

Dirty Politics: South African Energy Policies

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Introduction: The coming climate catastrophe

The international debate over climate change is heating up, the more irrefutable evidence of global warming we see emerging. The overarching problem is well known to South Africans who follow the news; less understood – if at all - is this country's responsibility for the world's overdose of greenhouse gases. Like filthy laundry, it sometimes seems like a national secret that the economy we inherited from apartheid is so addicted to fossil fuel, and moreover that the post-apartheid government and corporate greenhouse gas emitters have made the situation *much much worse*.

South Africa is classified as a developing country in the 1997 Kyoto Protocol, which came into effect in February 2005. We are not subject to emissions reduction targets at this stage. But we will be in future, and looking ahead, officials and corporations – and even a few NGOs which should know better - are promoting the Protocol's Clean Development Mechanism (CDM) as a way to continue South Africa's hedonistic output of greenhouse gases, and earn profits in the process.

Do we deserve to earn 'foreign investment' from South African industry's indefensible contribution to global warming, as Pretoria brags is possible? From his base at the University of Zululand, professor Mark Jury has gathered the following damning facts about South Africa's debt to the planet:

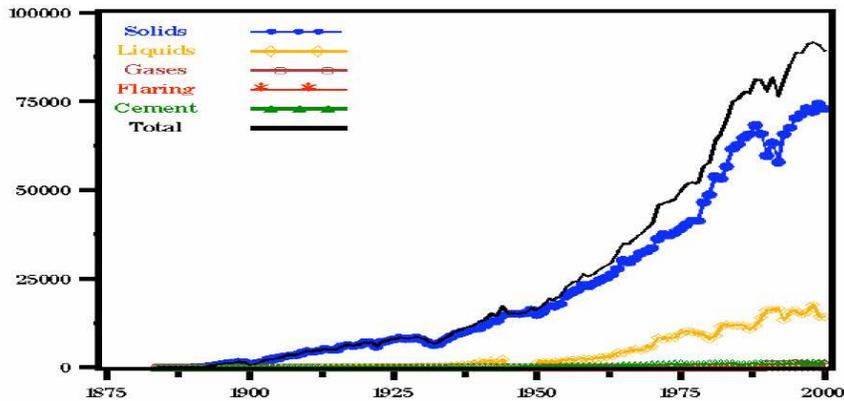
1. For more details on the historic background, see the chapter I coauthored with Stephen Greenberg and Maj Fiil-Flynn in *Unsustainable South Africa*, Pietermaritzburg, University of KwaZulu-Natal Press and London, Merlin Press, Chapter Six, 2002. Appreciation is offered to the SA-Netherlands Programme for Research on Alternatives in Development for generous financial support on CCS's energy advocacy portfolio, from which the arguments below have been partially generated.

- South Africa contributes 1,8% of total Greenhouse Gases, making it one of the top contributing countries in the world;
- the energy sector is responsible for 87% of carbon dioxide (CO₂), 96% of sulphur dioxide (SO₂) and 94% of nitrous oxide emissions;
- 90% of energy is generated from the combustion of coal that contains greater than 1% sulfur and greater than 30% ash;
- with a domestic economy powered by coal, South Africa has experienced a five-fold increase in CO₂ emissions since 1950;
- SA is signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and Montreal Protocol, yet CO₂ emissions increased 18% between 1990 and 2000;
- South Africa has only recently enacted legally binding air pollution regulations via the National Environmental Management Air Quality Act, but energy efficiency is low;
- in rural areas of South Africa, approximately three million households burn fuelwood for their energy needs, causing deforestation, reduction of CO₂ sinks, and indoor health problems;
- the industrial sector consumes 2,6 quads of energy (57% of total primary energy consumption) and emits 66,8 M T of carbon (65% of total carbon emissions from fossil fuels), though industry's contribution to GDP is 29%;
- since 1970, South Africa consistently has consumed the most energy and emitted the most carbon per dollar of GDP among major countries. South African energy intensity measured 33,5 K BTU per \$unit (above), is nearly at China's level;
- South Africa's carbon intensity is far higher than in most other countries due to its dependence on coal; and
- household and industrial energy consumption across the continent is predicted to increase by over 300 % in the next fifty years with significant growth in sulphur and nitrogen emissions.²

Coal is by far the biggest single South African contributor to global warming, representing between 80 and 95% of CO₂ emissions since the 1950s. But liquid CO₂ emissions mainly from transport have risen to the level of more than 10 000 metric tonnes a year since the early 1990s. It is regrettable but true, just as in Eastern Europe (whose CO₂ emissions are well below 1990 levels), that the long recession of the early 1990s was the only point in South Africa's history since the early 1930s' economic crisis, that CO₂ emissions stabilised and dropped slightly.

2. Jury, M. (2004), 'Presentation to Durban Declaration Group', Richards Bay, 9 October.

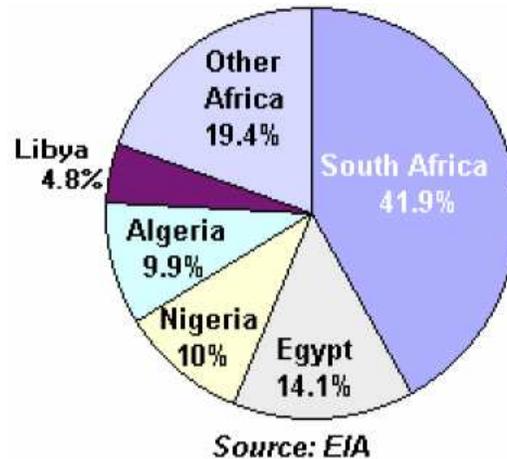
CO2 emissions in South Africa, 1875-2000
(000 metric tonnes)



Source: Mark Jury

Needless to say, South Africa is by far the primary global warming villain in Africa, responsible for 42% of the continent's CO2 emissions, more than Egypt, Nigeria, Algeria and Libya put together.

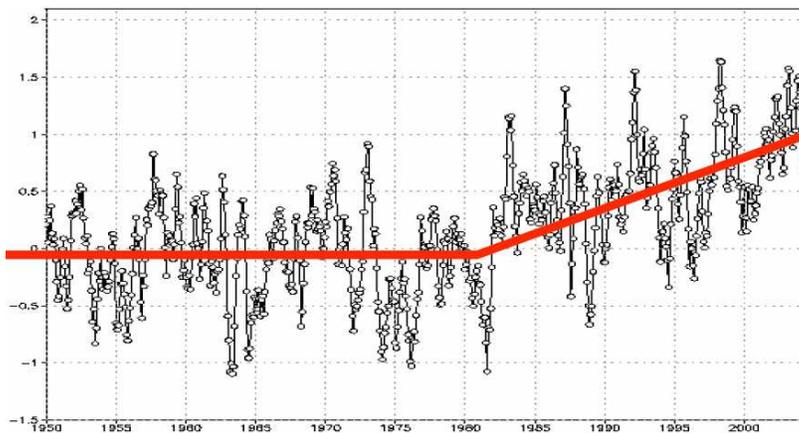
South Africa's CO2 role in Africa



Source: Mark Jury

Given the vast CO2 emissions increases by South Africa especially during the 1980s-90s, added to similar increases in global greenhouse gas emissions, it is only logical to find an average 1 degree C increase in our region's temperature, over historic norms.

Rise/fall in Southern African temperatures over historic norms



Source: Mark Jury

This is merely the surface-level statistical information about the climate change crisis, as it emerges. Much more could be said about the various other indicators, ranging from the record-breaking average 14.8 C degrees temperature of the world's ground measured in 2005, to droughts/floods in South Africa and Africa, to the hurricanes which belted George W. Bush's oil producing and refining belt in Texas/Louisiana in September 2005 (blamed by a leading British climate scientist upon a 3 degree rise in the Gulf Coast water temperature), to Siberia's tundra thawing (releasing unprecedented amounts of methane), to polar icecaps melting, to the estimated 37% of the terrestrial species which are likely to disappear due to global warming by 2050.

