Sustainable energy solutions for South Africa

Ensuring public participation and improved accountability in policy processes

Compiled by Lucy Baker

INSTITUTE FOR SECURITY STUDIES
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Contents

About this report

The Institute for Security Studies' Corruption and Governance Programme hosted the South African Civil Society Energy Caucus in Cape Town on 14 and 15 September 2010. The theme for the meeting was *Sustainable energy solutions for South Africa: how can we ensure public participation and improved accountability in policy processes?* The two-day meeting explored South Africa's willingness and ability to deal with the serious governance challenges which lie ahead, with the aim of creating benchmarks for a sustainable and socially just future.

A number of energy-related policy processes were set in feverish motion in 2010. The South African government announced (almost in one breath) that they were to finalise the second Integrated Resource Plan (IRP2), the Renewable Energy Feed-in Tariff, the Integrated Energy Plan and the Climate Change Response Policy, among others. These policies hold dramatic implications for the country's energy future. For instance, IRP2 will make key decisions for electricity planning for the next 20 years, locking us into particular technology-favoured choices. In this context, the dominant development ideas, interrelated institutions, incentives and interest groups play an important role in the process of drafting and shaping the new policies and supporting their implementation.

South Africa is still trying to deal with a recent past in which energy policy was considered to have been captured by narrow interests. This gave rise to what was widely known as the *minerals–energy complex*, the effects of which we are still experiencing today. As government proceeds with Eskom's new Capital Expansion Programme – developed as a response to the electricity crisis of 2008 – the construction of further coal and nuclear power stations (upon which the programme is based, to a large extent) should make us reconsider in whose interest decisions are being taken.

We need to understand how to foster accountability and broad-based participation in policy and policy processes, so that corruption is reduced and more sustainable energy solutions are favoured. We cannot tackle the crises of energy poverty and climate change adequately without this. The Energy Caucus meeting focused on the issues that have been raised by civil society engagement in the various policy processes.

This report is a comprehensive summary of the presentations made and key discussions held at that meeting, based on recordings of the meeting. The 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

Yvette Abrahams is an historian by training. She is currently Commissioner for Gender Equality, working on issues concerning gender and poverty, including climate change adaptation and mitigation. She is particularly committed to ensuring that decision-making to do with the economy and climate change entrenches constitutional democracy.

Samantha Bailey coordinates 350.org's efforts in Africa to inspire a global grassroots climate movement. In South Africa, her focus is additionally on supporting strategic interventions to help bring about a just and clean energy future.

Matthews Bantsijang is the Acting Chief Director, Department of Energy tasked with the responsibility of ensuring development, monitoring, enhancement and implementation of policies that govern the electricity and nuclear sectors and to support the achievement of universal access to electricity, including the exercising of oversight over the relevant state-controlled entities.

Davin Chown is an advocate of green energy and currently runs Genesis Eco-Energy, and Mainstream Renewable Power. He is a board member of the South African Wind Energy Association and one of the founding members of the South African Photovoltaic Industry Association. His interests are environmental justice, green energy and helping to bring the Green Economy to fruition.

David Fig is a South African environmental sociologist, political economist and activist. He holds a PhD from the London School of Economics, and specialises in questions of energy, trade, biodiversity and corporate responsibility. His recent books include *Staking Their Claims: Corporate Social and Environmental Responsibility in South Africa* (UKZN Press, 2007) and *Uranium Road: Questioning South Africa's Nuclear Direction* (Jacana, 2005). Fig chairs the board of Biowatch South Africa and works closely with various environmental–justice non-governmental organisations.

Lance Greyling has been a national Member of Parliament since 2004 and has served on the portfolio committees for energy, water and environmental affairs, and public enterprises. Before he assumed public office he was the regional manager for the environmental organisation GLOBE Southern Africa and is currently completing a Master's degree in sustainable energy at Stellenbosch University.

Dr Kilian Hagemann is a wind-power entrepreneur and director of G7 Renewable Energies. His company is actively developing some of the most efficient wind farms in South Africa and his vision is to power South Africa with 100% renewable energy by 2050.

Muna Lakhani is a long-standing activist in the field of environmental and social justice. He is founder and National Co-ordinator of the Institute for Zero Waste in Africa, and a volunteer Branch Coordinator of Earthlife Africa Cape Town. He is active in the areas of energy (including anti-nuclear); zero waste; food justice; toxics; and gender and children's issues. He works locally and globally.

Kannan Lakmeeharan is the Managing Director of the System Operations and Planning Division of Eskom, which is responsible for the real-time security of the national power system and the long-term electricity capacity and transmission grid planning for the country. Previously he was responsible for the System Operator and for the Electrical Engineering disciplines in Eskom Enterprises. He has also had experience in the mining industry, with Gencor. He has a Master's degree in Electrical Engineering from the University of the Witwatersrand and is a registered Professional Engineer.

Dorah Lebelo is currently heading the newly founded GenderCC-SA Women for Climate Justice Network. Dorah Lebelo and GenderCC-SA are implementing a project focusing on capacity development in gender and climate change in rural communities in South Africa, where there is a great need for information about climate change and adaptation.

Mariette Liefferink is an environmental and justice activist and CEO of the Federation for a Sustainable Environment. She is an Associate of the Research Niche for the Cultural Dynamics of Water at North-West University and a member of the board of the National Nuclear Regulator. Her focus is the social and environmental impact of mining on communities and the environment, particularly the impact of radiological contamination and acid mine drainage in the Witwatersrand goldfields of South Africa.

Andrew Marquard (PhD) is a researcher at the Energy Research Centre at the University of Cape Town. He concentrates on energy, the environment and climate change and is the lead author of a study on the costs of a large-scale renewable energy programme for South Africa. Andrew's current research focuses on energy-related climate-change mitigation, as well as South African energy policy and governance. He draws on a wide range of skills, including energy analysis and modelling, and policy analysis.

Liziwe McDaid is an environmental activist, currently working with the South African Faith Communities Environmental Initiative (SAFCEI). She focuses on climate change and her key areas of concern are poverty and the need to accelerate renewable energy uptake in South Africa.

Adv Boyce Mkhize has been the CEO of the SA National Nuclear Regulator (NNR) since February 2010. He is a lawyer with public health administration experience and has extensive experience as registrar and CEO at the Health Professions Council of South Africa.

Sibusiso Mimi has international experience in development work, having worked in various positions (including leadership) for non-governmental organisations for more than eight years. Much of his work has focused on environmental sustainability and sustainable development. Currently, Sibusiso is a researcher at the National Union of Mineworkers' Parliamentary and Government Relations Office.

Bobby Peek is the Director of groundWork and Friends of the Earth, South Africa.

Mark Pickering has been involved in the South African power sector for the past 20 years, having worked within Eskom, as a consulting policy advisor, and most recently in an investor capacity. He has undertaken over 50 consulting assignments for a variety of clients, including various national government departments, municipalities, foreign governments, investment banks, international development finance institutions and international investors.

Trusha Reddy is a senior researcher in the Corruption and Governance Programme's Climate Change Project at the Institute for Security Studies, based in Cape Town. Her work is on carbon trading, climate finance and the energy sector. She is motivated by efforts to attain climate justice for vulnerable communities and promoting positive solutions to climate change.

Tristen Taylor is the Project Coordinator at Earthlife Africa Johannesburg and a committed social movement activist. He is currently studying part-time towards a PhD in Philosophy at the University of Johannesburg.

Stephen Thomas is Professor of Energy Studies at the University of Greenwich. He has more than 30 years of experience in the field of energy policy research, particularly in economics and policy regarding nuclear power, and in the liberalisation and privatisation of the electricity and gas industries.

Wikus van Niekerk is the Director of the Centre for Renewable and Sustainable Energy Studies at Stellenbosch University. The Centre is funded by the Department of Science and Technology to train postgraduate students in renewable and sustainable energy; conduct research; and, in general, promote the implementation of renewable energy in South Africa. For more information visit the Centre's website at www.sun.ac.za/crses.

Richard Worthington has been the manager of the Climate Change Programme at WWF-SA since May 2008. Prior to that Richard was the Project Coordinator of the Sustainable Energy and Climate Change Project (SECCP), a project of Earthlife Africa Johannesburg (ELA Jhb) for seven-and-a-half years. He has represented SANGOCO (the South African NGO Coalition) on the government's Integrated Energy Planning and Long-Term Mitigation Scenarios processes.

Introduction

Trusha Reddy, Institute for Security Studies

The Energy Caucus is a loose network of individuals, organisations and members of civil society working on energy issues in South Africa. It focuses on how energy issues intersect with a degrading environment, social and health impacts, and fence-line communities who come up against big, polluting corporations and experience the brunt of energy poverty. As we face the newly understood phenomenon of climate change, the caucus finds that these intersections are far more acute. The issues come into sharp focus, particularly in terms of the decisions and development pathways that we choose.

Energy policy outcomes at a national level are of particular concern to the caucus, given that in order to address climate change, we need to make profound and urgent changes to the way in which we live and the way in which our energy systems are run. Governance plays a crucial role in managing the process. A democratic system of governance will ensure that there is fairness, inclusiveness, accountability and transparency in the processes to ensure just outcomes.

The meeting of the caucus is about discovering how we understand policy processes regarding energy that are currently being formulated at a national level in the country. Is the caucus able to reflect on them, contextualise them, understand them and introduce the idea of future scenarios? This caucus will enable civil society to strategise on a way forward as civil society in engaging further with the policy outcomes and implementation.

The objectives of the meeting are embedded in a political economy approach which deals with dominant development ideas, institutions, incentives and interest groups that draft, shape and drive policy processes.

The questions that this meeting asks are:

- How do dominant development ideas shape energy policies?
- What has the path of government policy on energy been thus far and where has it gone wrong?
- What are the parameters within which policy processes operate? How do we consider the following, for instance: legal rights (including access to information and the impact of the new proposed 'secrecy' legislation), public hearings, consultations, multi-stakeholder task teams and recourse?
- What is the nature, value and influence of various interest groups on energy policy?
- What are some of the key lessons we have learnt from engaging in policy processes this year?
- How well developed are the mechanisms of
  - Policy oversight?
  - Parliamentary oversight?
  - Regulatory oversight?
- How do we ensure an independent and well-functioning Independent Systems Market Operator?
- What is our strategy for a way forward, as civil society, in dealing with policy processes that are ongoing or not yet in existence?

It is hoped that the outcomes of the two days will help the Energy Caucus to become a lot clearer, sharper and more strategic in our thinking and in the way in which civil society engages with policy processes.

Session 1

Demystifying the dynamics of the policy process

THE WINDING ROAD OF ENERGY POLICY

Mark Pickering, Meridian Economics

There is a great deal of energy in civil society. However, it doesn't always get through to policy making. This presentation includes a number of personal reflections from my involvement in energy policy in South Africa over the last 15 years.

My main question is: how well do we make and implement policy in the electricity sector, particularly in generation and planning? And how well is the balance between demand and supply managed? I am going to look from 50 years back and into the future and examine the institutional issues that are at the heart of why we are not getting things right.

In terms of a demand–supply balance, our reserve margin should be between 15 per cent and 19 per cent, though there is no clear policy on this. For the last 60 years or so our reserve margin has been outside this range. Eskom, which is responsible for getting the demand–supply balance right, has either over- or under-invested in generation capacity. In the early 1990s it was 40 per cent over capacity. This is a very inefficient use of economic capital, which is effectively left sitting in stranded assets. The risk of this has been passed on to consumers as tariff increases. This is an indication of failed governance, planning and regulatory systems in that period, leading to a sharp rise in prices. Are we now at a similar point in history, where sharp tariff rises will lead to 'action' concerning the way the electricity sector is structured?

Some of the key milestones in South Africa's electricity governance were:

- 1984: The De Villiers Commission made an enquiry into the supply of electricity in the Republic of South Africa. It revised Eskom's governance structure and changed its financial regime
- 1992: African National Congress (ANC) Workshop on Electricity in Cape Town, which put issues regarding affordability and access on the table
- 1992–1993: The National Electrification Forum. This included a wide diversity of voices. It recommended the establishment of Regional Electricity Distributors (REDs) and the setting up of an independent regulator (NER). The latter happened, but the REDs have not yet been set up
- 1994: The Reconstruction and Development Programme (RDP) created an electrification target of 2,5 million households over six years. That went into government policy and was implemented
- 1996–1997: Consultation on Energy White Paper, for which I was a final editor. A lot of valuable input went into the white paper, but much of it is still to be implemented
- 1998: The Energy White Paper included some good commitments from government:
  - To require the use of integrated resource planning methodologies in evaluating further electricity supply investments and the decommissioning of older power stations (7.1.5.6)
  - The entry of multiple players into the generation market will be encouraged (7.1.5.8)
  - Government will initiate a comprehensive study on future market structures for the South African electricity supply industry (7.1.6)
  - In the long term, Eskom will have to be restructured into separate generation and transmission companies (7.1.6.1)

These were healthy policy considerations, but little has happened in the 12 years since 1998. The South African reserve margin has steadily decreased since 1999, as no new capacity has been added. In 2008 we experienced load shedding, and had to close down the mining sector for a week. In 2009 the reserve margin recovered – due to the financial crisis, rather than good planning. It is expected to decline further by 2013, and more load shedding is likely. It is also highly unlikely that Eskom's build programme will deliver on schedule. Eskom also has funding issues.

Between 1999 and 2007 virtually no new capacity was added. The 1998 white paper stated that new capacity had to be on line by 2007, but decisions were only starting to be made in 2005. Independent Power Producers (IPPs) are expected to add a substantial amount of capacity in 2010, 2011 and 2012. It is highly unrealistic that they will be able to meet their targets. In 2014 Eskom is expected to add 4500 MW; this is also highly unrealistic.

Medupi was meant to be online by April 2012, but this week (beginning 13 September 2010), Eskom conceded that there would be a three-month delay in the project (though the industry's view is that the delay will be much longer than this). In 2001 the Electricity Distribution Industry (EDI) was restructured, as was the decision that generation should be split 70/30 between Eskom and private operators. There was quite a lot of inter-departmental work done on how to interpret that split.

At this point, policy-making processes changed dramatically; from open, consultative types of processes to a process that was much more closed and 'inside government'. There was also much more dependence on expensive consultants. Many documents and studies were never published and have tended to have no result, unlike the earlier processes.

In 2004 the Department of Public Enterprises (DPE) and the Department of Minerals and Energy (DME) explored the possibility of a multi-market model. They performed a study which showed that the higher returns required by private investors may initially result in higher electricity prices than the public path. The timing of the study coincided with Californian blackouts, which were incorrectly blamed on market liberalisation. The local ideology of the 'developmental state' did not favour market reforms and so the reform initiatives were subsequently abandoned.

In 2004 DME commenced a procurement process for two peaker projects. The process was dragged out and eventually failed. It is now six years later and there has been no sign that these projects will be built.

In 2005 the Eskom Board took its investment decision to build Medupi. That decision was taken in terms of the Public Finance Management Act (PFMA) for cabinet approval. It was not taken in terms of any other energy policy process (for instance, the National Integrated Resource Planning [NIRP] process) and there was no generation licence application. The way in which that decision was taken was questionable. Decisions on other plants such as Kusile and Ngula were taken in a similar manner.

In 2006 the DPE commissioned a 'Review of Security of Supply in South Africa'. It made some very critical findings, including that:

- There is no agreed basis or standard for the level of supply security to be provided – it recommended that an unequivocal security standard should be established
- The reserve margin has fallen to record low levels
- There is now an urgent need, first, to determine a suitable security standard, in order to define what level of reserve margin should be maintained, and second, to clarify the responsibility for meeting that security standard, given the Government policy that 70 per cent of new generation capacity shall be provided by Eskom and 30 per cent by the private sector
- There is a strong case for the two separate planning processes (ISEP and NIRP) to be brought together in a fully transparent process, open to all parties and managed consistently and regularly

Note that at the time, there were multiple planning processes between the DME, Eskom and NERSA and it was unclear how these three different organisations should talk to each other and who was in charge. This chaotic state was reflected in the outcomes that resulted.

In 2006 the first regional load shedding took place (due to transmission constraints) and in 2007 the first national load shedding occurred. In the first quarter of 2008 there was daily national load shedding for two weeks, leading to the declaration of a national power emergency on 25 January 2008. In 2009 and 2010 various significant developments took place, including:

- Nuclear procurement was shelved
- NERSA announced the Renewable Energy Feed-in Tariffs (REFIT), but no procurement process
- In January and February the Minister of Energy issued notice of her intent to pass regulations in terms of the Electricity Regulation Act, to regulate electricity supply planning and the procurement of new generation capacity
- 5 August 2009 saw the electricity regulations on new generation capacity. These regulations provide for the development of an integrated resource plan (IRP) to regulate the licensing of new generation capacity and the recovery of costs arising from independent power producers

- On 31 December 2009 the Minister gazetted the 'Determination regarding the integrated resource plan and new generation capacity' (three pages) (IRP1). This covered three years of work in three pages
- On 29 January 2010 the Minister gazetted a slightly different version of the IRP – still three pages, still three years
- The DoE committed to a public consultation process to develop a 20-year IRP
- In February 2010 the President's State of the Nation Speech committed to the establishment of an Independent System Operator (ISO), though without much indication of what that would mean (NB: though the President referred to an Independent System Operator, this has now emerged in the discourse as an Independent Systems and Market Operator – ISMO – see below)
- Also in February, NERSA ruled on Eskom's MYPD2 application, granting 3x25 per cent, rather than the requested 3x35 per cent
- By March, a picture was emerging of Eskom's funding problems – and the scale of its problems

Eskom now has a funding shortfall of R190bn (of a total of R440bn). We are committed to building power stations, with no certainty on where the funds will come from. We lack clarity in this. We should have been increasing tariffs more gradually over time; this would have resulted in less of a shock to the system.

