

The new nexus of power and accountability in South African energy

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About this report

The Institute for Security Studies' Corruption and Governance Programme hosted the South African Civil Society Energy Caucus in Cape Town on 29 and 30 July 2009. The theme for the meeting was the new nexus of power and accountability in South African energy. The two-day meeting explored South Africa's willingness and ability to deal with fierce governance challenges ahead, as described below, which aim to create benchmarks for a sustainable and socially just future.

The incoming government's announcement of the decoupling of the Department of Minerals and Energy represents a symbolic shift away from a troubling legacy in South Africa. Civil society has long called for the splitting of the incongruous pair into separate departments with their own clear and distinct mandates. The new stand-alone Department of Energy now has the potential to break some of the tensions created by a period of capitalist accumulation. However, systematic redress is required for this to be realised.

Defining its role and mapping out its strategy on universal access to clean, affordable energy are priorities for the department. Concurrently it will need to outline its strategy for a just transition away from fossil fuels to a no-carbon future that will also create new green jobs. It also needs to deal with a host of other governance and institutional issues, including, most prominently,

resolving its murky relationship with the state electricity utility, Eskom. In particular, how will the department monitor reforms in the Department of Public Enterprises around the better behaviour and governance of Eskom? In addition, how does government plan to manage tensions between itself, Eskom and the National Energy Regulator of South Africa (Nersa) and to negotiate conflicts of interest that prevent Nersa from carrying out its key tasks? How will government put an end to the conflation between electricity and energy, on which it seems intransigent?

To address all of these requirements will mean a deeper engagement with citizens, listening to their needs, being open and transparent, including them in all manner of decision-making processes and fostering accountability. It may also mean inspiring a more serious conversation with other government departments. Clearly, tough choices must be made as the ramifications go well beyond the Department of Energy to a fundamental reorganisation of power relations in South Africa, as well as confronting the premise and trajectory of our current development model.

This report is a verbatim account of the presentations and key discussions during the meeting. Opinions expressed are those of the presenters and not necessarily of the author of this report, the Institute of Security Studies or the Energy Caucus.

About the contributors

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Patrick Bond has longstanding research interests and applied work in global governance and national policy debates, in urban communities and with global justice movements in several countries. He is professor at the University of KwaZulu-Natal School of Development Studies and director of the Centre for Civil Society. His research focuses on political economy, environment (energy, water and climate change), social policy and geopolitics, with publications covering South Africa, Zimbabwe, the African continent and global-scale processes.

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Mariette Liefferink is a member of FSE, a loose federation of concerned NGOs and community groups who are determined to stop the rot and hold leaders accountable. Its goal is an environment that is safe and healthy for every South African, conserved for future generations and able to truly sustain the country's development.

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Introduction

TRUSHA REDDY

Institute for Security Studies

The Energy Caucus (EC) was launched in 2002 when, around the time of the World Summit on Sustainable Development, it was realised that while there was strong work internationally on sustainable development and energy in civil society, there was little focus on these issues locally. It was based on the Water Caucus that was already active at that time in South Africa.

The EC is a loose coalition of civil society bodies that engages on common issues in the energy sector. No resolutions have been taken, but in 2005 the EC agreed on a set of Principles and these are updated from time to time. As the need arises, the EC issues joint statements.

The previous EC meeting was held in March 2009 prior to the National Climate Change Summit and focused on climate change issues. There were critiques of and discussions about the Department of Environmental Affairs' Long-Term Mitigation Scenarios (LTMS), the risk of privatisation in association with Reduced Deforestation and Degradation (REDD), the concern of mineworkers about the closure of coal mines and their support for the no-nuclear position, the science of coal-to-liquids and its impacts, an update on Sasol's activities and critiques of carbon trading and agrofuels. A joint statement was presented to the National Climate Change Summit by Dorah Labello from Citizens United for Renewable Energy and Sustainability (CURES). There were coalition updates, from Climate Justice Now! and an update on the South African Climate Action Network (SACAN).

This meeting follows from previous caucuses but with two specific considerations:

1. Discussion focus: The thematic focus is on power, governance and accountability in the energy sector in South Africa, motivated by the post-election changes in government, the decoupling of the Department of

Minerals and Energy, the ongoing Eskom tariff hikes, and the upcoming fifteenth Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC COP15) in Copenhagen.

2. Diversification: The EC previously met primarily in Gauteng but it was decided to hold this meeting in the Western Cape with ISS as the host because it was felt that it is important to broaden the involvement of civil society.

The programme covered:

- An overview of current leadership governing energy in South Africa
- Governance issues in energy
- An historical understanding of governance in energy
- The impacts of governance on the poorest people and their place in the system
- How energy governance takes into consideration international issues relating to dealing with climate change
- How South Africa includes energy issues in its talks on climate change
- Decisions made regarding continued exploitation of coal
- Focus on green jobs in the implementation of renewables and understanding technology as a means to address energy and climate issues
- Discussion of corporate energy planning in the Shell 2050 scenarios
- Groundwork presentation of findings on the proposed World Bank loan to Eskom

The group work, or break-up sessions, focused on strategising to identify collective challenges in civil society, seeking common positions and common ways of

engaging, and strategic thinking around civil society's responses to the most fundamental challenges identified in South Africa.

The debates that emerged during the two-day meeting focused very strongly on the energy pathway that South Africa will adopt, which will determine its development pathway for half a century. Civil society has been neither adequately nor in any way meaningfully consulted on whether South Africa should commit to coal, nuclear or renewable energy. The EC felt that the scale of the costs of Eskom's New Build infrastructure is such that decisions about how electricity supply is met cannot be regarded as legitimate if there is no far-reaching and detailed involvement of civil society in planning and research.

The EC is aware that the potential loans that Eskom will need to take to finance its New Build infrastructure could impose restrictions or obligations on what development pathway we take. The World Bank, for example, has offered a loan of US\$5 billion, but, as is typical for the institution, the loan would be constrained by prescribed development models.

The potential nuclear deal is of particular concern and the campaign against nuclear power is being revived. Even before government has formally and finally committed to a nuclear development pathway, there are concerns about the enormous potential for corruption in a deal worth ZAR1.3 trillion, and in fact there are already indications of corruption. Selecting nuclear power for electricity generation locks South Africa into a pathway that involves training engineers and technicians, building infrastructure, etc. The most important aspect of this, though, is the enormous debt that will be incurred. If the country indebts itself for this much money, there will be considerably less for other needs, such as providing basic services and dealing with poverty.

More fundamentally, there needs to be an interrogation of what our energy needs are, whose need our energy supply serves and how we can alter our development path so that it accommodates the many different values that underpin how we consume energy and how much of it we consume.

Eskom is tasked by the Department of Energy to map the country's energy future, despite being a commercialised body within the Department of Public Enterprises. The EC called for Eskom to abandon its commercialised model and rather adopt a developmental model. It considered it important to repeal the laws that ensure that it remains commercialised and a monopoly.

There is confusion around energy planning, the role of State institutions and the conflation of different departments' roles. These issues need to be addressed

with urgency if energy security, inequality around energy provision and reforms to energy supply and demand are to be addressed, taking climate change considerations into account.

We need to establish and do full accounting of the externalities in dirty energy to understand the real impact of coal, nuclear and oil. Based on findings that the 2009 tariff hike of 30 per cent was to support the coal industry, the logic of Eskom (and therefore its end users) subsidising the coal industry should also be challenged.

Regarding the regulation of energy, there is a broader concern around transparency and a need to change the conservative culture that we have about controlling information. Even the Promotion of Access to Information Act (PAIA) is seen as a way of keeping information secret instead of facilitating information provision. Rather than being a last resort for access to information from unwilling parties, it has become almost expected of civil society bodies seeking information to take to the courts. As civil society and citizens we need to change that culture and use institutions such as the public protector and legislation such as PAIA to test government on its willingness to be open and transparent.

There are also crosscutting issues, for instance, how military spending is connected to energy issues. The military industry uses 30 per cent of aluminium production and aluminium smelters use vast amounts of energy, for which they are subsidised. There needs to be a more serious interrogation of this kind of spending and subsidisation in terms of South Africa's development priorities.

The government perpetuates a massive disconnect between South Africa's policy on international climate issues and local realities. This must be resolved if local issues are to be effectively tackled in keeping with global responses to climate change.

Renewable energy is not only more economically feasible than nuclear power, but also compares favourably with coal in the long term. If electricity is used more efficiently, i.e. if there is better demand-side management, then Kusile might not be necessary.

There needs to be broad, all-inclusive public discussion and participation around key issues, in particular, the reform of institutions of planning, implementation and oversight; an investigation of the Pebble Bed Modular Reactor (PBMR); and a review of Eskom's New Build programme. These issues need to be debated openly and not behind closed doors.

A good rallying point for civil society would be to develop a no-compromise energy roadmap, which would see the effective phasing out of fossil fuels, end our dependence on coal and oil, and exclude nuclear power.

Vision and leadership in confronting energy and sustainable development challenges

SALIEM FAKIR
WWF-SA

In caucuses like these we tend to focus on a very select sector – mostly coal and nuclear – and we don't look at things like the liquid fuels sector, which are also important for energy security. Possibly this is the case because we have one large challenge – Eskom – and we lost sight of these other sectors.

We have a growing economy and are experiencing an energy crisis, so we think about putting up nuclear power stations and don't think about the future. There are going to be peak oil impacts on the liquid fuels industry, but at the same time, we are making ZAR611 billion investments in refineries, which commits us to the petroleum industry for another 30 years. Nuclear and coal also raise questions about the horizon – what happens around energy security during the 30–40 year lifespan of a new power station? What can we put into place during that time?

Another important issue is our obsession with supply. We are guilty of locking the debate around the supply side and we attack that as the problem, instead of broadening our challenge to managing our demand.

We need to challenge our assumption that the current way of living is sustainable and we need to challenge the values that are embedded in the world today. What is our vision of our economy? Do we want highly consumptive, highly material lifestyles or are we working towards a dematerialised structure? Do we want everyone to drive a car or do we want better transport systems? Do we want to reduce our dependence on oil (demand-side management) and other highly carbon-intensive sources? What technologies are most appropriate, affordable and reasonable, and can be developed in South Africa? What can be adopted here with no huge capital costs for importing?

WWF is talking about a low carbon roadmap that takes the debate beyond the supply side and into a transformation to a new energy paradigm.

However, it is important to remember that energy security is not only about climate change. Ninety per cent of Organisation for Economic Co-operation and Development (OECD) countries are dependent on oil imports and South Africa has the same scenario. Is this an energy-secure setting that we can be comfortable with? Even if we argue that we need refineries now, we need to not expect that we will be importing oil.

We need to dissect the roles of government and the private sector. It will be important to have an open discussion around markets, for example.

The New Build programme is something that we can focus on. This is a portfolio of investments that are going to be made – and it is a good galvanising point to make demands for changes. We can revisit the proposals being put forward by government around it.

A lot of the capital for coal power stations will need to be borrowed expensively and from overseas markets. It will not be raised in South Africa. We have a volatile, floating exchange rate, we have no nationalised coal mines and our dependence on coal is determined by the market, with privately-owned mines selling coal at spot market prices.

To develop a vision for energy security, we need discussion around some of the tough issues – behavioural and institutional change, supply and demand, diversification, and strong debate around centralised power versus distributed networks. If we want to talk about transition, can the current conventional paradigm work or do we need something new? Should we raise objections to new coal power plants? What do we offer as substitutes?

These are important questions that cannot be dealt with superficially. The real debate around transition and energy security is to move towards concrete proposals and away from rhetoric. We need to form a concrete approach.

There at least has to be something on the table that we can work with.

So the challenge for the EC is to develop cogent arguments around the economics of a new energy supply regime, and to move away from the old focus on supply.

We need to think about a roadmap to a new economy, a new vision of energy security, how to make that transition happen and what it will cost the taxpayer. What can this group do to develop a new energy security vision and argue for a transition to that new vision?

Decoupling minerals and energy

A new dressing for the *status quo*?

LANCE GREYLING

Independent Democrats

The decoupling of the Department of Minerals and Energy is largely a symbolic move, but we need to look further and also at some of the other institutional arrangements.

The Minerals-Energy Complex (MEC) was conceptualised in 1995 to explain capital accumulation in South Africa. Cheap energy is used to extract minerals from the ground and huge profits are made from that extraction. Large mining companies then buy up huge value chains in South Africa. The MEC is central to our economy and cheap electricity is central to the MEC. The decoupling of minerals and energy in government is largely a symbolic move on the part of government to break away from the MEC, diversify the energy base and ensure that government is not beholden to the energy sector and is more responsive to the needs of civil society.

However, other issues that come into play are disillusionment with the Ministry of Public Enterprises and Eskom being situated outside of the energy sector.

Eskom is currently developing its own plans and strategies, isolated from the Department of Energy. This is of high importance given Eskom's role in determining South Africa's energy future. For example, the New Build programme could cost ZAR1.3 trillion, with less than one per cent going to renewable energy. There are no targets for renewable energy (RE), and this responsibility lies with the Department of Energy (DE). This highlights the confusion around energy planning and Eskom is using the gap caused by the confusion to decide the country's energy future.

We need a truly systematic approach to energy planning in South Africa where all factors are taken into account. An integrated energy plan is to be drawn up in consultation with relevant sectors – but so far this plan simply builds on what Eskom has already cast in stone.

We cannot have a situation where Eskom unilaterally decides our energy future and the DE simply gets drawn into it.

