

SUSTAINABLE ENERGY NEWS on EMAIL (SENSE)

Welcome to the fourth edition of the email newsletter – Sustainable Energy News (SENSE) – a service of the Sustainable Energy and Climate Change Project (SECCP), a partnership between Earthlife Africa, Johannesburg, and WWF, Denmark.

SENSE is published monthly and we welcome any feedback and submissions. It will be edited by Erika Schutze (Research and Information Co-ordinator) and Mette Nedergaard will be assistant editor based in Denmark.

Please let us know if you wish to be removed from this list or suggest recipients for the list.

Also, please indicate if you would like to receive our separate Climate Change email newsletter, edited by the climate change facilitator, Mamashoabathe Noko.

CONTENTS

1. SECCP news: SECCP appoints a lead agent to undertake major research study; SECCP makes input into energy issues working group of WSSD and formulates a draft position paper; SECCP and ICLEI sign a co-operation agreement.
2. SA's renewable energy progress: South Africa pioneers solar electrification; Demonstration against new incinerator planned at liquid fuels refinery in Sasolburg.
3. Preparing for the WSSD: Energy for sustainable development – access to energy should not be confused with the extension of the national grid, writes Richard Worthington of the SECCP
4. General Sustainable Energy News: UK Energy minister calls 2002 “The Year of Renewables”; China to break up monopoly on power into six regional grids; U.S. Senate takes up energy measure; BP drops plans for controversial liberty oil field in Alaska; Mexican power plants and US-power utility in Thailand avoid U.S. regulations, tidal power resurfaces and photovoltaic wallpaper.
5. SA Energy Bills & conferences: Petroleum Pipelines Draft Bill; "Clean Air" Draft Bill; Environmental Protection Support Unit; Leaded Petrol; Energy Draft Bill
6. Questions How can I measure whether or not my household is energy efficient?

1. SECCP News

1.1. SECCP appoints a lead agent to undertake major research study

The SECCP is negotiating with the Energy Development Research Centre to be the lead agent in its main research study for 2002.

The objective of this study is to present a portfolio of Policies and Measures (PAMs) for realising the potential for renewable energy and energy efficiency in South Africa. Also, the study will show how the Government's policy on renewable energy and energy efficiency as presented in the White Paper on Energy Policy can be met through the application of specific policies and measures. Reference will also be made to international precedents and experiences.

The study will argue that renewable energy and energy efficiency are main components in an effective climate change response strategy and it will estimate impacts in terms of potential greenhouse gas reductions. The study will identify sustainable development benefits related to realising this potential including job creation, access to energy, local environment and health. These will form part of an implementation strategy and address weaknesses in the White Paper so as to suggest key advocacy ideas, rather than synthesise research already there.

This research will assist in evaluating the target of having 200MW grid supply energy set-aside for renewable energy from Independent Power Producers (as stipulated in the Department of Minerals and Energy's study on Bulk Renewable Energy Independent Power Producers in SA, 2000).

The SECCP's medium-term target is to have 20% of electricity generation from renewable sources by 2020. The long-term target is for 50% of energy generation to be from renewable energy by 2040.

1.2. **SECCP drafts a civil society position paper on energy for the WSSD**

SECCP is leading the development of a South African civil society position paper on energy for input to WSSD. Initial thoughts have been circulated and a first draft should go out by the end of the first week in April, with a view to finalising the document by the end of the month. In the section on WSSD that follows is a draft introduction to the position paper. People interested in joining the e-mail working group should contact richardw@earthlife.org.za

1.3. **SECCP and ICLEI join forces**

The International Council for Local Government Initiatives (ICLEI) and SECCP have joined forces to support their mutual aims in combating climate change and pollution, and promote sustainable development. To this end they have signed a memorandum of understanding to provide formal recognition of and commitment to mutual co-operation between the two projects.

ICLEI is a membership association of local governments dedicated to the prevention and solution of local, regional and global environmental problems through local action. In South Africa, besides working in water and Local Agenda 21 programmes, ICELI has a "Cities for Climate Protection" (CCP) project. CCP aims to encourage greenhouse gas reduction in local government by developing in-house capacity in local government structures. Each local government department has a CCP co-ordinator who then forms smaller task teams and pulls in different departments depending on the overlap of their areas and objectives. At a later stage CCP hopes to undertake community analysis and hopefully even get industries on board. It also provides information on best practices and distributes dedicated software for assisting cities in quantifying their emissions. At present CCP is concentrating on data collection. (See <http://www.iclei.org>)

In March SECCP staff met with two CCP staff members, namely, Lorraine Mashiane and Leluma Matoane, to ascertain common areas of interest, and for advice on how best to disseminate SECCP materials to local government. To this end, the SECCP has undertaken to provide printed posters, booklets, fact sheets and brochures to CCP for them to be distributed to officials in local governments with which ICLEA has developed relationships, including but not limited to Johannesburg, Tshwane, Cape Town, Buffalo City, Saldanha Bay, Potchefstroom, Sol Plaatje and Ithekweni.