In terms of where it all went wrong at the policy level, there is no complete or coherent answer. But here are some perspectives:

- Weak/inconsistent political leadership: We have had six ministers in 16 years (Botha, Maduna, Mlambo-Ngcuka, Hendricks, Sonjica and Peters) who have been more focused on minerals than energy until very recently
- Weak executive capacity/competence: The energy side of the former DME is under-resourced in terms of staff and budget. Though NERSA has a healthy budget, it has had a huge staff turnover. It is a critical institution that needs continuity, without which, policy cannot be as good as it should be
- Fundamental flaws in our governance structure between the DPE and the Department of Minerals and Energy (DME), now the DoE. Though there is a role emerging for NERSA, which is very encouraging, there is still a clear lack of an energy planning system and we have a big blockage of reforms in the distribution sector (relating to the constitutional positioning of municipalities) that hasn't been resolved in more than a decade
- Sub-optimal industry structure: the electricity market structure is sub-optimal. It is dominated by Eskom. Eskom prevents any innovation
- Flawed regulatory strategy: we have a flawed regulatory strategy, with tariffs too low for too long
- Many vested interests and competing priorities, and we have made some bad calls, for example to do with the Pebble Bed Modular Reactor (PBMR)
- Lack of civil society oversight over the sector for some time. It is encouraging to see more interest from civil society in the energy sector
- Lack of financial discipline: Eskom was in such a good financial situation for so long that it didn't need to borrow, so we have had a lack of financial discipline

Discussion

How is energy efficiency and demand side management (DSM) dealt with?

The electricity intensity of our economy has slowed, but this is probably due more to general structural changes in our economy than to deliberate effort. There is a conflict of interest in expecting Eskom as a supplier and generator of electricity to implement DSM as well. The regulations supposed to promote DSM have not been finalised and resourced. We have seen 2000 MW of cumulative savings achieved by the DoE over the last six or seven years. We have 1700 MW of interrupted demand, but we could achieve more than that by international norms. One of the great promises of the ISMO is that it would approach supply and demand side options on a neutral basis.

ENERGY AND SHIFTING DEVELOPMENT PATHS IN SOUTH AFRICA

Andrew Marquard, Energy Research Centre

The words of two outstanding 19th-century economists are relevant:

> Production of commodities creates, and is the one and universal cause which creates, a market for the commodities produced. (James Mill, *Commerce Defended*, 1808)

> Men [sic] make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past. (Karl Marx, *The 18th Brumaire of Louis Bonaparte*, 1852)

James Mill states that supply creates its own demand. Marx points out that we inherit the energy system. Long-lasting decisions are made in the recent and distant past

that are hard to reverse. That's our legacy. Our situation is not as a result of the fact that we have cheap and abundant coal; rather, it is a creation of the decisions that were made in that regard.

Both supply and demand are outcomes of policy in the energy sector, which is rife with market failures. Viewing demand as God-given leads to obsession with low prices, resulting in overinvestment, surplus capacity, very low prices, and even faster demand growth, and then incentivisation of energy-intensive industries. Supply creates demand. It takes a long time to change because the infrastructure involved in the energy system lasts for a very long time. There is no magic bullet. Price signals are very important in the economy.

So one has to think about how to change the infrastructural base and how the economy responds to price signals. What incentives are being provided to consumers? Primary energy intensity in the South African economy declined as part of a worldwide trend from the 1950s to the late 1960s, even though our economy was gold-mining-based from the 1950s until 1969. Then, from 1969 to 1984, our energy intensity increased drastically for two main reasons: firstly, the synfuels industry and its related industrial complex were constructed; and secondly, we became a much more energy-intensive, minerals-based economy. This continued into the 1990s, and that sets the stage for where we are now in terms of the energy intensity of our economy.

A substantial amount of the emissions created by the South African economy is exported. For instance we consume hardly any of the aluminium that is produced here. Effectively, it is a way of exporting coal. Consequently, the relationship between our emissions and development levels is unusual. There is little development gain from increasing emissions from where France is, for example, to where the USA is. South Africa is an outlier in this respect, as we have the same CO_2 emissions level per capita as Japan, but our Human Development Index is very far behind theirs. We could increase our population's welfare without increasing our emissions. The South African development path is carbon-intensive, but we get little development benefit per unit of population for each unit of carbon that we consume.

Electricity is a relatively easy part of our economy to quantify. The key problem is coal, which is the driver of our electricity system, and the source of most of our emissions. Electricity is responsible for about 45 to 50 per cent of our emissions. A lot of industrial process emissions also come from coal. However, the underlying problem is demand, as we cannot use more than a quarter of our current coal reserves and still meet our climate targets. That is a big challenge, as there is a big generation gap that ordinarily we would have filled with coal, but we are no longer in a position to do so if we want to meet our emissions targets. The Medupi and Kusile coal-fired power plants make it very difficult for us to meet our targets. We will need to make decisions about running our coal plants at below their design load factor, which would be a waste of national assets.

Therefore we need a mix of low-carbon electricity options, energy efficiency measures and shifts in industrial and economic policy. The low-carbon options include an aggressive solar water heating programme and a 25 GW wind energy programme. We could also make significant use of organic waste streams for biomass cogeneration and generate electricity from landfill gas and wastewater gas. The further generation gap would be filled by either nuclear power or solar thermal power. Solar thermal is currently very expensive, so there is a big question mark there. Closing the aluminium smelters would also contribute to a slight reduction in emissions. This would require at least a 20-year time horizon, but we also need to start now.

Even if we did all of this we would still have emissions close to where these are today. If we undertook all the measures mentioned, it would lead to the development of many new energy industries (wind, biomass, SWH, energy-efficient technology and design) with new industrial complexes. Energy prices would go up, which would lead to different investment decisions in the rest of the economy. Demand response would probably be much more significant than anyone expects, and would lead to a certain amount of economic restructuring. There would be a shift in the political economy of energy – every wind turbine that is installed (1,5 MW) generates around 4000 MWh per year, which displaces R300 000 of coal sales per year (at an approximate price of R150 per ton).

In conclusion, efficiency and demand-side measures are very important; no single measure will solve the problem; doing something effective will mean doing things very differently from how they are done now; and there are significant uncertainties in technology and demand. There will be very significant structural effects that we don't understand clearly right now.

Discussion

What is the difference in costs between coal-fired, wind and nuclear power, etc – not just the build costs, but ongoing operation costs?

Based on a levelised cost comparison, coal comes out at 45 to 64 cents per kilowatt-hour, wind is between 70 and 100 cents, and nuclear power anything between 50 and 100 cents. In terms of the externalities, the carbon price used by Stern in his 2006 report to estimate global damages is about US$85 (R500) per tonne. This comes out at 50 cents

per kilowatt-hour, which puts coal in cost competition with wind. However, other coal externalities such as costs of acid mine drainage have not been estimated. It is likely to cost a great deal, but we don't know how to put a figure on it yet. There is no good data on it in South Africa, but the DEAT is looking at this. We expect they will skew economics in favour of wind. Solar thermal is R1,50 per kilowatt-hour, and solar PV is much higher. It is likely to drop, but we are not sure when. Wind is the cheapest of renewables by far, except for solar water heating, which is cheaper than coal, and some other limited options such as biomass cogeneration.

Can we pinpoint the moment in history when we made the decision to increase mineral beneficiation in the name of foreign direct investment?

The South African economy broadened its manufacturing base into minerals processing in the 1970s and 1980s. Contracts between Eskom and aluminium smelters were agreed upon in the early 1990s in order to use up the extra capacity that was on Eskom's system. BHP Billiton did not own the smelters at that point.

EXPLORING THE MURKY PARAMETERS OF THE POLICY PROCESS

David Fig, independent consultant

There have been five failures in South Africa's energy governance. The question is, can these failures be overcome without truth and reconciliation in the energy sector? Is there trust across the sector sufficient to remedy these failures? I research the nuclear end of the energy sector, so am perhaps biased in this regard.

The five failures are:

1. *Failure to decide energy policy in an open and transparent way*

   We have placed too much emphasis on allowing the utility to influence our policy. In the first national load shedding, Eskom immediately privileged large users of electricity. The IRP process is constructed the wrong way around, which means that electricity policy is decided before broader energy policy. Environmental Impact Assessments (EIAs) are rigged and diluted, instead of being the fair, transparent and public attempts to draw the decision makers to the right information that they are meant to be.

2. *Failure to build a regulatory culture in the nuclear industry that: (a) serves the public well, and (b) enjoys public confidence*

   We don't have a proper regulatory culture in the nuclear industry that serves the public well and has public confidence. The regulator is required to be scrupulously neutral; but every time it defends the industry, that's another nail in the regulatory coffin. The regulator is under-resourced and suffers from a skills shortage – information derived from the regulator's own documentation. The National Nuclear Regulator (NNR) appointed someone from the PBMR company to be its CEO a few years ago. This created a crisis of credibility for the institution from which it is still trying to recover. There has been collusion between the Department of Environmental Affairs and Tourism (DEAT) and the Department of Water and Environment (DWE) in EIA processes (see failure 4). The regulator has a poor history of relating to communities, particularly affected communities; and public concerns are often ignored, or excuses are found not to have to deal with them.

3. *Failure to recognise the importance of renewable energy and give it the full political backing it deserves*

   Renewable energy has been embraced on the political level but in practice, attempts to remove the bottlenecks and encourage investment are slow. As long as nuclear investment is prioritised it will crowd out state investment in alternative energy sources.

4. *Failure to ensure the fairness and integrity of EIA processes by constantly diluting them and bypassing key principles including those of public participation*

   EIA processes have constantly been diluted by the state, particularly in the Pebble Bed Modular Reactor (PBMR) case in relation to Nuclear-1. The history of the EIAs for the PBMR is reflected in the ISS occasional paper, *Nuclear Energy Rethink: The rise and demise of South Africa's Pebble Bed Modular Reactor*, ISS Paper No 210, David Fig, April 2010, which has been circulated. Civil society organisation Earthlife Africa contested it in law. It became clear that the EIA for Nuclear-1 was under way though there was no clear design for the reactor in place. We cannot assess safety and environmental impacts without knowing which design will be adopted; and particularly if we open up the process to bids from China, Russia and Korea, as there is less access to information about their designs. A new EIA process was initiated for the PBMR after the Earthlife Africa legal challenge and is still under way, even though the PBMR process has been cancelled. The design has been changed further since the second EIA was launched.

5. *Failure to curb the special pleading of the local and international nuclear industries*

   Local and international nuclear industries have allowed the PBMR to proceed without proper controls and accountability. There has been a revolving-door syndrome between the regulator and the company. Ministers have disseminated industry propaganda, including myths about climate change, the idea that only nuclear and coal can provide appropriate baseload, the notion of a nuclear renaissance, and accepting bids for unproven technologies such as the EPR and the PBMR. The work of the nuclear lobby in South Africa has had influence over statements made by the South African state. There is a growing relationship with France, which has inappropriate access to our presidential advisors and to the president himself. The CEO of Areva sits on our presidential advisory panel for international investment. Westinghouse has a large interest in our nuclear engineers and those left in the PBMR programme. Both Areva and Westinghouse have set up offices in South Africa to market their wares.

We need to be alert to the work that needs to be done on these different levels.

TAKING OUR POWER: THE PEOPLE'S RIGHT TO BE CONSULTED ON ENERGY POLICY

Yvette Abrahams, Commission for Gender Equality

The Commission for Gender Equality (CGE) is an independent watchdog body set up under Chapter 9 of the Constitution. Our job is to safeguard constitutional democracy, particularly with regard to gender equality. Can constitutional democracy really exist in a situation of high economic inequality? I would say that it cannot. The middle class is too small and weak; only 41 per cent of our population have a job; and the remaining population are too weak, too poor and too uneducated to be citizens in the full sense of the word. As a Chapter 9 institution our job is very difficult. The CGE is an activist body. Climate change and energy falls under our poverty programme, which I head. The title of our concept paper is 'No gender equality without an earth to have it on'.

To come back to the issue of constitutional democracy: the Constitution is the strongest law that we have and I encourage you to use it. When a state disobeys its own law the country is in serious governance trouble.

Section 24 of the Constitution, regarding the environment, promotes economic and social development. However, this clause has been used as an excuse for promoting a carbon-emitting economy.

Under *Section 24: Environment,* everyone has the right:

- To an environment that is not harmful to their health or well-being
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development

Climate change and global warming are undermining our economic and social development. If we don't take action soon, we won't have any economic development.

In terms of *Section 33: Just administrative action*:

- Everyone has the right to administrative action that is lawful, reasonable and procedurally fair
- Everyone whose rights have been adversely affected by administrative action has the right to be given written reasons
- National legislation must be enacted to give effect to these rights, and must provide for the review of administrative action by a court or, where appropriate, an independent and impartial tribunal; impose a duty on the state to give effect to the rights in subsections (1) and (2); and promote an efficient administration

In terms of *Section 195: Basic values and principles governing public administration*:

> Public administration must be governed by the democratic values and principles enshrined in the Constitution, including the following principles:
> e: People's needs must be responded to, and the public must be encouraged to participate in policy-making
> f: Public administration must be accountable.

The National Energy Act of 2008, section 5 calls for measures that will ensure, among other things:

> The universal access to appropriate forms of energy or energy services for all the people of the Republic at affordable prices. These measures must take into account
>
> 1. The availability of energy resources
> 2. Affordability
> 3. Cost effectiveness
> 4. The State's commitment to provide free basic electricity to poor households.

In administrative law one is not remunerated for any costs incurred. This is an expensive law to use.

The National Energy Regulator Act 40 of 2004: Section 10.3 states that:

> Any person may institute proceedings in the High Court for judicial review of an administrative action by the Energy Regulator in accordance with the Promotion of Administrative Justice Act 3 of 2000.

In other words, anyone has locus standi – you do not have to prove that you are an interest group.

But this must happen under 180 days prescription, i.e. either within 180 days of internal processes being exhausted or, in case of there being no internal processes, within 180 days of an applicant becoming aware of a decision.

The NERSA Act is specifically about allowing access to administrative law. There is no question as to whether or not energy issues fall under administrative law – they do. Anybody has locus standi; what this means is that you do not have to prove your own interest group. Anybody can be an interest group automatically under administrative law. However, you need to be aware of the seldom-mentioned prescription clause, which states that you have to take action within 180 days of internal processes being exhausted, or in the case of there being no internal process, within 180 days of the applicant becoming aware of the decision. It is an interesting exercise to try to work out what NERSA's and the DoE's processes are for appealing a decision. However, the prescription clause is not necessarily as strong as it looks.

Administrative law is also expensive, as you do not receive costs. It costs about R500 000 to approach the High Court, R1 million if it goes to the Constitutional Court. So we encourage people to look at the Equality Act, which costs R15 000 a go. You can get 40 Equality Act judgments for the price of one administrative law judgment.

PAJA section 3.1: Procedurally Fair Administrative Action states that:

> Administrative action which materially and adversely affects the rights or legitimate expectations of any person must be procedurally fair.
> 1. Accountability means that officials must explain the way in which they have used their power. They must be able to justify their decisions.
> 2. Responsiveness. A responsive government is one that listens to the people it governs and responds to their needs. An unresponsive government ignores and shuts itself off from the people. Many of the provisions of the PAJA are designed to promote responsiveness. For example, section 4 says administrators must consult the public before important decisions are taken.
> 3. Openness. Openness is the opposite of secrecy. The way government works should be open for all to see. Decisions are more likely to be supported by people if they can see, understand and contribute to the process of decision-making. This is why the PAJA says reasons must be given for decisions.
> 4. Transparency. Transparency is mentioned in section 195 of the Constitution as one of the basic principles of the public administration. (http://www.justice.gov.za/paja/about/review.htm).

This law is very precisely defined.

PAJA Section 6.2. Judicial Review of Administrative Action states that:

> A court or tribunal has the power to review an administrative action if:
> (c) the action was procedurally unfair…
> (e) the action was taken...
> (iii) because irrelevant considerations were taken into account or relevant considerations were not considered.

Discretionary powers must be used within the law. They must also be used for the purposes that they were given. Decisions can only be taken for reasons allowed by law and not for other reasons.

When the administrator is using discretion, they can only take relevant factors into account. If relevant factors are not considered, or irrelevant factors taken into account, then the decision is not taken for good reason. In such a case, a court can review the decision.

Discretionary powers must be used by the person given these powers and not by others. (http://www.justice.gov.za/paja/about/review.htm)

There is a very precise legal definition of what discretionary powers actually means.

Case law 1

Administrative Law – PAJA s 6(2)(e)(iii) – name change of Louis Trichardt to Makhado reviewed and set aside

> [36] … (2) that the application for the name change had not been preceded, as it should have been, by proper consultation with all interested parties; and (3) that the first respondent in considering the objection under s 10(3) did not properly apply his mind to the objections and if he had done so he would have realised that a proper consultation process had not been followed.

This case took place in 2007. Excerpts from the judgment are attached. The court was very specific in this case. They looked at how many people were at the meeting and who was there. What this case illustrates is that there is a very precise definition of what constitutes public consultation. Should any energy policy be passed that has consulted only 0.3 per cent of the population, it will not be considered proper consultation.