ZAR1.3 trillion is the largest government expenditure on public infrastructure, but there has been no public consultation or debate about it. This has an impact on everything – energy security, sustainability, the economy, etc. The bulk of Eskom's money is aimed at nuclear power and this presents problems because the cost of the plants seems to be very high but the figures are kept secret. The bulk of this money – which doesn't include decommissioning costs – will make a foreign country rich at the expense of South African taxpayers.

Only two companies were invited to tender – one British and one French. It appears that the French company, Areva, will get the contract to build all of South Africa's planned nuclear plants. The president of the company was on former South African president Thabo Mbeki's advisory board (these decisions being made during Mbeki's term in office). This is a ZAR600–900 billion contract, with most of the flow out of South Africa. Nuclear energy provides the least number of jobs and the jobs that will be available require a high level of skills and will thus be at a level that the majority of South Africans can't take up. Areva is building in Finland at the moment. Initially, before construction began, the public was in favour of the plant, but in the last two years the Finnish peoples have turned strongly against it, with the biggest complaint being that local labour is not being used. We need to consider this in South Africa, given that job creation is our biggest concern.

It is important that Eskom's New Build programme is reviewed and made subject to public debate. This is one of the most important decisions we will be taking as a country and it is shocking that we have not been involved

in it. We need a review of energy policy that takes jobs and energy efficiency into account.

We have the potential to create a whole new industrial base in South Africa through RE in construction, installation and maintenance, but RE is often dismissed because the majority of South Africans are not exposed to how it can cater for bulk supply. The research focus needs to be on concentrated solar thermal (CST), not the PBMR. The CST should be made a priority and funding for the PBMR should be stopped. Energy storage is always an issue when we talk about RE and this needs to be looked at and included in modelling, but CST does have storage capacity.

The Renewable Energy Feed in Tariff (REFIT) can easily be sabotaged by Eskom because it is the biggest buyer of electricity generation in the country. This option for sabotage needs a legislative fix. REFIT can also result

in profiteering by foreign companies. We need to stimulate local production and a sharing of profits.

The solar water heater roll-out should be taken out of Eskom and placed into a national energy efficiency programme. We also need RE roll-out to be a priority for industrial development.

The decisions that are taken now in terms of energy infrastructure will lock us into a particular development path for the next 50 years. Many countries are starting to realise that the future lies not in locked fossils, but in the abundant sources above ground. Individuals can take responsibility for their own energy generation.

South Africa has the resources and capacity to build such an energy system. We can build up a whole new energy base. And we have a chance to make this vision a reality.

A new dawn for energy

Prospects for South African governance

OPEN DISCUSSION AND CONTRIBUTIONS FROM THE ROOM

- Decentralised energy supply begs a larger political discussion. If we have a centralised state then decisions will always be made behind closed doors in Pretoria, and that tendency of centralisation of state power in the hands of the largely invisible select few is a severe problem in South Africa that needs to be guarded against. For example, the response to HIV/Aids happened through political decisions being made by government, not through open debate.
- Is it only governments who can centralise power? There is also centralising of power in the markets – for example, six or seven companies own all the food chains in the world. We need to talk about evils in both the market and the state. Do we rely on the current system? Should we use whatever there is in our constitutional arrangements to fight these issues? We should be wary of centralisation of the state because it raises questions about accountability in civil society and government, but even if we dissolve the public enterprises ministry, we still have problems of governance and developing the role of institutions. We need to change the way state enterprises work from a private corporatist model to a developmental model. The question is not whether to have a Ministry of Public Enterprises, but rather about the role of state enterprises. They have a very corporatist culture – e.g. increasing bonuses and reducing costs, which in the long term affects the security of investment structure. So I think the incentives around state enterprises needs to change. I get a sense that these questions are being asked because the corporatist culture around the world is being challenged.
- CST won't be able to deal with base load. There are issues around land space that limits how many can be built. In the US at moment there is close to 600 MW CST base load and investments are increasing, but they are recognising the limitations. The debate we have around energy solutions gravitate around having to solve this domestically. If we look regionally, can we find other solutions? For example, is hydropower better than coal or nuclear? We haven't made these cost-benefit analyses yet, and there are some regional options available.
- Wind turbines are mature technology and base load can be provided by CST because it can still be producing at night time, but it does not have to be our only supply. We are arguing for a mix. The grid has to be able to deal with variables such as peak demand but these are the same kind of variables as we already have. The technology is there to deal with it, and we can go forward.
- The figures in the national integrated plan need to be looked at. We are looking at 400 MW from wind at this stage but there are enquiries for over 7 000 MW. The grid in the Western Cape can support over 2 000 MW without any disconnect.
- There are many people who are queuing up to put up CST. There is no shortage of people who want to invest in the RE sector. The difficulty is with Eskom, which has an extremely arrogant and bullying approach to energy production. Let's talk about energy production and practical methods of solving the problem without

nuclear, and a shift in view of the power of coal over other forms of energy production.

- Eskom and the big banks are fighting to tender out RE projects rather than having independent power producers.
- There is going to be a review of the renewable energy targets in the next few months and it will be important to make inputs when that happens.
- We need to lobby around the electricity grid. We need a sophisticated and intelligent grid to enable RE rollout. It is critical that the supplier understands the client. If you're going to have a braai at seven p.m, you would start the fire at around six p.m. However, Eskom starts the fire at five in the morning because they don't know what time the braai is. We need a more intelligent relationship between supplier and user.
- If this was your money, you wouldn't be spending on nuclear and coal. How can we mobilise civil society to ensure that the interests of the public are met over other interests, especially because discussions take place behind closed doors?
- There is a massive disjuncture in power between the Department of Energy and Eskom. What we have is the tail wagging the dog. Until we have capacity and power in the Department of Energy and until the Department is willing to bring Eskom into line, we will always have this problem. So it's an institutional capacity issue.
- Discussions around waste are crucial for future management of the nuclear issue.
- There is a disjuncture in how resources are given to the PBMR versus RE.
- How do we build resistance to this? The polls seem to come out in favour of nuclear. However, are we asking

the wrong question? This is not about nuclear versus other production methods. It's about our energy future and having a public debate around it. Do we want Eskom to decide, or do we want proper modelling? We get trapped in nuclear versus anti-nuclear, and this gets dismissed as green speak. We need to talk about whether we accept this energy future that Eskom has put before us.

- There are three points for the EC to lobby around in terms of corruption and governance:
 1. Areva. We're talking about a deal that is five times more than the arms deal. Therefore there is five times more incentive to offer bribes (hard and soft), and five times more shareholder's capital to spend on those bribes compared to the relatively impoverished arms deal. We need to keep pressing that – and Eskom is already playing nice with Areva.
 2. We should all lobby to repeal the law that makes it a crime to sell electricity unless you are Eskom or a municipality.
 3. Eskom has an RE division that plans to produce 1 000 MW from CST in the Northern Cape. Eskom also committed to the Grand Inga Dam. However, the power of the nuclear division in Eskom blocked funding of those projects. We need to work within Eskom on the nuclear lobby.
- We need to build in the external costs of coal power stations and we are potentially going to get there through a carbon tax. I don't think South Africa can avoid the issue. There are also plans within Eskom and Sasol to introduce carbon capture and storage (CCS) technologies.
- There are champions in government who should be supported. For example, lots of jobs can be created through the Working for Energy Programme. It's an aggressive programme but its budget was cut back to ZAR45 million.

Monitoring accountability and transparency deficits

Preliminary findings of the Electricity Governance Initiative

GARY PIENAAR

Idasa

The Electricity Governance Initiative (EGI) is a framework for building capacity in government and civil society to improve practice and promote better communication and transparency. A comprehensive synthesis report compiles all findings from the research and outcomes include policy briefs and a multi-stakeholder forum and possibly the creation of a new space for solutions.

The EGI is a joint effort of Prayas Energy Group (India) and World Resources Institute (USA). Assessments were completed with stakeholders in India, Indonesia, Thailand and the Philippines in 2005 and new efforts are underway in Brazil, Central Asia and South Africa since 2008. Assessments are completed by independent researchers and NGOs with guidance from government, utilities, regulators and other stakeholders. The EGI indicator toolkit was developed over two years through a robust process of research and analysis with input from more than 100 international experts. It was revised in 2007 to incorporate insights from pilot assessments in Asia. This is a registered partnership with the UN Commission for Sustainable Development. The working group includes the Energy Research Centre at UCT, Earthlife Africa, Democratic Governance and Rights Unit at UCT, ILRIG, the Legal Resources Centre, Green Connection, Sustainable Energy Africa, WWF-SA and Idasa.

TOWARDS DEMOCRATIC GOVERNANCE

- Focus on the process of decision-making and implementation
- How decisions are made shapes what decisions are made
- Attention to transparency, scope for public participation, mechanisms of accountability

Democratic governance is necessary, though not sufficient, for good outcomes.

EGI aims to create a place for sustained dialogue because this is what makes the difference. The report is a resource from which anyone can take what they want. The multi-stakeholder process is one of the primary outputs and in other countries either a single forum emerges during the course of the research, or a pre-existing forum takes on the role. It is essentially a coalition approach. The results will be disseminated freely.

Currently, Idasa is coordinating research and engagement, and participating institutions complete selected indicators from the EGI toolkit, which is a useful resource in providing some questions that have to be answered. It can be applied to any organ of state. There is a peer review process within the team and with reference groups. Preliminary findings are shared with the advisory group for feedback, review and guidance on outreach.

In the interrogation of Nersa, a few accountability deficits have emerged.

Policy-making is diffused and confused with regards to Eskom. For example, a Cabinet decision requires Eskom to ensure that 30 per cent of energy capacity is produced in the private sector. Effectively Eskom is being tasked to manage the introduction of its own competitors.

DOCUMENT RP31: PERFORMANCE REPORTS

Performance reports should be submitted annually to Nersa. This is mandatory, although there is no reference in the licence agreement to any consequences for non-submission. Actual delivery and enforcement are relatively weak. Less than 50 per cent of these forms are submitted on time and in sufficient detail to be meaning-

ful. This means that the energy regulator does not have enough detail to ensure that power supplies are compliant with any constraints. Nersa was unable to meet even the simple requirement of sending out reminder letters to licensees and it does not have the capacity to assist in completing forms where necessary, such as helping small municipalities that themselves lack capacity. Nersa is completely lacking in analysis of load and demand and there is little support available even to Eskom to support production and manage load demand.

DOCUMENT RP21: ANNUAL REPORT

The Promotion of Access to Information Act (PAIA) requires that Nersa (as with every State body) submits an annual report covering a number of queries, including how many requests they've had for information and how the requests were dealt with. Nersa has not submitted a report in the past year, and despite claiming to have done so, has refused access to it. The information officer supplied a sample of the previous year's register but included a caveat that the information could not be disclosed.

The way Nersa conducted its public hearings around the electricity tariff increase in 2009 was remarkably open for South Africa and the considerations were remarkably detailed compared to many other decisions, even just in terms of listing the comments from civil society in its reports – something that is hardly ever done. Thus, although we might criticise them there were a lot of positives in terms of this process.

However, Nersa also refused to release some commercially confidential information that it received from Eskom and that may be refused in terms of PAIA. This information can be disclosed if Eskom agrees but basically Nersa just acceded to Eskom's decree that it was commercially sensitive and didn't interrogate it themselves. The recent Biowatch case around PAIA was an important case for accessing information without costs to the applicants.

DOCUMENT RP14: EXAMINED NERSA'S USE OF CONSULTANTS

No details concerning the consulting arrangements are available to the public, neither on the Nersa website, nor in their annual report, nor to the researchers. The recommendations of the consultants were not made available

except where specific reports were identified and even then they were subject to a confidentiality clause. The primary conclusion is that the information officer at Nersa is approaching his task very conservatively and looking at controlling rather than facilitating access to information. There seems to be a presumption of non-disclosure rather than disclosure, the latter of which is international best practice. Too many hurdles must be surmounted for information to be useful at the end of process.

The Minister alone appoints the full-time and part-time members of Nersa. Members of the public are allowed to nominate regulators but then the process becomes secret. Nobody knows who makes it onto the shortlist or what the process is after that. Nersa is primarily accountable to Parliament and therefore the parliamentary committee is crucial.

DOCUMENT RP7: PREVENTING FORMAL CONFLICTS OF INTERESTS ON THE PART OF THE REGULATORS

There is no requirement for a cooling-off period once regulators have left Nersa, although this procedure is implemented globally. For example, there is no restriction on someone becoming a lobbyist in a company active in the same sector. However, during an interview, the Regulator's Thembani Bukula expressed the widely-held fear that the introduction of post-employment restrictions may lead to the loss of scarce skills and reluctance by experienced people to apply for positions with the Regulator. He suggested that a useful compromise may entail retention of staff for a period equivalent to a standard cooling off period at the end of their primary term, but in an advisory rather than a decision-making role.

If people want to pressurise Nersa, it might be an idea to test some of the positive signals of openness from them. Ask for the consultants' reports. It should not be necessary to resort to PAIA but it can be tested. We are at the beginning of an important process. However, those laws need building blocks and we can ensure it by asking and pushing for information that we need or want. The biggest weakness is that the enforcement mechanisms are weak and one has to go to court for information (PAIA). The Human Rights Commission and the Public Protector are there to assist with those requests cost-free, and should be used more.

Retro-gazing energy governance in South Africa

PATRICK BOND

Centre for Civil Society

In the energy sector, South Africa's carbon emissions are 20 times worse than the USA and the government admits its responsibility in the Long-Term Mitigation Scenarios (LTMS) endorsed by Cabinet.

