. biomass such as agricultural waste, can be safely burned for energy, although bio-digestion to produce gas as a fuel and compost is generally preferable.

When waste has chlorine or metal in it (as in plastics, tyres and solvents), burning it doesn't destroy the toxins. Instead it displaces some to 'landfills in the sky' and concentrates the rest to create toxic ash. In addition, when waste is burned new pollutants are formed, including organochlorines (such as dioxins and furans) - which are the most toxic pollutants known, causing cancer, birth defects and impaired child development. Air pollution does not become acceptable just because the heat energy of incineration is utilised.

In addition to air pollution directly impacting on respiratory health, many of the toxins are bio-accumulative, which means that they build up in the body over time. They enter the body via the food chain - by eating crops that are grown downwind of waste incineration facilities, meat from animals fed on such crops or fish, feeding on fish, that have built up high body concentrations. They are passed on through breast milk, so

children breastfed by mothers who have high levels of organochlorines in their bodies will receive concentrated doses of these toxins, which disrupt hormone activity and childhood development.

With standard waste incineration the ash is dumped in landfills, from which the toxins will eventually leach or leak into groundwater - the quality of the landfill lining will determine how long this will take (assuming no flooding or subsidence). In cement kilns the ash becomes part of the product, but there are no proposals to label such cement as containing toxins, even those these may be released (off-gas) over time. Some pollutants will be captured in pollution-control technology, such as filters, that will be land filled.

Burning waste for energy also entrenches bad waste management practises. As described below, there are a number of alternative ways to dealing with waste that are environmentally, socially and economically beneficial. However, these require changes in existing waste management, rather than the strengthening and support of such practices.

What are the alternatives?

There are a number of alternatives to burning waste for energy. When considering these alternatives we need to question 'How is waste created?' The answer is that we make waste by mixing a wide variety of materials like garden refuse, glass, tins, plastic and paper together. By throwing all these materials together, we lose access to their inherent energy (energy used in production) that could be exploited through re-use or recycling.

When deciding whether to burn, re-use or recycle material we need to consider the energy balance. Energy balance refers to how much energy was used to make the material, and how much is available for use at the end of the product's life - either by re-using (bottles, bags), recycling (metals) or from burning it for the calorific value. For example, it makes better energy sense to recycle paper than to burn it and make virgin paper, due to all the energy involved in wood cultivation, transport and pulping.

- With this in mind, one alternative to burning waste for energy is to separate waste at source i.e. separate garden refuse, glass, tin, plastic and paper, and encourage recycling and reuse. While it would be expensive to start up waste separation, the long-term benefits in terms environmental, social and economic costs (because money would be saved) would fully compensate for this initial outlay. Government procurement policies requiring recycled content would stimulate demand for recycled product that is currently disadvantaged by scale.
- All organic wastes could be bio-digested, producing both methane-rich gas and compost. While released methane significantly contributes to global warming, it can be captured and used for power and/or heat generation, which greatly reduces the contribution to climate change (methane has 23 times the global warming impact of carbon dioxide, which is released when the methane is burned).
- Another intervention is cleaner production. There has been great progress internationally as production processes and products are re-designed to avoid waste, or to change waste streams so that they are suitable as input to other processes. However, this is only economically attractive where cheap dumping or incineration options are penalised. South Africa has committed to cleaner production and sustainable consumption in policy, but this will mean nothing without full-cost accounting and ruling out cheap-and-dirty waste management options.

Landfill gas to generate power

One form of 'Waste to Energy' project currently being considered by many municipalities is to capture the gas released by rotting organic matter in landfills and use it to generate electricity. The Department of Minerals and Energy recently released a draft document on the potential of landfill gas (which is mainly methane) for power generation – **see the article below for more information on the workshop at which the document was released**. According to the document, of the 453 landfill sites in SA, 53 could potentially be used to generate power. Not only could this be environmentally friendly, with the right technology, but money can also be made by selling electricity and "carbon credits" - greenhouse gas emission reduction units generated because, instead of being released into the atmosphere and contributing to global warming, methane is captured and used.