What is South Africa's responsibility for climate change? We are classified as a developing country in the Kyoto Protocol, the 1997 agreement to stabilise greenhouse gas emissions from 'developed' countries by 2012, at a level 5.2% lower than 1990 levels. That target won't be met, and most scientists agree that instead, a 60% reduction is needed to undo the severe climate damage now underway. The Protocol came into effect in February 2005, but South Africa is not subject to emissions reduction targets at this stage. However, since we will be in future, some state officials, international financiers and local corporations – and even a few NGOs which should know better - are promoting a gimmick, the Protocol's Clean Development Mechanism (CDM), which substitutes investments in carbon-reducing projects for genuine emissions reductions.

To critics, including dozens of environmental justice networks which signed the October 2004 'Durban Declaration on Climate Justice',³ the CDM and especially the new carbon market that permits trade in pollution rights represent misleading 'greenwash'. Carbon trading justifies letting the US, EU and Japan continue their emissions, in exchange for a small profit payout to

3. <http://www.carbontradewatch.org>. See the appendix, below.

dubious South African firms and municipalities for reductions in local carbon. Those reductions we should be making in any event.

For example, methane that escapes from Africa's largest landfill, at Bisasar Road in the Durban residential suburb of Clare Estate, should be captured, cleaned and safely turned into energy. Ethekekwini officials instead aim to burn the methane on site, and in the process that entails keeping the toxic dump open at least another seven years - though the ANC had promised its closure in 1996 due to community opposition. The officials' goal is to sell carbon credits via the World Bank to big corporations and Northern governments. But a famous community activist, cancer-stricken Sajida Khan, appears to have frightened the World Bank off for now.

Unfortunately, the Department of Environmental Affairs and Tourism supports this form of carbon colonialism. As shown in the Appendix, below, DEAT issued the *National Climate Change Response Strategy* in September 2004, insisting we must understand 'up-front' how the 'CDM primarily presents a range of commercial opportunities, both big and small. This could be a very important source of foreign direct investment.' In October 2005, a gathering of environmental activists at the University of KwaZulu-Natal rejected outright the CDM policy. As noted in the Appendix, their declaration concluded, 'Real solutions are needed, and with our world-leading CO2 emissions, South Africans must be at the cutting-edge of progressive climate activism, not partners in the privatisation of the atmosphere.'

Indeed, the economy's five-fold increase in CO2 emissions since 1950 and 20% increase during the 1990s, can largely be blamed upon the attempt by Eskom, the mining houses and metals smelters to brag of the world's cheapest electricity. Emitting twenty times the carbon tonnage per unit of economic output per person than even the United States, South African capital's reliance upon fossil fuels is scandalous. Not only are vast carbon-based profits fleeing to the mining houses' offshore financial headquarters. There are very few jobs in these smelters, including the proposed \$2.5 billion Coega aluminium project for which the notorious Canadian firm Alcan has been promised lucrative sweetheart deals from Eskom, the Department of Trade and Industry and the Industrial Development Corporation. Less than 1000 jobs will be created in the smelter, though it will consume more electricity than nearby Port Elizabeth.

Aside from carbon trading, the main answer to the climate question provided by public enterprises minister Alec Erwin is fast-tracking the dangerous, outmoded Pebble Bed technology rejected by German nuclear producers some years ago. As noted below, that reckless strategy will continue to be fought by Earthlife, who won two important preliminary court battles against Erwin's special advisor, former DEAT director-general Chippy Olver.

Instead, renewable sources like wind, solar, wave, tidal and biomass are the only logical way forward for this century's energy system, but still get only a tiny pittance of government support, a fraction of the hundreds of millions rands wasted in nuclear R&D. Meantime, because of alleged 'resource constraints', communities like Kennedy Road bordering Bisasar landfill -

where impoverished people rely upon dump scavenging for income - are still denied basic services like electricity. While Kennedy Road activists are promised a few jobs and bursaries, the plan to burn the landfill's methane gas on-site could release a cocktail of new toxins into the already-poisoned air. Gas flaring would increase 15-fold under the scheme Durban has tried selling to the World Bank. The generator's filters would never entirely contain the aromatic hydrocarbons, nitrous oxides, volatile organic compounds, dioxins and furans.

An even more dubious carbon trade is now being marketed: Sasol's attempt to claim credits for its new Mozambique gas pipeline, on grounds the huge investment would not have happened without them. That this is a blatant fib was conceded offhandedly to researchers by a leading Sasol official in August, and is the sort of incident which discredits the whole idea of commodifying the air through unverifiable carbon reductions.

Aside from the World Bank, the cash-rich companies which most need to cut these deals to protect their future rights to pollute are the oil majors, beneficiaries of windfall profits as the price per barrel soared from \$11 in 1998 to more than \$70 in 2005. The Bank itself even admits in a new study that these and other extractive firms' depletion of Africa's natural resources drain the national wealth by hundreds of dollars per person each year in the Gabon (whose citizens lost \$2,241 each in 2000), the Republic of the Congo (-\$727), Nigeria (-\$210), Cameroon (-\$152), Mauritania (-\$147) and Cote d'Ivoire (-\$100).⁴

In the process, the oil fields are attracting a new generation of US troops to bases being developed in the Gulf of Guinea. According to NATO's Supreme Allied Commander in Europe, General James Jones, 'The carrier battle groups of the future and the expeditionary strike groups of the future may not spend six months in the Mediterranean Sea but I'll bet they'll spend half the time down the West Coast of Africa.'⁵ Once again, Pretoria is amplifying the worst trends, as HSRC researchers John Daniel and Jessica Lutchman recently concluded of sleazy oil deals - not only by Imvume in Saddam's Iraq replete with transfers to ruling party coffers - that encompass the Sudanese and Equatorial Guinean dictatorships: 'In its scramble to acquire a share of this market, the ANC government has abandoned any regard to those ethical and human rights principles which it once proclaimed would form the basis of its foreign policy.'⁶ President Thabo Mbeki himself downplayed Sudan's Darfur crisis, even when sending peace-keeping troops, because, as he said after a meeting with Bush in mid-2005, 'If you denounce Sudan as genocidal, what next? Don't you have to arrest the president? The solution doesn't lie in making radical solutions - not for us in Africa.'⁷ Pretoria's national oil

4. World Bank (2005), *Where is the Wealth of Nations? Measuring Capital for the 21st Century*, Washington, Conference Edition, 15 July.

5. <http://www.allAfrica.com>, 2 May 2003.

6. Daniel, J. and J.Lutchman (2005), 'South Africa in Africa', Presentation to the SA Association of Political Studies Colloquium, Pietermaritzburg, 22 September.

7. Becker, E. and D.Sanger (2005), 'Opposition to Doubling Aid for Africa', *GreenLeft Weekly*, 2 June.

company, PetroSA, had five months earlier signed a deal to share its technicians with Sudan's Sudapet, so as to conduct explorations in Block 14, where it enjoyed exclusive oil concession rights.⁸

Those ethical principles should be urgently revisited now, since our future generations' very survival is at stake. Since DEAT's October 2005 National Climate Change Conference did not engage seriously with these critiques, its attendees will be regarded as a large part of the problem. The irony is that while generating enormous carbon emissions, energy is utilised in an extremely irrational way. The unjust system leaves too many without access, while a few large corporations benefit disproportionately, as we see next.