South Africa has eight major energy policy problems:

- Worsening access to clean energy determined by class, gender, race and geography, especially in the wake of huge recent and ongoing electricity price increases
- Pressures to simultaneously commercialise, liberalise and partially privatise Eskom
- Economic development strategies that remain energy-consumptive and capital-intensive
- One of the world's worst contributions to global warming, per capita per GDP unit
- A strong commitment to a disastrous strategy of carbon trading (local and global) instead of genuine emissions reductions
- The prospect of South Africa's intensified reliance on nuclear-powered electricity generation
- Untapped potential in renewable energy, especially through solar and wind sources
- Excessive South African influence over energy and development strategies across Southern and Central Africa

Aspects of ecological debt emerge. Jubilee South says that ecological debt is the 'debt accumulated by Northern industrial countries towards Third World countries on account of resource plundering, environmental damages, and the free occupation of environmental space to deposit wastes, such as greenhouse gases, from the industrial countries'.

Joan Martinez-Alier lists the types of ecological debts:

- Unpaid costs of reproduction or maintenance or sustainable management of the renewable resources that have been exported
- Actualised costs of the future lack of availability of destroyed natural resources
- Compensation for, or the costs of reparation (unpaid) of, the local damages produced by exports (for example, the sulphur dioxide of copper smelters, the mine tailings, the harms to health from flower exports, the pollution of water by mining), or the actualised value of irreversible damage
- (Unpaid) amounts corresponding to the commercial use of information and knowledge on genetic resources, when they have been appropriated gratis ('biopiracy')
- (Unpaid) reparation costs or compensation for the impacts caused by imports of solid or liquid toxic waste
- Lack of payment for environmental services or for disproportionate use of 'environmental space', e.g. (unpaid) costs of free disposal of gas residues (carbon dioxide, CFCs, etc.) assuming equal rights to sinks and reservoirs (\$75 billion/year). This is crucial for addressing climate crisis, which will hit Africa far worse than elsewhere

The impeccable neo-colonial logic of the waste trade was articulated as follows by Lawrence Summers, then chief economist for the World Bank: 'I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that... I've always thought that under-populated countries in Africa are vastly UNDER-polluted' (www.whirledbank.org).

Yet the rise in Southern African temperatures compared to historic norms shows that we are affected by

atmospheric pollution by greenhouse gases and therefore cannot be considered to be 'under-polluted'. The most visible impacts of climate change include the drying out of Lake Chad and the reduced snow cover and melting of glaciers on Mount Kilimanjaro. The IPCC's R.K. Pachauri states: 'It is projected that there could be a possible reduction in yields in agriculture of 50 per cent by 2020 in some African countries... In Africa, crop net revenues could fall by as much as 90 per cent by 2100, with small-scale farmers being the most affected'.

Companies such as BHP Billiton and Anglo (formerly based in Johannesburg but now based in the UK) have exploited Africa for non-renewable resources without taking into account the externalities. There is a growing movement to take these companies to the International Court to demand reparations. The recent case against Shell by the families of Ken Saro Wiwa and others affected by the company in Nigeria, the result of years of hard-hitting work, resulted in an out-of-court settlement for US\$15,5 million.

We need to correct the GDP bias for pollution, resource extraction, etc. There is a significant difference between actual growth and economic growth.

Every year South Africans are getting poorer. We have the cheapest electricity in the world and it is something we depend on because of the MEC. Eskom overbuilt in the 1980s and because of its 'excess' capacity and slow economic growth at that time, it made deals with industry that were effectively huge giveaways of electricity.

BHP Billiton's smelters chew up enormous amounts of electricity. This is a company with big ties to the state. For example, Zav Rustomjee, a former Director-General in the Department of Trade and Industry, became a top BHP Billiton consultant. Xolani Mkhwanazi is the company's Southern Africa operations officer. When Standard Bank chairperson Derek Cooper suggested powering down a BHP Billiton smelter to release more electricity into the system, the company boycotted Standard Bank.

In the early 2000s the MEC moved to Melbourne and London; large mining companies took their profits abroad, resulting in a huge current account deficit that made South Africa the most risky emerging market.

In the *Business Day* in January 2008, journalist Hillary Joffe said:

Crucially, what the power crisis may do is to start to raise the question of what kind of economic growth we can afford. Eskom has now begun to question the timing of power-hungry projects, such as the proposed new aluminium smelter at Coega. And one can't help wondering why the government is offering incentives to attract such investments at all: not only do they rely on cheap power that we do not have, but they don't create that many jobs,

either... the power outages should prompt us to ask questions, not just about how fast the economy can grow but about the quality of the growth we should be seeking.

So how do we get cheap electricity to the poor? Africa as a whole has lower electrification rates than developing Asia, the Middle East and Latin America, well below world average. There is a universal entitlement to free services. The ANC campaign of 2004 promised a free basic amount of water, electricity and other municipal services, with those who use more, paying more. In reality, what we have is cheap electricity for big companies and excessively expensive electricity for domestic users.

People who cannot pay are disconnected. The latest available statistics from the Department of Provincial and Local Government (2001) show that over a typical three-month period, nearly 300 000 households are disconnected with about half that being reconnected. Seventeen per cent of households are disconnected every year, not including the prepayment meter self-disconnections. Newer data, beyond 2001, is being withheld.

South Africa has a very high rate of protests because of a range of issues including the electricity crisis, depression and loss of jobs. The South African Police Services reported a total of about 10 763 protests in 2006 and 9 446 in 2007.

So we need an autopsy of, and alternatives to, the big MEC strategy. We need alternative strategies for alternative development. We need to think about some of the ways forward for changing the defunct energy policy. There is space to manoeuvre if we become as militant as we saw in the health sector.

The Extractive Industries Review (EIR) in December 2003 made recommendations to the World Bank, many of which were immediately rejected:

- Phasing out lending in support of oil and coal and investing its scarce development resources in renewable energy by setting lending targets of increasing renewable energy lending by 20 per cent a year
- Informed consent from local communities and indigenous peoples affected by extractive projects as a pre-condition for financing
- Ensuring the establishment of indigenous peoples' land rights as a condition for project finance
- Ensuring that revenues of Bank-financed projects benefit all affected local groups
- Respect for human rights in Bank lending
- Requiring that freedom of association be present in World Bank-financed projects as a basic human/labour rights requirement
- Ensuring that good governance structures are in place before project finance and implementation occurs
- No financing in areas of armed conflict

- Protecting biodiversity through establishing 'no go' areas for internationally recognised critical habitats
- Requiring that submarine tailings disposal not be used in World Bank Group-supported mining projects
- Increasing revenue transparency and improving public disclosure about projects
- Promoting overdue key institutional reforms to deal with the long documented 'pressure to lend' in the World Bank that has resulted in weakening of implementation of key environmental and social protection policies.

In February 2004, the then-Minister of Minerals and Energy, Phumzile Mlambo-Ngcuka, argued to senior World Bank staff that they should oppose 'green lobbyists' on the EIR. She preferred the African Mining Partnership (dominated by capital), under the auspices of the New Partnership for Africa's Development, which stated its intention to establish an alternative sustainable mining strategy. Her spokesperson claimed, 'We are already implementing sustainable development programmes', notwithstanding evidence of massive corruption and eco-destruction in countries like Angola and Nigeria and a failure to trickle the benefits of mining down in even the best-case country, Botswana.

We will not get reform through carbon trading. The only genuine reform is to stop fossil fuel consumption and leave the resources in the ground. Even Al Gore spoke out against coal in August 2007: 'I can't understand why there aren't rings of young people blocking bulldozers and preventing them from constructing coal-fired power plants'.

The Capex for Eskom's three largest new builds, Medupi, Kusile and Ingula, ranks among the world's largest construction projects. We need to stop Kusile. There are successful precedents around the world: in Alaska, wilderness campaigners stopped oil exploration in the tundra; in the Niger Delta, several organisations are working to keep the oil in the soil; in Ecuador, Rafael Correa and Accion Ecologica have successfully kept the country's main oil reserve in the soil in the Yasuni National Park, and have recently succeeded in getting Germany to pay for this as a climate debt.

The Durban Group for Climate Justice was created in Durban in 2004 and demands:

- Leave resources in the ground!
- Radically new industrial policies
- Tough state regulation of emissions
- Massive investment in renewables, especially a just transition for industrial jobs at risk
- Waste reduction
- Grassroots carbon-reduction initiatives

Climate Justice Now! was launched in Bali in 2007 and has five basic demands:

- Leaving fossil fuels in the ground and investing instead in appropriate energy-efficiency and safe, clean and community-led renewable energy
- Radically reducing wasteful consumption, first and foremost in the North, but also by Southern elites
- Huge financial transfers from North to South, based on the repayment of climate debts and subject to democratic control. The costs of adaptation and mitigation should be paid for by redirecting military budgets, innovative taxes and debt cancellation
- Rights-based resource conservation that enforces indigenous peoples' land rights and promotes peoples' sovereignty over energy, forests, land and water
- Sustainable family farming and peoples' food sovereignty.

It is committed to building a diverse movement locally and globally for a better world.

We have been weak on direct action across the world. There is fantastic activism going on around the world and I get a sense that we need to do a lot more direct activism. We need to find the spaces for environment and labour to get together. These are the simple, most important issues determining our survival – climate change and basic energy access. We need to see poor people and working class people uniting against some very rich and important people to make these changes happen.

CONTRIBUTIONS FROM THE ROOM

- Thirty per cent of all aluminium sales are to military hardware, so if we are serious about ending destruction in Palestine or Iraq that is where we should put our energy.
- There is massive excess capacity of steel. If you want to do RE properly, we can have solar water heaters for every formal household. We could get 14 000 jobs by putting these together in the next five years and then another 5 000 jobs in maintenance.
- Industry all over the world is flawed. There haven't been blackouts in South Africa recently and for that we have to thank the crash of the minerals price.
- This obviously does not mean we stop coal production tomorrow, but it does mean that these new coal power stations that are coming online should be engaged with. A good argument to use now is that there is no money for these expansions. The World Bank will

come right into this to rescue – just as during apartheid when they lent South Africa hundreds of millions of dollars and at a time when Eskom had a clear energy policy that excluded black people from accessing electricity. Effectively the World Bank financed apartheid. We need to stop this borrowing for coal. It's expensive and damaging.

- If we build all these central power stations, then the money from the people is going into the central coffers, whereas if we have power stations on our

roofs, we are responsible for our own electricity and contributing to the nation's supply. However, it means government might lose tax revenues if they allow decentralisation of electricity.

- Eskom has only recently started paying tax. We should be looking at the way in which the government is raising revenues. And, as the price of energy goes up, if we're not moving to renewables we can at least do a lot more to change distribution. Rich people are not paying enough and poor people are paying too much.

Electricity price hikes

What hope of rights and inclusion of the poor?

LIZIWE MCDAID

South African Faith Communities Environmental Initiative

SAFCEI recognises that people of faith have a responsibility to care for the planet and all life on it as well as fellow human beings and that this responsibility includes leaving a healthy planet for future generations. It also recognises the need for urgency to reduce greenhouse gases.

SAFCEI's Energy and Climate Change resolution:

- Calls on government, Eskom and Nersa to ensure that electricity tariffs include 'cradle to grave' external environmental and social costs
- A stepped tariff must be implemented so that the poor are not further burdened by increasing electricity tariffs
- Renewable, locally generated electricity provides the opportunity for access to affordable electricity for all

Nersa has been far ahead of the pack in terms of driving the renewable energy (RE) agenda and has been engaging with SAFCEI for at least a year. It has a good record with its public processes around the tariff hikes. They allowed for flexible arrangements with speakers, had adequate timeframes, made all documents available and so on. However, it is web-based and there are no funds to fly people to hearings, so it is not easily accessible. It is also not clear how much actual consideration there is of civil society concerns when decisions are made: the latest Eskom tariff increase of 30 per cent was granted despite public presentations speaking out against it.

If we want to ensure energy security then we need to:

- Reduce energy demand in the short term
- Create space for renewable energy investment
- Implement the feed-in tariff as a matter of urgency
- Have no price increases until Eskom can show that the path they are proposing fulfils environmental and social obligations

- Implement the stepped tariff
- Implement the 100 kWh free basic electricity allocation
- Have an independent review of Eskom's strategy
- Set up a board of inquiry to avoid the same mistakes being made

Eskom claimed in 2009 that 'the tariff regime should reflect the true economic costs of electricity, including the cost of increasingly scarce primary energy and the cost of shifting to cleaner and renewable electricity generation technologies'. Its request for the 2009 tariff hike was not for demand-side management, road maintenance, new build, liquid fuels, or the deferment of the environmental levy.

The main reason for the 2009 electricity tariff hike of 30 per cent was to subsidise the coal industry. 'Considering that electricity generation utilises approximately 50 per cent of the country's coal production, the continued operation of Eskom is an integral aspect of ensuring sustainability of the coal mining and related industries' (Eskom 2009).

There are huge problems with coal, including adding to climate change, pollution, cost and fewer jobs. Jobs in the coal mining industry are being cut because of mechanisation – the technology is improving. However, do we want to promote jobs in that industry anyway? Coal mining is a dirty, nasty job.

I'm not advocating that coal power stations should stop tomorrow, but we do want a transition where people can see that as you come out of the coal industry you can move into renewables.

In the USA, coal mining provides 83 000 jobs, transport 31 000 and power generation 60 000. Wind generation in 2008 provided 83 000 jobs, and solar is predicted

to provide 110 000 jobs within two years. There are good job opportunities in the USA through RE.

In South Africa, between about 1990 and 2000, jobs at Eskom and the electricity-related mining jobs decreased while consumption of coal-generated electricity increased. Across Africa, jobs in the RE sector (over 16 000) have significantly higher potential than jobs in nuclear, gas and coal (under 1 000 combined). Over time the cost of RE comes down and the cost of coal goes up.