Material submitted by CCP will be included in CCEN, the SECCP's climate change email newsletter. Leluma Matoane is also on the SECCP's research reference group of its main research study on policies and measures for energy efficiency and renewable energy in SA.

2. SA's renewable energy progress

South Africa pioneers solar electrification

South Africa has been giving maximum priority to extending its electricity grid to larger fractions of its population. The high grid costs in rural areas, however, have made the government develop a unique program and regulation for large-scale solar electrification.

The general idea is to provide the solar utility companies with a capital subsidy per customer similar to the capital cost of a grid customer connection. The capital subsidy of the solar system, expected to be between US\$300 and 400, is close to the equipment and installation cost of the smallest system (~50Wp). For the solar utility companies to achieve a profit, they depend upon continually operating and maintaining the systems against a monthly fee from the customer.

The solar utility companies are required by the government regulation to offer the customers a choice of minimum four

different system sizes, and also allow customers to upgrade or downgrade. Initially, most people are expected to go for a 50Wp system. This is typically sufficient for lighting (4 energy efficient bulbs), a radio or a small B/W television, and is expected to cost around 8 US\$/month. This bill is lower or similar in size to typical electricity bill in rural areas, and the customers get the two most highly valued products.

Last year Solar Vision presented this opportunity to more than 600 households in the concession area, the Northern Province, and found that the majority of the households (68%) could afford the system and wanted to apply for installation.
– www.caddet-ee.org

Demonstration against new incinerator planned at liquid fuels refinery in Sasolburg

On April 27, there will be a demonstration co-ordinated by GroundWork at Sasolburg to oppose the new incinerator.

3. World Summit

Energy for sustainable development – access to energy should not be confused with the extension of the national grid.

Richard Worthington, SECCP

There is consensus that WSSD must address energy issues and it is important that recognised international priorities are taken as a point of departure. Two such priorities are: access to energy and addressing environmental impacts.

These priorities are qualified in various ways but surely involve delivery of energy services on an on-going basis while systematically reducing the amount of human suffering, as well as environmental/natural resource degradation that results from the extraction and burning of fossil fuels.

'Access to modern energy' has become a popular phrase albeit used in conflicting contexts: 'modern energy' is often used as synonymous with electricity. Another common qualification is 'affordable', which is highly subjective and dependent on local and personal circumstances, interpretation depending on whether emphasis is given to full costs to society, costs to providers or the ability of customers to pay. In this regard it is important to consider not only the rate of charge but also the percentage of household income that is dedicated to energy, since poor households pay 25-30% of income to energy costs, at least ten times more than affluent households.

An essential aspect of access that is generally ignored is the **sustainability** of **access**. South Africa provides a starkly cautionary tale where last year in Soweto alone Eskom unashamedly declared good progress in achieving a target of 20 000 disconnections per month. So a significant proportion of the beneficiaries of the national electrification programme were left in debt and without energy, a year or two after embracing modern energy. For access to be sustainable it should not be confused with extension of a national or regional grid.

Access must be achieved on an ongoing basis, without increasing household debt or otherwise constituting a net drain on resources or increasing the dependency of communities. The social impacts of any energy programme must be thoroughly considered, since it is in the name of social benefits that access is prioritised.

Business leaders and corporate lobbyists, who insisted at CSD 9 (Commission for Sustainable Development, ninth meeting after Rio) in March 2001 on the 'energy for sustainable development' approach by invoking the 2 billion people without access, need to demonstrate and make provision to ensure that they are not simply extending their customer base in the name of human rights.

Governments and civil society must insist on commitments and effective measures to ensure that delivery of energy services is not just another means of extracting wealth, but rather a means of empowering communities and individuals, i.e. ensuring sustainable access. This should involve a free basic allowance should be adopted at a regional level, with pricing related to ability to pay as well as level of consumption.

