

## SUSTAINABLE ENERGY NEWS on EMAIL (SENSE) number 13

Welcome to the thirteenth edition of **SENSE – Sustainable Energy News by E-mail – a service of the Sustainable Energy and Climate Change Partnership (SECCP), a project of Earthlife Africa Johannesburg, in partnership with WWF, Denmark.**

**SENSE is published monthly and we welcome any feedback and submissions. It is edited by Elin Oettlé and Mette Nedergaard is assistant editor based in Denmark.**

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### CONTENTS

1. SECCP news: Staff news; Cautious welcome for Renewable Energy and Energy Efficiency proposals at Pretoria symposium; Civil society voices on policies and measures; Forming an Energy Caucus
2. SA's sustainable energy progress: SA Wind Energy Baseline Study; Wave power for Robben Island.
3. Unsustainable Energy: eThekweni PCF process moves towards an EIA process; Richards Bay Power Plant
4. General Sustainable Energy News: Ministerial Meeting of the Johannesburg Renewable Energy Coalition to be in Denmark; African Wind Energy Association (AfriWEA); Hybrid vs. hydrogen: cars for the future; New international prize for the energy sector; GPS Systems save time and energy in Sweden; Kyoto's electric rent-a-car scheme; Report on Appliance Energy Efficiency Policy.
5. SA energy bills, conferences & services: Air Quality Management Draft Bill, National Environmental Management Amendment Bill
6. Questions & Answers: What will pollution taxes mean for the price of electricity? How could we prevent the higher costs of renewable energy and pollution taxes being passed on to poorer consumers?

### 1. SECCP News

#### **Staff News**

SECCP staff have had a busy month organising the launch of the "Independent PAMs Study". This went off successfully, starting with a capacity building workshop for civil society organisations on energy policy on the 14<sup>th</sup>, a Symposium on the 15<sup>th</sup> to launch the study findings formally, and finally a civil society workshop on the 16<sup>th</sup> to discuss these findings. For more details see the articles that follow.

The next big event on the agenda is the Study Tour to Denmark and Germany mentioned in the last edition of SENSE. As all the staff will be away on this tour, the **SECCP offices will be closed from the 1 – 27 May**. If you have any inquiries, please contact us after this period - any correspondence in the interim will be responded to after the 26<sup>th</sup>.

#### **Cautious welcome for Renewable Energy and Energy Efficiency proposals at Pretoria symposium**

By Richard Worthington and Victor Munnik

Proposals for Policies and Measures (PAMs) to promote renewable energy and energy efficiency, proposed as the outcome of research into energy policy options in South Africa, received a serious audience and qualified support at a symposium in Pretoria on 15 April 2003. It was attended by around 135 interested people and included an explanation of the research results as well as a panel discussion by stakeholders.

The research had been commissioned by the Earthlife Africa Johannesburg's Sustainable Energy and Climate Change Project (SECCP) and undertaken as an independent study by the Energy and Development Research Centre (EDRC) at the University of Cape Town. The research was specifically commissioned from researchers that the government uses – in fact the same models were used – to ensure that government would take it seriously, said Richard Worthington, director of the SECCP.

From the comments of Mary Metcalfe, (Gauteng MEC for Agriculture, Conservation, Environment and Land Affairs) government will take it seriously. She welcomed the research as being of international standard. “It is important that you have a sense of government interest in your work. The Minister of Minerals and Energy is passionate about expanding energy to all South Africans, as she is about cleaner technology and not imposing the cost of externalities (of power generation) on the poor.”

Metcalfe noted that we are using a relatively high amount of energy for our economic output, so we are not efficient. As a country we have a huge responsibility internationally and we have to deal with the problem of contributing as much as we do to the global climate change. We need to move beyond our reliance on unsustainable coal.

The MEC noted that the PAMS study fleshes out issues addressed in the Renewable Energy White Paper, but also creates an independent centre of opinion, which will challenge government officials in developing policy. She said the research was an attempt to deal with the most urgent problems in energy policy in South Africa: promoting access to energy while dealing with South Africa’s disproportionate contribution to the problem of climate change.