Energy crises: From semantics to structural explanations

There is perhaps no better way to interpret power relations in contemporary South Africa than by examining who has had access to energy in the past, who is getting it now and at what cost, and who will have it in the future. The argument below is that the larger players in the energy 'market' – i. e. , transnational capital, accommodating neoliberal multilateral agencies and national governments, and the rich – are having a disproportionate effect on public policy, even in South Africa.

Although occasionally in Cape Town and Johannesburg, corporations and rich residents also suffer load-shedding associated with inept state management of supply, a *structural analysis* lays bear the ways that capital has disproportionately gained from South Africa's apartheid-era development of extremely inexpensive energy resources. This approach is, perhaps, an overdue corrective to semantic squabbling in the Western Cape about the local and national energy crisis. On the day before a crucial municipal election in which the ruling party lost control of Cape Town, public enterprises minister Alec Erwin blamed the Koeberg nuclear power station shutdown on a loose bolt in a turbine, and two days later incorrectly claimed, 'I did not use the term sabotage'.⁹ According to the Western Cape regional secretary of the

8. Fabricius, P. (2005), 'PetroSA to send Technicians to Explore Oil Possibilities in the Sudan', *The Star*, 5 January.

9. Pressly, D. (2006), 'Erwin Backtracks on Koeberg "Sabotage"', SAPA, http://www.mg.co.za/articlePage.aspx?articleid=265860&area=/breaking_news/breaking_news_national/, 3 March. From the website <http://www.polity.org.za/pol/opinion/?show=82281> comes this deconstruction of Erwin's 28 February remarks: 'In a bid for clarity, what follows is a word-for-word transcription of Erwin's comments made during a media briefing held in the boardroom at the Department of Public Enterprises offices in the Infotech Building, 1090 Acadia street Hatfield, Pretoria. In the briefing, Erwin's statement went as follows: "When we opened the generator, we found extensive destructive damage to that generator. As I indicated in an article placed in the *Cape Times* last week, this, I'm afraid, is a matter for police investigation. We have been in constant contact with the Commissioner of Police and the acting director-general of the National Intelligence Agency, and it is a matter of great regret that this is, in fact, not an accident. The investigations have proceeded well, and action will be taken of a legal nature and of a criminal-charge nature against individuals who, we believe, are responsible for this. Secondly, I should also indicate that, any interference with any electricity installation is an

Congress of SA Trade Unions, Tony Ehrenreich, 'Regarding the power cuts, we should perhaps blame a few neoliberal nuts rather than a bolt that fell into a Koeberg generator.'¹⁰

All manner of contradictions arise upon this complex ideological terrain. For Anton Eberhardt of the National Electricity Regulator, there is 'no simple transition from a state centred electricity supply industry to an idealised World Bank electricity supply industry model'.¹¹ The 'idealised World Bank model' has failed nearly everywhere, not just in electricity and energy and especially electricity, but across the board. Hence it is no surprise that, during the transition to energy neoliberalism, the core components of South Africa's energy system are beset by anti-social, anti-ecological practices. These include climate change caused by what has been termed the 'Minerals-Energy Complex'; the crisis of electricity access in view of disconnections associated with energy sector liberalisation; and the government's failure to promote renewable energy sources and instead waste scarce funds on a nuclear energy fantasy.

We can consider each in turn. The most important to flag at the outset, however, is the extraordinarily cheap supply of electricity that corporate users enjoy. The centrality of cheap electricity in South Africa's economy stems from the needs of mines and heavy industry, and in recent times especially in beneficiating metallic and mineral products through smelting. *The Political Economy of South Africa* by Ben Fine and Zav Rustomjee puts the parastatal into economic perspective.¹² Here we locate electricity at the heart of the economy's Minerals-Energy Complex, a 'system of accumulation' unique to this country. Throughout the twentieth century, mining, petro-chemicals, metals and related

exceptionally serious crime – it is sabotage." When asked by e.tv senior reporter Ben Said whether the "sabotage" issue was confined to the Koeberg incident, or was more broadly based, Erwin's response was interrupted by noises caused by alterations being made in an adjoining room, about which Erwin quipped: "Sabotage is everywhere". Then he responded thus: "We need to be very clear that the bolt in the generator was not an accident . . . suspects have been identified and we will take action . . . but it is appropriate that any such action be announced by the police and not by us. I must also indicate that, unfortunately, further untoward action . . . regarding recent events have been taking place. Again, this is a matter for investigation. The incident that caused the trip in the transmission will be fully investigated, but at this point, we can't make any comment as to what that is, because that might be a normal problem or it could not be – it's certainly a somewhat out-of-the-ordinary event, but we will fully investigate it. So the two areas that I am covering are the original incident (at Koeberg) and certain very recent events in the last two days that worry us and are a matter of investigation. So that is the sabotage, potential or actual, that takes place." In all we calculate that Erwin used the word sabotage three times during a press briefing that lasted 48 minutes.'

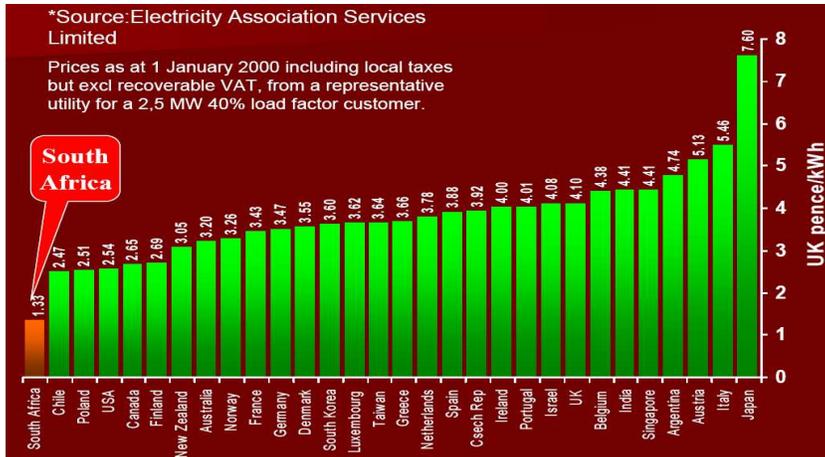
10. Bell, T. (2006), 'Wrong Idea of Consensus Steers Transnet Machine', *Business Report*, 10 March.

11. Eberhardt, A. (n.d.), 'The Political, Economic, Institutional, and Legal Dimensions of Power Sector and Legal Dimensions of Power Sector Reform in South Africa', Presentation, Graduate School of Business, University of Cape Town and National Electricity Regulator. The illustrations below come from this presentation, available on the internet.

12. Fine, B. and Z.Rustomjee (1996), *The Political Economy of South Africa: From Minerals-Energy Complex to Industrialisation*, London, Christopher Hirst and Johannesburg, Wits Press.

activities which historically accounted for around a quarter of GDP typically consumed 40% of all electricity, at the world's cheapest rates.