Social impacts of energy delivery, as well as lack thereof, will rightly be the driver of WSSD resolutions on this issue, and an important dimension of this priority is ensuring a just transition to better practice in the energy sector. This will require taking into account the needs and vulnerabilities of stakeholders and acceptance that the countries and corporations that have benefited the most from the rampant exploitation of finite fossil energy resources and large-scale projects, such as big dams, should now contribute resources to achieve a cleaner, more efficient and equitable energy future.

The prevailing attitude of acquisition and withholding that characterises the privatisation of public goods needs to be tempered by commitments to sharing the benefits derived from exploitation of the global commons and the sharing of financial, technological and human capital. It is only with such an attitude change that WSSD will initiate significant and effective technology transfer, capacity building and universal participation in eliminating poverty.

(This is an abbreviated version of the SECCP's energy position paper)

4. General Sustainable Energy News

UK Energy minister calls 2002 "The Year of Renewables"

Forget all that 60s "dawning of the age of Aquarius" stuff – at the start of the year UK Energy Minister Brian Wilson predicted something far nearer to the hearts (and corporate wallets) of those involved in renewables. 2002 will be "the year of renewables" he said – a year in which the potential contribution of power generated from clean sources will finally be recognised in the UK.

The release looked at:

- The Government's Renewables Obligation, which will guarantee at least a GBP750 million market for electricity generated from renewable sources by 2010
- The Government's investment in renewables (GBP260 million over the next three years)
- The Government's plan to act to ensure that renewables projects are treated fairly by the planning system – a step that "may involve a challenge to the integrity and consistency of some environmentalists"
- The balancing act that has to be performed between encouraging renewables and the cost of electricity
- The current feasibility study, commissioned by the DTI, into a sub-sea cable along the western seaboard of the UK.

Wilson stressed that renewables can become the basis of a substantial manufacturing sector. "It should never be forgotten that we had world leadership in wind power 20 years ago but did next to nothing with it. The Danes took a different view and now have a GBP4 billion per year manufacturing industry. I am determined that the same thing should not happen with wave power, biomass and other technologies in which we are well placed to lead the world." – www.allenergy.co.uk

Canadian ministers refuse to cut their emissions, threatening Kyoto

Canadians consume more energy per capita than any other people on Earth, and while they say they are worried about air pollution, they are driving more gas-guzzling sport utility vehicles than ever.

When the federal environment minister, David Anderson, in charge of implementing the Kyoto agreement on global warming, recently asked his cabinet colleagues to drive smaller, more fuel-efficient cars he got a taste of how hard it will be to convince Canadians to reduce greenhouse gas emissions. His fellow cabinet members ignored him, or muttered about the symbolic importance of being chauffeured around in big (meaning prestigious) cars.

Then word leaked about Mr Anderson's request. "The Liberal government talks the talk, but will not drive the drive," the acting Canadian Alliance leader John Reynolds said in the House of Commons. "How can the prime minister or the minister of the environment expect Canadians to sacrifice so much for the sake of Kyoto when his own ministers will not even trade in their taxpayer-funded cars for environmentally-friendly vehicles?"

So while the Prime Minister, Jean Chretien, has told other world leaders he will ratify the Kyoto agreement, he is under increasing pressure at home not to do so.

On a recent trade mission to Moscow with all of the provincial premiers in tow, he was ambushed by the Alberta premier, Ralph Klein, who waved around a letter signed by anti-Kyoto provincial leaders demanding the prime minister back off his commitment to fight global warming. (Mr Klein's oil-rich province leads the country in emissions of heat-trapping gases that scientists fear will lead to a much hotter world.)

When Mr Chretien returned to Ottawa, the Canadian Manufacturers and Exporters association released a report that said ratifying the Kyoto protocol would force plant closures and cost as many as 450,000 jobs over the next eight years.

Mr Chretien's record on green issues has been dismal. He initially said Canada would only ratify Kyoto if the US went first, but changed his mind after Canadian negotiators got the flexible rules they were looking for, including the right to count the management of Canadian forests and farmlands as greenhouse gas reductions. (Environmentalists have said this is like getting credit for watching trees grow.)

More important, his government has done very little to reduce Canada's emissions, which are now estimated to be about 20% above Canada's Kyoto commitment. – *Ottawa dispatch*

China to break up monopoly on power into six regional grids

China is preparing to implement a long-awaited plan to restructure its state-owned power sector, aimed at breaking up the current state monopoly on electrical power, China's top economic planner said early March.