The research recommends in five measures, as a package:

- Legislate codes and standards for energy efficient buildings in government, commercial and residential sectors (middle class as well as working class houses)
- Set mandatory equipment standards for industry and commerce (e.g. boilers, heating and cooling systems)
- Set targets for renewable electricity generation (of 15% of total electricity consumption by 2020)
- Subsidise the production of renewable energy (supporting them as emerging technologies)
- Implement a tax on air pollutants (that would not apply to households burning coal, for example). It would cut down on pollution from power generation, and could be used to subsidise renewable energy producers.

The research concluded that these measures could be implemented with little or no cost to the economy, with significant savings for some stakeholders, net job creation and significant human health and environmental benefits.

Kosi Lisa, in charge of Renewable Energy at the Department of Minerals and Energy, said there was a target for renewable energy (which the SECCP noted provided only for natural growth in the industry, without any extra encouragement). She said support for renewable energy is limited by fiscal constraints, and the PAMs proposals would be scrutinized for their financial implications. She was not the only speaker to stress that none of the proposals would be implemented if they increased energy costs to poor South Africans.

While coal based energy “will remain with us for a long long time”, she said, DME is looking at clean energy for two reasons: There is a constitutional right to a clean and healthy environment, and coal as an energy source does serious health and environmental damage, and because international trade pressure against dirty energy can be anticipated.

Clive Turner, from the Department of Environment Affairs and Tourism (DEAT) while stressing the importance of job creation and economic growth, pointed out that the effects of climate change are already with us. In response to a question he confirmed that the proposed new air quality bill contains the “polluter pays” principle, which could imply support for an air pollution tax. (See Air Quality Management Draft Bill progress below)

Government welcomed measures for Energy Efficiency (EE) with much more enthusiasm. EE in government buildings is already being implemented, said DME’s Sandile Tyatya. The DME building in Pretoria – where the symposium took place – had undergone an energy efficiency audit, EE measures were implemented, and the next on the list is the DME offices in the parliamentary building in Cape Town. “Government is trying to lead by example,” he declared. Pilot projects for EE had also been undertaken at the Potchefstroom municipality and the University of Pretoria.

Professor Dieter Holm, of the University of Pretoria, said he found the recommendations rather timid. “We have in SA an energy intensity double the world average. According to these recommendations it will take us twenty years to achieve 15 % of electricity generated from renewable resources; this is not ambitious, especially since we have such strong solar and wind sources.”

In plenary discussion, it was pointed out that South Africa, through government policy supporting low electricity prices, subsidises intensive energy users – for example the proposed new aluminium smelter at Coega – which casts doubt on its support for energy efficiency. Questions were also raised about the affordability of electricity for the poor. Government and Eskom support for nuclear energy – which according to Prof Holm takes 50% of the DME budget – were also questioned.

Energy giant Eskom attended the morning presentations but not take up the invitation to participate in the panel discussion.

### **Civil Society Voices on Policies and Measures**

As part of the process of launching the “Independent PAMs Study”, the SECCP held a workshop on the 16<sup>th</sup> April for civil society organizations to debate the findings of the Independent PAMs Study and formulate a way forward for advocating sustainable energy. Thirty-one participants from about 20 organizations attended the workshop in Johannesburg, with organizational interests ranging from work with rural communities and women, urban electricity crises, faith groups, energy efficient housing and anti-privatisation.

In the workshop, besides clarifying the findings of the Independent PAMs Study, participants noted their energy priorities and discussed what they felt needed to be done with regards to policy. From this discussion various key concerns emerged, including what follows.

Participants felt that the government needs to set energy policy in consultation with civil society. The importance of government at both national and local levels in implementing renewable energy and energy efficiency programmes was emphasized, working in partnership with civil society organisations. Civil society should also lobby government for a target for renewable energy (RE) production of 20% by the year 2020. To achieve this, various measures were suggested.

The government should implement pollution taxes to reduce pollution levels and support RE production, with the funds being used to subsidize RE. This would be part of a process to achieve full cost accounting for polluting energy producers – internalising the previously externalised costs of production.