The challenge with such projects is to ensure that they do not perpetuate current unsustainable waste management practices and/or unacceptable impacts on local communities. Also, only about a third of methane from the decomposing biomass material in municipal landfills is captured. If all the bio-digestible (organic) matter were separated at source, all the resulting gas could be used, with compost as a by-product. The prospects of short-term financial return for municipal management, even if it is through foreign investment, should not prevent implementation of sustainable waste management and optimal resource use. There may also be better uses for the gas than burning in an inefficient open-cycle gas turbine.

Vacancy: intern with interest in environmental justice

The Sustainable Energy and Climate Change Project (a project Earthlife Africa-Johannesburg) is looking for a full time intern to assist:

- The Information Co-ordinator manage SECCP's resource library, update and maintain the contact database and clip and file newspaper clips.
- The Office Manager with reception duties, filing, running errands and providing logistical support for events.

In addition, to gaining valuable work experience, the incumbent will also have an opportunity to learn more about sustainable energy and climate change issues.

SECCP encourages committed and enthusiastic individuals with an interest in environmental justice issues to apply. Some work experience is preferred but not necessary.

Please e-mail or fax your CV and a detailed letter of motivation indicating why you are interested in this opportunity to seccp@earthlife.org.za; (011) 339 3270

Closing date: 30 November 2004.

If we do not contact you by the end of December 2004, consider your application to have been unsuccessful.

Earthlife Africa Jhb is an equal opportunity employer. www.earthlife.org.za

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2. SA's sustainable energy progress

DME Workshop on landfill gas for power generation

Claire Taylor

The DME held a workshop on the potential of landfill gas for power generation on 3 November 2004. In giving background to the workshop and the report that was presented at it, Andre Otto from the DME noted that to assist the SA government in meeting its target of 10 000 GWh by 2010, the World Bank prepared a Renewable Energy Market Transformation (REMT) project. Specifically, the REMT project is designed to help the government meet about 10% (1000 GWh) of this target. It is expected that a follow-on four year project will help in meeting a further 30% (3000 GWh) of the government's target.

Ray Lombard from Lombard de Mattos & Ass, who were hired by DME to explore the feasibility of using landfill gas resources for power generation in SA, gave a summary of the report circulated before the workshop, highlighting that:

- South Africa has a substantial probable energy resource from landfill gas.
- The 53 sites that emerged as feasible in terms of the study are estimated to be capable of almost matching the RE target set for 2010
- The cost of power generation from landfill gas currently exceeds that payable by bulk energy purchases from Eskom. CDM finance and preferential renewable energy tariff rates will be required for economic viability of landfill gas to power projects.

Lindsay Strachan from eThekweni then spoke about the landfill project there (see SENSE 26), reporting that the project is almost complete – is just awaiting final DNA approval.

In answering the question 'what now?' Andre Otto, the Deputy Director of Renewable Energy at the DME, responded that the report provides baseline data on the potential for landfill gas to generate power and where this can be done. This information will be used to implement the white paper on renewable energy, especially the first 1 000 GWh, which the World Bank is involved in through the Renewable Energy Market Transformation project.

Energy efficiency strategy soon - Mlambo-Ngcuka

Excerpt from article by Jenny Furness, Creamer Media's Engineering News, 9 November 2004

The Department of Minerals and Energy will soon be publishing the Energy Efficiency Strategy for South Africa, which will put forward a "target of a 12% reduction in final energy demand by 2014, Minerals and Energy Minister Phumzile Mlambo-Ngcuka has said.

Mlambo-Ngcuka also said that an Energy Efficiency Charter will be launched during the Energy Efficiency month, next year, in which all key industry stakeholders will commit themselves to implementing their sectoral targets. "It is important to note that we are avoiding introducing regulatory measures at this stage, to ensure that we are able to take advantage of the benefits of carbon funding in accordance with the requirements of the Clean Development Mechanism. However, we have made provision in the draft energy bill for introducing regulatory measures, should the uptake of energy efficiency not meet the requirements of the strategy," she said.

The Minister added that such measures would include mandatory appliance labelling,

compulsory standards and norms for industry and reporting on progress on target reaching. "These measures will be introduced periodically, starting with mandatory appliance labelling in 2005, after which measures will be introduced based on reviews on the target annually," Mlambo-Ngcuka commented.