"The preliminary plan has already been drafted and will be implemented fairly soon," Zeng Peiyan, minister of the State Development Planning Commission, told journalists on the sidelines of the annual session of China's parliament, the National People's Congress.

Under the plan, the government will break up the stranglehold of the State Power Corp.; separate the ownership of power producers and power grids and implement competitive power pooling, Zeng said.

He said the State Power Corp. currently owns the majority of the country's power distribution grid and half of its power generation plants, but this will be transformed into several enterprise groups.

Meanwhile, the power network will be divided into six regional grids, with the power grid for the southern region financed through local resources and the State Power Corp. acting as a holding company for the remaining five.

Zeng said competition would be based on the quality of the power generation plants, the way they generated their power, price and whether generation was done in an environmentally-friendly way.

The government will also strengthen the regulation of prices to ensure a level playing field and establish a power regulatory commission to ensure fair competition, he said.

Zeng said the government had made special provisions for joint venture power plants with foreign investors, adding that the government was open to discussions with the foreign investors on the upcoming restructuring.

– *Agence France-Presse*

U.S. Senate Takes Up Energy Measure

The Senate took up landmark energy legislation on March 5 that pushes conservation over oil exploration, creates federal offices to work on climate change issues and seeks tighter fuel efficiency standards for cars, minivans, SUVs and light trucks.

Senate Democrats pieced together the 400-page bill with input from nine committees, but Republicans said the bill is likely to go nowhere because the massive legislative undertaking ignores their priorities, is contrary to the energy plan proposed by President Bush and is the philosophical opposite of a GOP-backed House bill that passed late last year.

Senate Majority Leader Tom Daschle, D-S.D., said the economic stimulus plan – which fell apart earlier this year from partisan disagreements over how best boost the economy – had failed because Republicans blocked it with procedural hurdles that required 60 votes to overcome.

"If they want an energy bill, they'll work with us to get a bill to conference," Daschle said, referring to House-Senate negotiations that would take place if the Senate can finish its bill. In December, the House completed an energy measure that favoured production over conservation.

The Energy Policy Act of 2002 seeks to change many aspects of the energy industry. It has Enron-inspired provisions to strengthen the Federal Energy Regulatory Commission's authority over energy mergers.

The Senate energy bill also emphasizes renewable energy by, for example, requiring utilities to transmit intermittent generators of wind at rates that do not penalize the generator.

Also, the federal government would be required to buy at least 3% of its electricity from renewable sources by 2003, and 7.5% by 2010. And the bill would require that 2.5% of all electricity produced in the United States be made up of renewable energy sources by 2005, and 10% by 2010.

By far, the most contentious issues will be over federally imposed fuel efficiency standards on passenger vehicles and oil exploration in the Alaskan Arctic National Wildlife Refuge. (The automobile industry gave nearly \$4 million to federal parties and candidates in 2001; 79% went to the GOP, according to the Center for Responsive Politics, a non-profit group that monitors industry-backed financing of federal elections.)

Among the provisions is an expansion of what constitutes renewable energy. Currently, tax credits are available for producing energy out of wind, chicken manure or plants. Added to the list would be solar power, geothermal heat and energy generated from leftover grains, pig and cow manure, and wood and plant waste. Tax credits would also be available for electric cars and those running on alternative fuels, clean-coal technology and energy efficiency in homes and offices.

The bill provides modest tax incentives for nuclear energy development. – *Houston Chronicle*, Mar. 6

Microchip can turn heat into electricity

A microchip that can transform heat into electric current is now working on a lab bench at the Massachusetts Institute of Technology, US. Its inventors say it could harness heat from a car's engine and provide power for its electronics, charge laptop batteries by recycling heat from the computer's microprocessor, or simply bask in the baking desert sun generating electricity.

The device, called a thermal diode, marks an important step in thermal electronics – or thermionics – which has seen little innovation since the inventor Thomas Edison first observed the thermionic effect in 1883.

In a thermionic vacuum tube, an electrically heated electrode "boils" off free electrons, which jump across a gap, drawn by a voltage applied to another electrode. But there's another type of vacuum tube that doesn't need to have electricity fed into it. Instead, it generates electricity – albeit very inefficiently – by using heat from the environment.