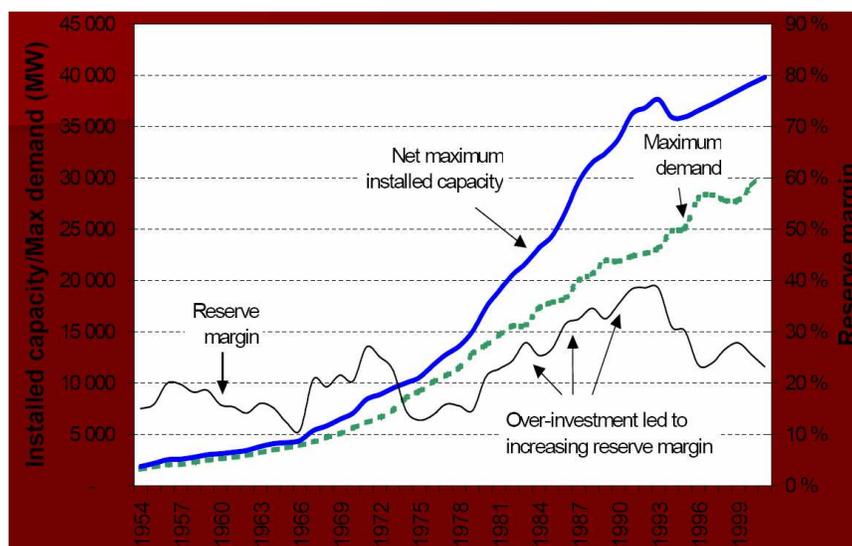
Comparative prices of electricity, 2000



Source: Anton Eberhardt

South Africa's largest parastatal firm, the Electricity Supply Commission, still known by its Afrikaans acronym, Eskom, plays a triple role, as a) generator of virtually all of the country's electricity; b) sole transmitter; and c) distributor to many large corporations, municipalities, commercial farms, and to half South Africa's households, from sections of the largest municipalities to most rural villages. Eskom was crucial to South Africa's rapid capital accumulation during the past century. At the same time, Fine and Rustomjee show, the company fostered a debilitating dependence on the (declining) mining industry. Economists refer to this as a 'Dutch disease', in memory of the damage done to Holland's economic balance by its cheap North Sea oil. Moreover, Eskom as the monopoly electricity supplier played a role in strengthening private mining capital by purchasing low-grade coal from mines that were tied to particular power stations on the basis of a guaranteed profit. But the damage and skews went far deeper, into the social and environmental realms. After World War Two, growing demand from new mines and manufacturing caused supply shortages, and resulted in a programme for the construction of new power stations. In the process, the apartheid state promoted Afrikaner-owned coal mines, with Eskom contracting these for a portion of its coal supply.

SA electricity capacity and demand



Source: Anton Eberhardt

The national grid – which linked previously fragmented power station supplies via transmission lines - was initially formed in 1964, and extended supply into the Southern African region.¹³ Until 1985, when sanctions made international borrowing more difficult, foreign loans were used to build Eskom's massive excess capacity through environmentally damaging coal-fired power stations. At peak in 1990, Eskom produced three-quarters of the African continent's electricity, and its capacity was being extended to more than 37 000 MW at a time that the highest demand was less than 25 000 MW.¹⁴

Eskom's power plants continued providing artificially cheap electricity to large, energy-intensive corporations and white households, including a new wave of subsidised white commercial farmers during the 1980s. Since the loans were guaranteed by the state it meant that all taxpayers, regardless of whether they benefited from the expansion of infrastructure or not, paid the bill. The World Bank's \$100 million in Eskom loans from 1951-67, and subsequent bond purchases by international banks, are coming under more scrutiny as victims of apartheid seek reparations in US and European courts for the Eskom interest and profits the banks earned, while black South Africans suffered.

Even though industrial users do provide a small cross-subsidy to household consumers, Eskom supplies the large firms with the cheapest industrial electricity in the world. While in other countries, domestic consumers are charged twice as much as large industry, Eskom charges industry prices that are as little as one seventh the domestic price.¹⁵ As a result, the University of

13. Wellmer, G. (2001), 'The Foreign Financing of the Parastatal Eskom during the Apartheid Years', mimeo for Jubilee South Africa, Johannesburg, August.

14. Clarke, J. (1991), *Back to Earth: South Africa's Environmental Challenges*, Johannesburg, Southern Book Publishers, p. 33.

15. Leslie, 'Social Pricing of Electricity in Johannesburg'.

Cape Town's Energy for Development Research Centre (EDRC) confirms that generation of cheap electricity in South Africa still relies on the extremely wasteful burning of low-grade coal, which has a worsening impact on the environment not just through emissions but also in requiring vast amounts of coolant water. Indeed, Eskom is the single largest consumer of raw water in South Africa. While industry benefits from cheap electricity as a competitive advantage, the negative social and environmental effects of electricity production have never been internalised into the cost.

One EDRC study concedes that South Africa:

- is 'the most vulnerable fossil fuel exporting country in the world' if the Kyoto Protocol is adopted, according to an International Energy Agency report;
- scores extremely poorly 'on the indicators for carbon emissions per capita and energy intensity';
- has a 'heavy reliance' on energy-intensive industries;
- suffers a 'high dependence on coal for primary energy',
- offers 'low energy prices' which in part is responsible for 'poor energy efficiency of individual sectors'; and
- risks developing a 'competitive disadvantage' by virtue of 'continued high energy intensity' which in the event of energy price rises 'can increase the cost of production'.¹⁶

In short, the existing levels of environmental degradation caused by coal mining, electricity generation, lack of access by the majority of low-income people, hydropower and nuclear energy are formidable. Not including net exports of greenhouse gas pollutants - since South Africa is the world's second largest exporter of coal after Australia - the energy sector contributed 78% to South Africa's share of global warming and more than 90% of all carbon dioxide emissions in 1994.

16. Spalding-Fecher, A. (2000), 'The Sustainable Energy Watch Indicators 2001', Energy for Development Research Centre, University of Cape Town, Cape Town, November. www.edrc.uct.ac.za.

Energy sector carbon emissions, 1999¹⁷

Area	Population (mns)	CO ₂ / person	GDP (\$bns)	CO ₂ /GDP (kg/\$bn)	CO ₂ (kg)/ GDP*pop
S.Africa	42	8.22	\$164	2.11	0.0501
Africa	775	1.49	\$569	1.28	0.0016
USA	273	20.46	\$8,588	0.65	0.0023
OECD	1116	10.96	\$26,446	0.46	0.0004
World	5921	3.88	\$32,445	0.71	0.0001

NOTE: The tonnes of carbon dioxide (CO₂) emissions are those measureable through fuel combustion.

By 1998, South Africa emitted 354 million metric tonnes of carbon dioxide, equivalent to 2 291 kilograms of carbon per person (a 4% increase from 1990 levels). South Africa is amongst the worst emitters of CO₂ in the world when corrected for both income and population size, worse than even the United States, *by a factor of 20*. South Africa took no action to reduce emissions over the period 1990-98, and indeed allowed them to increase from 2 205 to 2 291 kilograms of carbon per person.¹⁸

Liberalisation and price sweeteners for corporations

The 1986 *White Paper on Energy Policy* set the framework for the marketisation of the electricity sector. It called for the 'highest measure of freedom for the operation of market forces', the involvement of the private sector, a shift to a market-oriented system with a minimum of state control and involvement, and a rational deregulation in energy pricing, marketing and production.¹⁹ As electricity provision became increasingly politicised during the 1980s, in part because of township payment boycotts, a joint National Energy Council/Eskom workshop held in 1990 called for deregulation of the supply industry. The workshop also put forward proposals to adopt a market-oriented approach to distribution, including large, restructured distributors that would purchase power from a broker. The introduction of specific tariffs would separate generation and transmission, and transmission and distribution

17. Source: International Energy Agency data, with final column calculated by Bond. Because Purchasing Power Parity estimates by the IEA are dubious (e.g., Zimbabwe's GDP is \$32,7 billion), the actual GDP figures are used. However, South Africa's is far less than \$164 billion, so the ratios indicating South Africa's high carbon/GDP emissions are actually quite conservative.

18. International Energy Agency (2000), 'CO₂ Emissions from Fuel Combustion, 1971-1998', Paris; International Energy Agency (2000), 'Key World Energy Statistics from the IEA,' Paris.