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3. Unsustainable Energy

Eskom Watch

State puts stability ahead of assets sell-off

Summary of article by Political Correspondent, BD, October 21 2004

Cabinet's approval of an R84bn investment by Eskom in generation, transmission and distribution capacity over the next five years consolidates a shift in government thinking towards retaining key utilities in state hands while investing heavily in infrastructure.

Previously, government has indicated the private sector would be involved in new generation capacity, but Erwin said at a post-cabinet media briefing that Eskom would provide 70% of the electricity generation capacity required to meet the country's growing energy needs.

Why is the power still with Eskom?

Summary of article by Robyn Chalmers, Business Day, 22 October 2004

For years there has been a suspicion among electricity industry players that Eskom will build SA's next power station in spite of government's insistence that it would open the market to competition and allow the private sector to do so.

The issue was finally laid to rest Minister Alec Erwin announced a five-year financing plan for state enterprises. It is now clear that Eskom will take the lead in delivering SA's energy needs over the next five years, having received a mandate to invest R84bn in power stations; the transmission or "wires" business; and distribution. That is not to say the private sector will be cut out of the loop. Government plans to invite independent power producers to deliver about 30% of SA's power requirements over that period.

Does this signal a change in strategy on electricity by government? Certainly, it is a big shift from the blueprint outlined in 2000 by former public enterprises minister Jeff Radebe to split the vertically integrated monopoly into three separate divisions: distribution, generation and transmission.

Rumours of a shift in government's thinking on Eskom's restructuring started some years ago. Several global energy groups had set up shop in SA in the hope of bidding for the first big independent power producer project, while others were looking for a stake in Eskom. But time passed with no tangible progress on the promised reshape. Potential investors began to lose heart. Eskom grew more confident. What happened?

The answer lies in part in international developments. SA's government watched in horror California's rolling blackouts after its electricity-sector restructuring. What was to stop a similar disaster befalling SA? And anyway, there was a sense that, with the

country having the lowest-cost electricity in the world and Eskom being an efficient organisation, there was no need for a reshape.

The remaining answers lie in the urgency of the need to bring more power on stream in the light of Eskom's dwindling excess capacity, which is due to run out in 2007; and in the evolution of government's macroeconomic policy. Privatisation formed an integral part of government's economic reform strategy until last year. But in the run-up to this year's April general election, the focus shifted to poverty eradication, which saw a new approach adopted. This focused on parastatal investment rather than on big asset sales.

Erwin has made it clear that government believes state enterprises are needed to raise investment levels in key areas notably transport to unlock blockages to economic growth. So the main businesses of SA's three big state-owned assets Eskom, Transnet and Denel will not be sold off anytime soon.

Eskom will now be looking at where to invest its R84bn, with Erwin saying various generation methods are being examined.

While it's not clear exactly how the R84bn will be spent, what is certain is that Eskom will nevertheless seek to recoup its R84bn and then some. And it will be doing so in a market that has limited competition at best. Government, industry and consumers should brace themselves for a rise in electricity prices in the near future.

Chalmer's prediction was proved correct, as *Linda Ensor Business Day 29 October 2004 reports*

Big hikes in electricity price mooted

There was a strong prospect that South African consumers would face above-inflation electricity prices over the next few years, Public Enterprises Minister Alec Erwin has said. This might be necessary, he warned, so that Eskom could fund part of its R84bn capital investment programme from its own revenue over the next five years. The introduction of a multiyear tariff cycle with higher-than-inflation increases would provide certainty to Eskom over its future revenue stream, and this was being discussed, Erwin said. Such a model would provide security to consumers that Eskom would not try to impose excessively high tariff increases. The matter was under discussion with the National Electricity Regulator and the minerals and energy department and complex modelling work was being undertaken.

Currently, Eskom's tariff increases apply to one year only. Last week the regulator approved an above-inflation electricity price hike of 6,4% for next year, up from 2.5% the year before.

Reactor melts down another R500m

Mail and Guardian, 29 October 2004

The pebble bed modular reactor (PBMR), Eskom's controversial nuclear electricity generation programme, has received a R500-million rescue package from the government after failing to attract a strategic foreign partner.