In terms of tariffs there was a call for further free basic electricity support for the poor, supporting the view that energy is a human right. Energy must be affordable to everyone - stepped block tariffs should be implemented, with large-scale users paying more for their electricity.

The need for support for RE production through initial government subsidies was greatly emphasized, with the suggestion that this funding come from pollution taxes. This applies not only to large-scale production, but also local decentralized production of electricity. Subsidies should support solar technologies for water heating and cooking for households. Support for setting up a local RE industry was also highlighted, through research funding, facilitated technology transfer and creating local incentives. This would help to set up an industry for the mass production of RE technologies locally, which would also make it more affordable. There was also a call for a guaranteed market for RE, e.g. through setting prices for renewably generated electricity.

In terms of solar technologies, participants also thought the manufacture and use of solar cookers should be encouraged. Solar water heating should also be promoted for the sake of energy conservation and lowering electricity bills

The need for public awareness raising and capacity building was also strongly felt. People need to be educated on the problems with current electricity production and alternatives to business-as-usual. We need to raise awareness about energy issues in communities and educate people on the benefits (including cost benefits) of energy efficiency and renewable energy.

Various methods were proposed for disseminating information including workshops, talks, pamphlets and literature in all the official languages, debates and community meetings. It was also envisioned that information could be disseminated through libraries, learning institutions and media such as community radio. In this, civil society organizations such as NGOs, Churches and CBOs were seen as playing a major role, but they in turn would need the support of government and other organizations for technical information, funding and training. Training is also needed for officials responsible for energy efficiency in RDP houses, and for those who will need to install, maintain and use solar technologies.

Rural areas also have particular needs, and it is important to take the information to people in the areas that they live. Energy resource and education centres need to be developed for the demonstration and supply of solar technologies, and local energy education officers need to be trained; the DME programme for introducing Integrated Energy Centres was noted, with enthusiasm for public participation in the initiative.

The need for energy efficiency was considered in two fields – in industry and in buildings. In industry it was felt that energy efficiency could be encouraged by new stepped block tariffs and with mandatory standards for equipment and processes. Energy efficient housing should be supported through subsidies, particularly for RDP houses. Mandatory standards and building codes should also be set for energy efficiency in buildings, and energy efficiency should be included in local housing policy.

Participants also felt strongly about the participation of stakeholders in decision-making. Policies and standards should be set through consultative processes. However, to truly participate in these processes, people need to know what the issues are before they can decide on best practices.

The civil society workshop concluded with many worthy goals, but not enough time in one day to look at practical strategies for achieving them. Obviously this was just part of an ongoing process to develop and implement a civil society strategy with regards to energy. Participants felt that the still-forming Energy Caucus would be the most appropriate forum to continue to develop such positions and go on to firmer strategies. Hopefully we will see all the same faces again and more at the next (or rather, first) Energy Caucus meeting in July. (see Energy Caucus article below)

### **Forming an Energy Caucus**

On the 5<sup>th</sup> and 6<sup>th</sup> of April a workshop was held in Durban to discuss the formation of an “Energy Caucus”. Just what exactly this would entail was still to be decided – participants were invited to discuss the idea, and if the need for such a caucus was felt, then to begin to give it a shape and a way forward for the future. This endeavor follows on from a process, and one national meeting, leading up to the WSSD last year that resulted in a South African Civil Society Energy Position Paper. At that time no formal Caucus was formed, and the position paper was largely finalized and discussed via e-mail.

The April workshop was convened by Earthlife Africa eThekweni branch and GREEN Network of Pietermaritzburg, with financial support from Contact Trust, an organization committed to supporting civil society in its interaction with parliament. Members of various organizations attended and brought input to the process from around the country. Unfortunately, despite the fair number of attendants, there were still many gaps. It is now up to those participants to spread the idea further a-field and build a strong civil society coalition with which to confront the South African energy sector.