19. Charles Anderson Associates (1994), *National Electricity Policy Synthesis Study, Vol 1*. Report submitted to the Dept of Mineral and Energy Affairs, 12 August, pp. 12-13.

functions (the seeds of ring-fencing). Notably, the workshop called for supply to be run on business lines.²⁰

By the time of South Africa's liberation, because of heavy mining and industrial usage, per capita electricity consumption soared to a level similar to Britain, even though black - African - South Africans were denied domestic electricity for decades. Today, most poor South Africans still rely for a large part of their lighting, cooking and heating energy needs upon paraffin (with its burn-related health risks), coal (with high levels of domestic and township-wide air pollution) and wood (with dire consequences for deforestation). Women, traditionally responsible for managing the home, are more affected by the high cost of electricity and spend greater time and energy searching for alternative energy. Ecologically-sensitive energy sources, such as solar, wind and tidal, have barely begun to be explored, while the main hydropower plant that supplies South Africa from neighbouring Mozambique is based on a controversial large dam, and two others on the Zambezi are proposed for construction.

Nevertheless, Eskom claims to be one of the New South Africa's success stories, having provided electricity to more than 300 000 households each year during the 1990s. Black residents were denied Eskom's services until the early 1980s due to apartheid, and the townships were, as a result, perpetually filthy because of coal and wood soot. From 1990 to the end of 2001, Eskom and the municipalities had together made nearly four million household connections, including farmworkers, at a cost to Eskom of R7,72 billion.²¹ The percentage of households with access to electricity infrastructure increased to 70% at the end of 2000. In urban areas, the percentage of households with electricity infrastructure was 84%, with rural areas lagging behind at 50%.²²

Critics argue that regulation of Eskom and the municipal distributors has not been successful, from the standpoint of mass electricity needs.²³ This is not only because of an extremely weak performance by the initial National Electricity Regulator – Xolani Mkhwanazi, who subsequently became, tellingly, chief operating officer for BHP Billiton Aluminium Southern Africa – but also because government policy has increasingly imposed 'cost-reflective tariffs', as a 1995 document insisted. The 1998 *White Paper* was an improvement on previous versions, allowing for 'moderately subsidised tariffs' for poor domestic consumers. But it too made the counterproductive argument that 'Cross-subsidies should have minimal impact on the price of electricity to consumers in the productive sectors of the economy'.²⁴ That philosophy

20. Charles Anderson Associates, *National Electricity Policy Synthesis Study*, pp. 15-17.

21. Department of Minerals and Energy (1997), 'Re-appraisal of the National Electrification Programme and the Formulation of a National Electrification Strategy', www.dme.gov.za/energy/RE-APPRAISAL.htm.

22. National Electricity Regulator (2001), *Annual Report 2000/01*, Johannesburg, p. 14.

23. Winkler, H. and J.Mavhungu (2001), 'Green Power, Public Benefits and Electricity Industry Restructuring', Report prepared for the Sustainable Energy and Climate Change Partnership, EDRC, Cape Town, p. 6.

24. Department of Minerals and Energy (1998), *White Paper on the Energy Policy of the Republic of South Africa*, Pretoria, Part Three.

remained intact during Phumzile Mlambo-Ngcuka's reign as energy minister until 2005.

This raises for us the crucial question of the price charged to these 'productive sectors', namely a tariff regime inherited from the apartheid era extremely generous to minerals/metals smelters and other large electricity consumers. The man responsible for Eskom's late-apartheid pricing – Mick Davis – left the parastatal's treasury to become the London-based operating head of Billiton, once former finance minister Derek Keys gave permission for Gencor to expatriate vast assets to buy the firm from Shell (after apartheid ended, Keys tellingly became chief executive of Billiton).

Ten years later, the deals which gave Billiton, Anglo American and other huge corporations the world's lowest electricity prices came under attack by Alec Erwin, minister of public enterprises. It seemed like progress finally, because the package Davis had given Billiton for the Alusaf smelters at Richards Bay Hillside and Mozal in Maputo during the period of Eskom's worse overcapacity, had resulted in ridiculously cheap electricity – often below R0,06/kiloWatt hour (kWh) – when world aluminium prices fell. Creamer's Engineering News reported in June 2005 that, 'following the introduction of new global accounting standards, which insist on "fair value" adjustments for all so-called embedded derivatives... Eskom admits that the sensitivities are substantial and that the volatility it could create is cause for concern.' Public enterprises minister Alec Erwin reportedly insisted on lower 'financial-reporting volatility' – every time the Rand changes value by 10%, Eskom's wins or loses R2 billion - and he gave 'guidance that the utility should no longer enter into commodity-linked contracts and that management should attempt to extricate the business from the existing contracts'. Mkhwanazi replied that any change to the current contracts could be 'a bit tricky for us... We would adopt a pragmatic approach and, who knows, perhaps there will even be some sweeteners in it for us.'²⁵

How did that new approach play out in terms of the vast subsidies promised at Coega, where Erwin as trade and industry minister from 1996-2004 had led negotiations for a new aluminium or zinc smelter? The answer was clear within two weeks, as a long-awaited \$2,5 billion (R16,3 billion) deal with Canada's Alcan came closer to completion. According to the chief executive of the parastatal Industrial Development Corporation (IDC), Geoffrey Qhena, 'The main issue was the electricity price and that has been resolved. Alcan has put a lot of resources into this, which is why we are confident it will go ahead.' Meanwhile, however, to operate a new smelter at Coega, lubricated by at least 15% IDC financing, Alcan and other large aluminium firms were in the process of shutting European plants that produce 600 000 metric tonnes between 2006-09, simply 'in search of cheaper power', according to industry analysts.

A Coega plant would generate an estimated 660 000 tonnes of CO₂ a year. For the purpose of complying with Kyoto Protocol obligations, Europe will be

25. Creamer's Engineering News (2005), 'Eskom will seek to Cancel Commodity-Linked Tariff Deals', 29 June.

able to show reductions in CO₂ associated with the vast energy intake needed – representing a third of a typical smelter’s production costs – while South Africa’s CO₂ will increase proportionally. Indeed, as a result of the sweeteners offered to Alcan, Eskom will more rapidly run out of its excess electricity capacity, resulting in raised prices to poor people, more coal generation, and a more rapid turn to objectionable power sources such as nuclear reactors and two proposed Zambezi River megadams.²⁶

Price hikes and disconnections for the poor

The contrast with the government’s treatment of low-income people is stark. While Eskom was offering billions of rands worth of ‘sweeteners’ to the aluminium industry, the Department of Provincial and Local Government’s *Municipal Infrastructure Investment Framework* supported only the installation of 5-8 Amp connections for households with less than R800 per month income, which does not offer enough power to turn on a hotplate or a single-element heater. (In turn, without a higher Ampage, the health and environmental benefits that would flow from clean electricity instead go up in smoke.) The 1995 energy policy also argued that ‘Fuelwood is likely to remain the primary source of energy in the rural areas’. Eskom did not even envisage electrifying the nation’s far-flung schools, because ‘It is not clear that having electricity in all schools is a first priority.’²⁷

Moreover, Eskom economists had badly miscalculated rural affordability during the late 1990s, so revenues were far lower than were considered financially sustainable. Because of high prices, consumption of even those with five years of access was less than 10 kWh per month, resulting in enormous losses for Eskom. Paying as much as R0,40 per hour (compared to a corporate average of R0,06 and bigger discounts for the Alusaf), rural women used up their prepaid meter cards within a week and can’t afford to buy another until the next pension payout. This was the main reason demand levels are so low that Eskom’s rate of new rural electrification connections ground to a standstill.²⁸

The state’s electricity subsidy was insufficient to make up the difference, even when the ANC government introduced its free basic services policy in mid-2001. Eskom refused to participate for several years, waited until a new national subsidy grant became available, and still today has not fully rolled out

26. Bailey, S. (2005), ‘Alcan Will Probably Build \$2,5 Bln Smelter, IDC Says’, Bloomberg News, 13 July. For a full critique of Coega, especially Erwin’s role, see Bond, *Unsustainable South Africa*, Chapter Two.