According to the Department of Trade and Industry vote in the Medium-Term Budget Policy Statement, the amount was an unforeseen and unavoidable expenditure. The vote reads, in part: "The PBMR Company had planned to secure external financing

from a strategic partner but this did not materialise, jeopardising the integrity of the project plan." The vote notes the socio- economic benefits of the investment.

Critics of the project have repeatedly pointed to its failure to secure foreign investment as a sign that it will never be economically viable.

The project, 10 years and R1-billion in the making, has attracted controversy at every turn. The latest was at the end of last year, when the Department of Environmental Affairs and Tourism gave the project the go-ahead. The decision was met with 87 appeals, which are still being heard.

Lance Greyling, environmental spokesperson for the Independent Democrats, has called for the project to be scrapped, branding it "a dangerous white elephant." Greyling said funds could be used for research into renewable energy sources. Eskom spokesperson Karen de Villiers described the allocation as a "nice surprise" but noted that Eskom has no information about how it is to be used. The project requires R10-billion, R3,5-billion of it from a foreign partner. In 2002, the American energy company Exelon pulled out of the project, while the Industrial Development Corporation and British Nuclear Fuel have come in.

Talking of the nuclear reactor, Sibusiso Mimi from Earthlife Africa-Cape Town notes the risk that DME and DEAT will use the Kyoto Protocol to get South Africa to sneak the PBMR in the country

"SA may be forced to turn to nuclear power"

Summary of article by Melanie Gosling, Cape Times 20 October 2004

South Africa, the biggest carbon dioxide emitter on the continent, may be told to reduce its CO₂ emissions at the next international meeting of signatories to the Kyoto Protocol. But the country would not be able to do so without introducing more nuclear power, Tseliso Maqubela, chief director in charge of nuclear affairs in the department of mineral and energy affairs, said when he addressed the department of environmental affairs' parliamentary committee.

In what appears to be a move to pave the way for the Pebble Bed Modular Reactor (PBMR), Maqubela said if South Africa continued to rely primarily on coal, the country would not be able to commit itself to reducing CO₂ emissions. He said South Africa did not want to increase its importation of hydro-energy as this affected foreign policy.

In terms of the Kyoto Protocol, South Africa is classed as a developing country and is not required to reduce its CO₂ emissions as developed nations are. However, Joseph Matjila, the chief director of environment quality and protection for the department of environmental affairs, told the committee that at the next phase of international discussions of the Kyoto Protocol, it "was likely" that South Africa would be forced to reduce its emissions. "Among the countries likely to be pressured, South Africa is at the top. This forces us to re-look at our energy, because sooner or later we will be forced to reduce our CO₂ emissions," Matjila said.

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1. General Sustainable Energy News

South Africa

Eskom kicks off R12bn refurbishment programme by awarding a R210m contract

Summary of article by Public Policy Correspondent, Business Day 2 November 2004

Eskom has started refurbishing its mothballed coal-fired power stations to meet SA's growing energy needs. Based on the average increase in electricity demand of 2,5% a year, SA's excess capacity of 36 000MW is projected to run out in 2007.

Eskom kicked off its refurbishment programme by awarding a R210m contract to Howden Projects for the installation of fabric filters at its Camden power station in Mpumalanga. Two other coal-fired stations, Komati and Grootvlei, have also been earmarked for refurbishment.

Eskom spokesman Fani Zulu says R12bn has been budgeted for the project. The three power stations, which will have a combined output of 3610MW after the upgrades, are expected to be operational by 2009.

Government's recent announcement that Eskom will be allowed to provide 70% of SA's new capacity, with independent producers generating 30%, has enabled the utility to start the process of building a brand new power station. Eskom CEO Thulani Gcabashe says the company is preparing models for building new capacity, and he is confident that the new power station will come on stream in 2011. A significant chunk of the financial requirements will be met out of the company's cash flows and the remainder will be raised on the local capital market.

Eskom, which has a debt-to-equity ratio of 0,3%, will invest R84bn in building new capacity over the next five years.

During the 2002 World Summit on Sustainable Development Eskom said that by 2012 about 5% of its energy would be generated from renewable sources.