It is also important to stop wastage – South Africa could easily save 20–25 per cent of its electricity and even Eskom admits this unofficially, but reduced consumption won't help them make profits. If we saved that 25 per cent, we could meet the shortfall, including providing enough electricity for people who don't have it. It is cost effective to implement energy efficiency and change to RE, so why aren't we doing this?

We could take Nersa to court if they do not fulfil their obligations in terms of ensuring cost effective and affordable electricity. One municipality is already exploring this on the basis that the 2009 tariff increase is illegal.

The National Environmental Management Act states:

- (c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly the vulnerable and disadvantaged
- (p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

I believe that Eskom has transgressed this law, because it argued for the 2009 increase based only on the need for coal supply. I think we need to tackle the decision-making process and make them account for why they are not following this law.

In 2008, Eskom's profit was ZAR1 333 million, yet it asked for an increase in rates in 2009. Was it that they weren't meeting their targets or was it that they didn't make a big enough profit? The CEO's bonus depends on their profits.

What we want from our energy system in South Africa is:

- Energy security
- Efficiency and reliability
- An energy system that does not harm our health and our grandchildren's health...
- ...Or our environment, now and when we are no longer here
- Energy that creates jobs

- Energy that meets the needs of people
- Energy that is cost effective
- ...into the future

We have a strong competitive advantage for RE, wind and solar. We need to appeal to Nersa to empower South Africans and ensure that Eskom becomes a service provider.

We have talked about all sorts of forms of actions. If any one person grabbed the trunk of the elephant that would be it for them, but if many of us can grab each of the legs, we might topple it. The important thing is to turn the political will in our favour and get to a point where it is less effort to go our way.

For example, Zero Waste is a critical campaign, and it is an important part of the Polokwane policy document on environment and energy. We cannot commit to zero waste and continue to run coal power stations.

CONTRIBUTIONS FROM THE ROOM

- We need to follow the policies of the unions and work very closely with them. They are interested in protecting mineworkers and take the view that they don't want to shed jobs and also want to gain jobs in the uranium industry. Any job lost to mining is a job lost to COSATU. Effectively we have 60 days to mobilise against nuclear and debate coal. Politically we can't ask for coal to stop now.
- We talk about Eskom as if it is a separate body, but it is state owned. It was commercialised effectively to privatise it. Nersa's job is partly to enable the profits that Eskom is expected to make. My suggestion is that the Eskom commercialisation law is repealed and that Eskom is brought back into the state.
- Medupe won't be stopped and it would be hard to stop Kusile, but the existing coal power stations go offline in 2025, so we're going to have to spend a huge amount of money on generating capacity in the next two to three decades and that represents huge opportunities.
- The coal that's in the ground is mainly inferior quality, so it is not profitable for export. Thus, we have to use the dirty coal in South Africa to enable export of the good coal. There are six major coal-producing countries, and all have declining production, which means that it is likely that the coal price will go up. India was recently even looking at importing South Africa's dirty coal. So it's not really a situation where we stop coal power stations, and not a question of whether we have

to stop mining. The problem is about how we get more money out of minerals beneficiation.

- Are we using legal actions and pushing the limits? We need to have a concerted legal campaign with all groups contributing to make sure that these vested interests and large corporations are held responsible.

Invariably, all these deals are made by a small number of people, and that's one of the biggest roadblocks. We have all the right information but the guys who hold the power are limiting our ability to engage.

- We also need to tackle industry's willingness to implement energy efficiency.

South Africa's international positions and engaging the African region in Copenhagen and beyond

TASNEEM ESSOP

WWF-SA

This is the crunch time for an ambitious global deal on climate change and emissions reductions and if we don't get it then the window for keeping global warming to below two degrees Celsius is closing rapidly, and the science is in any case telling us that that the two-degree mark is not going to be adequate. There are a lot of things that are happening that make us uncertain about getting an ambitious deal, but we're keeping up the pressure and we're going to keep on working.

For the UNFCCC negotiations there are five inter-sessional meetings in the lead-up to COP 15 in Copenhagen. There was also a G8+5 meeting held in July that addressed climate change and Ban Ki Moon held a session for Heads of States in September. There was also a G20 meeting of Finance Ministers in September. All included COP 15 in their discussions.

There is so much focus on Copenhagen because whatever decisions get made now will have a massive impact on what happens to us. Negotiations are not the sexy stuff that people can mobilise around, but my worry is around whether we can translate the implications of those negotiations to Joe Blogs back home, and whether we get an ambitious deal. Domestic action needs to let people know what is happening internationally and that puts pressure on leaders as well. And I don't think that we must undermine the power of citizens to pressure government. We need to say to government – you can't make decisions on behalf of all of us that puts us at risk.

In general, what's on the table for discussion at Copenhagen is the post-2012 architecture, commitment to emissions reductions targets by 2020 and 2050, adaptation, the scale, sources and disbursement of finance, technology cooperation, institutional arrangements, carbon market mechanisms and a legal form (Kyoto or a new protocol).

There is virtually a stalemate and standoff between industrialised and developing countries. The commitments on the table are far below the IPCC range of 25–40 per cent reductions by 2020, there is nothing on the table for finance, and there is pressure for developing countries to take on emission reduction commitments of 15–30 per cent below business-as-usual, especially emerging economies, and especially China. Developing countries want deeper commitments from the Annex-I countries, money on the table for adaptation and mitigation and new institutional arrangements. The underlying drivers are the global economic crisis, competition between Annex-I countries and China, the G77+China's right to development equity and justice, and waiting for the US to come on board.

Adaptation is being pushed by G77+China and especially the least developed countries (LDCs), and financing is a deal breaker – particularly the scale and distribution. With regards to institutional arrangements, the North is happy but G77+China want new institutions because of their relationships with existing institutions. Carbon market mechanisms are being pushed by the North, but developing countries want reform, although they are not negative about them. The US, Japan and Canada want to see Kyoto dead and a new integrated protocol on the table.

These are the big points.

There's a massive drive to get some sort of compromise. What's on the table now takes us above three degrees Celsius, there is practically no money on the table except for from Norway, and no commitments.

Climate change is not an environmental issue any more and this stalemate is not being informed by the science. The current global economic crisis is one of the big drivers and especially competitiveness between the USA and China. Something that is very clear about the

US Congress is that the US cannot be subjected to vulnerabilities in competitiveness, to the extent that they are proposing that no mitigation finance is to go to China. Developing countries are asserting their rights to development. Justice and historical responsibility are coming to the fore and becoming a big push and some industrialised countries are sitting it out and waiting for the lead from the US.

South Africa is considered a leader in the negotiations and many NGOs look to us. We are also currently the president of the African Ministerial Conference on the Environment (AMCEN). Out of AMCEN, a declaration was developed that has been endorsed by the African Union (AU). It argues for a common position in Africa on the negotiations. The priority for Africa is poverty alleviation and the MDGs and a key focus must be on adaptation. Mitigation actions must be voluntary and supported. There must be scaled up finance that is additional to the normal ODA funding, with simple and direct access to that funding and democratic governance. The key issue in terms of technology transfer is to remove barriers – intellectual property rights and trade barriers are an issue. Investment in affordable and cleaner energy is a key area of agreement in the Africa group as well as increasing energy efficiency, using non-fossil fuel sources, and adopting a precautionary approach to agrofuels. It is important to diversify economies, especially with a view to reducing dependence on climate-sensitive sectors. There must also be a reform of the carbon market mechanisms.

The Africa group position is essentially the South African position. There is a similar position within the G77+China group, but with a different emphasis on finance and technology. However, within the G77+China group there are diverse interests from emerging economies (e.g. OPEC, LDC forest-dependent economies) and it is difficult to get a common negotiating position on some issues.

The NGO Copenhagen treaty was drafted by individuals, including myself, mainly from large NGOs and calls for :

- Carbon budgets: allocating space for industrialised countries, but with a bigger atmospheric carbon space for developing countries to meet MDGs
- Industrialised country action
 - Targets: 40 per cent by 2020 and 95 per cent by 2050
 - Finance: \$160 bn
 - Zero carbon action plans
- Developing country aims
 - Carbon budget limit: peak by 2020 and reduce by 30 per cent from business-as-usual
 - Low carbon action plans

- Nationally Appropriate Mitigation Actions (NAMAs) that are Measurable, Reportable and Verifiable (MRV)
- Adaptation
 - Immediate urgent action
 - Risk insurance mechanism
 - Compensation and rehabilitation mechanism
- Institutions and governance
 - New Copenhagen climate facility
- Reformed carbon market
- Legal form and commitment period – amended Kyoto Protocol plus Copenhagen Protocol plus UNFCCC decisions

We don't believe that developing countries should take targets and rather want to see how they can limit their emissions and stay within the group carbon budget. It still means they need to peak by 2020 and advanced developing countries will need to do long-term low-carbon planning to put their economies onto a sustainable pathway. Mitigation can only do so much, so adaptation is very necessary.

Carbon trading has some fundamental weaknesses but at this point in the global climate regime, it will not disappear, and all parties except maybe Bolivia are united on this. If we want to intervene on policies around this, we can't dismiss it entirely. However, we looked at the risks involved and some transformation. So this proposal is not going to deal with all the criticisms, but we had to take cognisance of both the science and the political reality. We do take a very clear position on technology – clean coal, nuclear, etc. The future of technology has to be clean.

South Africa/Africa has put on the table :

- Annex-I target: 40 per cent by 2020 and 80 per cent by 2050
- Finance: 0.5–1 per cent GDP of A1 countries
- No targets for developing countries
- Voluntary actions: NAMAs – unilateral and supported
- New finance and technology mechanisms
- Reformed CDM
- Legal form: amended Kyoto and new protocol

South Africa does not support a target for developing countries but says that there has to be voluntary action. Its proposal for legal reform is an amended Kyoto Protocol so that there's a continuation of action, and to develop a new Copenhagen treaty and a new set of UNFCCC decisions.

There is general agreement between the South African position and the Copenhagen NGO treaty position, but there are many sub-issues underlying these that put us on different paths. For example, we believe that even unilat-

eral actions by developing countries must be reported into global action.

However, while South Africa is considered progressive at an international level, this is not translated into action at home. And this is where we need to keep the pressure on – at home. There is a very real need for developing countries to deal with their own development challenges. There isn't a free-for-all in terms of carbon budget space and we have to afford the remaining carbon space to developing countries.

There are huge implications for South Africa if there is to be a global deal. Developing countries are going to have to take actions and will have to peak emissions. Theoretically, South Africa supports peaking, stabilising and declining, because the previous Cabinet endorsed the LTMS, but the current status is not clear. South Africa is a key emitter and cannot get away from its own responsibilities continentally and globally. The 'polluter pays' principle needs to be applied. While we're pushing industrialised countries to take action, we can't get away from the fact that we have to act domestically. And we need to be putting on immense pressure for this to happen. The actions we are taking now with energy are locking us in and could prevent us meeting those commitments in the future. This is really risky.

We need to find out the status of the LTMS. Some NGOs don't agree with it entirely, but the bottom line is acceptance of peak emissions, stabilising and decline. So we have a basis to work with. Linked to that is that it is endorsed by Cabinet – and if they support it, we need to know what their roadmap is for a low carbon economy to take us to 2050.

However, even in this energy caucus we're grappling with these issues. How realistic is it for South Africa to take a low carbon path in terms of jobs, the mining sector, coal, etc? We have a lot of homework to do.

We've not won the battle politically and not on the ground. We were hoping the National Committee on Climate Change (NCCC) process would pull all this together but I have personal doubts about this because the process was defined in a way that departments would develop their own plans and therefore there would be

fragmentation. The problem with fragmented department-driven approaches is that people love their turf, and love to protect it. This is where NGOs need to be climbing on the bandwagon. Deadlines have shifted, and this means we need to be worried.

It's important to ensure that the international perception of South Africa in a leading role is maintained. I would hate this to be lost. Because of the elections, there has been a slight bump and it will take the new minister time to start driving the process and take on a key role. South Africa's voice has been missed at meetings. We need to pressure the government to maintain that leadership. I believe passionately that developing countries, especially the big ones, need to take action. India has been putting really obstructive, worrying positions on the table. It will take South Africa in the group to unlock that sort of positioning.

However, how do we make sure that all of that is translated into domestic action back home? How do we mobilise civil society generally?

Essentially if we don't get a climate deal and an ambitious one, the poor are going to be worst affected. We have to mobilise society around what the threats are, and what the new forms of global economic development are.

350.org is mobilising for a day of action on 24 October, and the Vote Earth campaign culminates on 12 December. We need to pressure the finance ministers in the G20 meeting in Pittsburgh. We need domestic pressure for international leadership and local implementation.

One of the suggestions is to push for a review of the New Build programme in Eskom. If Eskom is declaring publicly that they will make a decision about a third power station in December, we should be raising hell about it now. We must not forget, though, that Eskom is just one bogey, and we also have Transnet and the transport sector.

As NGOs we know that the possibility of a great deal is really small, but we won't take the foot off the peddle and remember that if we emerge with a weak deal, it's not something we'll be comfortable with at all. So we're going to push for a tough deal and our fallback plan is to get an agreement that at least forms the basics of an architecture of a plan. However, we're not thinking of failing.

Putting nuclear back on the table

Profits, players and decisions

MIKE KANTEY

Coalition Against Nuclear Energy (CANE)

We have a challenge to prioritise campaigns and issues that we can take forward in the months before Copenhagen. Obviously I have a special brief in terms of nuclear energy.

The origins of nuclear energy are intimately tied to the origins of the nuclear weapons industry, and it was historical choices that drove the South African government's choice of nuclear technology.