27. Department of Minerals and Energy (1995), ‘South African Energy Policy Document’, Pretoria, pp. 96,66.

28. Another reason for low consumption is that people may not be able to afford the cost of appliances required to increase electricity use. A suggestion that has some support from electricity suppliers is the provision of a ‘starter pack’ when households are connected, providing the household with a hot plate or a kettle for free. Leslie, G. (2000), ‘Social Pricing of Electricity in Johannesburg’, Masters research report submitted to the Faculty of Management, University of the Witwatersrand, Johannesburg, p. 69.

the promised 50 kWh per household per month lifeline supply. With merely an hour's use of a standard hotplate consuming 25 kWh, the amount Eskom and the municipalities offer is pathetically inadequate.

Politicians and municipal managers defend the system notwithstanding these many problems. The leading official of eThekweni (Durban), Mike Sutcliffe, justifies the inadequate 50 kWh/household/month allocation:

The amount of 50 kWh was developed at national level in consultation with Eskom where 56% of their residential customer base currently use less than 50 kWh a month and this includes many customers in colder climates than Durban. The average consumption of all our prepayment customers (160 000) is 150 kWh a month and not all of them are indigent.

South Africa does not have sufficient experience in the provision of free energy services to conclude whether 50 kWh a month is adequate or not. The amount of 50 kWh would appear to be a reasonable level to start with on a nationwide basis using the self targeted approach. If the self targeting works and the country can afford to increase the free service it could be reviewed in the future. There are more than 7 million electrified households in SA and for every 1 million indigent households receiving 50 kWh free the loss in revenue is R17,5 million a month.

The proposal of a flat rate has proven to result in considerable wasted energy as users are unaware of their usage and consume far more than that which could be purchased for R50. Even if a current limit of only 10A is imposed these flat rate users could consume well over 1 000 kWh a month. South Africa can ill afford to waste energy, the generation of which not only depletes our fossil fuel reserves but has a considerable impact on water resources used in the generation process and air pollution as 80% of SA's generation is from coal.²⁹

It is not at all unusual for wealthy South Africans – perhaps suffering from a 'culture of privilege' - to advocate that poor people should consume less electricity or water because they 'waste' these state services (it may be irrelevant, but Sutcliffe earns a far greater income than president Mbeki). Uniquely, though, Sutcliffe here also implies the poor are responsible for depleting the vast South African coal reserves, even though household electricity consumption by low-income families in South Africa is still less than 5% of the national total.

Misleading or wildly inaccurate information from state officials – relating to, for example, AIDS, arms deals, crime, adult education and municipal services - is an epidemic in South Africa, a country also overpopulated by gullible journalists. Witness South African Press Association coverage (reprinted in the *Mail&Guardian*) of a Statistics South Africa services survey in March 2005: 'The best-performing municipalities on average were in the Free State, where 91,5% of households had free water and 90,3% had free

29. Sutcliffe, M. (2003), 'South Africa Cannot afford to Waste Energy', *The Mercury*, 27 February.

electricity' [*sic*]. (The explosive municipal riots in the Free State must indeed have been a right-wing plot, as alleged by some in the ANC, since denial of services was obviously not a factor.) Conveniently, it would apparently be impossible to verify these amazing claims, because 'Stats SA said although it is able to release provincial data, it cannot in terms of the Statistics Act release unit information - that of individual municipalities in this case - without their express permission. "Municipalities do need to be protected by the Act because they may want to apply to certain organisations for grants, and poor performance figures could harm them, or there may arise situations where they face punitive measures from the ruling party in their areas"' according to Stats SA head Paddy Lehohla.³⁰

For very different reasons, some in national government periodically concede that low-income South Africans do not, in fact, receive sufficient free electricity. In November 2004, prior to taking over as deputy president from Jacob Zuma, energy minister Mlambo-Ngcuka alleged, according to SABC, that 'municipalities are botching up government's free basic electricity initiative to the poor... However, there is another bureaucratic dimension to the problem. Eskom, a state owned enterprise, is struggling to recoup its money from the Treasury for the free electricity it provides and Mlambo-Ngcuka says even when Eskom does get the money from them, it is always insufficient.' Indeed, the Treasury's 2004 grant of just R200 million to cover free basic electrification subsidisation is grossly inadequate. But Mlambo-Ngcuka's own ministry was mainly to blame, because its staff had obviously overruled the 2000 ANC election promise of free basic services through a rising block tariff. It apparently remained committed, instead, to 'cost-reflective' pricing of electricity, except insofar as it had no objection to the sweetener deals with the aluminium industry.³¹

Relatedly, when the World Bank came under pressure in 2004 for its sweet financing of extractive industries, Mlambo-Ngcuka again revealed her loyalties, making it clear to senior Bank staff in February 2004 that they should oppose 'green lobbyists', as reported by the UN news agency IRIN. Instead of the Extractive Industries Review provisions for a phase-out of Bank fossil-fuel investments, Mlambo-Ngcuka promoted the African Mining Partnership within the neoliberal New Partnership for Africa's Development.

30. Mahlangu, L. (2005), 'Most South Africans Receive Free Water, Electricity', SAPA, 17 March.

31. SABC News, 1 November 2004. Mlambo-Ngcuka partly blamed the 'universal' entitlement which meant that in some cases, all municipal residents received their first block free. Yet this was not only good public policy in view of the consistent failure of means tests, but conforms to her own party's 2000 campaign promise: 'ANC-led local government will provide all residents with a free basic amount of water, electricity and other municipal services, so as to help the poor. Those who use more than the basic amounts will pay for the extra they use.' Her ministry's commitment to neoliberal market-based pricing was apparently strong enough to veto the rising block tariff system that would be required to implement the ANC campaign promise.

According to her spokesperson, 'We are already implementing sustainable development programmes.'³²

The energy system Mlambo-Ngcukca oversaw was anything but sustainable for its many victims. By pricing electricity out of reach of the poor, the state officials, economists and consultants who design tariffs together refuse to recognise 'multiplier effects' that would benefit broader society, were people granted a sufficient free lifeline electricity supply. One indication of the health implications of electricity supply disconnections that resulted from overpriced power was the recent upsurge in TB rates. Even in communities with electricity, the cost of electricity for cooking is so high that, for example, only a small proportion of Sowetans with access to electricity use it, favouring cheaper fuels.³³ The gender and environmental implications are obvious.

The result of unaffordable electricity and inadequate state subsidies was an epidemic of disconnections. Electricity cutoffs were widespread by 2001. At that point, the Department of Provincial and Local Government's Project Viability reports and Eskom press statements together indicate an electricity disconnection rate of around 120 000 households per month. These are likely to be higher since not all municipalities responded to the DPLG survey, and the Eskom statements focus on Soweto, where resistance was toughest. But even using this base, and making a conservative estimate of six people affected by every disconnection (since connections are made to households which often have tenants and backyard dwellings), upwards of 720 000 people a month were being disconnected from their access to electricity due to non-payment, meaning *that there were several times as many households losing access to electricity every month as were gaining access*. A survey of Soweto residents found that 61% of households had experienced electricity disconnections, of whom 45% had been cut off for more than one month. A random, stratified national survey conducted by the Municipal Services Project and Human Sciences Research Council (HSRC) found that 10 million people across South Africa had experienced electricity cutoffs.³⁴

Even higher numbers could be derived using municipal disconnection statistics available through Project Viability, a national accounting of municipal finances whose last data set was analysed by the Department of Provincial and Local Government in December 2001. After that date, the embarrassing

32. http://www.irinnews.org/report.asp?ReportID=39413&SelectRegion=Southern_Africa&SelectCountry=south%20africa.