To this end the company has invested R60m in researching wind farming, R1m in biopower and R500000 in wave power. Minerals and Energy Minister Phumzile Mlambo-Ngcuka says her department's target is to have an additional 10000GW hours of renewable energy by 2013.

Government says a tender for the provision of new generating capacity will be issued in December and will be awarded to the winning bidder during the first half of 2005. To this end, the minerals and energy department has issued a tender calling for proposals from interested parties to bid for a role as its legal and technical advisers in the restructuring of the R100bn electricity-generation industry.

The Electricity Distribution Industry, a state-owned agency charged with the task of rationalising the distribution assets of Eskom and the 187 licensed municipal distributors, is also working to create six regional electricity distributors by 2008. The R25bn distribution industry is fragmented, with more than 2000 varying tariff structures charged by Eskom and the municipalities. Agency boss Phindile Nzimande says: "The rationalisation and standardisation of industry tariff structures will have a major effect on customers, resulting in an improved and reliable electricity supply, subsidisation of lower-income earners and an acceleration of government's electrification programme."

Nzimande says the first two regional electricity distributors will be operational by next year. Cape Town will have the first entity that will be operational by June next year. "While concentrating on ensuring that this deadline is met, focus will be maintained on the delivery date for the second regional electricity distributor, which is September

2005," says Nzimande. The second entity will be located at the Ekurhuleni municipality in eastern Gauteng.

National Integrated Resource Plan

Claire Taylor

The National Energy Regulator has made public its National Integrated Resource Plan. The objective is to determine the least cost energy supply options to the country, provide information to market participants on opportunities for investment in new power stations and evaluate the security of supply. For copies of the NIRP go to www.ner.org.za

ERC WebPage revised and updated

Mark Howells, ERC

The Energy Research Centre invites you to browse its new website: www.erc.uct.ac.za Over the next few months ERC will be publishing much of its work in order to encourage capacity building and debate.

Africa

Gobabeb Hybrid Mini-grid System Inauguration

Robert Schultz, R3E Bureau of Namibia

On 26th November 2004, the Gobabeb Training & Research Centre will be officially inaugurating the Renewable Energy and Energy Efficiency facilities that were installed and implemented at Gobabeb.

The Danish-Namibian bi-national project: "*Gobabeb Renewable Energy and Energy Efficiency Demonstration Project*" (DEGREEE) was initiated in November 2002. The goal of the DEGREEE project was to install a renewable energy based hybrid supply system at Gobabeb, through which renewable energy and energy efficiency measures are successfully demonstrated, with the aim that these measures may be replicated, in total or in part, in semi-dense rural communities and unelectrified peri-urban communities.

For more information e-mail energy@r3e.org.na

Southern African countries sign electricity-sharing deal

Independent Online www.iol.co.za 22 October 2004

Five countries in southern Africa signed a multi-billion-dollar deal to set up a company aimed at boosting the region's dwindling electricity supplies. Ministers and power utilities from Angola, Botswana, the Democratic Republic of Congo, Namibia and South Africa signed a memorandum of understanding for the development of Westcor, a joint venture to oversee the generation and distribution of electricity in the region.

"We are signing a memorandum of understanding... in which we anticipate that not only these countries, but others in the SADC region as well will be afforded an opportunity to share in the supply of electricity," said South African Minerals and Energy Affairs Minister Phumzile Mlambo-Ngcuka.

The \$5-billion project is expected to be finalised by 2011, drawing its main electricity source from the DRC's proposed new INGA III hydropower plant. Situated in the giant Congo River, about 225km downstream from the capital Kinshasa, INGA III is expected to generate about 3 500 megawatts in electricity upon completion.

The Westcor joint venture, to be based in the Botswanan capital Gaborone, will also oversee the distribution of electricity to the five countries through power lines and the building of "associated infrastructure", the memorandum said.

A third arm of Westcor, which as a company will have an issued share capital of 100 Botswanan pula (about R120), will see "the improvement of business opportunities... through the generation of broadband technologies." This included a broadband communications channel with better and more secure transmission capabilities between the five countries.