In 1945 the world saw devastation at Hiroshima and Nagasaki. South Africa was involved in that because it supplied the uranium through the gold industry through the offices of Jan Smuts and the Manhattan project. In 1961 South Africa received a research reactor from the USA. In 1977 it embarked on a nuclear weapons programme, because we were 'subject to total onslaught from our northern borders'. In 1979 South Africa developed a medium-range missile that it tested with Israel near Prince Edward Islands.

PW Botha's nuclear industry obtained German and French support and the country saw the construction of the Koeberg Nuclear Power Station, Pelindaba and Valindaba, which were intended for fuel enrichment and fuel fabrication, as well as nuclear weapons production at Advena Central Laboratories, and the Vaalputs nuclear dump site.

In 1986, four new sites were chosen for nuclear power stations along the coastline: Thyspunt near Cape St Francis and Jeffreys Bay in the Eastern Cape; Bantamsklip near Gansbaai and Hermanus in the Western Cape; Schulpfontein, near Hondeklipbaai in Namaqualand; and Brazil, near Kommaggas in Namaqualand.

THE ROAD TO THE PBMR

- 1981–1986: Kelvin Kemm, a potential beneficiary of the PBMR through Silver Protea Technologies, is departmental head of Armscor from 1981 to 1986
- 1989: Johan Slabber joins Armscor electronic systems supplier Integrated Systems Technology (IST), along with other AEC staff members
- 1990: Armscor appoints IST to do a feasibility study on the PBMR as a source of propulsion in a nuclear submarine, under project leader Chris Oberholzer
- 1992: IST receives Armscor approval to investigate the PBMR's commercial potential through Dieter Matzner
- 1993 Eskom 'investigates' the PBMR option, claiming that 'building a new traditional Pressurised Water Reactor (PWR) such as Koeberg would be prohibitively expensive'.
- A 'new, traditional' PWR is precisely what they now propose to build in 'Nuclear-1'

GEAR: ALEC ERWIN

- 1994: The National Nuclear Policy Workshop, hosted by the ANC's Science and Technology Desk (then chaired by Roger Jardine, now head of nuclear build beneficiary Aveng), calls for review of the nuclear industry
- 1995: GEAR macro-economic policy chosen as sole determinant of industrial strategy, including the principles of 'mineral beneficiation' and the importance of 'foreign direct investment' (FDI), leading to the encouragement of energy-intensive large smelters and metal-working plants

- 1997: A Joint-Venture Agreement is signed between Eskom and IST Holdings (Pty) Ltd to 'build and license PBMR power plants in South Africa and other parts of the world'. The shares will be 51 per cent Eskom and 49 per cent IST.
- 1999: Alec Erwin becomes Minister of Trade and Industries and the PBMR's official champion along with Coega as DTT's flagship for an aluminium smelter, powered by the PBMR, with a further commitment to purchase 30 reactors (six each for the five designated sites), and a drive for export sales.

In 2001 a COSATU resolution that was passed unanimously at its 7th National Congress states: '...we call on government to make South Africa a nuclear-free zone, ending its funding of the Pebble Bed Modular Reactor and ensuring that the nuclear waste from Koeberg is not dumped in other parts of Africa'. It indicates the sentiment of the workers at the time, particularly those at Koeberg and in Namaqualand.

At that stage Earthlife Africa was on a roll, gathering allies throughout the country, and we were hoping for something of a victory, but what we didn't take into consideration was the influence of capital and foreign interest in shifting government to thinking in their favour.

REUEL KHOZA'S DOUBLE-HEADER

The leading players in the nuclear team

- Eskom Enterprises (30 per cent), IDC (25 per cent), Share British Nuclear Fuel Company (BNFL) of the UK (22,5 per cent) and Exelon Corporation of the US (12,5 per cent), but Exelon withdraws and BNFL is bought by Westinghouse
- Eskom's Reuel Khoza, also chair of Co-ordinated Network Investments, has 29 per cent of IST, awarded a contract by Eskom itself to design the fuel handling and storage, the reactivity control and shutdown, and the helium gas diffusion
- Construction to Murray & Roberts, in a joint venture with US company, Stone and Webster
- Basic design for nuclear fuel plant based at Pelindaba to Nukem GbmH
- Power conversion system to engineering faculty at Potchefstroom University (Gideon Greyvensten)
- The PBMR Environmental Impact Report (EIR) Final Report lists all its suppliers:
 - The pressure vessel from Skoda
 - The core structure from AEA-T
 - The core physics and accident analysis from FZJ

- The generators from Alstom
- The pipes and cooler from Balcke-Deurr
- The recuperator from Heatrix

So what you had until 2005 was a whole range of deals and cross 'arrangements' prior to any public consultation.

The French nuclear industry giant Areva was offered 'industry technology rights and co-operation' in the PBMR reactor programme. Areva says the deal could include fresh fuel supply, waste management and power transmission and distribution. CEO Anne Lauvegneon was appointed to President Mbeki's Economic Advisory Committee.

President Mbeki made a clear commitment to the nuclear industry in his State of the Nation Address on 8 January 2007. The Draft Nuclear Energy Policy and Strategy for the Republic of South Africa was only approved by Cabinet on 8 August 2007. The lack of adequate consultation led directly to the formation of the Coalition Against Nuclear Energy (CANE), whose founder members included the Namaqualand community, the Pelindaba Working Group and the Koeberg Alert Alliance.

As Deputy General-Secretary of the SACP, Jeremy Cronin, notes, 'The structures of the bureaucracy remain hostile to public participation and pressure ... Increasingly, policy is formed by directors general of government departments and their senior management, or even worse still, by external and very often private sector consultants from the European Union or North America'.

Prior to the 2008 economic crash, the PBMR having been fairly well abandoned in the short term, tenders were issued for either a Toshiba-Westinghouse AP1000 or an Areva EPR, then under stuttering construction in Finland. Projected costs of these monsters was then about R120 billion each. In his 2007 Budget Speech, Trevor Manuel warned that: 'In an economic discussion, it is not appropriate to throw numbers around without a sense of rigour or without some interrogation'. The London-based *Financial Times* stated that the '[UK] government's energy review team ... concludes that by 2020 nuclear power will remain more expensive than wind generation and about the same cost as electricity produced from power stations burning specialist green energy crops, unless electricity prices rise or it receives state financial help'.

The most important thing about the nuclear power economics is that it cannot survive without the support of the state. It is my contention that the increase in electricity tariffs is in anticipation of nuclear energy.

In December 2008, long-standing Eskom spokesman Tony Stott indicated that Eskom would no longer be driving the programme. 'The future of nuclear is bigger than just Eskom now ...The government will now play a

bigger role in taking it forward, because the nuclear build is important for the development of the country's capabilities'. Director-General of the Department of Public Enterprises, Portia Molefe, stated that a 'nuclear task team' would develop 'a framework for procuring a nuclear technology partner to support both the nuclear power station build programme, and the associated industrialisation process'. So essentially, the new deal is that we'll create our own technology but we'll be taught by someone else and that would provide jobs.

WHAT THE HIGH-FLYING BENEFICIARIES HAVE GAINED OR STAND TO GAIN

- High-paying jobs in government and the administration
- Executive positions on boards and management committees of nuclear-related industries, especially mining and mineral processing, metalworking and heavy engineering; electrical engineering; electronics, IT and systems control; environmental impact remediation and safety systems; 'stakeholder management', communications and public relations
- Share-holdings in these companies through other front companies and ownership schemes, including those held by blood relations, relations by marriage, or other intimate associates
- Overseas travel, expensive accommodation, and luxury banqueting

WHO STANDS TO LOSE IF THE NUCLEAR OPTION IS ABANDONED?

- The most obvious 'losers', if the nuclear energy policy is abandoned, are those beneficiaries mentioned above – especially if their interests have not taken alternative energy sources into consideration. Particularly hard hit will be PBMR (Pty) Ltd and related suppliers, such as M-Tech.
- A greater challenge is to retain the scientific and engineering expertise from selling their services abroad, where the enthusiasm for nuclear weapons and civilian nuclear power plants is greater than ours and where participatory democracy is non-existent.

It would make a lot of sense to keep the nuclear bomb chaps in the country and not export them to India or Pakistan. The fact that they're getting older now probably helps but there are a lot of new technicians, engineers, etc, who have been trained to get this programme off the ground. This presents a problem.

If we were to launch an assault, I would probably target the Department of Public Enterprises rather than Eskom. And we have to interrogate backwards through the EIA process, through the ROD, to get to the people who were responsible for this thing in the first place. If Eskom was a corporation and government was the only shareholder, then Public Enterprises is who is responsible, and that means Director-General Portia Molefe. However, the Department of Water and Environmental Affairs also has to approve an environmental impact assessment, and there is also the nuclear licensing process through the National Nuclear Regulator.

We have to ask these guys to explain what they're doing with our trust. It doesn't matter where we do it, but we must be doing it. So we wait for the draft EIA, and also a draft resolution from COSATU. However, it seems to me the whole deal is going to be done and dusted by 2010.

CIVIL SOCIETY AND PUBLIC INVOLVEMENT

- Earthlife Africa (especially the NECTEC Campaign) and then more recently CANE
- The Namakwaland Organisasie vir die Gemeenskap en Omgewing (NAGO)
- The Pelindaba Working Group
- The Save Bantamsklip Campaign
- For a Safer Tomorrow (FAST, at Thyspunt)
- Public involvement has been confined to parliamentary and provincial lobbying, media work (including public meetings) and the environmental impact assessment process, comprising a handful of reasonably informed people. Only around Bantamsklip and in Namaqualand have any significant sections of the working class and rural poor been drawn in
- Earthlife Africa (Johannesburg) and Pelindaba Working Group have been equally consistent in working with affected NECSA workers

Earthlife Africa has taken the lead, and members of the Save Bantamsklip Campaign are very productive, active and militant. Earthlife Africa Johannesburg and the Pelindaba Working Group have been particularly consistent in Gauteng.

We feel confidence on the public front, but the broader work is mainly confined to parliamentary work, media work and interrogating the EIA, so it's going to be very interesting to see how this social movement is going to play out.

There are deficits in transparency and accountability:

- The most obvious deficits are in the failure to release the feasibility studies for the PBMR, and the financial case for nuclear power in general
- A further problem is the absurd length and obfuscatory language of the ‘specialist’ reports – ‘embedded scientists’ would be a better term
- More often than not the ‘science’ is highly inaccurate and lacks objectivity, for the simple reason that no self-respecting scientist would bother to participate
- Much of the information selected and presented as ‘science’ is provided by Eskom and many of the scientists have been employed by it, or hope to be employed again, so there is no sense in their biting the hand that feeds them
- The decision-making process itself is equally opaque and no real public justification is ever given for decisions taken, other than vague generalities and abstractions: ‘It’s good for the country’, ‘it will create jobs’, and so on
- Politically no-one is ever held accountable, except to an ill-defined set of decision-makers that are hidden deep in the bowels of Luthuli House, government and the administration. We don’t know how these decisions are taken, because we are not privileged enough to be ‘in the know’
- Rewards are held back for those who are willing to ‘toe the party line’ and – if ever one should stand against the nuclear policy – one is simply removed from office, or the Parliamentary or Provincial ‘list’, even of office in COSATU and the Communist Party itself.

CANE and its members are completely opposed to nuclear power. However, now that we have Koeberg, Vaalpits and Pelindaba, we have to deal with them, even if the nuclear industry grinds to a halt tomorrow. It is an international scandal that they’re dumping nuclear waste in Namaqualand – the backyard of indigenous peoples – and it should be halted with immediate effect. So we still have a role to play in monitoring the industry. The National Nuclear Regulator must be strengthened and held accountable to civil society and we want to interdict the Minister of Energy on some issues.

And there are alternatives to nuclear power.

CONTRIBUTIONS FROM THE ROOM

- We are talking about a very corrupt system – we’re aware corruption is on the rise and it’s been around for a long time, not only in the nuclear sector, and the money being thrown around here is ten times bigger than the arms deal, and we need to be exposing this

and engaging with it. If public participation processes are not working and government is not listening, perhaps an exposé around corruption might help.

- The numbers of people who are able to build nuclear power stations are dwindling so if we’re looking to new build, we are looking at something unsafe because the knowledge base is very young.
- Koeberg’s high-level waste storage tank is full.
- We need to hammer the economics of nuclear because they can’t hide those figures. With the money that would be going to Areva, we could have complete roll-out of solar water heaters, 3 500 MW wind, and 30 concentrated solar thermal plants, all for that price. Three quarters of Eskom’s total budget is to be spent on nuclear – that is extraordinary.
- It’s very important to understand that we are very much part and parcel of the nexus relating to the G8 countries. In 2001 a US conference on PBMR developed a media strategy to promote nuclear on the back of the PBMR, and within 30 days of that conference, there was a front page cover in some significant papers. They discussed doing it at this conference and got it right within a month. Syndicated articles show that it’s the global industry at work to convince South Africans about nuclear.
- The saddest thing in South Africa is the disintegration of labour politics.
- We’re proposing rapid mobilisation of civil society movements, and creating an opportunity for concrete change in governance in South Africa. We want to fight for democracy. And it is really important to get the government we deserve.
- There is a rumour that COSATU will pass a resolution on nuclear – but there’s apparently no plan for that. NUMSA and SAMWU would definitely vote against it. It seems COSATU remains on the anti-nuclear track, so there’s no panic at the moment.
- There is no civil society representative on the National Nuclear Regulator and the Director General in the Department of Energy is just sitting on the nominations. Mike Kantey was nominated to be a civil society representative and I suggest that we demand from the Ministry that there is a civil society representative appointed, and one that is nominated by civil society.