Further support of the Energy Caucus was evident at the SECCP’s recent launch of the “Independent PAMs Study” this month. At the Civil Society workshop held on the 16<sup>th</sup> April there was general consensus that the Energy Caucus should be the forum to take forward the energy concerns of Civil Society and to lobby government for a just transition to sustainable energy.

At the Durban workshop it was agreed that all participating organizations must be not-for-profit, and that although interested registered political parties and individuals would be allowed access to the list-serve information, they could not become members. Membership will rest with the individual members of networks, not the networks themselves.

The aim of the Caucus is to be two-fold – to build Civil Society capacity by sharing information on energy, and to build and consolidate energy positions in civil society for engagement with other stakeholders. At the

workshop it was agreed that the Energy Caucus should be used to gather and disseminate information amongst members and raise consciousness about energy issues both internally and externally. It should enable participating organizations to consolidate their own positions and synthesize and consolidate energy positions amongst Energy Caucus members. It should enable engagement with energy decision makers at all levels, and create dialogue and engage other stakeholders such as business, political parties, government, and Labour. It is envisioned that participating organizations will be able to get support for their own campaigns from other Energy Caucus members.

It was agreed that the Caucus would have no formal organizational structure, and that there would be no core group or committee to represent membership – all participating organizations will develop by consensus and promote a common platform/set of positions. Communication will therefore be electronic where possible and through members' existing newsletters. Contact Trust have offered their services to support communications, including circulating a monthly bulletin by fax and post to those not on e-mail, running an energy interest group list-serve for the Caucus and by facilitating communication with the Parliamentary Portfolio Committee on minerals and energy.

Although the principles of the Energy Caucus have yet to be finalised, several key issues of concern were noted at the workshop. These include the following (the wording is a 'first take' for further development): Supporting a just transition to sustainable energy in South Africa; We should move to energy that has less negative social and environmental impacts and should adopt an energy service needs approach to energy policy, without over-emphasis on electricity. We need to ensure that communities have a voice in provision of household energy, and work on a local level to develop pro-poor energy policies based on real evidence of the impact of current energy policies on poor people.

There was generally a rejection of nuclear power, large-scale hydro involving big dams and waste-to-energy initiatives that involve waste incineration. Instead we should support a 50-year goal of a coal and oil free South Africa and should support the development of integrated public transport using non-fossil fuels. Renewable Energy technologies need to be subsidised and financial support given for installing solar water heating. Locally driven investment in renewable energy needs to be promoted. The currently externalised costs of energy production need to be internalised and high energy users should no longer be subsidised. Codes, standards and financing are needed to ensure energy efficient housing.

Different members will be supported in hosting the Energy Caucus meetings in the future on a rotation basis, hopefully avoiding the tendency to hold meetings only in the larger cities. Sustainable Energy Africa of Cape Town has offered seek funding to host the next meeting, with Leila Mahomed as the key contact. The next meeting is likely to be in early July in Kimberly, which is accessible to participants by train (reducing our greenhouse gas emissions) and has several examples of sustainable energy to offer.

## **2. SA's sustainable energy progress**

### **SA Wind Energy Baseline Study**

A baseline study on wind energy capacity in South Africa, commissioned by the Department of Minerals and Energy (DME), was completed in February this year. This forms part of the Danish-funded project "Capacity building in DME in Energy Efficiency and Renewable Energy". According to this report, South Africa already uses a fair amount of wind energy - it currently has 22,300 wind turbines, 12,000 of which are used to pump water - but this constitutes only a fraction of the potential available. Comprehensive wind maps indicated 26,000 GWh potential a year in South Africa.

Apparently there is a small emerging market for green energy and a well-established market for farm windmills, but the bulk wind energy market remains uncertain as the national regulatory framework has yet to be clarified. Currently, the national grid uses 3,160kW; rural mini-grids use 45kW and off-grid applications 510kW. Borehole windmills use 12 000 kW – three quarters of the current national capacity.

Several new wind power projects are in the planning stages, the largest of which will be Darling National Demonstration wind farm, with a capacity of 13,000 MWh a year. There are also several other smaller projects being planned including the installation of 200MW at Langefontein, a former military base that is currently being dismantled.