The heat gives a few electrons enough kinetic energy to boil off and jump a tiny gap, creating a minuscule electric current. MIT's first attempt at a semiconductor version of a thermal diode operates at the comparatively low temperature of 200 °C (as opposed to the 1000°C of previous versions). But the major challenge will be making them affordable. – news scientist.com

Power Dressing

Your sweater could one day provide all the power you need to run your MP3 player, mobile phone or palmtop computer – as long as you're not standing in a darkened room.

The idea comes from scientists in Germany, who have developed synthetic fibres that generate electricity when exposed to light. The researchers say the fibres could be woven into machine-washable clothes to make the ultimate in portable solar cells.

A sail made of solar fabric might even be able to provide power for a boat's electronics, says Martin Rojahn of the Institute of Physical Electronics at the University of Stuttgart. Just like the photovoltaic cells found in many pocket calculators, the new wires work by sandwiching three layers of non-crystalline "amorphous" silicon between two conducting electrodes. The top layer is doped with electron-rich impurities while the bottom layer contains electron-poor dopants. The layer sandwiched in between is not doped. – news scientist.com

Tidal power resurfaces

A tidal power station that taps the surging power of strong underwater currents will be tested for the first time this year. In Britain, there are about 40 key locations around the coastlines where, in theory, there's enough energy in tidal streams to generate up to a quarter of the nation's electricity.

Wind creates waves on the sea surface, but as wind blows intermittently, wave power is quite unpredictable.

But tides are regular, as they are caused by the gravitational pull of the Moon and Sun on large masses of water. If the local geography is right, ocean channels create fast-moving "tidal streams", where vast masses of rising or falling water are squeezed into a restricted space. But no one has proved that extracting energy from tidal streams is practical.

That could soon change. The British government is now looking for new energy sources to help cut carbon emissions. And this month, British offshore equipment company Engineering Business was given a £1.1 million government grant to build a 150-kilowatt prototype tidal power station.

Dubbed Stingray, the machine should be installed between May and September on the seabed to the south-east of the Sound of Yell, off mainland Shetland. A pair of 15-metre-long hydroplanes, mounted on a stand, will oscillate with the tide to drive a hydraulic motor that generates electricity (see animation on the Web at www.engb.com/Pages/animation.htm).

Wall-to-wall power Solar cells printed like wallpaper

Solar cells might one day be produced by the roll, as cheaply and easily as wallpaper. Scientists in Arizona are using screen-printing, a technique developed for patterning fabrics, to produce plastic solar cells. The technique is another step towards the general availability of solar power from flexible devices on plastic sheets or glass panels. The basic materials of a photovoltaic cell are inexpensive, but combining them into a working device is currently costly. This limits our exploitation of the sun's potential to provide clean energy.

The organic cells manufactured by Ghassan Jabbour and colleagues at the University of Arizona in Tucson have about a quarter of the efficiency of commercial silicon devices (which turn 10-20% of light energy into electricity). But, being cheap to produce, they can make up in quantity what they lack in quality.

Jabbour's group print very flat, very thin cells onto glass. – *Nature News Service / Macmillan Magazines Ltd*

World-class energy centre launched in Australia

An energy centre designed to supply its own power and to showcase the best of Australian and overseas energy technologies was launched in Newcastle, NSW on March 22.

The facility, due for completion in mid-2003, will feature a unique combination of energy efficient building design plus small-scale generation units capable of delivering most of its power needs.

The new Centre will be a futuristic distributed energy system in action, with photovoltaic cells incorporated into the structure, and gas micro-turbines and wind generators providing the most of the initial power. Down the track, fuel cells, a solar-thermal system and a 1 MW energy storage system will be incorporated.

Dr John Wright, Chief of CSIRO Energy Technology (the company who built the Centre) says the key to the new Centre will be partnerships - both to undertake the research and demonstration and to transfer technologies to the market.

He thanked the NSW Government and the NSW Sustainable Energy development Authority (SEDA) who have already committed substantial funds to the project. <http://www.det.csiro.au/>

Record Year for European Wind Power, with Germany at the helm, then Spain

New figures from the European Wind Energy Association reveal another record year for wind power in Europe. During 2001 another 4,500 MW of wind power capacity was added to the European electricity grids, bringing the total installed wind power capacity in Europe to more than 17,000 MW, an increase of more than 35%.

The 17,000 MW will produce approximately 40 terawatt hours (40 billion kilowatt hours) of electricity annually, equal to the electricity consumption of 10 million average European households. Had that amount of electricity been produced on coal-fired power plants, it would have required the burning of 16 million tonnes of coal. It would take 16,000 trainloads of coal, or 640,000 lorry loads, to transport that amount of coal. The electricity production from the 17,000 MW installed capacity in Europe will prevent the emission of 24 million tonnes of CO₂ annually.