The true cost of coal

Price escalations, land grabs and water shortages

MARIETTE LIEFFERINK

Federation for a Sustainable Environment (FSE)

The Witwatersrand has been mined for more than a century. It is the world's largest gold and uranium mining basin with extraction, from more than 120 mines, of 43 500 tons of gold in one century and 73 000 tons of uranium between 1953 and 1995. The Witwatersrand mining basin covers an area of 1 600 km², has some 400 km² of mine tailings dams and six billion tons of pyrite tailings containing low-grade uranium. It comprises the Far East Basin, Central Rand Basin, Western Basin, Far Western Basin (KOSH) and the Free State gold mines.

Waste from gold mines constitutes the largest single source of waste and pollution in South Africa. Acid mine drainage (AMD) is responsible for the most costly environmental and socio-economic impacts. Production of AMD may continue for many years after mines are closed and tailings dams decommissioned. AMD is not only associated with surface and groundwater pollution but also with degradation of soil quality, harming aquatic sediments and fauna, and allowing heavy metals to seep into the environment.

AMD has been estimated to be the greatest ecological risk next to global warming. If indeed the extent of '... problems related to mining waste may be rated as second only to global warming and stratospheric ozone depletion in terms of ecological risk' (EEB, 2000), then the Witwatersrand gold mining area of South Africa is at serious risk.

AMD is common to gold, coal and uranium mining. It has a pH of 2.2, equal to battery acid, and contains a cocktail of toxic and radioactive heavy metals. It pollutes water and soil and affects aquatic and terrestrial fauna and flora. Long-term exposure to AMD-polluted drinking water may lead to increased rates of cancer, decreased cognitive function and appearance of skin lesions. Heavy metals in drinking water could compromise foetal neural

development, which can result in mental retardation. There are also severe socio-economic problems, especially when low-cost houses are built on the footprints of or adjacent to tailings dams.

These impacts are not on the balance sheets of the mining companies. It is the communities who carry the costs. And AMD continues not for decades, but for centuries. Tailings dams will continue to generate AMD for centuries.

In 2002 in the Krugersdorp-Randfontein area water started to decant from a number of shafts into the Tweelopiespruit and the Wonderfonteinpruit. The water had a pH of 2.2 (normal pH is 7.3). The combination of the pH and redox-driven reactions resulted in a measured uranium concentration in the Robinson Lake of 16mg/l, and resulted in the National Nuclear Regulator (NNR) declaring the lake a radiation area. The background U concentration in water is 0,0004mg/l. In terms of the DWAF regulations for drinking water, the U concentration should not exceed 0.07mg/l and for irrigation, 0.01mg/l.

The decanting volume is currently between 18 and 36 ml/day. An unqualified volume still escapes downstream. There is accelerated void formation in the dolomite of the Zwartkrans compartment. The void created by the mine void water is 8 960m³ and was formed in only 2,5 years. The Wondercave was formed over a period of millions of years. There are people living and operating businesses in the area, and these people should be warned about the potential ground instability there. The potential greatest disaster could occur if part of the N14 roadway collapses. This road carries a high traffic load, as it is the main arterial link between Johannesburg and Botswana.

In the past, slimes dams were placed on dolomite, and this is now seeping into groundwater, so it is better to remove them from dolomitic areas. At Wonderfontein,

they are processing the slimes dams but not remediating their footprint. So now there are two sources and the atmospheric pollution is unbelievable. Those tailings contain toxic and radioactive metals. There is poor management and monitoring of large slimes dams – and it is outsourced to watchdogs in civil society because government is incapacitated.

What you see here will have a far greater impact in the coal fields in Mpumalanga. This is in fact minor compared to what will happen in Mpumalanga.

The Mpumalanga highveld has been extensively mined for 80 years and the impact on water resources is clear. With 100 per cent of water already allocated and even over-allocated, the time has come for serious and targeted action to protect the water resources in order to maintain sustainable socio-economic development.

The escarpment has the highest rainfall and low evapotranspiration. It is the source and an important feeder area of the Vaal, Komati, Olifants, Usuthu and Pongola rivers. Four thousand four hundred mining applications are lodged in the province, and many have been granted in the catchments of these rivers. That whole area has already been divided for mining and prospecting rights and no provisions have been made for treatment of AMD.

There is a perfect storm in the making in the highveld due to the merging of unrelated yet interlinked factors that will spell devastation for the socio-economic viability and growth of the entire area:

- Climate: highest rainfall, lowest evaporation
- Physical geography: major rivers, except Limpopo. Catchment transfers: catchments interdependent
- Surface and ground water hydrology: Karoo bedrock, regolith (porous), plinthite (impermeable) – three different aquifers (above plinthite layer – perched aquifer)
- Geology: 50 per cent coal from the Highveld
- Anthropogenic factors: coal mining methods (board and pillar, long walling, open cast)
- Environmental chemistry: underground fires, collapsing ground and AMD

If water in Mpumalanga is compromised, it will affect the economy in the west of the country because water flows from this province into the west. I work among the poorest communities – water is a basic need – but our water is heavily threatened.

The social costs are severe because of reduced water quality, impacts on crops and cattle, and reduced livelihoods because of compromised ecosystem security. AMD affects crops and food security. People use contaminated water for drinking, rituals, baptising, swimming and irrigation. Wetlands are sinks for heavy metals, but farmers

plough them up for crops – in many cases they have nowhere else to farm. Crops bioaccumulate these chemicals and humans and cattle swallow the particles. Many people use the sediments with their elevated uranium levels for mud cakes to fill nutrient deficiencies in women and children. Cattle also churn up particles when they drink and this finds its way into milk and meat. Thirty-four per cent of mine applications are on land under land claims. The land claims are not settled before mining begins. Vegetation cannot survive AMD. The high aluminium content means there is significant fish death in the Olifants as well as eutrophication, and the deaths of buffalo and crocodiles.

Even Eskom is concerned about the water quality: the pollution load as a result of AMD adds to the increasing expense of generating electricity. Eskom needs water of exceedingly high quality to generate power, and currently water from the Komati and Usuthu, of high quality, is being pumped to Witbank for use by Eskom. It is estimated by the Department of Water Affairs and Eskom that by 2014–2018, the Grootdraai dam will not be able to supply the required rate of assurance. The Komati went past that point in 2005. Pollution levels are rising, but the real impact will come when large opencast mines are closed and start to leach polluted water.

Conventional pricing methods do not account for the full economic costs for the use and extraction of coal especially the externalities of the combustion of coal. If the full costs were taken into the balance sheets, then coal mining would be unaffordable.

The integrity of dams is already compromised and if we are looking at 4 400 new applications, it means we will have to use clean water from elsewhere to dilute this dirty water. However, where will this clean water come from? There is almost nowhere in Mpumalanga that will not be mined.

Pristine water resources are contaminated by AMD. In many areas wetlands are the only solution for removing pollutants from water, but they are passive measures. Sediments in dams also store heavy metals and this means that these sediments cannot ever be removed or released from the dams. It is important that these pollutants are not remobilised through wetland degradation. However, there is also poor institutional memory because of heavy staff turnover, especially in the Department of Water Affairs.

We've tried to mobilise government to make a decision about treating AMD. It will now be treated by a process called ABC – Alkaline, Berium and Carbonate process. However, the infrastructure must be funded by the mines, not the communities. At present a London company, Western Utility, is funding it and this is the only option available. The proposal is to treat water to industrial

quality, then send it to mines; what is not used for industry will then be used by Rand Water for potable use. Rand Water will not purchase toxic water.

The third international mine seminar proposed alternatives to how we do things. In South Africa communities are situated on mine land adjacent to mine dams. Overseas, no human habitation is allowed in these areas. The Chamber of Mines calls for a 500m buffer zone between slimes dams and communities. That also needs to be looked at.

We are not against mining because if mining stops, there will not be profits for rehabilitation of the impacts of the last 120 years. Employment is also important. However, there has been a paradigm shift – after 120 years, a team of experts has been appointed to identify hotspots and mines are being directed to clean up. They start with the radiological issues because of the alarmist reports, but the next step is to deal with uranium, which is a stronger toxin.

WHAT WE WANT

- A moratorium on new mining on the Vaal, Usuthu and Komati catchments
- A massive research project to develop mitigation measures
- If economically viable mitigation measures cannot be found, then the remaining coal in these catchments should not be mined

With regards to ecological debt, the ‘polluter pays’ principle is an intrinsic part of the National Water Act and the National Environmental Management Act. However, that established a negative legal precedent. I have been lobbying for a retroactive approach, i.e. if a mine caused damage prior to the law, who should pay? The community or the mines? It is not unfair to ask the mines to pay.

A new Amendment Bill was passed in Parliament that stated that the polluter pays principle must be applied retrospectively.

There is a massive synergy between campaigns and there needs to be linkages of campaigns, but we are overwhelmed, under capacitated and underfunded. For example, I have identified 36 communities for community awareness but it has taken the mines a year and a half to approve ZAR300 000 for a five-year campaign. NGOs are paralysed without funding and have to look to the polluters to pay. There are communities that are being provided with water, but not with food. All epidemiological studies done have been locked away. There is no health data and we only have the overwhelming cases of cancer and retardation as a reference.

People even joke: ‘If a child can count to ten, he was not born in Carltonville’.

Coal mining in Mpumalanga has enormous implications for our water and for the poor of our country.

Big renewables, carbon capture and storage, and green jobs

ANDREW MARQUARD
Energy Research Centre

This session deals with technology fixes and the associated costs that we can look at to deal with the energy situation in South Africa.

Firstly, we need to widen the concept of technology. The narrow – and more orthodox – definition is that it's about big machines, new plants, etc. However, there is a much broader definition that is also about supporting infrastructure, industrial complexes, institutions, governance systems, etc. In energy systems this stretches from demand to supply and in many ways this is just one technology complex. There are many excellent – and cheap – technology options already available. Some, like concentrated solar thermal (CST), need more research and development, but a lot of what is necessary for reducing demand and the associated pollution, and increasing welfare for households, is already available. However, issues around the enabling environment need to be dealt with.

Technology pathways are difficult to change, so whatever path we set out on now, we need to be certain about. Once we start, it will be much more difficult to change. This means there are questions of long-term strategies as well and a whole range of policy and government activity that is needed.

The South African system is based on the MEC. There is a close relationship between mineral extraction and processing, cheap electricity, export of metals, etc., and the result of this is that we have an industrial rather than a civic system. This has distorted our energy economy. Cheap energy is like an addictive drug. As a result, there is a massive misallocation of societal resources for decades. South Africa has one of the most energy-inefficient and energy-intensive industrial sectors in the world: we are probably wasting up to 40 per cent of the energy we produce at present. For example, a large government

building was found to be using more than half of its energy during the night because of a cooling-heating system that effectively warmed and cooled an empty building even when people were not in it.

If business continues as usual in the country, we will need a three and a half times increase in coal use by 2050, and a similar increase in our greenhouse gas emissions will result, with much of it coming from electricity production. The most ambitious scenario in the LTMS describes a pathway of greenhouse gas emissions that keeps emissions to more or less what they are today. However, this is not enough.

If you plot the human development index (HDI) versus electricity use per capita for all countries, it is clear that electricity production in South Africa is not contributing to human development in the same way that it does in other countries. We are using vast amounts of electricity but there is not a significant beneficial impact on human development.

South Africa ranks higher than Mexico, China and India in terms of per capita CO₂ produced. South Africa's carbon dioxide emissions per capita (excluding land use, land use change and forestry) is higher than the global average and higher than Brazil and China. South Africa effectively exports a third of the emissions it produces.

South Africa does not yet have regulations on greenhouse gases, but the Department of Environmental Affairs is planning to introduce them. There are regulations for other emissions but not for CO₂. It is a valuable process that had input from many stakeholders, but it was the participation of the emitters that enabled them to go as far as they did.

We also need a thorough study on the externalities for South African power generation. They are massive and would probably render coal uneconomical. Other fuels

such as paraffin also have high externalities. However, from a power planning point of view, externalities are difficult to apply.

So what can we do to fix the energy system in South Africa?

We can intervene on both the demand side and the supply side. On the supply side, the cheapest renewable option is wind. We can build 20–30 GW of wind-power sources, mostly in the Western Cape, which has an availability of above 20 per cent and is close to existing infrastructure. Currently, there are plans to build 2.8 GW and we could meet our 2013 RE target largely from that. However, there are currently a few barriers to investment in wind power.

Concentrated Solar Thermal (CSTP) is immature, but proven. It is expensive but there is more long-term potential. The motor industry is interested in using spare capacity at their plants to produce solar thermal components. We could become a world leader in this technology if we start to export.

Carbon Capture and Storage (CCS) and nuclear are more or less within our current technological framework, which is why they are so appealing. These technologies, especially CCS, have no co-benefits other than reducing climate change impacts, and they effectively increase costs by a third to a half. The nuclear technology complex looks very bad (see Mike Kantey's presentation on previous pages). Whether CCS is viable in South Africa is still unknown, and even if it is, the non-climate impacts of coal production, e.g. acid mine drainage, would still occur.

There are options for large-scale hydro-electric plants throughout Africa, but there are numerous issues around large dams, which would need to be resolved. Clean coal has very few benefits and there is only a small improvement in efficiency.

In the medium- to small-scale range of options, co-generation has not been exploited because of regulatory issues, but it could increase efficiency of fuel use by 150 per cent in certain applications. Biomass, biogas, etc are being explored and there are benefits for local development through programmes such as Working for Energy and the National Sustainable Housing Initiative. Solar water heaters are a no-brainer, but we need massive rollout and local industry buy-in. There are also urban planning and transport-related issues, such as Bus Rapid Transport systems and bicycles.