33. Reaching the same conclusion, various mid- and late-1990s studies are reviewed in Beall, J. O.Crankshaw and S.Parnell (2002), *Uniting a Divided City: Governance and Social Exclusion in Johannesburg*, Chapter Nine; and White, C., O.Crankshaw, T.Mafokoane and H.Meintjes (1998), 'Social Determinants of Energy Use in Low Income Households in Gauteng', Department of Minerals and Energy Affairs, Pretoria.

34. McDonald, D. (2002), 'The Bell Tolls for Thee: Cost Recovery, Cutoffs and the Affordability of Municipal Services in South Africa', Municipal Services Project Special Report (http://qsilver.queensu.ca/~mbspadmin/pages/Project_Publications/Reports/bell.htm). Government initially contested these figures as wild exaggerations, but by mid-2004 lead water official Mike Muller admitted in the *Mail & Guardian* (24 June) that in fact, according to a new government survey, 275 000 households were disconnected during 2003, which equates to 1.5 million people – so the MSP estimates were 50% 'wrong' - but too generous to government.

statistics have not been publicly available, in spite of numerous requests by Centre for Civil Society students. The latest report showed that 174 municipalities out of 284 total implemented credit control procedures that included service disconnections. During the last quarter of 2001, those 174 municipalities disconnected electricity to 296 325 households due to non-payment. Of those, 152 291 households were able to pay a sufficient amount to assure reconnection during the quarter, leaving 144 034 families – 4,3% of the total population connected - without electricity at Christmas in 2001. If, very conservatively, half a million people were adversely affected during this quarter – a time when December bonuses should have permitted bill arrears payments – then, multiplying by four quarters, roughly two million people would, cumulatively, have had their power disconnected for substantial periods (on average 45 days) throughout 2001. Moreover, since Eskom supplies more than half the low-income township population directly, and since self-disconnecting pre-paid metered accounts are not included in these statistics, the numbers of people who lost power would logically be far higher. Hence the electricity attrition rate – i. e. , the percentage of those who were once supplied with electricity but who could not afford the high prices and lost access due to disconnections – must be, using these indicative statistics, scandalously high for South Africa as a whole. Indeed, the ongoing lack of electricity supply to low-income people is invariably blamed, in part, for the upsurge in municipal protests since the early 2000s.

Rising electricity prices across South African townships already had a negative impact during the late 1990s, evident in declining use of electricity despite an increase in the number of connections. According to Statistics South Africa, the government's official statistical service, households using electricity for lighting increased from 63,5% in 1995 to 69,8% in 1999. However, households using electricity for cooking declined from 55,4% to 53,0% from 1995 to 1999, and households using electricity for heating dropped from 53,8% in 1995 to just 48,0% in 1999. Although comparable data are not available for the subsequent five years, in 2001 Stats SA conceded a significant link between decreasing usage and the increasing price of electricity and there is no reason to believe that this trend was subsequently reversed.³⁵ The implications for women and children are most adverse, given the inhalation of particulates that they in particular suffer during internal cooking and heating with coal, wood or paraffin.

35. Statistics South Africa (2001), *South Africa in Transition: Selected Findings from the October Household Survey of 1999 and Changes that have Occurred between 1995 and 1999*, Pretoria, pp. 78-90.

Latest available Project Viability statistics (October-December 2001)³⁶

The number of	
electricity disconnections done over the past three months	296 325
electricity reconnections done over the past three months	152 291
The number of households	
receiving electricity	3 366 226

Renewable down, nuclear up

In contrast to the vast amounts of energy generated through dirty coal-fired methods, South Africa's renewable sources with enormous potential include solar and wind, but these are surprisingly underdeveloped. Capital costs are expensive, as are repairs.

Resource allocation by the South African government remains skewed away from renewable energy, towards nuclear. In 1995/96, energy spending through the Department of Minerals and Energy was R515 million, of which R489 million went to the Atomic Energy Commission (mainly for debt servicing), even though the AEC produced no new electricity since nuclear power generation had been purchased by Eskom. In addition, that year, the Central Energy Fund wrote down loans to Soekor by more than R110 million and included additional provisions for non-payment of loans to state companies by R7,3 billion. Another R1,5 billion was spent on subsidising synthetic fuels. Eskom's capital investments that year amounted to R5,4 billion and there were many other unaccounted investments in energy, through local electricity distributors, transport/pipeline companies, state oil companies, Eskom and National Research Foundation research and development in energy, and upgrading of port infrastructure for coal handling. The problem of resource allocation appears to be getting worse. Expenditure on renewable energy was less than 0,5% of the Department of Minerals and Energy (DME) budget in 2002/03.

Ironically, this was the moment that Pretoria released its *White Paper on Renewable Energy* which claims that electricity generation from renewables will reach 4% by 2013. As Graham Erion argues, however, the statistic is misleading: 'For starters, the 4% target is *cumulative*, meaning that it will be satisfied if the annual percentage of electricity coming from renewables every year adds up to 4% by 2013. Therefore if new renewable capacity goes online next year totally just 0,5% of the market and no other new supply goes online, this target will be satisfied.'³⁷

36. Department of Provincial and Local Government (2002), 'Quarterly Monitoring of Municipal Finances and Related Activities: Summary of Questionnaires for Quarter Ended 31 December 2001' (Project Viability), Pretoria, pp.30-31.

37. Erion, G. (2005), 'Low Hanging Fruit Rots First', in Bond, P. and R.Dada (Eds), *Trouble in the Air*, Durban, University of KwaZulu-Natal Centre for Civil Society.

At the same time, DME continued to fund the Nuclear Energy Corporation of South Africa (successor to the AEC) to the tune of R135 million, and provided strategic loans of R266 million.³⁸ Opposition to nuclear energy on grounds of safety and long-term waste storage has come from sections of civil society, notably most of the environmental movement and the trade unions. By the end of 2001, Cosatu and four dozen other civil society organisations and networks were joined by another 23 regional and international organisations in opposition to a nuclear development path in South Africa.³⁹

By November 2004, Earthlife Africa had won a court battle against Chippy Olver, former director-general of the Department of Environmental Affairs and Tourism, for his failure to take into account their views during nuclear energy environmental impact hearings. In January 2005, Olver was forced to turn over files he had refused to give Earthlife regarding the nuclear programme's safety, as he simultaneously complained of 'a seemingly endless round of consultations and judicial reviews'.⁴⁰ (A related controversy emerged in October 2005, where the president of the World Conservation Union, former environment minister Valli Moosa, had to defend his mid-2005 acceptance of the chairmanship of Eskom against board members in Geneva aghast at the corporation's environmental record. Moosa oversaw Olver's decisions related to the Earthlife critique, not to mention other crimes against the environment including his personal profiting from carbon trading.)⁴¹

38. Department of Finance (2001), '2002 Estimates of National Expenditure: Vote 30, Minerals and Energy', Pretoria, pp. 706-709.

39. Earthlife Africa (2002), 'Information Pack for Activists Training in Energy Issues', Johannesburg; (2001), 'Nuclear Energy Costs the Earth', Johannesburg; Congress of South African Trade Unions (2001), 'Cosatu Submission on the Eskom Conversion Bill', presented to Public Enterprises Portfolio Committee, 9 May.