Once again, Germany tops the list, adding about 2,650 MW, which brings the total installed wind power capacity in Germany to 8,750 MW. 50% of all European wind power capacity was located in Germany at the beginning of 2002 and wind power now accounts for almost 3.5% of German electricity consumption.

The wind power boom in Germany seems set to continue. A few days after the impressive German figures for 2001 were made public, the German government announced an ambitious plan to boost wind power's share of electricity consumption

to "at least 25% by 2025". The lion's share of this will come from 20-25,000 MW offshore wind capacity in the North Sea and Baltic Sea. "Within a generation (...) one fourth of our current electricity needs will be generated with environmentally-friendly wind power," says environment minister Jürgen Trittin.

With installed capacity in excess of 1,000 MW, Spain was the second largest European market for wind power in 2001. The regions of Galicia, Navarra, Castilla la Mancha, Aragón, and Castilla León continue to lead the development. With more than 3,300 MW, Spain is now the second largest European market in terms of total installed capacity. Denmark dropped from second to third with a total of more than 2,400 MW installed wind power capacity by the end of 2001.

Italy increased its total installed capacity by more than 60%, adding 270 MW during 2001 to reach a total of 700 MW. Greece added 83 MW, the UK 68 MW and Sweden 59 MW during 2001. – www.caddet-ee.org

BP Drops Plans for Controversial Liberty Oil Field in Alaska

Following years of campaigning by Greenpeace and other environmental groups, BP announced in January that it is dropping plans for the controversial Liberty oil field in Alaska.

BP proposed to develop the Liberty oil field in the Alaskan Beaufort Sea 40 miles to the east of where the controversial Northstar oil field was developed. Like Northstar, Liberty would have involved an artificial drilling

island located six miles off Alaska's north coast with a sub-sea pipeline carrying oil ashore to the Trans Alaska Pipeline for shipment to Valdez and eventual tankering to the Lower 48 and Asia.

"BP's action today confirms what the American public has been saying all along: We do not support drilling for oil. We need to focus new energy developments on renewables like solar and wind," said Melanie Duchin, a Greenpeace campaigner in Anchorage, Alaska. "Plans by the Bush administration and some in Congress to open the Arctic National Wildlife Refuge will meet a similar fate." – www.greenpeace.org

Carbon hypocrisy in Thailand as US company plans to build coal power station

Now that Edison Mission Energy, a sister company to Southern California Edison, has pretty much sold its power plants (aside from a single nuclear power plant and a diesel generator on Catalina Island that it still operates), it now has plans to expand its operations globally. In particular, it is trying to bring coal-fired electricity generation to South East Asia – a hypocritical move as such a plant would never be permitted in California.

Edison plans to build a 734 MW coal-fired power plant in the rural village of Bo Nok, Thailand. Local people from this Thai fishing and farming community have been fighting the power plant proposal for eight years. In January, 10,000 people demonstrated against it when the Prime Minister visited the area.

Coal is the most carbon intensive fossil fuel: over 20 years the plant would emit 117.4 million tons of carbon dioxide. In addition to greenhouse gas emissions, sulphuric acid and dust would be discharged from the coal plant, which will affect ecology and marine life, hence the lives of the Bo Nok people.

On top of these pollution concerns, Edison's plant will result in the disintegration of sustainable communities. The community's protest against the Bo Nok coal plant throughout the 90s proves their will against the project. – www.greenpeace.org

Mexican Power Plants Avoid U.S. Regulations

Two planned power plants are stirring controversy along the U.S.-Mexico border in southern California. Conservation groups have filed suit against the U.S. government challenging permits granted to utilities for electrical transmission lines that would carry power from the electrical generation plants being built three miles inside of Mexico to the United States. Earthjustice and Wild Earth Advocates, representing the Border Power Plant Working Group, say the choice of Mexico for the location of the power plants is to avoid the restrictions of U.S. environmental laws.

The lawsuit seeks to require environmental impact statements prior to the issuance of federal permits needed for the transmission lines to cross international boundaries. Operation of the plants would degrade U.S. air and water quality and would likely harm public health and the environment in the border region of Imperial Valley, California and Mexicali, Mexico, the plaintiffs charge.