Case law 2

> [45] In my opinion the statement in the guidelines that the Names Council ensures that proper consultation has taken place is akin to a promise made by a public authority to follow a certain procedure, about which the Privy Council said the following in Attorney-General of Hong Kong v Ng Yuen Shiu [1983] 2 AC 622 (PC) at 638E-F:
>
> When a public authority has promised to follow a certain procedure, it is in the interest of good administration that it should act fairly and implement its promise, so long as implementation does not interfere with its statutory duty. The principle is also justified by the further consideration that, when the promise was made, the authority must have considered that it would be assisted in discharging its duty fairly by any representations from interested parties and as a general rule that is correct.

What this case illustrates is that if government promises to consult, it must actually do so.

Case law 3

> [48] Under the law as it was before PAJA it was held by this court in Pepcor Retirement Fund v Financial Services Board 2003 (6) SA 38 (SCA) at paras 47 and 48 that a material mistake of fact was a ground for judicial review, provided the fundamental distinction between appeal and review was not blurred or eliminated. Cloete JA said (at para 47) that the doctrine of legality requires that the power conferred on a functionary to make decisions in the public interest should be exercised properly, i.e. on the basis of the true facts. In the Pepcor case it was held that the distinction referred to was not blurred or eliminated because the Registrar of Pension Funds, whose decision was being reviewed and to whom material misstatements of fact had been made, was entitled to act on the assumption that the correct facts had been placed before him. In this case the first respondent was entitled to assume that the fact conveyed to him by the Director-General, viz. that there had been proper consultation, was correct. In my opinion the legal position as set out in the Pepcor case, based as it is on the principle of legality, still applies under PAJA, s 6(2)(e)(iii) of which provides that administrative action taken because 'irrelevant considerations were taken into account or relevant considerations were not considered' can be set aside on review. Where a decision is based on a material misstatement of fact it is clear that that subparagraph applies.[eq]

This case cites precedent. It points out that a reasonable and just decision can only be taken on the basis of true facts. If the decision is taken on the basis of a material misstatement of fact, it is not a just and reasonable decision in terms of administrative law. You could use this piece of law for IRP or nuclear policy, for example. Material misstatement of fact means one of two things:

- Insufficient information lies before the official who makes the decision, e.g. in the CGE and South African Faith Communities Environmental Initiative (SAFCEI) submission to NERSA, we pointed out that externalities had not been considered. If IRP scenarios do not look at externalities sufficiently, that would be considered a material misstatement of fact
- Information has been given that is just plain wrong

Finally, it is significant that the Louis Trichardt case never went higher than the Supreme Court of Appeal. The State Attorney's office has had a blanket policy since 1994 that every single case against the state must be appealed to the highest level. This case was not. There are some interesting anomalies in that blanket policy, but I believe that basically nobody wanted to challenge it. This is an important precedent on the right to consultation and proper information.

In conclusion, we need to explain what climate change and energy is to the people. It is our duty to work on governance and democracy. It is important that we get there before the state does. The government could outwork us if we don't hasten to the work that needs to be done.

Session 2

Understanding the nature and influence of interest groups

NUCLEAR: WHAT ROLE FOR NUCLEAR INTEREST GROUPS POST-PBMR, AND HOW WILL THEY JUSTIFY THE BIG COSTS?

Prof Steve Thomas, Greenwich University UK

In 1999 I wrote a report on the Pebble Bed Modular Reactor (PBMR), asking: will it work? And if it does, and even if it is economically viable, will anyone buy it? My report argued that it is a risky venture and should not be funded by public money.

The PBMR has finally been abandoned, but why was it allowed to go on for so long, when it was clear that it was a programme that could not succeed? Who was pushing it? If we don't understand what went wrong with it, then the same mistakes will be repeated with a new nuclear programme.

Nuclear power has been a commercial technology for more than 50 years but it has never been a competitive electricity source. The real costs of nuclear power have increased throughout its history. Why have learning, technical progress and scale economies (size and number) not reduced costs?

South Africa announced that it was taking up a failed German technology in 1998 and spent 12 years and R9 billion in public money before the government admitted failure. The PBMR was never likely to be successful. This should have been clear by 2002, given that the time scales were slipping, there were no customers and no investors and there were serious technical issues raised by the US regulator. The government commissioned studies to be carried out by Price Waterhouse Coopers (PWC) and a panel of international experts, of which I was one. The commissioned reports were kept secret. Eskom knew the project was likely to fail, but it believed it was politically infeasible for it to exit the project.

A total of R7,6 billion was spent on the project by the South African government. From 2006 onwards, only the South African government contributed financially to the project. The vast majority of the expenditure (60 to 70 per cent) occurred from 2006 onwards, when it was clear that the project should have been abandoned.

Why did civil society fail with PBMR? Why were the parliamentary committees not monitoring expenditure and asking difficult parliamentary questions? (Lance Greyling was one of the exceptions.) Why didn't the Auditor General investigate? NGO action was limited, the exceptions being Earthlife Africa and the Legal Resource Centre. The press were also disappointing, as they printed PBMR press releases uncritically, the *Cape Times* and *Noseweek* excepted. There were few investigative TV and radio programmes. Were these failures due to incompetence, or to political or commercial pressure?

In terms of South Africa's current policy, in 2006 the government announced it would create 20 GW of nuclear power by 2025, with the first plant coming into service sometime between 2010 and 2012. The favoured technologies are European Pressurised Reactor (EPR) and AP1000. However, EPR has not received generic design or safety approval anywhere in the world. While France and Finland have allowed construction to go ahead, they have not completed the regulatory approval process. There have been delays in the process in the UK and the US. There has been some EPR and AP1000 construction in China, but no worthwhile information is available. AP1000 received US safety approval in 2006, but there were major revisions made in 2008 which won't be completed until 2011. AP1000 has also not received regulatory approval anywhere in the world.

In terms of experience with EPR, the Olkiluoto project in Finland was expected to take four years to build. However, after four years it was four years late and 90 per cent over budget. The vendor, Areva, and the utility are now countersuing each other for cost overruns of billions of euros. In France, the Flamanville project has been under construction for two years. It is now two years late and about 50 per cent over budget. Even EDF Energy, which runs and manages more than twice as many operating nuclear plants as any other utility, has been unable to build an EPR efficiently.

The South African programme was based on very over-optimistic cost estimates. In 2007 the government forecast that a nuclear power station would cost $2 500 per kilowatt to build. The bids they received were for at least $6 000 per kilowatt. That means that an EPR plant would cost at least $10 billion (R70 billion) to build. That puts the PBMR in context. A programme of EPRs would sign South Africa up for an expenditure of R150 billion on two plants. *Engineering News* stated that

> In fact, ratings agency Standard & Poor's said on Thursday that South Africa's National Treasury needed to extend 'unconditional, timely guarantees' across all Eskom's debt stock if it hoped to sustain the utility's current BBB+ investment-grade credit rating. The National Treasury was still to announce the details of the package. The Eskom board had, as a result, decided to terminate the commercial procurement process to select the preferred bidder for the construction of the Nuclear-1 project.

Despite this, the government is undeterred in its pursuit of nuclear energy. Brian Dames (Eskom CEO): 'South Africa also urgently needs to decide on its approach toward nuclear energy, which provides the best solution for meeting the country's long-term energy needs.' (Bloomberg, 7 September 2010). Dipuo Peters (Energy Minister): 'South Africa must consider using nuclear fuel to meet the country's power needs.' (Bloomberg, 7 September 2010).

It is likely that South Africa would use Chinese or Korean technology, as this is cheaper than that from Western countries. South Africa would be buying technology from China that China bought from France in the 1970s. It is unlikely that it could then be brought up to the latest standards. The Korean design is newer but it would not meet European standards, and expensive modifications – including having a 'core-catcher' and protection against aircraft impacts – would be needed to do this. The cost of the proposed new nuclear programme would be much more than for the PBMR.

I have no specific knowledge of corruption in the nuclear industry in South Africa, but worldwide it has been associated with corruption. I would suggest that a judicial inquiry is needed to find out the facts as to where exactly the money has gone in the case of the PBMR.

In terms of the argument that the nuclear industry will create jobs, it is important to bear in mind that the more expensive and out of control the costs are, the more jobs will be created. South Africa has wasted 12 years and R10 billion, both of which could have been used much more effectively.

There are various possible reasons for the irrational pursuit of nuclear energy, including self-interest, self-aggrandisement, corruption and quasi-religious belief. The nuclear lobby also plays a big part, and may include:

- Government:

1 The defence ministry, given that civil nuclear power provides a shortcut to nuclear weapons
2 The public enterprise ministry, motivated by national prestige and pressure from local industry
3. The energy ministry, given the expectation that nuclear power would increase energy security and reduce energy imports

- Utilities: often driven by corporate technological optimism, they have a preference for technologically prestigious and challenging technologies and an apparent reduction in dependence on externalities (unions, foreign fuel suppliers)
- National nuclear research bodies (NECSA): often motivated by self-preservation and links to the military
- Scientists: motivated by technological optimism and funding opportunities for 'big science'
- Manufacturing: sees a nuclear industry providing work for equipment suppliers, cement, steel and engineering companies and the illusion of cheap power

In conclusion, the economics of nuclear power are poor and getting worse. The PBMR project was based on naive forecasts of costs, schedules and markets; its consequences were serious failures in the electricity system and large opportunity costs. It exposed a serious lack of checks and balances in monitoring South African public spending. Eskom and the South African government seem to have learnt nothing from the PBMR failure given that their plans are still based on hopelessly naïve forecasts and show little understanding of foreign experience. If their plans are not challenged, costs will be even higher this time.

Discussion

In reference to the Energy Minister's rationale that the construction of six nuclear power stations would be good in terms of economies of scale:

It is not realistic that we will get six reactors by 2022. If building started tomorrow, one power plant would be on line by 2022. There is a serious concern about unrealistic timescales. They don't allow for proper decisions; nor do they allow the regulator to go through due process. (Steve Thomas)

In reference to the National Nuclear Regulator's (NNR) licensing of the PBMR despite problematic findings by the Nuclear Regulatory Commission:

The Nuclear Regulatory Commission carried out an initial review of the design of the PBMR. That is when the problem of the overheating of the pebbles came to light. After this the NNR carried out its own preliminary investigation into the PBMR and found no problems to prevent the licensing of the plant. What are the reasons for such different findings? (Steve Thomas)

HOW IS CIVIL SOCIETY HOLDING NARROW INTEREST GROUPS TO ACCOUNT?

Muna Lakhani, IZWA and Earthlife Africa

Holding people to account is not straightforward. We have had mixed success, as civil society, in doing this. However, we are good at research and consist of lots of committed people.

The civil society space has varied greatly in recent years. Under (former President Thabo) Mbeki, it was dramatically reduced. However, we encouraged NUM and COSATU to join us in the campaign against nuclear energy and waste incineration.

Climate change has now become a 'sexy' issue. Government documents now speak of 'green jobs' and the 'green economy'. We have also been able to challenge some of the Environmental Impact Assessments. Engaging in the Integrated Resource Plan 2 (IRP2) process has also been a fascinating journey. Some people see the campaign against World Bank funding for the Medupi coal-fired power plant as a failure, but it gave government a shake-up, and put this issue on the global map.

Our media does not always work in our favour. We need to be careful about falling into various traps. This includes the use of meaningless measures such as GDP. This is used as a measure of success, when in fact lots of bad things are good for GDP, such as sickness and shootings. We should have a positive and a negative GDP. We need to challenge 'trickle-down theory'. There is no country in the world in which economic growth has led to a trickle down for the poorest. Modern economics is autistic. We need to challenge our development path more, rather than supporting the current paradigm. We need to give greater consideration to what a future economy could look like.

Climate change is a symptom, not a problem, and we are too focused on the symptom. We spend too much time arguing over the details, when we should spend more energy unpacking the systemic causes; for example, consumption – corporate consumption. Who is to blame, fundamentally? Would you rather change the behaviour of 36 companies or 46 million people? Thirty-six companies use 60 per cent of our electricity. For example, BHP Billiton use 10 per cent of our electricity but they create 0,1 per cent of GDP and 0,005 per cent of jobs. We import aluminium because they get export credits.

We need to keep our campaigns people-centred, including political priorities, jobs, poverty alleviation, union membership and services for the poor. The technical debates will not bring people along with us because our language alienates people. We do not contextualise our position within governance paradigms. Consequently the government calls us anti-ANC, anti-development. Some portions of the environmental movement may indeed be described as such. But as environmental justice activists, we are being lumped together with right-wing greens.

We need to focus on a just transition and involve the mass population. We think documents and the internet are sufficient. We also need to relate to Africa more, as we incorporate too much data from Europe and the US. There is a tension between Africans and Africanists. We also focus too much on Eskom and Sasol, and should consider the role of corporations in more depth; for instance, those involved in the automobile industry and agriculture.

RENEWABLE ENERGY POTENTIAL AS A SUSTAINABLE ALTERNATIVE FOR SOUTH AFRICA

Wikus van Niekerk, Director: Centre for Renewable and Sustainable Energy Studies

It is possible to get very accurate wind maps for South Africa. There is a reasonable amount of wind in South Africa, particularly in the Karoo, on the South Coast and on the West Coast.

The Klipheuwel wind farm has two Vestas turbines and one Jeumont. These are not always turning. Klipheuwel was set up as a demonstration site rather than as a wind production facility and has a capacity factor of less than 20 per cent. The Darling wind farm is newer and

has four Führlander wind turbines. The expected capacity factor was to have been greater than 30 per cent, but the reality is more like 23 or 24 per cent. There have been some issues with this project.

The next wind farm that we expect to see will probably be Skaapvlei, the Eskom Wind Farm near Lutzville (now known as Sere). This will have up to 100 wind turbines, with output of 100 MW in the first phase and another 100 MW in the second phase. It is funded by loans from the French Development Bank and the World Bank, and will go out to tender soon. Then there is also a Vestas wind turbine in Coega, the Industrial Development Zone near Port Elizabeth. This was put up in a month or two and demonstrates how much quicker a wind power generation plant can be constructed compared to coal and nuclear.

A GTZ study on grid capacity in the Western Cape has predicted that it is possible to integrate 2,8 GW of wind power into the grid without expanding or destabilising it. We have a list of all the potential wind projects in South Africa; their potential output comes to 14,6 GW, which is equivalent to about six Medupis. These are either projects with an EIA, a wind mast erected or where land has been secured.

South Africa also has a good wave resource, similar to Australia. We have fronts approaching us from the south-west. The best wave energy resource is along the south and south-west coast. There is a potential annual average of 40 KW per metre of crest length (more in summer, less in winter). We can also predict the wind resource through modelling.

Most of the sun is in the north-western part of the country, in the Northern Cape Province. We have solar radiation which equals or surpasses that of Australia and North America. Our Direct Normal Irradiance (DNI), the measurement you would take in advance of planning a Concentrated Solar Power (CSP) plant, is much better than many countries. For instance, in Spain they are building power plants in areas that compare to our lowest levels of DNI. The two main issues are that the grid is not very strong in the areas where we have a lot of sun so we would need to reinforce it if we are to build CSP plants. Another constraint is water, given that areas ideal for CSP are very dry. However, this can be overcome by using dry air-cooling, in which South Africa has ample expertise. We have done a detailed study and estimate that we could achieve 548 GW of solar power in the whole of South Africa, of which 510 GW would be in the Northern Cape. There are challenges, such as that the sun only shines during the day, but we can overcome these.

With respect to solar power conversion technologies, we should all have solar water heaters on our roofs. It is also possible to do this commercially, with guaranteed returns. But we need gigawatts of electricity, for which we need solar electricity. There are two main ways of doing this: i) solar photo voltaics, which do a direct conversion from sunlight to electricity, or ii) CSP which makes use of a thermal conversion. These solar power plants typically have curved mirrors called parabolic troughs and a tube in which the solar radiation is concentrated in a hot oil or heat transfer fluid. There is also a new technology now available called Linear Fresnel Reflectors. Another option at very high temperatures is to make use of a tower. A solar power plant is very easy to build, much more so than a coal-fired power plant. The energy can be stored cheaply as thermal energy, i.e. as hot oil or molten salt. A CSP plant can be a baseload plant very easily, though you would have to burn fossil fuel to get it going.

In terms of biomass resources, South Africa is water-scarce, so this poses a challenge. There is some biomass on the eastern side of the country, but not so much in the west. There are some agricultural waste products such as wood chips, manure, corn and wheat husks, which are already being burned in boilers to make heat and electricity. We can also grow energy crops for bio ethanol. Maize and corn are not allowed for this purpose in South Africa, but sugar cane, sugar beet, jatropha and soya beans are. However, there is a biodiversity risk – and a big fuel-versus-food debate. The second-generation conversion processes are more practical; one can use lignocellulose and turn it into ethanol very efficiently. Biomass has great job creation potential.

We don't have a lot of hydro energy potential available to us as we do not have a lot of water. We have a hydro-electric power station at Gariep (producing 360 MW), Vanderkloof (240 MW), the Cahora Bassa dam in Mozambique (2 000 MW) and a potential project on the Kunene river in Namibia/Angola. We have energy storage schemes at Steenbras (180 MW), Palmiet (400 MW) and Drakensberg (1 000 MW). The new projects at Ingula (1 333 MW) and Project Lima are on hold. We also have some micro hydro, such as the Bethlehem plant capable of 7 MW, of which 3 MW is now online. Lastly, there is the possible 40 GW Grand Inga dam, in the DRC. This is a big political challenge and we would need to invest in a high-voltage DC line.