The South African government indicated an interest in expanding wind power when last year's White Paper on renewables proposed clear targets for wind, and the government has also published brochures encouraging independent power producers to invest in South Africa. Just how ambitious these targets are, however, is yet to be seen. However, whatever the specific are that emerge from policy processes, this study clearly points to "wind energy being a definite feature of SA's future energy mix."

### **Wave power for Robben Island**

Plans are afoot to supply Cape Town's World Heritage site Robben Island with an independent source of renewable energy from wave power. Robben Island apparently has some of the best wave energy potential in South Africa, and therefore makes an ideal test-site for this technology. The feasibility study for a demonstration wave-energy project is due to be completed by the end of May by Oeslner Group's Ocean Energy company and Inter Project Service of Sweden.

As Robben Island's electricity is currently run on diesel generators, the plan is to set up an independent electricity supply for the island. The proposal is for a buoy system for a 200kW plant unit – it is estimated that ten six-meter diameter buoys should be sufficient to supply all of the island's current electricity needs. The buoys would be linked to the island by a sea pipe transporting high-pressured seawater back to land be transformed into electricity. Although current plans only cover conventional electricity needs, there is the potential to include fuel needs for traffic and transportation in the future, turning Robben Island into a showcase fossil-fuel-free island.

South Africa has one of the best wave resources in the world, and Robben Island is said to have one of the best wave thrusts on the South African coastline, with an average annual flux of 36kW per meter wave crest. Wave power is a renewable energy technology with no greenhouse gas emissions, no known environmental impacts and it will have no visual effect on the island, as the buoys are situated to far off the shore in deeper water. If this project succeeds, wave energy may present new energy options not only for Robben Island, but also for energy supply to rural coastline settlements in the future.

## **3. Unsustainable Energy**

### **eThekweni PCF process moves towards an EIA process**

Earthlife Africa eThekweni has been contacted by the eThekweni Municipality's Environment Branch regarding the proposed Methane Gas Power plants proposed for three landfill sites in the municipality. The project funded by the World Bank is currently undergoing a validation process by the international consultants for the World Bank.

Earthlife Africa eThekweni has requested the relevant documentation from the Environment Branch, our concerns at this stage is the lack of consultation with local environmental and community groups around the process and the city's apparent lack of commitment to move towards "Zero Waste" principles in managing the city's waste. For more information on the NGO monitoring process  
Contact Simphiwe Nojiyeza on [nojiyeza@webmail.co.za](mailto:nojiyeza@webmail.co.za) and Bryan Ashe [bryan@earthlife.org.za](mailto:bryan@earthlife.org.za).

### **Richards Bay Power Plant**

The Rainbow Millennium PowerStation at Richards Bay has become more like an incinerator process than a "clean coal technology, state of the art power station" as the process moves forward. The draft scoping report clearly identified the process as a waste to energy plant. What was lacking was a clear identification of the waste streams and alternatives to the power station. Earthlife Africa eThekweni has requested a full

environmental impact assessment takes place and noted that we would oppose the technology if it became evident that this was nothing short of a waste incinerator.

For more details on the process contact Bryan Ashe [bryan@earthlife.org.za](mailto:bryan@earthlife.org.za).

#### 4. General Sustainable Energy News

##### **Ministerial Meeting of the Johannesburg Renewable Energy Coalition to be in Denmark**

By Mette Nedergaard

Denmark will be hosting a Ministerial meeting of The Johannesburg Renewable Energy Coalition established last year during WSSD by countries willing have ambitious RE targets. The meeting is planned for 17-19<sup>th</sup> September 2003.

The Danish Minister is willing to discuss some kind of interaction between the ministers and selected NGO's, i.e. an arrangement like last summer in Sønderborg where we met the ministers at a meeting and the dinner the evening before the official meeting EU summit.

The idea of the Sønderborg meeting is to explore 1) how to remove market barriers to renewable energy and 2) how the Jo'Burg RE Coalition can work together in the UNFCCC process, promoting Further Action (the EU beyond 2012 agenda raised at COP8 in Delhi).