However, in the short term, energy efficiency and demand-side management are the cheapest ways to save electricity and there are many opportunities to generate 'negawatts'. We need to change the base for the regulation system so that it provides incentives to Eskom to sell less power. A revenue cap system is an example of a system

that can promote energy efficiency and demand-side management.

In countries that have imposed a carbon tax, they have also made deals with energy-intensive industries exposed to international competition to impose a lower tax if they implement energy efficiency. Three things can be done in South Africa as regards energy efficiency:

1. Changing the way you run the plant can probably save 10 per cent of electricity in most South African companies
2. Techno fixes with short payback times, of up to two years.
3. Big investments where one would have to rebuild part of the plant

In the short term, much higher electricity prices would have a major effect on energy efficiency. For instance, case studies of the motor industry have revealed that even though there is the potential to save massive amounts of electricity, they did not do it because management did not see energy saving as a performance goal. Industries such as smelters or cement kilns will need some mechanism to reduce energy consumption because at present they are just wasting our national assets.

There are many examples of good energy systems. Denmark can now produce over 50 per cent of its electricity from wind on certain days, and this industry is also a major source of employment. Concentrated Solar Thermal has been running successfully in Spain for several years. Our solar resources are much better than Spain's – we have really good sun, so if it is feasible in Spain, it will be much more so here. China has built up their RE industry in a very short time. There are also many lower-tech options, such as variable speed drives, ceiling insulation, washing lines, insulated windows, green cars, etc.

The best example of transformation in terms of the urban transport is the rapid bus system in Bogota, Columbia. They had a large taxi industry, dominated by five families, and they spent two years in engagement with the key stakeholders to build them into a bus rapid transport system, with the core owned essentially by the same people who owned the taxis. The infrastructure was built and owned by the municipality. Stakeholders in the old system are stakeholders in the new system. It was a demonstration that it is possible to run a transition successfully.

Coal is still the cheapest option on purely financial terms – so, if we want to make these changes, it will need to be phased in over a few years. The state utility is locked into a particular technology and there is resistance to exploring other technologies, so alternative technologies are being explored through private investments. People are

interested in not having a state monopoly, and we need to ditch the monolithic central system, or regulate the utility in a different way. The incentives that Eskom has been given in terms of RE are not sufficient. The Renewable Energy Feed-In Tariff (REFIT) is the best option. We need to re-examine the relationship between the state and the public utility.

If we built RE and implemented energy efficiency, we might not need Kusile.

The cost of implementing RE is relatively low if a carbon price is included. If not, it can be up to 15 per cent higher, but has a much higher investment requirement. If demand-side management is included, it is considerably lower.

The LTMS was run over 50 years, which is long term, and it didn't calculate the impact on the electricity tariff. If we just replace coal with RE then it is more expensive, but if we run RE with energy efficiency, then it is a lot cheaper. RE on its own is still more expensive than the business-as-usual scenario. For WWF-SA, we calculated a proxy price for electricity generation from a renewable option by 2015. The electricity price would roughly double if we built coal only. If we met a 15 per cent renewables target by 2020, then the price would be 15 per cent higher than it would be with just coal. With energy efficiency, it becomes significantly cheaper than the baseline.

We need to look not only at fixing one part of the system but also at industrial strategy, development pathways, etc, and we should also be looking at who should be responsible for these actions.

WHAT NEXT?

- The technical potential exists – we need to create an enabling environment
- We need an integrated approach for cost-effective implementation
- It should happen in the context of a shift in development paths – just shifting to renewables will be a very sub-optimal solution
- Who will do this? Eskom? IPPs?
- The Copenhagen agreement will have a massive impact – what finance is available, what we are obliged to do and when?
- There will be socio-economic impacts from higher energy prices. Three things need to be managed to avoid disaster/derailment:
 1. There should be a proper integrated approach to energy poverty, which includes more free energy and better general welfare benefits. A step tariff may be part of the solution.
 2. There should be interrogation of how to deal with energy-intensive industries.
 3. The impacts of moving to a high-priced energy economy should be mitigated through measure such as energy efficiency, differentiation of energy services, urban design, industrial strategy, etc.

Energy and electricity need new sorts of governance and we need to look at energy planning and interrogate who decides what goes into the national energy strategy and who finally approves that plan.

Shell energy scenarios to 2050

RODGER DUFFETT

Association for Peak Oil

Peak oil is not about losing a product. Its impacts are far more subtle than that and the consequences in terms of energy outlook are far more pervasive. As we are going up the energy curve, things are good for business but bad for anyone looking at the impacts. As we go downhill, the game changes for business. We frame this with a mindset that business will be continuing as usual.

During 2008, oil prices rose significantly and suddenly we saw a need to be more imaginative and think in terms of nonlinear systems. There are two areas of concern that are tied closely to the economy: energy and climate change.

The economic crash in 2008 was a multifactor process, but one of the factors was the high energy prices. It is likely that that boom-bust cycle will happen again.

The Shell 2050 scenarios are not predictions for the future, but tools for helping us think about what the future might look like by understanding the nature and impact of the most uncertain and important driving forces affecting our world.

The scenarios are available on www.well.com/~mb/scenario_planning

There are two scenarios in the Association for Peak Oil (ASPO) energy futures document :

1. Fragmentation: The world and South Africa continue on a business-as-usual path until interrupted by a major shock. This could be cyclical.
2. Renaissance: There is leadership from the top and a sustainable development strategy is put into place, initiated by the President and communicated effectively to the nation and the world.

The Shell Scenario to 2050 document states: 'Never before has humanity faced such a challenging outlook for energy

and the planet. This can be summed up in five words: more energy, less carbon dioxide'. Maybe what is interesting about this is who is saying it. This is a major oil player predicting an energy crisis and showing concern about climate change.

There are three basic premises:

1. Step-change in energy use
2. Supply will struggle to keep pace
3. Environmental stresses are increasing

SCENARIO 1 IS CALLED 'SCRAMBLE'

There could be a situation where everyone looks after their own interests:

- A focus on national energy security, e.g. countries taking care of their own constituents. The result is that it is difficult to plan and make changes on a global scale. This will affect coal – will South Africa make a strategic change looking at reducing polluting sectors of mining industry?
- Climate change action deferred (550 ppm by 2050).
- This will be characterised by local and global tensions and fragmented action
- Energy resources
 - 'OPEC has learned from the price increases since 2004 that the world can absorb higher energy prices relatively easily'
 - Resource holders rule : If you have it you're better off. Oil producing countries have the oil and are therefore in a strong position, but it is not unmitigated because they want to continue selling their oil. They are already dollar-rich, so that places them in a strong position

- Flight into coal, tar sands and other dirty sources
- Late revival of nuclear. This is not good news because the late revival means higher carbon output
- Food security
 - Competition from agrofuels
 - New colonisation of the Third World to grow biofuels. The best illustration is Madagascar, and Mozambique is also targeted
- Renewables
 - By 2030 economic growth returns. There is a clear disjunction between what they are presenting and any impact. Carbon goes up and nothing happens. Energy resources go down and nothing happens.
 - However, there is still preparation for the impact of climate change

SCENARIO 2 IS CALLED 'BLUEPRINTS'

- Coalitions of interest
- Local initiatives link up
- Market-driven CO₂ management practices are introduced
- US implements measures, China and India implement measures
- Alignment globally

Blueprints and the Third World :

- OPEC keeps prices down by raising production and this mitigates impact on the Third World
- Renewables (wind, solar) will be rolled out into developing countries and rural areas
- Electrification is important – it allows nations to enter the plateau of oil production without the shocks that they would otherwise experience. It is slightly schizophrenic to think that OPEC will keep prices down

when oil is depleting and then say that electrification will moderate the effects of a scarce resource

- Electrons, not molecules – economic growth no longer relies mainly on an increase in fossil fuel use but from coal vial carbon capture and storage
- Nuclear enters the picture early
- The energy mix improves, but still primarily from dirty sources

With regards to climate change, while electrification and capture and storage are part of the scenario, the parameters will limit greenhouse gas concentrations to 450 ppm. The science is saying that this is still too high. However, it is challenging to achieve and will require an explosive pace of industrial change.

Shell should be praised for putting this document into the public domain. The public should think more about who is producing this document – this is not a traditional environmental body.

CRITIQUES

- Will there be enough fossil fuel to drive either scenario. Are they achievable?
- Neither scenario takes cognisance of the impacts of climate change, and 450 ppm CO₂e could be too high.

Jeroen van der Veer, CEO Shell, said (22 January 2009):

The world faces a long voyage before it reaches a low-carbon energy system. Companies can suggest possible routes to get there, but governments are in the driving seat. And governments will determine whether we should prepare for a bitter competition or a true team effort.

Research on Eskom and the World Bank

SIZIWE KHANYILE

groundWork

groundWork's climate change focus is mainly to understand energy and how the 'quest for energy' by the South African government is taking us down an unsustainable path. As part of Friends of the Earth International (FoEI) we found that the World Bank's proposed loan to Eskom could feed into the FoEI programme on Climate Justice and Energy (CJE).

We are using the opportunity of the loan to highlight two things:

1. The irony of the World Bank trying to display itself as 'green', while it still actively 'pushes' the fossil fuel industry.
2. The ongoing position by the South African government to continually promote fossil fuels as a means of energy that the 'people' eventually will pay for, while it enhances the profits of corporations, and how this will never get us as a country to meaningfully play a role in addressing our climate change impact.

The World Bank is negotiating with South Africa to lend up to US\$5 billion – around ZAR50 billion – for the state-owned power utility Eskom's 'New Build' programme.

Globally, the Bank has claimed a leading position on funding sustainable development and addressing climate change in particular. Among other things, the bank manages the Global Environment Facility (GEF) in partnership with the United Nations Environment Programme (UNEP) and the UN Development Programme (UNDP) and is a key player in developing the global carbon market.

According to the Bank, the purpose of the loan is to help Eskom and the electricity sector 'achieve financial stability, increase generation capacity and efficiency, and

adopt a low-carbon trajectory'. There is nothing 'low carbon' about Eskom's New Build, which is based on carbon-intensive coal-fired power. Nor does 'financial stability' seem likely except perhaps at the cost of the country's stability.

Thus far, the major source of funding is Eskom's single 'shareholder' – the South African government. In February 2008, Finance Minister Trevor Manuel announced a ZAR60 billion (US\$6 billion) 'subordinated' loan to Eskom from the South African Treasury. In 2009, the loan was supplemented by Treasury guarantees for a further ZAR176 billion of Eskom debt. This would cover the World Bank loan as well as commercial loans. The only money that government is not standing surety for is a US\$500 million (ZAR5 billion) loan from the African Development Bank (AfDB) which was signed off in November 2008.

The actual size of the World Bank loan is still to be finalised. The Bank is not commenting but something between US\$2 and US\$5 billion appears to be under discussion. US\$5 billion is more than double the Bank's global lending for renewable energy. And even at US\$2 billion, this would represent the largest single loan ever made by the Bank to any African country.

Despite voluntarily adopting the policies of the Washington consensus, the South African government has hitherto avoided major World Bank loans for fear of having those same policies imposed on it. In mentioning the loan, Zoellick (the World Bank president) was thus signalling that the Bank's political credibility was restored and/or that no country could afford to avoid it. The New Build programme will be ZAR130 billion short even with investors coming to the table.

The New Build programme is required to meet the demands of mining and industry, not household demand. Its cost, however, is to be shared between all customers.

At least, that is the impression given to the public. However, Eskom sells to energy intensive industries such as metal smelters under long-term supply contracts at heavily reduced rates. Earthlife Africa argues that these industries may be exempt from the price rises but, since the contracts are secret, there is no way of verifying this. The urgent and contested questions are: Who pays the costs, including the environmental costs? Who gets the benefits of Eskom's New Build?

THE WORLD BANK IN SOUTH AFRICA

In the 1950s, the World Bank lent Eskom money for a round of power-plant building. After 1966, the Bank claims it did not lend money to South Africa until the political transition of the 1990s was underway. However, the Bank drove investment in the Lesotho Highlands Project in the 1980s. In formal terms, the loan was to Lesotho. In real terms, the project was negotiated behind the scenes with South Africa. Its primary purpose was to secure clean water for industrial expansion in the economic heartlands around Johannesburg. The water was needed not merely because there was not enough. It was also because mining and industry had fouled local water sources to the point where it was unusable even in industrial processes.

In 2000, the Bank initiated the Extractive Industries Review in response to mounting criticism from civil society organisations that its lending to oil, gas and mining projects contradicted its stated mission of alleviating poverty. The review came back with the 'wrong' answer. It found that poverty alleviation was neither the

goal nor the outcome of the Bank's lending and recommended phasing out funding for oil and coal and focusing on sustainable energy.

The Bank ignored the review and increased funding for oil, gas, and coal projects.

COSTS OF NEW BUILD – CHANGING FIGURES

2004: ZAR87 billion (five year)

2005: ZAR150 billion (five year)

2007: ZAR244.5 billion (no time frame)

2009: ZAR385 Billion (not all costs) (nearly half of all Treasury's infrastructure spending)

To ensure that the money is found for this, there is an ongoing struggle between Eskom, Nersa and society at large as Eskom tries to increase tariffs by as much as 90 per cent. This year we are sitting with a 34 per cent increase finally agreed.

Eskom is bound by the hip to coal for the next 40–60 years. Coal will follow oil prices – despite there been more coal reserves available. South Africa has during these times been downgraded by credit agencies and the only way money is accessible now is through the World Bank. This lends some political credit to the Bank and its fiddling in southern economies. Building more power stations takes us deeper into debt, and this time debt to the World Bank, and on this occasion we will be **forced** to make 'structural adjustments to secure repayments'.