Other options are small-scale biodigesters; the Agulhas ocean current, for which Eskom is currently conducting measurements; energy from waste incinerators which are coupled to boilers; and landfill to gas, which involves harvesting methane from capped landfills and converting to electricity using a gas engine or turbine. This last includes the Durban Landfill Projects, La Mercy and Marianhill landfills and Bisasar Road (6,5 MW now online).

In conclusion

- South Africa has a reasonable wind energy resource that is geographically dispersed to assist security of supply
- South Africa has a world-class wave energy resource, predominantly along the south and west coasts. The Agulhas ocean current is an attractive long-term source
- South Africa has one of the best solar regimes in the world; of all the renewable energy resources it is by far the most abundant available in the country
- South African biomass and hydro energy resources are limited, due to a lack of water
- Energy from waste, agriculture and municipal solid waste are more readily available and exploitable
- Wind energy is a mature technology and can be rolled out immediately in South Africa. It has the potential for establishing a local industry for tower and blade manufacturing in the short to medium term
- Wave energy convertors are still not commercially viable but may have some role in South Africa in the medium to long term
- Photovoltaic (PV) systems will play a role in the short to medium term, on various scales, but large-scale local manufacture of PV cells and modules will be challenging
- Concentrated solar power (CSP) is the most promising medium- to long-term technology for application in SA, with significant advantages including the possibility of establishing a manufacturing industry
- A large number of jobs can also be created in the biomass and energy-from-waste sectors
- South Africa can choose to be a follower or a leader

RENEWABLES: WHAT GAINS FOR THE WIND INDUSTRY?

Dr Kilian Hagemann, G7 Renewable Energies and South African Wind Energy Association

I have been involved in the wind sector since 2001, when I became a board member of the South African Wind Energy Association (SAWEA), a position which I held until 2002, but I have been a member since then. In 2008, as part of my PhD, I published the *Mesoscale Wind Atlas of South Africa*. I have been the director of my own company, G7 Renewable Energies, since 2009. My vision is for 100 per cent renewable energy penetration in South Africa by 2050.

G7 Renewable Energies is a wind-farm developer with high ambitions. We currently have five wind-farm projects in the pipeline, totalling between 500 and 1 000 MW. We plan to participate in the first Renewable Energy Feed-In Tariff (REFIT) request for proposals (RFP) and/or request for qualifications (RFQ), with construction starting in 2012 and commercial operation in 2013 (the larger projects possibly by 2014). One criticism of the wind industry is that we are all 'pale males'. However, we have attained BEE level four. Forty-four per cent of our staff is black, including senior management, and there are a number of similar companies out there.

In terms of the history of studies done on South Africa's wind resource, this began in 1995 with the *Roseanne Diab Wind Atlas*, which is now obsolete. In 2001 Eskom, the Council for Scientific and Industrial Research (CSIR) and the Danish Aid Organisation (now Danida) teamed up and produced another wind atlas. Unfortunately this was never finished and had a number of problems. I argue that it is now also obsolete. I came up with my own Mesoscale Wind Atlas in 2008, with an 18 km resolution. However this will also be obsolete by 2011, when the first map of the Wind Atlas of South Africa (WASA) comes out. This is a publicly funded project from UNDP, GEF and some Danish funds. It's a multi-institutional work done by the Climate Systems Analysis group at the University of Cape Town, the Danish organisation Risoe, CSIR, Saneri and the South African Weather Services. I have also been involved in the process.

Note that every subsequent study has found a higher wind resource. The Roseanne Diab study in 1995 concluded that wind could provide around three per cent of our electricity, while my study concluded that a realistic estimate was around 35 per cent of current consumption, or about 26 GW of wind power capacity.

While the 2001 Eskom/CSIR map was done at 10 metres, my map from 2008 included many more vertical levels around hub height. Eskom/CSIR's map is patchy because they used existing weather stations and applied some micro-modelling, with limited success. For instance, it indicates that the wind speed at the weather station at Giant's Castle is between 20 and 30 metres per second; but this would imply hurricane levels every day. I would hypothesise that they used the WASP micro-scale model beyond its parameters. This model is not designed to be used in complex terrain such as Giant's Castle, which has very steep gradients.

The *Roseanne Diab Wind Atlas* concludes that all the wind is along the coast and there is nothing inland. However this is not true. It seems that many of the inland areas have more wind than the coastal areas. In addition, coastal areas are very sensitive due to tourism, environ-

mental impacts, objections from the public to the visual impact, etc.

In terms of the total resource estimation, it is not only a question of where the wind blows, but also of where the infrastructure is and where it is viable. I integrated the total wind potential by considering the following criteria:

- Proximity to roads, because you need to transport your turbines. I took secondary roads as a minimum
- Proximity to transmission lines. For a large wind farm you need at least 66 kV of distribution/transmission capacity
- Minimum capacity factor, based on a standard 2 MW Vestas turbine. This tells you how much your wind farm generates on average over a whole year, compared to output at full capacity over the same period. My assumption is that this will be much higher than in Europe, as there is more wind in South Africa than in Denmark or Germany, for instance. Policy-makers do not always understand this
- Given hub height. The higher above ground you go, the more wind there is, for example at 60m, 80m or 100m. The differences are very significant
- Density of one turbine per square kilometre. These days you can get about four turbines per square kilometre, but this accounts for non-feasible areas such as nature reserves, mountains, etc.

Taking all this into account, the areas in South Africa with potential are limited areas in the Northern Cape and KwaZulu-Natal and quite a lot in the Western Cape and the Eastern Cape.

We are trying to disprove the baseload reliability argument (regarding 'what do we do if the wind doesn't blow') by scientific research. We investigated the impact of 30 GW of wind farms spread across the entire country. We took the 8pm 'winter peak', when the electric grid is most strained, and looked at how reliable the 30 GW of wind power is. We asked: what is the probability that a given percentage of that capacity is online at load peak? We found that even in a low-wind scenario there would still be 10 per cent of capacity generating at any given time, guaranteed. There is no uncertainty about that.

Another argument put forward by Eskom and others: what do we do when there is too much wind? However, because the country is so large and the potential so distributed, that scenario will never occur. We will never have a full 30 GW on stream. So Eskom would not be managing a variability of between 0 and 100 per cent, as it claims to fear, but rather a variability of between 20 or 25 per cent and 75 per cent.

REFIT was announced in March 2009, with a tariff level of R1,25 per kilowatt-hour. It kick-started a lot of development activity. There are dozens of potential wind developers vying for projects all over the country and a virtual land grab is taking place. Developers are signing up land with long-term leases left, right and centre, but there is likely to be quite a bit of consolidation in 2011 and 2012.

About 6 000 MW is currently in development and being considered under environmental impact assessments (EIAs). A first large wind farm (greater than 20 MW) will probably be built in 2011. The industry is now readying itself for the first bids under the REFIT programme, which could start in November 2010.

SAWEA has a 6 000 MW target to be achieved by 2015 and a target of 25 per cent wind by 2025, as part of our 'yes to renewables' campaign (www.yestorenewables.co.za). SAWEA is busy lobbying the Department of Energy (DoE) and the National Energy Regulator of South Africa (NERSA) right now. We are pushing for a high wind allocation in IRP2 so that we can make this happen. We are keen to deliver a low-cost, low-carbon solution with high employment potential.

RENEWABLES: WHAT GAINS FOR THE WIND INDUSTRY?

Davin Chown, Genesis Eco-Energy and SAWEA

I want to reflect on the questions that we have raised as an industry association. A lot of work has been done to confirm that there are renewable energy resources out there, be they wind, solar or other. We now need to move beyond the technical debates of whether renewable energy is possible. Other countries have been able to move ahead much more quickly and in a much more robust way than South Africa has. For instance, in Kenya there is already 300 MW of wind power under advanced development. The Sudan and Namibia are also moving ahead. Why is South Africa not able to move at the same speed?

How we go about the process of investment – as well as the quality of investment – is very important. Discussions about the need to de-risk the economy, and the benefits of doing so, are not in the Integrated Resource Plan (IRP) process, despite the research, pleas and information that have been submitted. Why are authorities not responding to this and looking at these critical questions? We know that it is easy to implement a number of these technologies and localise the manufacture of several components over the medium term. What is hard to understand about rolling out an energy future and an energy plan that would help to deal with issues such as land reform, job creation, energy access, poverty alleviation and rural development, and inward investment? These are the issues we are putting on the table in relation to the IRP. There is

plenty of evidence to support this, and examples north of the border where it is happening already.

Who is jigging the debate internally? As an industry association, we are asking: who is taking the final decision? After much analysis we believe that it is the Inter-Ministerial Committee on Energy (IMC). Should it not be the Minister of Energy? As an industry association we have spent a lot of time with the Minister and her colleagues. We have found that much of the information that is presented does not find its way into the decision-making portals. For instance, the Minister has turned round and said to me, 'but I haven't seen this document'. I ask: how can such a thing happen when the document has been submitted?

A frank, honest, straightforward discussion is needed around energy issues.

We have a lot of issues concerning economic and political transformation in this country. There are a lot of vested interests in certain sectors of the economy.

What should we say to former miners in the Northern Cape, to workers in the automotive industry who are worried about their job security? We need to show an alternative path to government. Either we are not making the case clearly enough, or someone doesn't want to listen.

Who owns the mining companies? What are the real interests of the coal industry? Are there a lot of vested interests? I get asked this about the wind industry. I have been asked if there are deals taking place between certain wind companies and certain big industrial companies who will undercut the Renewable Energy Feed-in Tariff (REFIT). We should not be scared to interrogate these things.

We are on a once-off transition to sustainability. The sustainability transition won't come round a second time.

As an industry association, we raise these issues from a point of concern; we understand that some people will feel affronted and exposed.

The notion that project developers in the wind industry are mostly white men has been raised by journalists and others. We should have a discussion about this across the industry. We must address this issue, but without getting sidetracked.

We ask: who has been running the governance of the IRP process? Will the people who are currently running it continue to do so? Independent voices have struggled to gain access to the process. It is easier for civil society to regulate industry and raise the issues than for an industry association such as us. We are told that we have vested interests. But we are putting up our own money and taking the risk. The state will take limited risk. This has not entered the main debate.

The Energy Caucus has a huge opportunity to ask the hard questions that the wind industry and others cannot. You are more likely to succeed in getting accountability entrenched. As you interrogate nuclear power, interrogate us. We are happy to answer the questions. This will give people confidence that we are open, honest and transparent and can move forward.

INDEPENDENT POWER PRODUCERS: ARE THESE OLD FACES WITH A NEW, CLEAN STRATEGY?

Mark Pickering, Meridian Economics

To state my interests up front: I have been employed by independent power producers (IPPs) on and off for the last five years. I am also a member of the interim management committee of the IPP association of South Africa. My brief is to make a pitch for IPPs and what needs to happen to make them work. Civil society should be interested in this, in the interests of better governance. Economic development needs power.

Central America has 80 per cent access, while sub-Saharan Africa has 25 per cent. Central American companies have adopted private power production for generation (though not for transmission and distribution). There is no natural monopoly in generation and it is an obvious place to introduce private sector innovation and funding. In Africa, a quarter of the power is provided by private producers. Kenya is an exception. South Africa has no IPPs. There are at least 50 IPPs operating across the whole of Africa, the majority of which are successful and contributing to economic and social development.

The lessons from Central America are that tariffs, clear rules and policy, and a political commitment to private power are necessary. Tariffs have to be cost-reflective and based on risk-reflective returns. The REFIT tariffs are a good step in that direction. Good tariffs are necessary for financially healthy utilities. In South Africa we have had positive intentions. The government, NERSA and Eskom all make positive noises about the benefits of IPPs that will relieve stress on Eskom's balance sheet and the national fiscus and bring diversity and innovation. They are far more likely to introduce renewable energy than introduce six new nuclear power stations. However, there has been no progress with procurement.

As an example, there are five procurement programmes which have been launched but for which the processes have either stalled or failed.

1 The Department of Minerals and Energy's (DME) peaker project (which commenced in 2005) for a potential 1 000 MW of Open Cycle Gas Turbines. A preferred bidder was selected in 2007, but the project

failed to reach financial close in early 2008. Its status and legality is unclear

2 Eskom launched its Pilot National Cogeneration Programme (PNCP) in 2006. There were expressions of interest for about 5 000 MW, but very few proposals were made due to investor concerns with the bankability of the Power Purchase Agreement (PPA) and a sense that better-priced programmes might be offered in the future

3 Eskom launched its Medium-Term Power Procurement Programme (MTPPP) in 2007. This was delayed for two years pending the resolution of Eskom's funding model. Only 400 MW has been signed up, of which 215 MW is operational

4 Eskom's Multi-Site Base Load Independent Power Producer Programme (BLT) in 2008 had a target of 2 100 to 4 500 MW. Eskom pre-qualified 23 developers in October 2008 but the programme is now on hold, pending the resolution of Eskom's funding model

5 Renewable Energy Feed-in Tariffs (REFIT) were published almost two years ago but it is still unclear who the off-taker will be – Eskom or the ISMO?

I argue that the lack of a clear market structure is what is holding up IPPs. South Africa is not following the market model pursued by the UK, Chile and other economies across the globe. Instead, it is aiming for a model in which Eskom stays in place and new generation comes in at the margin. This is known as a hybrid model. Sound implementation of this model requires that government administrators have to do things properly. Eberhard and Gratwick (2010) argue that to achieve this model you need to:

- Define a standard for security of supply
- Allocate responsibility for achieving this standard
- Monitor whether the standard is being achieved
- Allocate responsibility for generation-expansion planning; update generation-expansion plans regularly; clarify whether plans are mandatory or indicative, particularly in relation to generation-licensing procedures; allocate new-build opportunities between incumbent state-owned enterprises (SOEs) and IPPs
- Allocate responsibility for initiating IPP procurements; define a framework to deal with unsolicited bids
- Allocate responsibility for undertaking contract negotiations with new IPPs
- Address potential conflicts of interest when the incumbent SOE is both a generator and a single buyer
- Clarify who should approve long-term power purchase agreements (PPAs)
- Ensure fair dispatch between SOE generators and IPPs

The new generation regulations of August 2009 leave all key processes in Eskom's hands. This means that the Minister makes determinations based on reports produced by Eskom. Though this has become more complex, with the Inter-Ministerial Committee on Energy (IMC), Eskom is still in a conflicted position. Though we have a proposal for an ISMO, there is no information out in the public domain about what it will do.

Professor Eberhard and I have made a proposal that the ISMO becomes a fully fledged grid operator. Eskom has attacked this proposal in the press recently.

IPPs can most definitely contribute, but first we need to get the basics in place. First, we need to make sure our tariffs are heading towards financially sustainable levels, and second, we need to clarify our market rules. The IRP process should improve understanding, but this is just one step in the process. We need to resolve the evident conflicts of interest between Eskom's roles as a generator, planner, system operator and procurer of new capacity – through vertical disaggregation and clear role definitions in law. We need to dramatically improve transparency with regard to sector performance. Lastly, we need to take advantage of the benefits of competition, initially for the market and then later within the market. There appears to be political will, but it has still to follow through into action.

Respondent: Tristen Taylor, Earthlife Africa Sustainable Energy and Climate Change Project (SECCP)

Earthlife Africa did a presentation on the Renewable Energy Feed-in Tariff (REFIT) in which they expressed concern that IPPs would take excessive profit. Our obligation is not to profit, but to poor and working-class people. If we lose sight of that, we will get lost. For poor and working-class people, electricity is a social good like water and food, not a commodity.

The non-provision of electricity is a method of reinforcing poverty in a modern economy. If you don't have electricity in your house, then you will not participate in a modern economy. However, liberalised energy markets don't treat electricity as a social good.

Therefore: we want wind farms, but do we want profit?

Progressive organisations now have to look at industry as their saviour. However, a profit motive has been established in the electricity sector. We don't ask our health care service to make a profit. But electricity, for ordinary people, is the same thing.

Mainstream Renewable Power is a 'good IPP'; but there are others – such as Sasol, who have just signed a confidential Power Purchase Agreement (PPA) with Eskom. We know what Mainstream Renewable Power will get, but we do not know what Sasol will get from cogeneration and gas.

When Eskom says they're not going to build Coal 3, they mean *they* won't build it. But an IPP such as AES might.

It is not possible for a member of the public to build a solar panel on his or her roof and sell electricity back to the grid. There is a need for civil society and organised labour to wrest control back from Eskom. From a civil society point of view, IPPs need to be interrogated.

In conclusion: IPPs are not necessarily good just because they are wind farms.