The Danish Ministry of Environment is currently co-ordinating with the Germans in order to make the Sønderborg conference a useful input prior to the 2004 conference on Renewable Energy, launched by Chancellor Schröder in Johannesburg.

As far as we have been informed, the Brussels Green Week meeting of the Coalition will only be on the level of civil servants.

##### **African Wind Energy Association (AfriWEA)**

African Wind Energy Association (AfriWEA) is a new non-profit organisation aimed at promoting and supporting the development of Wind Energy in Africa. AfriWEA encourages the exchange of information and experience in wind energy between the various players in the industry: manufacturers, developers, governments, renewable energy owners and individuals.

AfriWEA promotes the use of wind energy as a renewable energy source both for grid and stand-alone applications, with the aim of directly benefiting rural communities. They will support the formation of wind energy associations both nationally and regionally, and hope to encourage ambitious national targets and frameworks to support the development of renewable energy to replace all polluting and hazardous waste causing energies.

AfriWEA is part of the World Wind Energy Association, and will therefore assist in presenting World Wind Energy Conference and Renewable Energy Exhibition (WVEC, Cape Town, November 2003). They invite applications for membership and attendance to this event - membership of AfriWEA is free for 2003 and members are entitled to a discount of 70 Euros for attending WVEC 2003. Members will also receive a monthly email newsletter entitled *Hot Air*.

For further information and an application form, email [erika@sbs.co.za](mailto:erika@sbs.co.za).

##### **Hybrid vs. hydrogen: cars for the future**

A new study by the Massachusetts Institute of Technology (MIT) has indicated that in the short term, hybrid diesel-electric cars are likely to prove more environmentally friendly than hydrogen-run cars. This is because the current technologies for converting hydrocarbons into hydrogen for fuel use a lot more energy and emit greenhouse gases in the process. The researchers stressed that the whole process of production needs to be included in analyses, including fuel conversion.

The researchers recommended that current research focus most intensively on hybrid technologies, although hydrogen research should not be shelved completely. They claimed that hydrogen fueled technologies are the only option for a greener future, and that after 2020 this was likely to become the more attractive option.

### **New International Prize for the Energy Sector**

A new international prize in the energy sector recently launched in Russia by leading Russian scientists, including Nobel Prize winner Zhores Alferov. The annual prize of more than USD 750,000 is to be awarded for research related to different kinds of energy and energy carriers. The prize was endorsed by the Russian president, and received great support from the scientific community and Russian energy companies.

The aim of the prize is to give international public recognition for achievements in the energy sector, to stimulate scientific input to solve ongoing problems in energy development and power engineering and to support international co-operation in energy research. The prize will be administered by the Global Energy International Prize Foundation, and the International Prize Award Committee is to include various world famous scientists, Nobel Prize winners, and heads of leading scientific centers.

### **GPS Systems save time and energy in Sweden**

Energy efficiency is not only a matter of saving electricity – it applies to reducing energy used in transport as well. In 1995, Schenker-BTL implemented a GPS-based traffic control system in district of Växjö in Småland, Sweden. This system allows traffic planners to monitor a fleet of trucks on two digital screens, assigning consignments to appropriate trucks. When the cost and environmental impact of the new system were monitored in 1998, the results were very encouraging. It was found that the new system reduced the mileage and transport time for the trucks, while also lowering the costs, increasing capacity and increasing security. In addition to this the new system provides a better working environment for the truck drivers and controllers. The return on investment for the GPS system was only 12 months – half of the lifetime of the GPS. How soon before we see this more widely applied?

### **Kyoto's electric rent-a-car scheme**

The city of Kyoto in Japan has initiated an interesting new experimental public rent-a-car scheme. With the aim of reducing carbon emissions into the atmosphere and increasing energy efficiency, the scheme operates a number of 2-seater mini electric vehicles produced by Toyota and Nissan. Both types of vehicle are exceptionally light, and represent a far more efficient way of transporting small numbers of people than conventional petrol-fuelled 4-seaters.