The rest of the world

World's leading sustainable energy awards scheme calls for entries for 2005

Dr Anne Wheldon, Technical Director, The Ashden Awards for Sustainable Energy, email: anne.wheldon@sfct.org.uk

- £250,000 prize money is on offer for best renewable energy projects world-wide
- Closing dates for entries is 30 November 2004

The Ashden Awards for Sustainable Energy are now looking for entries from inspirational and innovative local sustainable energy projects from across the globe including the UK to compete for up to £250,000 of prize money.

The Ashden Awards reward outstanding projects that can demonstrate how local sustainable energy can be used not only to slow down the factors that contribute to climate change, but also to radically transform the lives of communities whose lack of access to essential energy often condemns them to a life of daily struggle for survival.

With rural communities in the developing world facing an increasingly difficult battle against poverty, climate change, deforestation and pollution, the importance of rewarding and highlighting schemes that utilize renewable energy as a way of both meeting human development needs and reducing our dependence on fossil fuels is now more important than ever.

The 2005 Ashden Awards for Sustainable Energy will be offering four awards of up to £30,000 each for Overseas projects in the developing world and three awards of £30,000 each for UK projects.

For 2005, the Ashden Awards are inviting applications from Overseas projects in developing countries which use renewable energy to address the following areas: Food, Light, Health, Education and Enterprise.

Past Overseas finalists include projects featuring micro-hydro power (India, Kenya and Pakistan) solar lighting and electricity (India) solar water purification systems (Tanzania), solar telecommunications systems (Peru) and fuel efficient cooking stoves (Pakistan, Guatemala, Nicaragua, Eritrea and Kenya)

For more information on the Ashden Awards, including downloadable application forms, please visit www.ashdenawards.org or contact: Danielle Jones on + 44 207 410 0330; email: danielle.jones@sfct.org.uk

The what awards?

The Ashden Awards for Sustainable Energy were created in 2001 by the Ashden Trust, one of the Sainsbury Family Charitable Trusts. By highlighting and recognising such exemplary and successful examples of renewable energy use in the developing world and as well as the UK, the Ashden Awards aim to persuade policy makers, funders and other NGOs to recognise renewable energy as a crucial tool for meeting the human development needs of poor communities across the globe whilst simultaneously addressing the urgent environmental issues of deforestation, pollution, greenhouse gas emissions and the threat of climate change.

Rising Fossil Fuel Prices Boost Prospects For Renewable Energy

By Terence Chea, <http://www.signonsandiego.com/news/science/20041014-1354-wst-greenenergy.html>

With oil reaching a record-high \$54 a barrel and natural gas doubling in price in the last two years, renewable energy is looking a lot better - not just on environmental merits but on price. Wind, solar, geothermal and other green power sources have long been championed by people worried about smog and global warming, but until recently they were too costly to compete.

But the soaring cost of fossil fuels is changing the economics of the energy market. "Rising fossil fuel prices are making renewable energy more competitive in the power market," said Steve Taub, an alternative energy analyst at Cambridge Energy Research Associates.

Particularly in the electricity market, green power, especially wind, is already competing with traditional sources. At today's average wholesale prices, wind costs 4.2 cents per kilowatt hour, compared with 4 cents for coal, 6.8 cents for natural gas, 9.1 cents for oil and 10 cents for nuclear power, according to Kyle Datta, managing director at the Rocky Mountain Institute, a research group focused on eco-friendly business.

What's lost in the discussion of clean and dirty energies is that the clean energy might actually be cheaper. Being clean is a bonus.

Change in the Chinese Wind

Summary of article by Stephen Leahy, 4 October 2004

<http://www.wired.com/news/technology/0.1282.65139.00.html>

The world's largest wind power project will begin construction this month near Beijing, bringing green energy and cleaner air to the 2008 Summer Olympics and city residents coping with some of the worst air pollution in the world.

The new wind power plant located 60 miles outside Beijing in Guangting, will generate 400 megawatts when at full capacity, nearly doubling the electrical energy China currently obtains from wind. But that's just the beginning. At Bonn renewables2004, China surprised many by announcing it will generate 12 percent of its energy from renewable sources such as wind by 2020.