Discussion

- What direction will the new industry take? Can South Africa become a leader? Can we create a locally owned industry, or will companies from abroad come in and run things with token local participation?
- The cost of electricity needs to be considered. If we want to create an industry, it will cost more. How will we fund these IPPs? The state will not give its blessing to renewable energy. It is more likely that we will have to borrow money from abroad
- Civil society needs to be careful about opposing IPPs as we may end up shooting ourselves in the foot. We should also consider a role for cooperatives here
- NERSA was supposed to produce a local feed-in tariff to enable ordinary people to feed into the grid
- What about job creation? Is it possible to find a match between the jobs we would lose in traditional industries and the new ones that would be created in the renewable energy sector?
- IPPs aren't only about profit seeking. There are also some being run by non-governmental organisations, such as Oxfam/Just Energy
- The use of terminology needs to be clear. What does IPP mean? An IPP could also produce nuclear power
- There are different models of IPPs and the challenge to civil society is to find alternatives and implement them. As a caucus, we should engage with industry associations and discuss these issues in order to challenge them to come up with different models and ways of doing things. Unless this industry becomes commercially viable, we will end up relying on the usual suspects
- Many wind farms are on land belonging to emerging farmers. Wind farms and solar parks will lease land from farmers, which will affect land reform
- There is a perception that solar water heaters (SWH) are of lesser value than electricity from the grid
- Electricity is one of the most regulated sectors around. We need to be determined about driving localisation; for example, if we buy from China, the goods will be built by Chinese labour, who will also operate those plants. The instructions will be in Chinese. Our nuclear engineers are leaving to work in the UK and Europe. The French are still operating Koeberg
- An element of competition is necessary to move forward. Regulations will not stop people from behaving differently. South African Airways, for instance – a state-owned entity – is more expensive than using privately owned planes. Competition is healthy and fine to have in electricity generation. MICs have almost all gone that route – India, Chile, Thailand, Indonesia. South Africa is unusual in that regard. Eskom is the fourth- or fifth-biggest utility in the world. However, it still runs by a profit motive. It has a shareholder compact with government (though this is secret). There is a gap between wholesale and retail sales which determines cost allocations. In South Africa we have social pricing policies, free basic electricity, etc., and a serious funding gap at the generation end. We need to benefit from competition
- On local economic development: there is potential in the wind industry, potential to manufacture some parts locally. For instance, blades can be manufactured to a high degree of local ownership. However, some parts (such as turbines) are specialised and will need to be imported. You cannot avoid some overseas equipment, as no bank will fund you if you go with a purely local project. There is a choice between raising electricity tariffs and suffering power cuts. Either the government (and therefore, the taxpayer) pays, or the consumer pays. Coal costs are linked to oil; but with wind there is no risk of an increased cost
- Because of caps prescribed in REFIT and IRP there is a scramble for renewable energy. Meanwhile, Sasol is getting subsidies at the same time as our comrades in Sasolburg are coughing up blood in the mornings. We need to interrogate IPPs much more closely. The majority of IPPs right now are not renewable. AES will come in and build Coal 3

Session 3

Learning lessons from civil society engagements in 2010

WHAT HAS CIVIL SOCIETY ACCOMPLISHED WITH THE CAMPAIGN AGAINST THE WORLD BANK?

Bobby Peek, groundWork/Friends of the Earth, South Africa

Firstly, many thanks to everyone who supported the World Bank campaign. It made inroads into difficult spaces and places. It has positive things to say about the kind of impact we can have.

Government is responding to pressure. The question is whether the government response is meaningful, or whether it is creating a better spin machine as we prepare for the 17th Conference of the United Nations Framework Convention on Climate Change (UNFCCC), which will be held in South Africa at the end of 2011.

The campaign received a strong political response. It made politicians start thinking and talking. Hogan, Gordhan and Peters all flew to the UK to try to garner support before the World Bank took a decision. They argued that it would support the poor.

Eskom was in financial trouble because its credit rating was downgraded. Therefore it had no choice but to go to the World Bank. Prior to that it had received money (to the tune of $2,5 billion) from the African Development Bank, in 2008. There will now be an inspection of this loan. There was a lot of direct pressure (by Hogan and the South African government) on the 24 directors of the World Bank who would take the decision of whether to approve the loan to Eskom. It created tension within the World Bank because funding for coal was being questioned by various parties, including the US. There is currently an energy review taking place within the World Bank; therefore our campaign came together at an opportune time. When the vote was taken, five countries abstained.

Local residents supported by Earthlife Africa and groundWork requested that the World Bank's internal accountability arm, the Inspection Panel, carry out an investigation into the loan. A preliminary investigation took place over five days in May. On 29 July the World Bank's executive directors debated whether a full investigation should take place and 13 executive directors opposed this. However, it has since been agreed that a full investigation will take place.

Helen Zille, the Democratic Alliance opposition leader, gave a speech on this project and sounded like an environment justice activist. She was very eloquent and had an hour to say things that Earthlife Africa and other NGOs have been saying for many years.

Within the ANC this loan was problematic. Different people were saying different things about it at different times.

This campaign brought diverse community organisations and non-governmental organisations within South Africa to the fore, as well as international organisations and international networks. Indian civil society was particularly supportive; which is key, given that Sasol is now going into India to sell coal-to-liquid. There is a community process happening in which people are now discussing what we should be doing about coal to be better prepared to challenge future projects such as Kusile. Coordination between NGOs such as WWF, Earthlife Africa and groundWork and communities in Witbank will be critical.

The US has been playing a two-faced role. The US agency for International Development (USAID) has written a letter saying that they will not fund any more coal, while the US Export Import Bank (Exim) is consid-

ering giving money to Kusile. But there is a strong coalition of civil society working on this at the moment.

We need to monitor the activities of Eskom and the World Bank, as well as future IPPs.

In terms of community links we met with agriculturalists, local politicians and traditional healers in Lephalale.

In conclusion, the key points for consideration and discussion are:

- How do we get the unions to talk to us about coal?
- How do we mobilise ourselves to make sure there is energy justice as well as climate justice? This is key for poorer households who have limited access to energy
- We are clear that the World Bank does not have a role to play in energy and we need to keep working on this

ASSESSING CIVIL SOCIETY IMPACT ON THE IRP2 POLICY PROCESSES

Samantha Bailey, 350.org

I am a member of 350.org and the Climate Justice Now! South Africa (CJN!SA) Western Cape working group, both of which played a key role in the IRP2 campaign. One of the successes of the World Bank loan campaign was the amount of solidarity that was generated around it. This should be considered a success.

In May 2010, as part of the Electricity Governance Initiative, IDASA ran a process to help inform civil society about what was happening with the IRP2 and get them as involved as possible. There were workshops in Cape Town, Durban and Johannesburg. In addition, Ompi Aphane from the Department of Energy (DoE) attended the Energy Caucus in May in order to talk about the IRP. The DoE released parameters or assumptions that were going to inform the scenarios. Initially the DoE gave people one week to respond. After pressure from civil society this was extended to 30 days, even though more time than that was requested. Some of us asked for a 60- to 90-day extension because of the technical nature of the material and the time needed to translate it into ordinary language and consult with the person in the street.

Much input was given, including from Earthlife Africa, Greenpeace Africa and the World Wildlife Fund (WWF). The DoE held 'stakeholder engagement workshops' on 7 and 8 June, but these should really be considered 'hearings' given that there was no room for discussion or questions and answers. The original date given for the release of the scenarios was July. They have been delayed and are now expected to be available for further public comment by the end of September. The process is very technical. It is hard to understand the language used, as well as the implications that it will have on the lives of ordinary people. The timelines are also problematic. Once the scenarios are released at the end of September, civil society will only have 30 days to comment on them. Apparently it will be reviewed on an annual or bi-annual basis, but once a decision is made (for instance, on Kusile) it will be hard to back out of contracts signed.

On 24 May the South African Faith Communities Environmental Initiative (SAFCEI) sent a letter to the DoE outlining various concerns and suggestions for improving public participation. They received no response. Then, on 10 June, 350.org put together a letter to the DoE, signed by a large group of NGOs, reiterating concerns about the process. The Minister responded to this on 13 June. We asked for a time extension but they said 30 days were generous enough. We asked for the technical task team to include civil society observers and for the meetings to be open and the minutes to be put on the DoE's site. This was refused – we were told that these experts were technical and were not supposed to be representing stakeholders. We asked for a 'comments and response' document to log civil society concerns and outline what action will be taken. This was agreed to, but has not been done – though some of our comments have been included in the parameters.

We suggested running a public awareness campaign for citizens without access to the internet and who didn't speak English, and providing funding for poor communities who wanted to attend stakeholder meetings. We were told there was no budget for this, though it was a good idea in principle. We asked that there would not be any predetermined energy mixes before the IRP is concluded. They said that their statements would not be prejudicial to any outcomes, but this flies in the face of recent announcements about six nuclear power stations. We asked that the IRP be aligned with the Integrated Energy Plan (IEP), the Industrial Policy Action Plan and the Climate Change policy. They responded that logically the IEP should be done before the IRP and that the IEP is the best tool to ensure that social needs are met (such as affordability and access, and sustainable job creation) but their focus is now on the IRP.

The positive thing was that we received a response, and we have a DoE representative at this meeting.

350.org also conducted a public information inquiry for information on the technical team, including details of who the members were, the confidentiality agreements signed, how the members were appointed and copies of the minutes. The response confirmed the names, provided confidentiality agreements and a copy of the mandate but said that the minutes could not be shared. We hope to appeal this.

WWF have released a report on a 50 per cent-renewable target to be achieved by 2030 and Eskom are coming

to talk to us this afternoon. We are seeing more openness by the department in terms of interacting with us, but we still have a long way to go. We also need to up our efforts in making information presentable to community groups. In terms of gender and youth those issues are not being adequately addressed. NGOs also need to make clear that if government talks to NGOs, this does not count as government having spoken with the public. This is not appropriate public consultation.

IS CIVIL SOCIETY PLAYING AN ACTIVE ROLE IN DEVELOPING THE 'CLIMATE CHANGE RESPONSE POLICY'?

Dorah Lebelo, GenderCC-SA

GenderCC is part of an international women-for-climate-justice network which is involved in climate-change discussions and debates. This is my own personal account and reflection. To reflect on our civil society participation in the national climate change conference in March last year, what kind of roles did we play? There was an attempt at joint civil society input into that conference, but this proved to be almost impossible. In terms of content issues it is very time-consuming for civil society to have one common voice.

Who was there and what were they doing? There were comrades who were excluded or not allowed to participate who organised parallel side-events outside the official forum. They said 'nothing about us can happen without us'. What impact did those of us allowed inside have and what role did we play? Did we make a satisfactory contribution?

I also refer to the publication of a confidential document called the 'background information document on climate change' which was used as the basis for a round-table meeting of a few selected people held in Sandton on 17 May.

I was there. A number of civil society organisations (such as Climate Justice Now, South Africa-Climate Action Network and Adaptation Network) made some inputs. But that document is being used as a basis for the Green Paper to be tabled by Parliament in October. This is a concern. I feel that we are legitimising an unfair process. That document was very confidential, and only a select few were able to participate. How can we allow something like this to go on? What does a 'public participation process' actually mean? Is it the department hand-picking those with whom they would like to consult? What is our mandate as South African civil society? There is a danger that some of us end up as professional 'consultees' and will form part of a government box-ticking exercise.

We don't have constituencies. Who informs our position? Do we really know what people want on the ground? Who do we represent?

We need to get our basics right and take people with us – or the government will keep calling on us when it suits them. We need to build an active and robust movement that brings civil society movements with it.

Earthlife Africa has done some amazing work, for instance at a women's grassroots conference on 5 August. We asked them what participation has meant for them. They said they would like to be involved and would like to see government use the same energy as when they mobilise for election campaigns. There will be no understanding of what climate change is all about without this.

Why are we not seeing new issues at these caucuses? It is our responsibility to go to others who are fighting other struggles and engage with them. We must integrate indigenous knowledge.

Session 4

Institutional arrangements for monitoring and oversight of policy

THE ROLE OF PARLIAMENT IN ENERGY OVERSIGHT

Lance Greyling, MP, Independent Democrats

Thank you for inviting me to present at this civil society Energy Caucus once again. As I said last year, I really do share your values in fighting for a just and sustainable energy future. I am sorry that my Public Enterprises committee chairperson, Ms Vytjie Mentor, is unable to be here today to share the panel with me as planned.

The role of Parliament in providing oversight over the energy sector should be clear-cut, but unfortunately this year has proven that this is certainly not the case. In fact I would go so far as to say that Parliament – and, particularly, the energy committee – has been negligent in its duties at providing proper oversight over the energy sector; and in particular, energy planning.

Parliament essentially has three roles which are laid out in the Constitution, namely that of drafting legislation, approving government budgets and performing oversight over the work of government departments. Unfortunately it is the last role of performing oversight that is not clearly defined and there have been big debates over what constitutes proper oversight. I will return to this issue later.

On the first issue, of drafting legislation, I believe that Parliament initially lived up to its role in completing the 2008 Energy Act. I was on the committee at the time and I remember stating in my speech in the House how this Act would usher in a new regime of energy planning in South Africa. We had worked very hard in that committee to ensure that energy planning no longer took place in an ad hoc fashion, but that the department (through the mechanism of the integrated energy plan) would be forced to model all factors pertinent to our energy future properly, including environmental sustainability, job creation, industrial policy objectives and a host of other factors.

Unfortunately, passing that legislation did not lead to this new energy planning regime; because the department has still not lived up to its provisions in drafting an integrated energy plan. Instead the department has only concerned itself with the Integrated Resource Plan, which is only mentioned in one line of the Electricity Regulation Act of 2006, and the factors that need to be modelled are left up to the discretion of the department. We are clearly doing things back to front when it comes to energy planning and Parliament should not be endorsing this approach. So why has this happened? This brings me to the second role of Parliament, namely approving budgets.

The Department of Energy claims that it only received the budget to set up any kind of modelling capacity at the beginning of this year, which explains the delay in getting started on the integrated energy plan. On this I have sympathy with the department, and I think that Parliament should be playing a far more vociferous role in arguing for a larger budget to be allocated to this department so that we can finally capacitate it to the extent that it can perform its planning mandate properly.

This brings me to the last role of Parliament, namely this poorly defined concept of oversight. There is a big debate over what Parliament's precise role is concerning policy-making. Some people argue that Parliament doesn't have much say over policy, as this is the prerogative of the department or the executive.

I believe, though, that at the very least Parliament has a duty to ensure that the integrity of the policy-making process is upheld and that the South African public is not short-changed due to the influence of special interests. In the case of this latest IRP I believe that we have been completely remiss in this duty.

Firstly, Parliament has not sufficiently questioned the department as to the composition of the so-called Technical Advisory Panel tasked with coming up with the assumptions that would feed into the IRP process. When I asked the minister who sits on this Technical Advisory Panel, I received a very interesting reply. It is basically a Who's Who of the coal-mining and energy-intensive users in South Africa, such as Xstrata Coal, BHP Billiton, Sasol, the Energy Intensive User Group and Eskom. The only person from a renewable energy company who was supposedly sitting on this panel was Glynn Morris from Agama Energy – except that when we contacted him he informed us that he had in fact never been invited to sit on this panel!

Essentially then, the department has succeeded in locking all vested-interest groups into the Technical Advisory Panel and even though they claim that it is just about technical expertise, we are not allowed to see the minutes of these meetings; nor are we allowed to see the thinking behind the different energy assumptions that they come up with.

Given the importance of this 20-year energy plan one would also have expected Parliament's energy committee to have had a tight rein on this process, constantly questioning the department over problematic issues such as the short space of time that was allocated for public participation. Despite my best efforts though, the chairperson of the portfolio committee chose not to have any briefings on the IRP until the process was about three months down the track and we were not in a position to iron out these problems. We still have had only one parliamentary meeting on the IRP and it is unclear whether we will have any more before this process is over.

In conclusion then, I believe that Parliament has a huge role to play in strengthening energy governance in South Africa. Unfortunately I don't think it has come close to truly living up to this responsibility. I will continue to fight for this, but ultimately it is for civil society and the public at large to put greater pressure on what is essentially your Parliament to ensure that this takes place in the future.

Discussion

On the role of NERSA, the capacity of the DoE, and the oversight of the different parliamentary portfolio committees:

It is clear that the DoE is not properly capacitated. They do not have enough budget or staff. We really need to turn them into an independent-minded department that can hold Eskom and all the other vested interests at bay.

NERSA took a lot of flak over the tariff increases, but they were only working within their mandate and had to work within the requirements of the IRP. I ask, where were the consumer associations? Why are the public only interested in energy at the point of tariff increases? We need to get them involved earlier.

An independent panel looked at the role of oversight and came up with very good recommendations to improve it. However, nothing has happened thus far. The energy committee has been particularly remiss and has not lived up to its mandate, and the public enterprises committee has played a much more robust role in terms of oversight.

CAN WE EVER GET A FULLY INDEPENDENT ISMO (INDEPENDENT SYSTEMS AND MARKET OPERATOR)?

Matthews Bantsijang, Department of Energy

We need to understand that even though the department is tasked with challenges concerning energy, there are other stakeholders who need to be involved, and there are issues relating to these stakeholders.

A fully ring-fenced Independent Systems and Market Operator (ISMO) entity would be established within Eskom's Systems Operations and Planning. Its establishment is still ongoing. The Cabinet has also mandated us to say that the ISMO should be responsible for electricity distribution, for which the modalities are still to be discussed.

There are critical issues and serious debates about what type of ISMO is to be established, and what responsibilities the entity would have. But we need an ISMO as soon as possible. The entity will be responsible for the work that has been done by Eskom's systems operator. The main challenge is around infrastructure and the deadlock and backlog of maintenance. The Department of Public Enterprises, who are not here today, would be able to speak further on this.

The first phase of establishing the interim ISMO would ring-fence finances and governance using Eskom's single buyer's office, while the second phase would seek to establish a fully independent ISMO. All costs, and the procurement of power from independent power producers (IPPs), would be handled in this ring-fenced entity.