South African citizens will pay for the cost of this loan.

Conclusion

Participants of the Energy Caucus broke up into smaller discussion groups to tackle some key questions around energy governance in South Africa and the issues raised during the presentations. Each group then submitted key points underlining thinking about the way forward for campaigns and issues.

FEEDBACK FROM DISCUSSIONS AND WAY FORWARD

Eight Positions were put forward to take to G8 Leaders (suggested by Mike Kantey), and yet to be agreed on by the EC caucus, possibly at the next meeting:

- Integrated energy planning
- Full disclosure of costs and risks
 - Full participation in decisions
 - Commitment to renewable
- Decentralisation of energy production
 - Less reliance on the grid
 - Two-way metering so that small users can sell their surplus
- Greater energy efficiency
 - Compulsory energy appliance labelling
- Affordable energy
 - Free, basic energy for all
 - Step-block tariff
- Integrated public transport
 - Moving away from petrol
- Phase out coal and implement mitigation in the short term
 - Carbon offsets
 - Carbon Heat and Power (CHP)
 - Fluidised bed combustion

- NO nukes!
 - No more production of nuclear waste
 - Look after existing nuclear waste above ground
- NO big dams!
 - Only micro-hydro systems
 - Only run-of-river, or small-scale pumped storage schemes

The EC to call for a meeting with the Portfolio Committee on Public Enterprises and the Minister of the Department of Public Enterprises to discuss:

- No nuclear
- Decommmercialisation of Eskom governance
- Renewable energy investment (jobs, economies)
 1. Trusha to draft and circulate letter to Department of Public Enterprises, calling for a meeting in September.
 2. Patrick to organise meeting the Portfolio Committee by October accompanied by media awareness.

The EC to call for a meeting with the Department of Energy and National Nuclear Regulator to discuss civil society representation on the NNR, particularly their response to Mike Kantey as the nomination from the Energy Caucus.

1. Tristen to draft and circulate letters by September, and if successful, Mike to report to EC.
2. Mike Kantey to invite a spokesperson from the Department of Energy to meet with the caucus.

The EC to develop a roadmap of an energy future aiming for:

- A low to zero carbon sustainable economy
- Energy efficiency
- Move away from liquid fuels to a predominantly electricity-based economy
- A strong move away from big coal and nuclear power plants
- Support for biofuels (NOT agrofuels) to provide the necessary liquid fuels, but with farming adapting to use less fertiliser, etc
- Promote the cradle to cradle concept – no waste

Max and Rod to lead the discussions. This will need strong lobbyists on the ground to support the actions, will need to ensure this is not done in isolation. All actions must be reported to EC.

ADDITIONAL ISSUES TO BE TACKLED:

- Tackle Nersa using PAIA regarding the confidentiality around the Eskom tariff increases
- Capacity building in civil society and the media
- Meet with the Speaker of Parliament about New Build and power purchase agreements
- Need a press statement about this meeting of the EC
- Engage with the call from the President of the ANC Youth League to nationalise mines

- Our demands around ecological debt need to be clear and to relate to other struggles in South Africa. Engagement with government is not necessarily pointless, so it is important for government to facilitate processes where industry, government and affected people engage
- Need to internalise health/environmental externalities in the electricity generation costs
- NEMA: Upfront rehabilitation costs are legislated for but not in practice
- Ensure that government does not take on the responsibility to solve corporate problems with taxpayers' money
- Investigate claims that historical responsibility should not mean current responsibility: Is there a degree of impossibility to rehabilitate with mining?
- Urgent need for retrospective polluter pays principle but need to ensure it takes place during corporations' lifetimes
- **No profit** if polluting – ring fence for compensation, research and alternatives, e.g. RE and Eskom
- Need stricter policies and enforcement
- Need triple bottom line accounting – financial, environmental and social
- Ecological debt owed for mitigation and adaptation
- Public awareness campaigns

Appendix A

Principles of the South African Civil Society Energy Caucus

As amended at Energy Caucus meeting 14 April 2005

DEFINING PRINCIPLES

1. Call for a just transition to sustainable energy (includes no net job loss, affordability, accessibility and minimisation of pollution)
2. Access to basic energy services is recognised as a human right
3. Call for free energy services for basic needs, allocated per person, recognising survival strategies
4. Call for an energy services needs approach to energy policy
5. A holistic approach to energy, supporting and exploring alternatives rather than over-emphasis on electricity
6. Reject privatisation of state assets in the energy sector
7. Fair and equitable access to the transmission and distribution network, with two-way metering
8. Promote putting a value to natural resources that reflects their true value to society
9. Internalisation of the externalised costs of energy production
10. Full cost accounting in the energy sector, including full lifecycle analysis with comprehensive assessment of the energy balance in energy planning and project assessments
11. We call for policies and measures to improve energy efficiency
12. Promote local content, ownership and participation in energy developments
13. Reject large dams, based on World Commission on Dams (WCD) definition of large dams, and call for implementation of the guidelines of the WCD
14. Reject waste incineration
15. Opposed to nuclear power
16. Ensuring communities have a voice in provision of household energy and all energy policies
17. Call for a stepped block tariff
18. Support integrated public transport
19. Support investigation of biomass-based additives as a replacement for heavy metal additives in transport fuel
20. Call for the implementation of the 'polluter pays' principle
21. Call for application of cradle-to-cradle responsibility and liability
22. Call for corporate accountability and transparency
23. Opposed to outsourcing of labour (in dirty industry)
24. National Key Points Act should not be used to block access to information
25. Emissions and impact data must not be withheld as proprietary information
26. Opposed to gagging orders and/or suppression of testimony of workers or local communities.
27. Worker health and safety should never be compromised
28. Call for rationalisation of tariffs to promote equity
29. Call for phasing out of coal and oil within a just transition to sustainable energy, without losing jobs or generating negative social impacts
30. Oppose geological disposal/ repository of radioactive waste and support above-ground monitored storage
31. Call for decentralised energy provision, including producing energy as close as possible to demand
32. We call for and will work to empower and promote women's voices and participation in energy decision-making and provision
33. Recognise indigenous knowledge and energy service options that may not be fashionable and call for greater support of off-grid non electrical options (OGNEOs)

RESOLUTION

Adopted on 17 February 2006, Booyens Hotel

Consistent with the Principles of the South African civil society Energy Caucus (EC), the EC participants call on the Department of Minerals and Energy to consider a suite of public benefits, particularly job creation, equity and poverty reduction, as a primary driver of one of the scenarios to be modelled as part of the Integrated Energy Planning process. We further call for a timeline of at least 30 years to be used in the scenario modelling process.

TARGETS

- Fifty per cent of total energy supply from renewable energy by 2050
- A target for solar water heating (SWH), for example, half a square meter per person SWH within 10 years, one square metre per person within 20 years
- Support developing a target for bio-fuel production

COMMITMENTS

- Work on a local level to develop energy policies that support the poor and indigent, based on real evidence of the impact of current energy policies

SECONDARY PRINCIPLES

- Support the subsidisation of renewable energy within a just transition by shifting current subsidies (part of full cost accounting)
- Support equitable access to distribution and transmission networks

POLICIES AND MEASURES THAT ARE CALLED FOR

- Air pollution taxes/charges (on particulates, NO_x, SO_x, volatile organic compounds and greenhouse gasses), with an exemption for households
- Codes, standards and preferential financing to ensure energy-efficient housing
- Energy efficiency codes and standards for buildings in government and commercial sectors
- Energy efficient labelling and standards for appliances
- Energy efficiency performance standards for industrial and commercial equipment
- Preferential financing (e.g. soft loans) to support solar water heating
- Include analysis of options for providing energy services in local integrated development plans
- Call for multiple-occupancy vehicle lanes on highways
- Call for vehicle fuel-efficiency standards, starting with government and commercial fleets
- Call for equity impact assessments to measure empowerment of local communities

TO BE DISCUSSED

- Landfill gas: A new Principle needs to be developed in which the EC discourages the use of landfills for waste management, and encourages waste separation at source
- The role of gas as a transitional energy source
- Call for most appropriate technology standards or guidelines
- Need to call for alternative measures of development (investigate GDP vs. job creation)
- A Principle calling for integrated energy planning and integrated resource planning

Appendix B

Press Release

30 November 2009

The South African Energy Caucus (EC) is a coalition of civil society bodies, community-based organisations, labour unions and social movements that engage on energy issues. It works towards ensuring an energy pathway for the country that is equitable, socially responsible, ecologically sound, and serves the basic energy needs of all South Africans. It meets at various junctures to discuss the most critical energy issues of the time.

The July 2009 meeting of the EC highlighted the fragmentation and confusion around energy planning in South Africa. Participants raised concern about the exclusion of citizens in decision-making that will determine the country's economic pathway for the next two to three decades.

Renewable energy technology is proven to be cost-competitive against coal, significantly cheaper than nuclear, and provides more jobs than either sector with vastly reduced environmental, social and climate impacts. However, Eskom's New Build projects have focused almost entirely on coal and nuclear, with marginal attention to wind and solar. This is despite the very damaging impacts of burning coal on air quality and climate, the impact of coal mining on water security, the astronomical cost of nuclear technology, and the complete lack of capacity or technology to deal with nuclear waste.

Over ten million South Africans are still without access to electricity. However, industry and mining consumes the bulk of electricity (about 67 per cent of total consumption) and at least 25 per cent is wasted because of inefficiency. If strong energy efficiency measures were implemented, an additional 20 000 MW of capacity would not have to be built, resulting in a cost saving of R600 billion to the economy. The total cost of Eskom's New Build (mainly coal and nuclear) is R1,3 trillion – without energy efficiency. In addition, a significant part of our

electricity needs can be met by renewable energy technology, but this has been vastly underfunded and under-researched by Eskom. The group argued that many of these issues have arisen because of the fragmentation and lack of clarity around the role of government institutions in ensuring energy supply for the country.

Eskom is a parastatal but because of its status as a commercialised public enterprise, is mandated to act as a corporate and make a profit. As a state-owned energy producer, it is governed by the Department of Public Enterprises, but has been mandated by the Department of Energy to develop South Africa's energy future. Government also requires Eskom to ensure that 30 per cent of energy capacity is produced in the private sector, which effectively requires a profit-making body to manage the introduction of its own competitors.

These factors led to a suggestion from the group that there should be an open and challenging review of institutional planning and arrangements with regards to energy, the governance of Eskom, its commercialised status, and the development of our energy future. The inclusion of nuclear in Eskom's New Build programme needs to be publicly interrogated by all sectors of society such as organised labour and civil society. It is also considered highly relevant to discuss the need for the Department of Public Enterprises to follow a developmental model rather than a commercial model. Moreover, the logic of following a path of increasing consumption and materialism to the detriment of the climate must also be questioned.

The cost of electricity is of concern to all South Africans, and especially the poor. Due to its commercialised status, Eskom is required to adopt a corporate behaviour pattern and make a profit. In 2008 the parastatal made a profit of R1 333 million. This is unlikely to encourage its executive board to implement policies

to reduce electricity consumption. Despite this, the parastatal called for an electricity tariff increase of about 30 per cent in both 2008 and 2009 with its key justification for the 2009 tariff hike being that it needed to support the coal mining industry.

If a programme of energy efficiency was implemented in combination with renewable energy technology, the projected price of electricity into future years would drop even lower than from coal production.

The development of nuclear energy in South Africa, whether through the Department of Public Enterprises or Eskom, will mean that taxpayers will fund the construction, maintenance and decommissioning of nuclear plants, which are the most expensive forms of energy generation known. Citizens are excluded from the decision-making process, despite being responsible for the high costs. There are also enormous concerns around the potential for corruption given that the potential deals run into trillions of rands, and the process is closed with decisions being made without consultation from civil society.

Mariette Lieferink of Public Environmental Arbiters led a discussion around the roughly 4 400 new coal mining applications in Mpumalanga and the implications of acid mine drainage for water security across Mpumalanga, Gauteng, Free State and Northern Cape as well as parts of Swaziland and Mozambique. Several of the country's largest and most economically important rivers (e.g. Olifants, Limpopo/Komati, Vaal) flow through the Mpumalanga highveld, a region of high rainfall and low rates of evapotranspiration, and from there into the west of the country as well as into neighbouring countries. Geohydrological research by the University of Witwatersrand shows that acid mine drainage from even a handful of the opencast coal mines proposed for the

province, will effectively render these rivers lifeless and poisonous to humans, animals and plants.

Andrew Marquard of the Energy Research Centre at the University of Cape Town pointed out that many of the best and cheapest technology options for meeting our energy needs while reducing pollution and improving household welfare are already available and proven, 'We need to be certain about whatever path we set out on. Once we start on a particular technology pathway, it will be very difficult to change. So it's also a question of long-term strategies.' Because of the lifespan of power stations and the capacity that will need to be developed to enable the country to embark on any particular technological pathway, the energy path that South Africa takes now will determine its economic pattern for the next three to four decades.

Eskom, it was pointed out, is failing to and even actively blocking the implementation of renewable energy projects. For example, Eskom promised to rollout one million solar water heaters in three years. After one year of the programme, Eskom has rolled out a mere one thousand solar water heaters.

Saliem Fakir of WWF-SA challenged those present to think about a roadmap to a new low carbon economy and a new vision of energy security, along with suggestions for measures to implement it.

The group considers it vital that civil society is directly involved in determining South Africa's energy future, with engagement at all stages of development of the strategy and not only as part of an end process through public 'consultation'. The Energy Caucus extends an invitation to the ministers of the Department of Public Enterprises and Department of Energy, and the chief executives of Eskom and Nersa to meet to discuss some of its concerns.