There are a number of reasons for China's newfound passion for green energy, including:

- The foremost reason is to combat pollution says Yu Jie of Greenpeace China's office in Beijing. According to the World Bank, China is home to 16 of the world's 20 most polluted cities on the planet, and at least 400,000 people in China die each year from air-pollution-related illnesses.
- The country's galloping economic growth over the past 20 years has meant enormous increases in electrical power demands, 75 percent of which come from coal. This has led to frequent and widespread power failures because its generating capacity cannot keep pace with industrial and consumer demands.

These factors have pushed China to invite Western energy experts, including environmental groups like Greenpeace and the National Resources Defense Council to help China become more energy-efficient and figure out how to produce 20,000 megawatts from wind by 2020.

China is looking to Germany and Denmark to supply the technology and the policy models upon which to base a new renewable-energy law, said Jie. "This is the first time China has asked outsiders to comment on a proposed law."

"China's wind power potential is huge -- 500,000, perhaps 600,000 megawatts -- but it needs the proper legal framework," said Corin Millais, executive director of the Brussels-based European Wind Energy Association. The association has contributed input on the Chinese renewable-energy law. China has a complex mix of state, local and private energy generators, with multiple levels of subsidies and often conflicting regulations.

Another reason China is looking to wind is because it is now as cheap as coal, said Kyle Datta, managing director at Colorado's Rocky Mountain Institute. And if the health costs associated with coal burning are considered, wind is actually a lot cheaper, said Datta.

In news just in, China has announced that it will host a follow-up conference to Renewables 2004 next year, in 2005.

New York adopts landmark RE Requirement

Jeff Fiedler, Climate Policy Specialist, Natural Resources Defense Council, jfiedler@nrdc.org

In September 2004, New York adopted a new renewable energy requirement ("renewable portfolio standard" or "RPS"), which will start in 2006 and require that 24% of the electricity sold in New York come from renewable resources by 2013. NY will also be attempting to produce another one percent of electric sales from renewable energy via intensified green marketing program. The New York Public Service Commission predicts that the RPS will add about 3700 megawatts of new renewable energy. They forecast statewide air pollution reductions of: NOx by 6.8%; SO2 by 5.9% and carbon dioxide by 7.7%.

In a major win for public health and environmental justice the RPS excludes waste incineration, defining renewables as wind, fuel cell, solar, biomass, landfill gas and tidal power.

Energy policy framework conditions for electricity markets and renewable energies - 21 countries

Dr. Jens Drillisch, GTZ

The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH has published a new, enhanced edition of its study "Energy-policy Framework Conditions for Electricity Markets and Renewable Energies - 21 Country Analyses."

The electricity markets and their respective actors are investigated for 21 countries in various regions: Latin America - Caribbean (Brazil, Chile, Dominican Republic, Jamaica, Colombia and Mexico); Africa (Morocco, Senegal, South Africa and Tunisia); Europe - Caucasus (Albania, Bosnia-Herzegovina, Georgia and Croatia); and Asia - Pacific (China, India, Yemen, Pakistan, Philippines, Sri Lanka and Vietnam) The country reports analyse the energy-policy framework conditions and closely examine the status of and promotion policy for electricity generation on the basis of hydropower, wind power, solar power, biomass and geothermal energy. The chapters on each country are rounded off by information about rural electrification.

You can download a copy free of charge at www.gtz.de/wind/deutsch/downloads.html

People still depleting Earth's bounty

Business Day, 22 October 2004 1st Edition

The world's population is consuming about 20% more natural resources than the planet can produce, environmental organisation the World Wildlife Fund (WWF) International warned in its Living Planet report. "We are spending nature's capital faster than it can regenerate," WWF director-general Claude Martin said.

The two-yearly balance sheet of the world's environment showed a continuing growth in demand on the Earth's capacity to clean air, provide food, energy and raw materials. Each person occupies an "ecological footprint" equivalent to 2,2ha in terms of their capacity to pollute or consume energy and other resources including food, while the planet can only offer them 1,8ha each, the report said. "That means we are eating into the biological capital of our only planet," Martin said.