Eskom employees would populate the interim ISMO, while an investment committee with external representation from government departments such as the Department of Energy and the National Treasury would play a role in decision-making. The ISMO would initially procure power only from IPPs. It is envisaged that this entity would evolve, over time, into a fully-fledged system and market operator, outside Eskom.

The creation of the ISMO is an important mechanism for facilitating investment by IPPs into the power generation sector in South Africa, as it would remove the conflict

of interest caused by having Eskom as both generator and transmitter, as well as the 'single buyer' of all co-generated and IPP power. The clarity and agreement needed on the identity, composition and mandate of the entity that will eventually buy power from IPPs is viewed as an impediment to getting projects started in the country, but it should be noted that the ring-fencing exercise was fairly simple once agreed to. A fully-established ISMO can be fast-tracked if we agree sooner.

Discussion

How independent will the ISMO be if it is using Eskom employees? Will employees remain as Eskom workers?

The entity will be a new, private entity. Ultimately the employees will be independent. The interim ISMO might not be quite so clear-cut.

What are the links between the ISMO and the EDI?

The maintenance backlog has never been the responsibility of the EDI. These modalities need to be discussed and the Cabinet needs to make a decision.

Will the envisaged 30 per cent private/70 per cent public split in energy generation shape the procurement policy of the ISMO? Will the process be driven by the DPE or the DoE – who has the final say?

The DoE and the DPE have a dual responsibility. The DoE is responsible for policy and the DPE is responsible for the management of public enterprises, of which Eskom is a part. There is a need for change of governance and policy. The DoE needs to make sure that policy is changed so that it incorporates the ISMO. The DPE will be pivotal in removing officials and for the governance. The DoE is responsible for new procurement in the sector as per the Electricity Regulation Act of 2006. In terms of implementation this might be done by ISMO as well, but this would be at the discretion of the DoE.

What is the capacity of the department to provide extensive modelling and intellectual input?

The DoE separated from the DME. We still need additional funds for additional capacity. We hope that as soon as we get funding we can advertise for more posts. The Minister is working very hard on that.

Why are there no civil society groups involved in the setting up of the ISMO?

This is a challenge. In terms of the legislative mandate, we frequently report to NEDLAC and have a round-table discussion every month with them. In terms of legislation there is no documentation without the consultation of NEDLAC.

WHO REGULATES THE ENERGY REGULATORS?

Adv Boyce Mkhize, CEO, National Nuclear Regulator

The NNR plays a critical role. The benefit of a democracy is that there are democratic institutions, structures and frameworks that guide the way you can operate. An important element in our Constitution is the separation of powers. This means that bodies such as the NNR are held to account should they deviate from accepted norms and principles. Chapter 9 on state institutions talks about democratic structures with a view to providing oversight and being able to hold the NNR and the like to account. This is another layer of accountability.

We uphold the rule of law, including administrative justice and rules of natural justice. We have robust legislation, including access to information. These create a very neat framework within which the NNR operates and can be deployed by any member of the public. This guides and informs the NNR in its operation. It means that the public becomes the watchdog of the regulator.

South Africa can no longer sustain the 'go-it-alone' mentality. We have peer-review mechanisms and bilateral agreements with a number of countries, which underscores the importance of us operating at a level of responsibility. We have to interact with civil society and public interest groups. The NNR is a regulator and a public body. The public need to be involved in issues that affect them. NNR should not be scared to share pertinent information with the public. We also need cooperative governance with other departments, such as Health. We need to be able to show that the public is protected from any harmful effects of nuclear power. We need to continue the robust engagement with civil society and relevant stakeholders.

HISTORICAL AND CURRENT MANAGEMENT OF RADIOACTIVE WASTE WITHIN THE WITWATERSRAND GOLDFIELDS

Mariette Liefferink, North-West University

I am presenting in my capacity as the CEO of a federation of NGOs and civil society and Associate Researcher of the Water Dynamics Niche of the North-West University; and not as a board member of the National Nuclear Regulator.

The Constitution is the supreme law. In terms of the Constitution, everyone has a right to life and an environment that is not harmful to health and wellbeing. Everyone also has a right to freedom of speech, of the press, to protest, to present petitions and to picket, and to

disclose information truthfully, accurately and in good faith to one or more of the news media. With regards to the law of evidence, there is admissibility of evidence of past management which tends to guide future management of radioactive waste.

South Africa has embarked on a nuclear expansion programme aimed at, among other things, extending the mining, processing and enrichment of uranium. South Africa has a legacy of 120 years of gold and uranium mining, and the historical management and regulatory control of large concentrations of radioactive material can adduce evidence of the future management and regulatory control of radioactive waste.

South Africa's 120 years of gold and other mining has left a legacy of 270 tailings dams containing deposited uranium. These dams have been found to contain 100 000 tons of uranium. These have often been poorly managed and monitored, and sited on dolomitic land. They are an extensive source of air and water pollution. It is incorrect that tailings dams contain 'naturally occurring radioactive material'. The correct term is 'radiologically enhanced'. The main health concern with regards to uranium is its chemical toxicity, as opposed to its radioactivity. However the progeny of uranium – such as radon, radium, radon gas, bismuth, strontium, proactinium and polonium – are also a concern, as are two isotopes of lead that also manifest radioactivity.

In the West and Far West Rand gold fields, 100 000 tonnes of uranium have been deposited on these tailings dams. The spillages that have occurred are contraventions of environmental laws and are examples of constant infractions by mining companies. Fifty tonnes of uranium reach the watercourses of the West and Far West Rand annually. Though I may focus on the West and Far West Rand gold fields, the impacts I am describing are mirrored elsewhere in the Central Rand, the East Rand and the Kosh gold fields.

In addition, air pollution is typical during wind events. Airborne pollution contains toxic and radioactive dust particles. Small particles are carried by the inhaled air stream all the way into the alveoli. Here the particles can remain for periods from weeks up to years, depending on their solubility. Highly insoluble uranium compounds may remain in the alveoli, whereas soluble uranium compounds may dissolve and pass across the alveolar membranes into the bloodstream, where they may exert systemic toxic effects. In some cases, insoluble particles are absorbed into the body from the alveoli by phagocytosis into the associated lymph nodes. 'Insoluble' particles may reside in the lungs for years, causing chronic radiotoxicity to be expressed in the alveoli. Dust pollution from mine tailings dams is not benign, as it contains toxic and radioactive dust fallout.

Please note that all my quotations have been taken from official reports in the public domain and peer-reviewed academic journals. They are not based on hearsay evidence, personal opinion or alarmist speculation. I can make all these documents available if necessary.

Most of these tailings dams are unfenced, with no warning signs in place. Communities live alongside them. Radon exposure is of great concern. Children play in close proximity. Poorer communities plant their crops in the wetlands surrounding these tailings dams, where heavy metals (including uranium and its progeny) are absorbed.

I would like to highlight a case of RDP/informal housing that has been built on uraniferous tailings. They have no concrete flooring and very poor ventilation with no windows and it can logically be assumed that the residents are exposed to elevated levels of radon and radon gas. I visited the area yesterday; children were playing in the area, and crops were being planted on uraniferous tailings.

The Tudor dam is a dry dam that has been declared a radiological 'hot spot' or 'priority area' by the NNR. It is unfenced and there are no warning signs around it. It has been found to have up to 100 000 becquerels per kg (bq/kg). The regulatory limit determined by the NNR is 500 bq/kg. There are 17 families who live in the area, as well as an informal settlement. These are poor communities who live off the land. They collect scrap metal, wood and reeds.

Kagiso is another example of recent development of RDP houses adjacent to tailings dams. This development took place on land that was declared radioactive by the NNR Status Report of 2007. We are faced with a challenge with regards to cooperative governance between different departments, including the Department of Housing.

Below are excerpts from the NNR's Status Report on the Actions Arising from the Study of Radiological Contamination of the Wonderfonteinspruit Catchment Area (WCA), of 29 October 2007. As you will see, a survey was carried out. Of 47 sites sampled, 50 per cent were found to have radioactive waste present.

- The measured uranium content of many of the fluvial sediments in the Wonderfonteinspruit, including those of mine properties and therefore outside the boundaries of licenced sites, exceeds the exclusion limit for regulation by the National Nuclear Regulator
- For approximately 50 per cent of the 47 sampling sites, the calculated incremental doses of the respective critical group are above 1 mSv per annum up to 100 mSv pa
- The radioactive contamination of surface water bodies in the Wonderfonteinspruit catchment area caused by the long-lasting mine water discharges, diffuse emis-

sions of seepage and runoff from slime dams poses radiological risks to the public resulting from the usage of polluted environmental media
- The sediment pathway ('SeCa') can cause radioactive contamination of livestock products (milk, meat) resulting in effective doses absorbed by the public some orders of magnitude above those resulting via the water pathway ('WaCa')

With reference to the fourth bullet point, the most significant pathway for ingestion is the 'sediment pathway', which begins when radioactive sediment in river and stream beds is disturbed by cattle when they go to drink. The cattle swallow radioactive particles in the water. Then the radioactivity is ingested by humans in the form of meat or dairy. This results in doses of radioactive contamination several orders of magnitude higher than those resulting from the water pathway ('WaCa'). Preliminary results of analyses conducted on produce grown in the area have indicated that the dose levels are of radiological concern to the regulator.

There is also evidence, based on reports by the Department of Minerals and Energy (DME), that bricks are being made with radioactive tailings, including for RDP houses. An airborne radiometric survey of the West Rand and Far West Rand area carried out by the DME found that 'interpretation of the data shows many of the residential areas (Carletonville, Westonaria, Khutsong, Kagiso, Randfontein) fall within areas of high risk of radioactivity contamination'. This study was peer-reviewed by the CSIR, the Council of Geoscience and Mintek.

My call – with great deference to the NNR – is that these communities be informed. There should be no shortcuts when we consider radioactivity. There is a nuclear renaissance taking place worldwide. These issues must be addressed before we embark on a nuclear road. Radioactive material is not just inhaled, but also taken in via the pasture pathway, ingestion, crop, sediment and water pathway. This results in cumulative doses of radioactivity.

There is a strong interrelationship between acid mine drainage (AMD) and radioactivity. AMD is currently taking place within the West Rand Basin. All heavy metals (including uranium in the gold field) are absorbed into the sediment. AMD can cause the mobilisation of these heavy metals. AMD caused the Robinson Lake to become a declared radioactive dam with uranium levels 40 000 times above natural uranium levels. It caused the Hippo dam to become a sludge pit full of radioactive materials and toxic heavy metals. Two poor mute hippos live in it. The Tweelopiespruit River is now a class five river system – that is, a highly acute toxic river – because of AMD. The crust that has formed on the riverbed contains spikes in uranium and other toxic and radioactive heavy metals.

We call for an independent epidemiological study or a toxicological study to quantify the health risks. Right now we have a body of anecdotal evidence of cancers and mental retardation within the gold fields of the Witwatersrand. We cannot ascertain its accuracy without these studies.

> Those who cannot remember the past are condemned to repeat it. (George Santayana)

Discussion

Response to questions on the role of the NNR and Mariette Liefferink's presentation, by Adv Boyce Mkhize

We need to understand the role of the NNR in the context of its legislative mandate. The NNR licenses operators and places conditions and terms upon them. The issue of nuclear and radiological safety, including that of workers, is in the hands of the operator. The operators have to operate within standards that have been set by the NNR. We are empowered to monitor adherence to those standards and can intervene in a way that will improve the workers' safety. People may have been affected by certain outcomes of our monitoring and inspection issues. We need to ensure that those individuals are able to get the relevant information and access relating to their health.

The studies that have been conducted are varied. Mariette has articulated some of the issues that have emerged. These findings need to be put in context so that we do not give the impression that people are going to drop dead. Without downplaying the importance of precautions and interventions, the risk of radiological contamination exists anywhere and everywhere. In the last month the NNR has conducted studies in the same area to determine the risks to which people have been exposed. We have conducted tests on some of the individuals who live in those areas. We found that in order for your levels to get to an unacceptable level of radiation you have to be playing outside for eight hours a day, seven days a week, 365 days a year. If you are eating fish in the area, you need to be eating a certain amount of fish in order to be at risk. I am not suggesting that there isn't a risk, but what is important is how we i) communicate with affected people, ii) issue precautions, and iii) rehabilitate those sites for the people who live there. National and provincial governments need to work together to ensure that decent housing is provided and that hazardous sites are cordoned off. We will be putting out public statements shortly.

On whether the NNR will help civil society to campaign on the Freedom of Information Bill: it is not within the mandate of the NNR to help civil society to fight for

the Freedom of Information Bill. We do not lobby on legislation unless it will impinge on our ability to function as the NNR. However we support the principles of access to information. We are working to make sure that the public is adequately informed. However, if the information poses serious threats to the state, we may not be at liberty to disclose that information.

I cannot speak for my predecessors with regard to civil society engagement with the NNR, and claims by civil society that there have been calls for information that was not forthcoming. Going forward, you have my commitment and that of the NNR board that information requested by civil society will be disclosed to the extent that it can be. We have engaged with Mariette, for example, and her organisation, and saw her presentations about a month ago.

Mariette Liefferink, on her role in the NNR

I was appointed to the NNR board by the Minister of Energy. I hoped to be able to give a voice to the concerns of civil society and communities affected by nuclear activities in this role, but I was cautioned by the chairperson not to lobby. I sent my resignation to Minister Peters. Civil society organisations then requested that I withdraw my resignation, which I did. The chairperson of the board also told me that I had not been following the correct protocol. I should raise my concerns as CEO of the Federation for A Sustainable Environment and not as a board member. I have done this repeatedly, orally and in written form.

WORKSHOP SESSION: JUSTIFYING THE BUILDING OF THE KUSILE COAL-FIRED POWER STATION: THE NEED AND BASELOAD REQUIREMENTS

Kannan Lakmeeharan, Managing Director of the System Operations and Planning Division of Eskom

The System Operator is the electricity transport and distribution supervisor. Generation makes the electricity, the System Operator ensures delivery and quality and Distribution then sells the electricity to the customer.

In terms of supply, there are 27 operational power stations in South Africa, and 40,9 GW of operational capacity in total. Just over 80 per cent of this is coal-fired and the remaining 20 per cent a mix of nuclear, open cycle gas turbines, hydro electricity and pumped storage. South Africa imports about 1500 MW. It is also returning to service two mothballed coal-fired stations and building two new coal-fired power stations, a wind farm and a pumped storage station. This will raise Eskom's capacity to 53,3 GW (excluding IPPs and possible capacity in the IRP).

In terms of demand, 29 per cent of South Africa's energy demand is provided by electricity. There is a forecast of about 37 GW of peak demand in 2010 and over 228 terawatt-hours of energy demand. The largest 138 customers consume nearly 40 per cent of the country's energy and the largest 80 000 customers consume nearly 75 per cent. Approximately eight million customers consume about 20 to 25 per cent of the energy.

There are over 28 000 km of transmission lines (over 132 kV to 765 kV AC), which cover an area similar to the part of Western Europe from Berlin to Madrid.

The System Operator is responsible for:

- Managing the tight balance of supply and demand to the second and ensuring there are adequate reserves for credible contingencies
- Managing the voltage profile throughout the grid by ensuring the effective flow and quality of power to end customers
- Monitoring and managing real-time risks that occur on the power system by managing system stability
- Restoring power after an interruption for which speed, accuracy and safety are critical
- Providing real time information on the status of the power system

Hierarchical control has prevented blackouts, as it ensures a clear command and control system. One of the reasons for blackouts in the US in 2003 was that people were not coordinating with each other.

A supply–demand balance is essential because of the basic premise that electricity cannot be stored in a large power system. It has to be used in some way as soon as it is produced, i.e. transformed into another form of energy or used to do some 'work'.

A reserve margin gives an indication of the medium- to long-term adequacy and the short-term security of the power system. Adequacy enables us to deal with medium- to long-term issues such as growth spurts and supply chain problems. It is the ability of the power system to supply the aggregate electrical demand and energy requirements of the customers at all times, taking into account scheduled and reasonably anticipated unscheduled outages of system elements. Short-term security enables the power system to withstand sudden disturbances such as short-circuit faults or unanticipated loss of system elements. The two key components to the reserve margin are the operating reserve margin and the generation capacity net reserve margin. The recommendation for the total reserve margin is between 15 and 29 per cent.

In terms of supply requirements and options:

- 24 000 to 26 000 MW of supply is required to run all the time. This is known as baseload. For example, a nuclear plant cannot be switched on and off every day
- 6 000 to 8 000 MW is required to run during the day, known as mid-merit. For example, a Combined Cycle Gas Turbine (CCGT) is flexible and ideal for switching on and off
- 2 000 to 6 000 MW is required to run during peak hours only – known as peaking; for example, pumped storage plant. Peaking means the availability to generate is restricted to a few hours a day

In terms of predictability it is important that supply and demand are exactly matched at all times. However, demand and supply are uncertain. Therefore we must consider:

- Lead times: the longer the time the supply (or demand) measure takes to implement, the further ahead we must plan
- Level of uncertainty: the higher the level of predictability, the fewer measures are required to counteract uncertainty
- Type of uncertainty: depending on the cause of the uncertainty, different mitigation measures may be required. For example, different plant types deliver different specific services

Main supply and demand balance-planning activities are:

- Expansion planning (a 20-year planning horizon): the IRP 2010 is under development. We consider all supply technologies; capital, fixed and variable costs, fuel supply and plant characteristics; uncertainty; and combinations of demand probability distribution with plant supply probability distribution
- Medium-term adequacy (a 5-year planning horizon): for which the modelling process has just started. This includes a new plant, as decided in Eskom's expansion plan; running costs only; fuel supply and detailed plant characteristics; and uncertainty, best handled by Monte Carlo simulation of stochastic input parameters
- Outage planning (an 18-month planning horizon), scheduling (a 1-week planning horizon) and dispatch (on-the-day planning horizon): this continues weekly, daily or hourly and includes new plant from as soon as it is in commercial operation

Renewables are considered in the same manner as other technologies. The amount of wind and solar capacity required by 2019 to achieve the emission targets is significant, much more so in the event that Kusile is not built. There is uncertainty as to how fast wind and solar power can be established. More data on wind and solar is needed in order to calculate the reliability of these technologies. There is a host of wind-generation issues under consideration, including the impact on maintenance decisions and coal stockpiles; the impact on commitment of capacity requiring long notification; the impact on dispatch and pumped storage cycles; and the impact on reserves.