The scheme is covered by a government subsidy with the aim of promoting clean energy in Japan. The cars produce no carbon dioxide emissions while running and only half as much carbon is emitted per kilometre driven when producing the electricity than in the running of a conventional car. The electric cars are also about twice as energy efficient as petrol cars.

The scheme operates through Internet booking, whereby cars can be reserved from particular vehicle centres at a set date and time. The cars are collected using a membership card – this process is remotely monitored from control centres, and no staff are actually present at collection points. When the vehicle is returned, a charge of 10 Japanese yen/minute is billed to the user's credit card.

### **Report on Appliance Energy Efficiency Policy**

The Climate Technology Initiative (CTI) recently published a summary overview of Appliance Energy Efficiency Policy in six Central and Eastern European countries. They found that energy efficiency standards and labels (S&L) for appliances are an effective and low-cost way of reducing energy demand.

CTI was launched at the First Conference of the Parties to the United Nations Framework Convention on Climate Change (COP1) by 23 IEA/OECD countries and the European Commission. For more information see: [http://www.climatetech.net/pdf/ee\\_adoption.pdf](http://www.climatetech.net/pdf/ee_adoption.pdf)

## **5. SA Energy Bills & conferences**

### **Air Quality Management Draft Bill**

The Air Quality Management Draft Bill, due to replace the Atmospheric Pollution Prevention Act of 1965, has been approved by Cabinet and is due to be gazetted for public comment – it is available on the [www.gov.za](http://www.gov.za) website. The new bill will set ambient pollution standards and will establish time frames and mechanisms for compliance. The public will have 6 weeks to comment, until June 16, before the bill is returned to cabinet (possibly with minor revisions?) and taken on to parliament.

### **National Environmental Management Amendment Bill**

Cabinet has approved the National Environmental Management Amendment Bill, which is set to amend the National Environmental Management Act (NEMA) to bring it in line with changes in related legislation. Changes include legislation around pollution and waste management and environmental impact assessments amongst others. The department will be holding public consultation workshops in May, although details have yet to be finalized.

(Thanks to Contact Trust)

## **6. Questions & Answers**

### **What will pollution taxes mean for the price of electricity?**

The cost of the taxes will be passed on to consumers in some way, so the average price of electricity will increase. This is consistent with both national and international commitments to integrated resource planning and

the 'polluter pays' principle, as well as full-cost accounting and corporate commitments to 'triple-bottom-line accounting' (embracing the social and environmental as well as purely monetary considerations). We need to ensure that the cost is borne by those who can afford to pay.

Currently South Africa, and the South in general, are subsidising over-consumption in the North by carrying the externalised costs of energy-intensive industries, as well as through artificially low values attached to for primary resources.

### **How could we prevent the higher costs of renewable energy and pollution taxes being passed on to poorer consumers?**

The departure point is that basic energy services should be seen as a human right - this is consistent with our constitution. Government has accepted the principle of a free basic allocation of electricity (in areas served by the national grid), with subsidisation of alternative energy resources in remote rural areas. The low level of current provisions (50kWh per household per month) is contested and a civil society position paper for WSSD advocated a per person allowance at least 1kWh per day (there have been calls for 100kWh or more per month).

An essential element of spreading the costs in an equitable manner (a small contribution to redistribution of the wealth from the bottom up) is introduction of a 'stepped block tariff'. This means that, after the basic allocation, tariffs for electricity consumption increase, in steps, as electricity use increases. Thus, after the free allocation, the first 'block' of consumption (a specified number of units per month) is charged at the lowest rate, with a higher tariff for the next 'block', increasing to levels that will provide an incentive for energy efficient behaviour among wasteful consumers. The block, or amount of consumption, charged at the second or third level tariff could be greater for small and emerging businesses at community level.

It is also important that a substantial portion of the costs are passed on to the largest consumers - known as contestable customers because they use so much electricity that they can command special deals with the generator(s), an arrangement that remains unchanged in current restructuring proposals as they would be allowed to by-pass the proposed Regional Electricity Distributors.

*Answers supplied by Richard Worthington of SECCP, Earthlife Africa*