Much of the air and water pollution will result from the cooling systems the plants will use. Although Mexico is a world leader in the use of cleaner, dry cooling systems, the U.S. developers of the border plants have proposed to use wet cooling systems that emit much more particulate matter into the air and greater concentrations of contaminants into the water. If the same power plants were constructed in Imperial County, California, they would be required by the U.S. Environmental Protection Agency (EPA) to use dry cooling to eliminate particulate emissions.

The lawsuit challenges the permits and the associated environmental assessment for the transmission lines. The suit also challenges the failure to consider alternatives to this action, such as granting a conditional permit for the transmission lines linked to a commitment that the power plants will comply with U.S. environmental standards and use best available technologies.

This suit would establish a precedent applicable to future border power plants, both in Mexico and Canada that may be built to provide energy for U.S. markets. The legal challenge will provide an incentive for the U.S. and Mexican governments to collaborate to establish air quality standards and measures to reduce pollution in the U.S.-Mexico border region. – <http://ens-news.com>

5. SA Energy bills

Much of the following information is provided by The Contact Trust – thanks for keeping us abreast of parliamentary developments

Petroleum Pipelines Draft Bill

A network of pipelines is used to transport crude oil and petroleum products between the port of Durban, the Durban refineries, the crude and synthetic fuels refineries in Gauteng and Mpumalanga and between depots. To date, the state has managed the operation of much of the pipeline network. It has now become a possibility that parties other than National Government may become active in the ownership and operation of petroleum pipelines and the Government has therefore had to introduce regulatory measures to ensure the efficient operation of the pipelines network and the orderly development of the network in future. The Petroleum Pipelines Bill has been drafted to respond to the need for regulatory intervention.

In the last quarter of 2001, the Department of Minerals and Energy (DME) released the Petroleum Pipelines Draft Bill for public comment. This Bill has been drafted to respond to the need for regulatory intervention in light of the anticipated restructuring of Petronet.

The main features of the Bill are the following: the establishment of a petroleum pipeline regulator; the need for licensing or registration in respect of the construction, operation and the provision of prescribed commercial services in relation to a crude oil pipeline, petroleum product pipeline or an off-leading facility; and the process of licensing or registrations and the condition of license.

The DME is experiencing delays in finalising the Bill as they are still taking comments made by various stakeholders into consideration. Once this process is complete it would be forwarded to the State Law Advisor's Office for scrutiny. It is hoped that the Bill would be submitted to Cabinet by mid 2002.

Contact Phumla Mtyeku at (021) 4311072

Energy Draft Bill

The DME was scheduled to finalise drafting the Bill by March 2002 but it seemed unlikely to be completed in the near future. It is hoped that the Bill would be submitted to Cabinet by August 2002.

The draft Bill aims to promote research and development within the energy industry and aims to ensure that the supply, conversion and utilisation of energy is efficient, economic and environmentally sound. Integrated energy and resource planning, the utilization of environmentally sound energy sources, energy use efficiency and data collection are some of the issues the DME is hoping to deal with in the draft Bill.

Contact Elsa Du Toit at (012) 317 9216

Leaded Petrol

In a letter leaked to the press in the latter part of 2001, the DME informed the oil industry that it intended to seek Cabinet approval that only unleaded petrol would be sold from January 2006. It further proposed a reduction in the sulphur content of fuel. The Department had since then made a submission to Cabinet on the aforementioned proposals and is awaiting a response. Discussions with the industry are also ongoing on the issues contained in the letter.

The Government, under pressure from the World Bank, has set oil companies a deadline to phase out leaded petrol in South Africa. Sub-Saharan Africa is one of the last corners of the world where lead is still used by industry as a cheap octane booster. Contact: Mr H.T. Burger at (012) 317 9181/9114

Minerals and Petroleum Resources Development Draft Bill

The Bill is currently still being finally scrutinised by the State Law Advisors office. The DME had hoped to table the Bill in Parliament by February but this did not materialise. The Department tentatively foresaw it to be tabled within the next month or two.

In October 1998, Cabinet approved the White Paper on a Minerals and Mining Policy for South Africa. The Department is currently converting the policy principles contained in the White Paper into a new Bill, the Minerals Development Bill, subsequently renamed as the Minerals and Petroleum Resources Development Bill.