As the penetration of wind and solar increases, new forecasting tools will be needed to provide short-term predictions for dispatch. Due to the instantaneous changes in wind speeds and the possibility of rapid changes in power output, very flexible backup generation is required; usually provided by gas generation, transmission interconnections or pumped storage. Dynamic stability is important, meaning that due to the nature of the generators used it is important to ensure that the units are able to ride through faults that occur on the networks.

'Reactive' power contribution is also significant; as the generators are at the end of the networks, they need to provide support and not act as 'sinks' for reactive power.

2000 MW of wind capacity is required for 500 MW of firm wind capacity, based on current studies. It is likely that at certain times we will have lots of wind and at other times we will have none. In light of this we expect that more mid-merit plants will be needed to provide stop-start generation at relatively short notice. When the wind stops blowing, something else must take over. We don't have gas or interconnections: therefore, we need to be self-sufficient, as well as change the way we look at our maintenance and stockpiles.

Lessons from Spain indicate that incentives can play a role in stimulating the development of renewable power generation. However, incentives can cause deficits in retail and/or wholesale power markets and must be offset with government subsidies or increases in the price of electricity, to avoid amassing debt (in Spain the tariff deficit is estimated to be approaching 20 billion euros). Requiring transmission and distribution entities to provide access to the power system at no cost is a clear incentive to assist developers. Country-wide regional planning of transmission with cost allocation across all areas served – regardless of the location of the transmission – eliminates cost allocation issues.

Having a centralised authority which can approve planning and appropriate sites will streamline the implementation of system reinforcement and expansion and eliminate roadblocks to development.

Intermittent (variable) resources will require substantial new balancing resources and/or a combination of balancing resources and strong interconnections with neighbouring countries. The cost of these resources and interconnections must be included in the cost of renewables. Aggressive development of all balancing resources

applicable to the country should take place, while incorporating operation and control and establishing appropriate market products. This should include:

- Storage in any form, particularly pumped-storage hydro, batteries, plug-in hybrid electric vehicles, and electric vehicles
- Fossil units which can be cycled, particularly combustion turbines
- Demand–response programmes, including direct load control, interruptible and curtailable rates, real-time or critical-peak pricing and dynamic pricing ('prices-to-devices')
- As environmental constraints on fossil-fuel power plants tighten and their market participation becomes threatened, allowances and incentives may be needed to sustain their participation and availability for use as balancing resources. This must include consideration of the increased operations and management cost burden on these balancing resources

Large control areas allow greater flexibility and lower costs of operating – as does controlling a portfolio of resources; much more so than the use of multiple smaller control areas. Establishing national and regional control centres for renewables with mandatory monitoring and control, coupled with establishing incentives for curtailing wind and providing frequency regulation by 'spilling' wind (and other intermittent resources), provides operational flexibility to maximise renewable energy production while maintaining reliability. These centres should include:

- State-of-the-art renewable forecasting technology, including ramp-rate prediction software
- 'Grid codes' which require all renewable resources over a certain size to provide zero voltage ride-through capability and mandate some level of reactive power controllability

Kusile's first unit would come into commercial service by the end of 2014 and the final sixth unit before winter 2018. Not building Kusile means significant energy supply shortages from 2017. Kusile has to be built to deal with the demand requirements between 2014 and 2018. The only credible alternatives are coal and gas projects in the region (from 1050 to 1500 MW), some level of wind and aggressive demand-side management programmes. Concentrated solar power (CSP) requires a learning period. We need to commit to a ramping up of wind and a CSP programme following REFIT phase 1 to allow for localisation and learning. We need to commit to a minimum of 8 to 15 per cent reduction through energy efficiency. Wind will require some gas and hydro resources to provide backup, which will initially be provided by the existing coal fleet and pumped storage facilities.

Questions and discussion from the floor

With regards to efficiency, are you saying that you either have to build Kusile or build something else?

Unfortunately we no longer have time to implement many credible alternatives. We have committed 3,4 GW of DSM over the next five years. Potentially we could do more but a lot of it depends on how we set the price and incentives for people to start changing consumption patterns. We are currently doing a pilot demand response programme with the smaller industrial and large commercial sector and hope to aggregate that at the residential level. We are paying large industrial users to reduce and have gained a 500 MW demand–response programme. Our target over the next five years is to achieve a 2000 MW demand–response programme.

Will Eskom be ready for the integration of renewable energy projects when the projects are ready? For example, could it be the case with the 500 MW solar park in the Northern Cape that the Eskom staff on the ground say they are unable to integrate, while at the higher level approval has gone ahead?

It will take seven years to set up the transmission line and gain environmental approval. There will also be issues with water. The clear constraint for wind is which specific substations to involve. When we understand what the renewable energy goal is then we will have to build more transmission capacity. A target of 3000 MW over the next three to five years is fine; after that, we will need more lines. For 5 GW of solar we will need a corridor in the Western Cape and transmission lines.

On transmission, a grid code was established after the incidents of 2006. It gives a guideline for reliability levels. To catch up would take us to 2017 and there are limitations on how much we can spend. Generators pay for shallow connection costs. Deep connection is a social cost for which everyone pays. Shallow connection takes you to the nearest substation. In Kusile a cost for shallow connection is included. In the case of wind we are trying to identify the best resources. For solar, we are working with the major developers and need to think about alignment with our generation (IRP) plan. We are working with the regulator and will have a public ten-year plan that is debated so it will be possible to see in what direction the network is going.

If you shut down the aluminium smelters instead of building Kusile, would you fill the generation gap?

If we don't build Kusile and Medupi then we will have an energy security risk. There have been reports that Medupi is delayed and Kusile will not happen. These are just scenarios. We are putting out statements for the dates of these power stations. We have to keep the smelters as valued customers and value their contracts – and also consider the economy, for instance, of Richard's Bay.

The suggestion to replace Kusile with wind generation is not credible within the time frame, but government will need to take a decision on this. Studies have been done with Kusile in, with Kusile delayed and with Kusile out. A decision will be made over the next few weeks. The government hasn't made a final decision yet. The systems operator believes that if Kusile doesn't get built, it is likely that the risk of interruptions will be significant.

Eskom has proposed three or four solutions for funding Medupi, including an additional guarantee, a Special Purpose Vehicle (SPV) and additional equity. If Kusile is to be cancelled (and we have spent R20 billion already), the cost of penalties will be around R30 billion. Eskom has made those proposals and government will make a decision. The penalty depends on the length of the delay.

Have you considered or done any modelling on the impact of increased oil prices on the cost of coal for Kusile?

We have looked at a short-, medium- and long-term mix of contracts. We have been accused of putting in a high-end price for coal, but we haven't yet signed all the medium-term contracts.

What attempts are being made at a mass roll-out of solar water heaters?

Nelson Mandela Bay has done schemes for the high-end market. There is also a challenge with funding given that our prices are three to four times higher than China or India. Economies of scale could lower prices. The DoE intends to implement one million solar water heaters.

The modelling process for Kusile isn't in the IRP. Why not?

We will do this soon and are hoping to make it public. It is not just Eskom who decides on this matter. We have done low-growth scenarios. All our scenarios have the same reliability criteria. Kusile is part of the original plan and we feel that there is no credible alternative. There may be a decision to start to reduce the units as alternatives present themselves.

When will REFIT be finalised? If there is a PPA agreement, can we then go ahead?

Eskom has a procurement plan. There are contradictory views and two major concerns about the role of REFIT. Treasury is concerned that people will try to recover money up front and bolt after a few years. Some people are saying that the PPAs are too Eskom-friendly. There is a question of whether the government should provide explicit guarantees. However, otherwise we are ready to go and cannot spend the money on anything else. It should be easy to achieve 1000 MW.

On credible alternatives to Kusile, have you asked the renewable energy industries what is realistic?

We have based our assumptions on what the industries say they can do. For instance, wind has said that 7 000 MW is being developed at present.

UPDATE ON THE IRP2 POLICY PROCESS

Matthews Bantsijang, Department of Energy

The IRP2 process started in March. We managed to extend consultation by an extra time-period. The modelling has now been completed and we have a draft plan, which is still a departmental document. On 30 August we presented it to the Inter-Ministerial Committee on energy (IMC). They wanted a summary of the whole plan, after which we would take it to Cabinet for further consultation and approval. During October we expect to have finalised it. Some institutions are already preparing for a review of IRP next year. There is a possibility of nuclear power stations being part of the energy mix. Some stakeholders may not be satisfied and may consider that there are holes in the consultation.

LAUNCH OF THE CIVIL SOCIETY REVIEW OF THE IRP2

Liz McDaid, SAFCEI

We looked at how our inputs were developed by the Department of Energy (DoE). Most people in the country have not heard of the IRP, even though it will dictate the electricity plan for the country for the next 20 years. We wrote a letter to the ministry asking who the members are. They are listed in this table.

NAME	SECTOR	INSTITUTION/ AFFILIATION
Nelisiwe Magubane	Government	DG Dept of Energy
Ompi Aphane	Government	Dept of Energy
Ria Govender	Government	Dept of Energy
Thabang Audat	Government	Dept of Energy
Kannan Lakmeerharan	State enterprise	Eskom systems operations and planning
Callie Fabricius	State enterprise	Eskom planning and market development
Mike Roussouw	Business – coal	Xstrata
Ian Langridge	Business – coal	Anglo American
Brian Day	Business – coal/RE	Exxaro
Piet van Staden	Business – fossils	Sasol
Kevin Morgan	Business – smelters/coal	BHP Billiton
Paul Vermeulen	Local govt-owned company	City Power
Doug Kuni	Business	SA Independent Power Producers Association
Roger Baxter	Business	Chamber of Mines
Professor Anton Eberhard	Academic	Graduate School of Business, UCT
Shaun Nel	Business – project manager	Gobodo systems (Eskom is listed as one of their clients)

As you can see, no NGOs are represented. In addition, there is no expertise on gender, social and poverty issues, or on externalities such as acid mine drainage and carbon emissions. Apparently there is also a union representative on the team, but this has not been mentioned publicly by the DoE. The composition of this task team demonstrates that we are working according to business as usual.

Eskom's own submission with regard to the tariff increases in 2009 stated that, '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'. This means that we are being asked to subsidise the coal industry.

Ompi Aphane of the DoE came to the last Energy Caucus and promised to respond to a list of questions by the following Wednesday. As yet there has been no response. Aphane said that I could attend a technical meeting, though he suggested that I would not find it very interesting. I have accepted the invitation and am awaiting confirmation of when I (and anyone else who would like to be there) can attend.

In a letter from the DoE to civil society in June 2010 (see Samantha Bailey's presentation), the department stated its 'commitment to meaningful engagement with stakeholders in the development of the IRP, 2010 – as evidenced by our kick-off stakeholder plenary sessions on 07 and 08 June 2010, in Pretoria'. However, it then stated that because of budget constraints it was unable to fund the 'participation of community members in the plenary sessions' or develop a public awareness campaign. This demonstrates that it is only committed to stakeholders who are rich enough to be able to attend. The comment period was extended from seven days to 30 days to meet the minimum legal requirements. The DoE also committed to putting a comment and response document on its website.

The process issues raised by civil society included: time constraints and a rushed process; task-team composition; decision-making process; targets issued; and scope of parameters limited.

Of more than 300 inputs made by civil society, including the Energy Caucus and the Climate Justice Network, only about a quarter of our comments were responded to. But often these were disregarded. Therefore there is little point in engaging with a department that appears not to take what we are saying on board.

UPDATE ON CIVIL SOCIETY REPRESENTATION AT NEDLAC

Richard Worthington, WWF-SA

- (Please note: This presentation represents the views of the speaker in his personal capacity, not as a representative of WWF-SA)

NEDLAC is the formal space for consultation among stakeholders on highly relevant matters to the country's future, such as the IRP. NEDLAC was told by Ompi Aphane, the Acting Deputy Director of the Department of Energy, about six weeks ago that full assumptions, parameters and data would be discussed with stakeholders in NEDLAC before scenarios were produced and the modelling took place. To the best of my knowledge this has not happened.

There are a lot of issues surrounding participation in NEDLAC and a lot of formality around it. For instance, community constituencies are only represented in the development chamber. There is now a set of people who represent the community constituency who have a gatekeeping role over who else can get involved in it. Previously there was a process involving an NGO called SANGOCO, the South African NGO Coalition, through which people could be mandated for involvement. SANGOCO has now ceased to exist. I heard from the business constituency that the IRP2 was to be discussed. I ended up representing the community constituency, as no-one else turned up on the day.

There is a task team in NEDLAC that has been set up specifically to look at the IRP2. It has been assured that inputs to modelling are to be discussed and debated within NEDLAC. This commitment was driven by the business constituency but is supported by labour and business. The NEDLAC energy task team is not just looking at IRP. There is a work programme with 12 different priority areas, including mitigating tariff increases for the poor. NEDLAC requested a study and report on this. This has been carried out and is publicly available.

Civil society representation within NEDLAC is messy and inadequately represented. The Energy Caucus needs to think more formally about a mandated representative. Business has said repeatedly that we must have coal or nuclear as a baseload, but more coal is not possible in light of our Copenhagen commitment. Business Unity South Africa is now actively putting forward a new wave of nuclear within NEDLAC. The comfort zone is to discuss issues of process, but the base load is a baseline issue that everyone is concerned about with regard to the future of industry. Because of the formality of NEDLAC, labour is very guarded within it. There is reluctance within the forum to discuss content.

Acting Deputy Director General Ompi Aphane said at the last NEDLAC meeting, and the last Energy Caucus meeting, that the kind of decisions that they are looking to have mandated by IRP2 would be small decisions such as extra renewable energy or cogeneration. In contrast, Eskom have told us that they need to be making investment decisions about the next big baseload plant to come on line after Kusile, around about 2018. The DoE gets all its modelling for this process from Eskom. This implies that someone is being economical with the truth.

There has been a commitment to explore the decision-making criteria. There should be a set of criteria to guide decision-making, but there is already a draft plan. We have had no discussion in NEDLAC, which is the formal place for it. We are told that it will be a policy-adjusted scenario, but it is very vague. There is still the opportunity to hold government to account through NEDLAC. There is a formal set of documentation that provides NEDLAC with the mandate; and because the business constituency has the appetite to insist on a proper process for this. We could therefore engage with them on process even if we do not agree with outcomes.

I should finally acknowledge that a climate change national response policy is being considered within NEDLAC.

Discussion

Matthews Bantsijang represented the DoE.

There is a recent statement from the DoE about six nuclear reactors for South Africa. Will this be part of the IRP 2010 process? Who/where is the pressure coming from on the move to nuclear energy?

Response from the DoE: The DoE cannot divulge anything on the draft IRP2 for now but there is pressure from different stakeholders in terms of moving towards renewables. The Copenhagen statements talk about a move to renewables and more, greener energy sources, of which nuclear is part.

After the IRP2 consultations were done, what happened to the inputs?

DoE: The DoE states that all comments were considered holistically, but it is not clear how many were incorporated or responded to. The Electricity Act of 2006 says that the Energy Minister is responsible for the electricity plan. This also applies to procurement. Even though the plans might be drawn up with the assistance of Eskom and NERSA, the department is still responsible and the buck stops with the minister. We have hard copies of all the inputs sent to the department.

The DoE states that the comments on the IRP were considered holistically. However, if this is the case, why has there been no mention of inputs by BUSA, IDASA, the WWF and others? It seems that the DoE is not using NEDLAC as a forum for consultation and that assurances have been made that were not honoured. A timeline was put forward in a presentation to the parliamentary portfolio committee, which said that the scenarios and criteria would be released on 16 August. This has not happened.

DoE: Presently we have five scenarios in the plan. These were presented to the IMC on 13 August. The IMC wanted to see a summary of those scenarios. There was supposed to be another meeting at NEDLAC about some of the things emanating from the modelling. There might have been a misunderstanding within NEDLAC about who had seen what. However we have presented everything at NEDLAC, including all the parameters. It is just some of the issues on the recommendations that have yet to be discussed.

There was a commitment to align the renewable energy review with the IRP and national climate change response process. At one stage the Renewable Energy White Paper was due in mid-November, and the IRP2 in September, but now the Renewable White Paper has been postponed to March 2011 and the IRP2 to November 2010. There is lack of clarity on the stage of climate change response policy.

DoE: We discussed this at NEDLAC. The department surmised that the renewable energy community might see the Renewable Energy White Paper as intertwined with the IRP. But they are not actually related. This means that the Renewable Energy White Paper targets will be included in the review of the IRP2.