The WWF said it was alarmed at the growth in the use of polluting fossil fuels oil, gas and coal for industrial and personal consumption, which increased by 700% between 1961 and 2000. The country with the largest overall footprint in 2001 was the United Arab Emirates, which had a little below 10ha a person. This was mainly caused by energy consumption that accounted for more than 70% of the size. It was followed by the US and Kuwait, which both had scores that were above 9ha. Sapa-AFP The Gulf state also had the world's highest: energy consumption per person, about 80% of the total footprint. Australia was the fourth largest burden on the world's resources (7,7ha), followed by Sweden and Finland (seven hectares), according to WWF. The two Nordic countries have relatively low energy consumption about 15% of their footprint but have the highest demand for "food and fibre" five hectares mainly due to the timber industry's use of their forests.

China's 1.2 billion people had an average footprint of 1.5 hectares, just within the sustainable global average, but population controls have partly restrained the full impact of the Asian giant's recent industrial growth, WWF officials said.

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5. SA Energy Policy

Energy Draft Bill

Claire Taylor

The Draft National Energy Bill was approved by Cabinet and made available for public comment, with submissions to be in by 12 November - copies can be obtained from www.dme.gov.za

Briefly it allows for:

- The creation of a National Energy Advisory Committee which is tasked with advising the Minister on energy policies
- The establishment of a National energy database and information system – which makes provision for the mandatory collection of energy data for monitoring and planning purposes
- The establishment of a Designated National Authority in terms of the Kyoto Protocol, so allowing SA to sell carbon credits

While Earthlife Africa (ELA) - Johannesburg, eThekweni and Cape Town welcomed the Bill, they:

- Highlighted the need to specifically address the affordability of access to energy services - so numerous additions were suggested to the text to ensure this
- Noted that the National Energy Advisory Committee to be created to advise government on energy policy is a particularly necessary institution. However, they motivated that it be large enough to be broadly representative and not dominated by vested business interests that have to date enjoyed greater access to officials and the Ministry than emerging sectors and civil society.
- Questioned why the National Energy Research Institute - which was understood would be provided for in this Bill - was not included in it.

Renewable Energy Strategy

Claire Taylor

Andre Otto, the Deputy Director of Renewable Energy at the DME reports that the RE Strategy is still in draft format, and so cannot be released for public comment. The aim is to have it approved by the Minister by the end of this financial year i.e. by March 2005.

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6. Events

South Africa

Designated National Authority

The DME and the DNA are holding a workshop on 1st December in Midrand to report back on the following:

- The status of the DNA;
- The DNA's work programme;
- The procedures for submitting projects to the DNA; and,
- The Sustainable Development Criteria that have been developed.

For more information contact Rob Short at rob.short@telkomsa.net

SEED annual network meeting

Sustainable Energy Africa is holding its annual network meeting for SEED partners from 22 - 25 November 2004. The interactive programme offers time for reflection, strategic thinking and networking so as to promote local sustainable energy planning.

For more information contact Leila Mahomed at Leila@sustainable.org.za

Africa

Nov 21-27 Energetic Solutions

An international conference on making renewable energy a reality
Port Harcourt, Nigeria
Tel: 250 877 6030
Fax: 250 877 6040
E-mail: nikki@onesky.ca
Website: www.onesky.ca

Rest of the World

22-25 Nov 2004 European Wind Energy Conference & Exhibition

London, UK
Contact: European Wind Energy Association
Tel: (+322) 546 1980
Fax: (+322) 546 1944
E-mail: info@ewea.org
Website: <http://www.ewec.info/>

4 Dec Financing the Wind of Change: A Critical Review of Development, Funding and Insurance Issues in Delivering Projects for the Wind Sector

London, UK
Contact: Alix Newbold,
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Fax: +44 (0)20 74902524
E-mail: alix.newbold@masons.com

6-7 Dec 'Renewable Energy in America – Phase II' The Annual Policy Conference of the American Council On Renewable Energy (ACORE)

Washington, UK
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Tel: +1 202 293 11234
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12-14 Dec Energy for Development

Intergovernmental conference to address investment needs in the energy sector, barriers to investment and how to overcome them.

Amsterdam, the Netherlands

Website: www.energyfordevelopment.org

26-27 Jan 'Clean Energy Power® 2005'

Berlin, Germany

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