The draft Bill aims to recognise the State as the custodian of the nation's minerals resources, thereby changing the current legal status of mineral rights. In addition the draft Bill aims to contribute to mineral and mining

development generally, developing co-operative governance and taking note of the national environmental policy and legislation. The draft Bill will further aim to regulate orderly prospecting and mining of mineral resources. Contact Dave Richards at (012) 3179415

Environmental Protection Support Unit

The Environmental Protection Support Unit has recently provided assistance to the Directorate Air Quality Management in formulating the new air quality management plan for South Africa, and a power point presentation explaining the plan in full should shortly be available on the Department website.

Though the Unit focus is air quality management, it is also providing complementary support in upcoming pollution and waste management legislation. An intergovernmental workshop was hosted by the Department on February 19 - 20 to clarify the direction to be taken regarding the upcoming legislation and to ensure that national, provincial and local government programs are in sync. The workshop was well attended, and comments made will be used to further develop the legislation. The intention is to have bills on air quality management and pollution and waste management submitted to cabinet before June, but a time line for the process is still being discussed though the legislation will certainly be released for public comment this year. The Unit's work on air quality management serves largely as a case study for the broader purpose of increasing the effectiveness of the Department in implementing National Environmental Management Act (NEMA). The Unit was appointed by the DEAT to ensure the implementation of Chapter 7 of the National Environmental Management Act relating to compliance, enforcement and protection.

Contact Peter Lukey at 011 839 3764

"Clean Air" Draft Bill

The Department is developing an Air Quality Management Draft Bill expected to be submitted to Cabinet around July this year. It will likely coincide with a Pollution and Waste Management Draft Bill, though at this stage it is still uncertain whether they will be released as separate bills or one, and the process could be further delayed. The Department hopes to have the bills tabled in Parliament by September.

The Department is currently drafting new legislation to repeal the Atmospheric Pollution Prevention Act, 1965. This new legislation shall incorporate pollution standards and establish time frames and mechanisms for compliance. Contact Tsietsi Mahema at (012) 310 3404

Waste Discharge Charge System

The Department of Water Affairs and Forestry (DWAF) are currently analysing the questionnaires distributed to interested parties in 2001. DWAF is also currently developing a pilot waste discharge charge system and it intends holding three provincial workshops to discuss these pilots during the first half of this year. A national waste discharge charge system will then be developed.

To date, the Department has completed drafting a document outlining the institutional framework necessary to implement the system. The Waste Discharge Charge System (WDCCS) is an application of the polluter-pays principle to water pollution in South Africa. This means that if an industry pollutes water, it will be charged an amount related to the amount of water pollution it causes. Section 56 of the National Water Act authorises the department to implement the system.

There are four types of economic activities which may be affected by the introduction of the WDCCS:

- A. Activities that cause water pollution
- B. Activities affected financially by polluted water used in the production process
- C. Activities affected financially by poor water quality in its surroundings
- D. Activities involved in the prevention or reduction of water pollution

Contact Pieter Viljoen at (012) 336 7514

Budget Vote Speech by the Minister of Minerals and Energy, Ms Phumzile Mlambo-Ngcuka

Is scheduled for 7 May 2002 in Parliament. For more information in this regard, contact: Mr Kanyo Gqulu; Ministerial Spokesperson and Chief Director: Communication; Tel: 012-3179086; yonelas@mepta.pwv.gov.za

6. Questions and Answers

Q: How can I measure whether or not my household is energy efficient?

A: Significantly, there is no benchmark in South Africa.

The measure is the specific energy use over the building's entire life (energy lifecycle cost/m²). Assuming passive solar features are in place, there are two components to measure:

1. The specific energy (capital) investment to erect and demolish the building (embodied energy in kWh/m²). The embodied energy represents 1083kWh/m² according to British sources.
2. The specific running energy expenditure (kWh/m²), that is water heating, space heating, lighting and all other energy consuming appliances accumulated over the buildings life span (kWh/m²). You should also include the energy spent on travel and material flow in and out of your house since the question relates to household and not the building itself.

The typical South African electricity consumption for one household is 800kWh/month. (Or 9 Gigawatt per year.)

Being better than this average does not mean that you are energy efficient. Since the running cost makes up the major portion of the total, this is where you can make improvements e.g. replace inefficient Edison (incandescent) lights by Compact Fluorescent Lights (CFL), use a vertical geyser or better a solar water heater, buy efficient appliances and machines (read the labels if any), switch off appliances not used, set computer screen on sleep mode, save water by efficient shower heads, shower in place of bath. Benchmark your consumption against others and feel good/bad. – *Dieter Holm, SESSA*