IDASA submitted a substantial input to the IRP process. At the parliamentary portfolio committee meeting where the DoE reported back on the comments they had received, the Deputy DG gave a completely incorrect impression of what the comments had been. The Deputy DG, with the DG sitting next to him, created the impression for the parliamentary committee that the comments were largely favourable and there were no problems. The fact that IDASA had been misrepresented in Parliament and on the record was raised privately with the parliamentary committee chair. She said that IDASA could write to her and explain our problem.

DoE response: I cannot say whether or not this happened and to what extent the comments were discussed and debated. But from our understanding, everything was discussed. We had frequent parliamentary questions from different political parties. We answered the questions and submitted some to the minister, including (for instance) on the criteria in coming up with the parameters. Some of the parliamentary questions are really assisting us. Please bear with us as a department. We are trying our best.

The IRP2 has been held back by the Inter-Ministerial Committee on Energy (IMC). However, the task team minutes are closed to the public. Can these be opened up?

For any government department to agree at NEDLAC that constituencies have the right to approach them is meaningless. Citizens have the right to approach government departments. This does not constitute consultation. The commitment was to all constituencies in NEDLAC, not just business, as happened. This is engagement in bad faith. A high-level chat with business does not meet consultation requirements.

ON THE POSITION OF THE ANC, NUM AND COSATU ON THE NEW ENERGY MIX AND MATTERS FOR THE LABOUR UNIONS

Sibusiso Mimi, National Union of Mineworkers

The basis of our dialogue on energy is that our economy should be designed away from the apartheid-inherited trajectory, towards a new long-term development path to improve living standards for the working class and the poor. Our national policy must be integrated in a way that allows for effective planning to achieve social and economic objectives. As NUM we believe that we need national consensus on the energy mix for the future. This should be based on debate, dialogue and improved consultation on the part of government.

This can be based on the founding documents of our democracy, the Freedom Charter and the Constitution. We should all be actively involved in the policy-making process.

The spending on new infrastructure is going to be one of our biggest investments. We can't afford to spend money on inappropriate technologies. So we need to think about which technologies to go for.

Our democracy should define the new growth path for South Africa, and use energy as a measure.

The ANC's position on the new energy mix, from the 52nd national conference at Polokwane, calls for a diversification away from coal and for the inclusion of nuclear and renewables; in particular, solar. There has been a call to escalate national efforts towards a greater contribution of renewable resources, including solar and wind.

NUM's position on the new energy mix has a clear anti-nuclear and anti-PBMR position. This was confirmed in 2008 by its central committee, which opposed any form of nuclear energy development but said it would investigate other useful uses of nuclear. At the 13th national congress in 2010 the NUM was mandated to consider their previous position and to engage COSATU to do a study on the use of nuclear. NUM is currently developing a policy document. Earthlife Africa, the WWF, government and members of the executive and others were invited to contribute at a workshop. Hopefully we will soon have a policy document that will form the basis of our project on the new energy mix. We will also convene another workshop that will focus on liquid fuels.

COSATU's tenth congress in 2009 called for labour and civil society organisations to be actively involved in energy policy matters. It called for government to lead in promoting a collective approach to short- and long-term planning and solutions to energy issues. It challenged government to lead a promotion of renewable energy sources,

particularly solar. The eighth congress of COSATU in 2003 adopted a position against nuclear and the PBMR. There is nothing to say that COSATU supports nuclear or any form of nuclear energy development.

We need help from the Energy Caucus on the issue of decent jobs. Proponents of fossil fuels and nuclear always exaggerate the issue of job creation in these sectors. But you have been quiet, especially in the mainstream media. Or maybe the media is not picking up your work.

On a just transition to a low-carbon economy

Anyone who calls for the mines to be closed will become an enemy of the mineworkers. This poses a serious threat to livelihood and you need to be careful with your language and how you make your arguments.

On the green economy

How will it work and link with the developmental state ideal and the national democratic revolution? The work force transition from coal mining, coal power stations and nuclear is key for us. It is not an overnight thing and we need help thinking about these matters. For instance, we have comrades who will lose their jobs when the PBMR shuts down. Can we move them into another sector?

On the issue of sustainable development

We know that mining will not be here forever. NUM is a caring union and sustainable development is key to us.

Session 5

Strategising towards a common agenda

CONCLUSION

Participants of the Energy Caucus broke up into smaller discussion groups to talk about key issues concerning engagements in energy-related policy processes. Each group then submitted key points underlining their thinking about the way forward for campaigns and issues.

1. Nuclear

What has been done?

- Media coverage and liaison work
- Lobbying
- A set of questions that have gone to the Regulator
- Protests to Parliament
- Community education in the Western Cape
- Tours of waste sites
- NUM is monitoring the PBMR project
- Popular education materials are being developed

What are the gaps?

- We have had little impact at a lobbying and policy level. Questions have gone unanswered and civil society has been treated in a tokenistic way
- The current democratic channels are not working for us. Our rational arguments are ignored due to high levels of vested interests
- How do we expose the power, and the revolving door syndrome?
- The argument that nuclear is a better solution than coal in the context of climate change needs to be confronted
- Our organisations need more unity in action

Ways forward?

- Develop common strategy and messages
- A focused campaign on nuclear, which argues that nuclear power compromises our water, food security, health and economy
- Consolidate popular education material into a campaign kit so that all organisations can use it
- Convene an anti-nuclear summit, convened by the Energy Caucus but open to much wider civil society participation
- However, we must acknowledge the positives of our long-term campaigning. For instance, the PBMR is being shut down. Some democratic spaces are open. Instant success is a lot to hope for. Just because we don't achieve this doesn't mean that we are not being listened to. Not everyone in government is pro-nuclear. Treasury was the biggest opponent of PBMR

2. IRP

What has been done?

- An alternative/shadow IRP2
- The WWF's Sustainable National Accessible Power Planning (SNAPP) tool

What is planned?

- Research into the technical side of IRP2 and collaboration
- Potential for women in energy hearings
- A shadow IRP2: a real alternative would require technical modelling
- Capacity building and mobilisation

What are the ways forward?

- Find out what is going on within the renewable energy industry, and the different positions of different stakeholders
- Formal inputs
- The legal route: keep a paper trail and challenge it as something that has not undergone sufficient consultation. Possible 'vote of no confidence'
- The political route: push the parliamentary committee to take a much stronger line
- Find out what is happening with the Clinton Foundation and the SARI initiative. We need to get a brief on what is happening

3. Climate change policy

What has been done?

- A CJN!SA formal submission
- Women's engagement in climate change forum
- A number of local-level activities, including workshops, submissions from churches and youth groups
- Research on water waste management and energy

What is planned?

- Global day of action, involving numerous groups
- Earthlife Africa actions in the run up to the 16th Conference of the Parties of the United Nations Framework Convention on Climate Change in Mexico in December 2010
- A bishops' conference is working on the Catholic church's position
- The gender and climate change group will team up with other groups
- The youth and climate change forum will send statements to the department and the presidency

What are the gaps?

- Awareness
- Work on adaptation, as most of the focus is on mitigation
- The way in which we talk about climate change: we need to de-science it
- We need to link climate change to the way people live
- Perceived lack of continuity among NGOs

Ways forward

- We need to build a positive alternative
- We need to bring indigenous knowledge back into the political process
- Get the story right for the audience we are presenting to, in appropriate language
- Identify which department and person to talk to

4. Policy from NEDLAC

There are four constituencies in NEDLAC: government, labour, business and community. There are three different options on how we engage with NEDLAC:

1. Engage with SANCO (the South African Civics Organisation) and consider engaging with SANGOCO (the South African Non-Governmental Organisations Coalition) in its current form
2. Ensure that the Energy Caucus is represented via another organisation at NEDLAC
3. The Energy Caucus must approach NEDLAC directly. We will have a separate session on this at the next Energy Caucus. The Energy Caucus could provide technical expertise for NEDLAC

Appendix A

Programme of the National Civil Society Energy Caucus meeting

14–15 September 2010, Townhouse Hotel, Cape Town

THEME: SUSTAINABLE ENERGY SOLUTIONS FOR SOUTH AFRICA

How can we ensure public participation and improved accountability in policy processes?

DAY 1: TUESDAY, 14 SEPTEMBER

08:30 Registration
09:00 Welcome and outline the objectives of the meeting
Trusha Reddy - ISS
09:15 Review of last Energy Caucus meeting
Lerato Maregele – Earthlife Africa
09:25 Elect a chair for sessions 1 and 2, and elect a team to draft press release

Session 1: Demystifying the dynamics of the policy process
09:30 Going down the winding road of government policy
Mark Pickering, Meridian Economics
09:50 Development paths and sustainable energy
Andrew Marquard, Energy Research Centre
10:10 Exploring the murky parameters of the policy process
David Fig, independent researcher and Yvette Abrahams, Commission on Gender Equality
11:00 Refreshments

Session 2: Understanding the nature and influence of interest groups
Panel 1
11:30 Nuclear: what role for nuclear interest groups post PBMR and how will they justify the big costs?
Prof Steve Thomas, Greenwich University, UK
12:00 How is civil society holding narrow interest groups to account?
Muna Lakhani, Institute for Zeo Waste in Africa and Earthlife Africa, Cape Town
12:15 Open discussion
12:45 Lunch

Session 2: Understanding the nature and influence of interest groups
continued…

Panel 2

13:30 Renewables: an overview of the industry's potential to move SA to a sustainable energy future
Prof Wikus van Niekerk, Stellenbosch University TBC

14:00 Renewables: what gains for the wind industry?
Kilian Hagemann, Director of G7 Renewable Energies and member of SAWEA and Davin Chown, SAWEA Board

14:30 Independent Power Producers: are these old faces with a new clean strategy?
Mark Pickering, Meridian Economics, and Tristen Taylor, Earthlife Africa SECCP

15:00 Refreshments

Session 3: Learning lessons from civil society engagements in 2010

15:30 Assessing civil society impact on the IRP2 policy process
Samantha Bailey, 350.org

15:45 What has civil society accomplished with the campaign against the World Bank?
Bobby Peak, groundWork

16:00 Is civil society playing an active role in developing the 'Climate Change Response Policy'?
Dorah Lebelo, GenderCC-SA

16:15 Open discussion

16:45 Workshop session: justifying the building of the Kusile coal-fired power station:
The need and baseload requirements? (Not compulsory)
Presentation by Kannan Lakmeeharan, Eskom

19:30 Closing: Day 1

DAY 2: WEDNESDAY, 15 SEPTEMBER

08:30 Refreshments

09:00 Review of Day 1 and elect chair for sessions 4 and 5

Session 4: Institutional arrangements for monitoring and oversight of policy

09:15 What role for Parliament in energy oversight?
Ms M. Mentor, Portfolio Committee Chair on Public Enterprises; and Lance Greyling, Independent Democrats.
Open discussion to follow

09:45 Can we ever get a fully independent ISMO (Independent Systems Market Operator)?
Matthews Bantsijang, Department of Energy and Ms M Mentor, Portfolio Committee Chair on Public Enterprises.
Open discussion to follow.

10:15 Who regulates the energy regulators?
Advocate Boyce Mkhize, CEO, National Nuclear Regulator, Mariette Liefferink, Federation for A Sustainable Environment and the North West University.
Open discussion to follow

10:45 Refreshments

11:00 Update on the IRP2 policy process
Matthews Bantsijang, Department of Energy

11:30 Launch of the civil society review of the IRP2
Liziwe McDaid

11:45 Update on civil society representation at Nedlac
Richard Worthington, WWF-SA

12:30 Lunch break

13:30 Session 5: Strategising towards a common agenda

This session is designed for everyone to benefit from learning what everyone is working on, for the purpose of assisting organisations in their particular strategic thinking after the caucus. A 'map' will be developed by initially highlighting different policy engagements and potential advocacy interventions, and then overlaying this with information provided by participants on what they/their organisations are doing. This exercise should provide a broad overview, possible common areas or overlaps, and identify gaps.

The backdrop to the session will be the past two days of discussion where we have been trying to understand policy processes, and how to maximise the direct/indirect input by civil society and other interest group into policy processes.

Samantha Bailey will provide a draft map prior to the meeting for feedback (based on information shared at the May Energy Caucus session).

Then, when participants register on Day 1, they will be asked to list the advocacy and policy-related activities they have been and plan to be involved in based on the map created. These may include research, submissions, campaigns, seeking access to information, coordination with different organisations and trade unions, for example.

During the course of the Caucus, we will add any new information on potential policy/advocacy interventions, and then have the overall map ready for presentation and discussion at this session 5.

If called for, we will arrange break-away groups on particular interest areas/gaps.

Facilitation of group discussion proposed to be done by the following people: Webster Whande – ISS, Liziwe McDaid, SAFCEI and Mark Weinberg, AIDC.

14:30 Refreshments

15:00 Discussion in plenary

Session 5 continued

15:30 Plan of action and final press release

16:00 Closing: Day 2

Appendix B

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-grave 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, Booysens 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 ten years and 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, NOx, SOx, volatile organic compounds and greenhouse gases), 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 C

Press release

15 September 2010

Energy Caucus

CIVIL SOCIETY GROUPS CALL ON GOVERNMENT TO ADDRESS BIG ISSUES ON ENERGY URGENTLY

The Energy Caucus – civil society organisations concerned with electricity, energy and climate change issues – met with representatives of the Department of Energy, Eskom and the National Nuclear Regulator in Cape Town on 14 and 15 September.

The caucus noted substantial problems with the IRP2010 electricity planning process. The Department of Energy has not engaged with civil society in good faith, has not met commitments made in the course of the process, and has largely ignored the substance of civil society proposals.

Questions asked in Parliament regarding criteria for decision-making have not been answered; and the DoE has not honoured the commitment made to all constituencies at NEDLAC: that a full and detailed set of input data, parameters and criteria for decision-making would be tabled and debated at NEDLAC, within the Energy Task Team.

The integrity of the IRP2010 process appears particularly flimsy in the light of the Minister of Energy's recent call for six new nuclear power stations, a call that completely pre-empts the conclusions of the IRP2010 process.

The Energy Caucus noted that the market economic costs of nuclear energy are frequently under-estimated, excessive and prohibitive. The Energy Caucus opposes any roll-out of new nuclear power stations, while acknowledging that excluding nuclear energy from the electricity mix will demand particularly ambitious programmes of energy efficiency and renewable energy.

The need to question any expansion of the South African nuclear industry was underscored by a key presentation from Mariette Liefferink of the Federation for a Sustainable Environment. Her presentation pointed to the likelihood of a widespread public health tragedy across the Witwatersrand, resulting from pollution by uranium and other heavy metals from neglected mining tailings.

The Energy Caucus acknowledges the need for greater public mobilisation and consultation on energy and climate change issues. There is insufficient public knowledge of climate change issues, and surprisingly little public engagement on electricity policy.

The civil society Energy Caucus calls upon:

The Inter-ministerial Committee on Energy:

- To stop development work on Kusile, at least until the full costs and benefits have been analysed within fully-fledged Integrated Energy Planning as required by the National Energy Act of 2008
- To consider a national aspiration and target for 50 per cent of electricity generation to be derived from renewable resources by 2030

The Department of Energy:

- To extend the Integrated Resource Planning process for electricity supply and provide for meaningful stakeholder engagement, and incorporate the outcomes of the review of renewable energy policy and targets and align them with the White Paper on Climate Change Response Policy

The Parliamentary Portfolio Committee on Energy:

- To insist on a detailed debate of IRP scenarios and decision-making criteria (not simply a discussion of a proposed draft), as well as interrogation of the public participation processes and concerns presented directly by civil society, not misrepresented by government officials

The National Nuclear Regulator and the Department of Health:

- To ensure epidemiological studies sufficient to ascertain the extent of harm to public health and ecosystem integrity of widespread toxic and radioactive pollution resulting from gold and uranium mining and radioactive waste management in South Africa, and to institute an urgent programme of action to minimise and manage the impacts
- To increase public participation in the work of the NNR

ISS Head Office
Block C & D, Brooklyn Court, 361 Veale Street
New Muckleneuk, Pretoria, South Africa
Tel: (27-12) 346 9500 Fax: (27-12) 346 9570
E-mail: iss@issafrica.org

ISS Addis Ababa Office
5th Floor, Get House Building
Africa Avenue, Addis Ababa, Ethiopia
Tel: (251-11) 515 6320 Fax: (251-11) 515 6449
E-mail: addisababa@issafrica.org

ISS Cape Town Office
2nd Floor, The Armoury Building, Buchanan Square
160 Sir Lowry Road, Woodstock, South Africa
Tel: (27-21) 461 7211 Fax: (27-21) 461 7213
E-mail: capetown@issafrica.org

ISS Dakar Office
Stèle Mermoz, 100x Elhadji
Ibrahima Niasse MZ83, Senegal
Tel: (221-33) 824 0918/21 Fax: (221-33) 824 2246
E-mail: dakar@issafrica.org

ISS Nairobi Office
Braeside Gardens, off Muthangari Road
Lavington, Nairobi, Kenya
Tel: (254-20) 386 1625 Fax: (254-20) 386 1639
E-mail: nairobi@issafrica.org

ISS Pretoria Office
Block C, Brooklyn Court, 361 Veale Street
New Muckleneuk, Pretoria, South Africa
Tel: (27-12) 346 9500 Fax: (27-12) 460 0998
E-mail: pretoria@issafrica.org

www.issafrica.org

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