40. I-Net Bridge (2005), 'Manuel Gives the Green Light to PBMR', 23 February.

41. According to the Greenfly 'Cynics Corner' column in the groundWork Newsletter (December 2004), 'Former comrade, one time parliamentarian, and now turned fatcat businessman, Valli Moosa is also the new head of the IUCN... Moosa's presidency of the IUCN signals a consolidation of the neo-liberal camp in a decidedly mainstream establishment organisation. The journey from flag-burning militant to IUCN boss is a sorry tale of compromise, connivance and cooption. As ordinary South Africans start to pay the costs for the ways in which the dream of transformation was sold down the river during our "miracle" transition, Moosa's name should not be forgotten as a key figure in the ANC negotiating team that snatched defeat from the jaws of victory. As social movements mount heroic struggles for basic resources and services to the poor, Moosa's name should be remembered since, as minister for provincial and local government, he facilitated the privatisation of municipal services. As activists and movements continue to face the combined onslaught of state repression and government's duplicitous divide and rule strategies, we will all no doubt recall Moosa's name as the environmental minister who hosted the World Summit on Sustainable Development (WSSD) in Sandton, South Africa. Here, according to groundWork's 2004 Report "a candle-light march of South African social movement activists and global allies was 'violently disrupted by police recklessly throwing eight percussion grenades into the crowd and injuring at least three international visitors'... At the same time, the South African government was threatening to ban a major protest march aimed at exposing weaknesses and hypocrisy in the WSSD and highly critical of the ANC government. As it happens, public revulsion at the action against the smaller 'candle-light' march made it politically too expensive to ban the big march. The government backed down and allowed

From an economic point of view, the cost of production of the preferred nuclear option – the Pebble Bed Modular Reactor (PBMR), which is 50% owned by Eskom – became unviable during the early 2000s, given currency fluctuations and severe problems experienced by Eskom's partners in Britain and the US. On a simple (non-environmental) financial basis, electricity generated from nuclear power in other countries costs up to 25% more than conventional fuels.⁴² The PBMR technology was already rejected by German firms who sold it to Eskom, yet is presently being marketed as 'homegrown' South African knowledge.

In spite of the vast waste of resources, the nuclear programme has been expanded during the post-apartheid era. Against all evidence to the contrary, such as the departure of US investor Exelon, public enterprises minister Alec Erwin claimed to parliament in October 2004: 'There are constant requests for information from different governments, utilities and research institutions on the PBMR technology.' Asked about the costs to taxpayers, Erwin replied in manner that has become familiar: 'Given that there are other shareholders involved, and the project is in a fund-raising exercise, this information is confidential and cannot be divulged.'⁴³ The fund-raising failure became obvious a few months later, when Trevor Manuel authorised dropping another R500 million from the fiscus into the PBMR sinkhole. According to Earthlife campaigner Sibusiso Mimi,

The project is moving backwards. The projection by Phumzile Mlambo-Ngcuka in her budget speech, saying nuclear energy is inevitable for South Africa, and that by 2010 the PBMR will be economically viable, is a lie. Eskom has just announced another verdict: that the PBMR will be economically viable by 2013. In essence, the project has moved three more years backward in few months after the budget speech despite a generous R500 million, which really means that South Africa is being used as a testing ground for this white elephant alienated by the global investing community, while its proponents are praising it like some kind of a god.⁴⁴

Earthlife's protest was joined by the South African Council of Churches, South African Non-Governmental Coalition and Congress of South African Trade Unions:

the march – but organised its own counter march on the same route on the same day under the banner of the ANC! This strategy simply reinforced the humiliation as the ANC sponsored march was notably smaller, drawing between 1 500 and 4 500 compared to the estimated 20-25 000 who marched under the banner of 'Social Movements United'. But it turns out that attacking the independent left and implementing neoliberal policies was not enough for this man's revolution. He's now left government and walked, straight through the revolving door, into business. In a flagrant abuse of his political connections and the spadework he's put in as environment minister, Moosa now heads up a company set to make millions trading carbon (dis)credits on the stock exchange!

42. Earthlife Africa (2001), 'Other Energy-Related Developments', Johannesburg, p. 2.

43. SAPA (2004), 'Hot Interest in SA Nuclear Reactor', 4 October.

44. Email, 23 February 2005.

Government intends allocating R500-million to the PBMR. At the same time, government has allocated slightly more than a billion rand in the 2004/05 financial year for the national electrification programme. The spending on the PBMR is almost half of the projected spending to achieve universal access. The project involves high risks and unpredictably high costs with the prospect of limited returns.⁴⁵

The most recent critique of PBMR, from Greenwich University researchers, was covered by the press in August 2005:

South Africa will have to spend a massive R25-billion on the proposed pebble bed nuclear power project before it will be economically viable. This has emerged from an international report on the economic impact of the proposed pebble bed modular reactor which says that if the project goes ahead South African consumers could end up paying for 'a series of expensive white elephants'.

The cost of a PBMR demonstration plant to be built at Koeberg has risen from R2-billion in 1999 to R14-billion today. This excludes the decommissioning costs, which would be at least another R5-billion. The economic forecasts by PBMR are 'implausibly optimistic'.

The economic report was written by Steve Thomas, of the Public Service International Research Unit at the University of Greenwich and commissioned by the Legal Resources Centre. It is to form part of a submission by Earthlife Africa to the department of environment affairs.

The department was ordered by the Cape High Court six months ago to reopen the environmental impact process for the pebble bed, but has not yet done so. The National Environmental Management Act requires that the state ensure development is economically sustainable. Thomas writes that South Africa plans to build several of the nukes for export but, after years of negotiations, has no overseas orders.

The developer, PBMR, is pressuring Eskom to commit, unconditionally, to buying 24 of the units at a cost of R25-billion. This would allow 'economies of scale' to kick in and only then could the company produce a commercially competitive product.

Thomas says the PBMR's huge escalating costs and the long time delays show that the developers have failed to understand the nature or scale of their task. Their poor track record gives little confidence that they would be able to control costs and time schedules in the next, more expensive, phase.

The pebble bed's economic forecasts by the PBMR company have not been updated since 1998 and are 'implausibly optimistic'. Thomas points out that, as the demonstration plant itself would only incur costs, not create profits, building it would make sense only if there were a high probability of a 'stream of orders' from overseas.

45. I-Net Bridge (2005), 'Manuel Gives the Green Light to PBMR', 23 February.

Beijing has made no commitment to buy PBMRs. The company had been 'very vague' about its target markets. Its analysis of the world nuclear market was simplistic and its assumptions about who would buy the exported PBMRs had no basis. There was 'nothing remotely close to a firm order' from overseas for a pebble bed nuclear reactor. The main expected export market was China but, despite several years of discussions, Beijing had made no commitment.

South Africa has not been able to find another international partner for the nuclear project since the US company, Exelon, pulled out in 2002. John Rowe, chief executive officer of Exelon, said the reason for the withdrawal was that 'the project was three years behind schedule and was too speculative'.

The French nuclear company Areva has also indicated it is not prepared to fund the demo plant. Britain's BNFL, the only foreign partner, is in financial difficulties.

Thomas says the PBMR project has always been high-risk and the risks were likely to fall squarely on the shoulders of the South African public. As South Africans would have to be the major underwriters for the pebble bed project, it was 'reprehensible' that most of the economic information needed to evaluate it had been withheld from the public. 'It is particularly regrettable that a report by an international panel of experts, commissioned by the department of minerals and energy to review the overall project, has not been made public,' Thomas wrote.

Thomas, a member of the panel, said the panel had been 'required to promise not to disclose any information' about the report. The Legal Resources Centre has tried, under the Access to Information Act, to get the department of minerals and energy to release the report, but it has refused to do so.

Peter Bradford, former commissioner of the US Nuclear Regulatory Commission, peer-reviewed Thomas's report this month and his only criticism was that Thomas had been 'conservative' in his concerns about the pebble bed. Bradford said Thomas had not considered the negative impact on the South African economy that would flow from electricity bill increases or tax increases to fund the pebble bed project. He also had not considered that the Chinese pebble bed design or the Areva prismatic nuclear design were likely to be effective competitors for whatever market developed for the pebble beds.⁴⁶

So the multiple environmental, social and economic dangers posed by Pretoria's new nuclear fetish are substantial. Sensitivities at the highest levels of government are one indication that Earthlife is on the right track. After the organisation - of which I confess to be an ordinary Durban branch member - revealed high levels of radioactivity near the Pelindaba plant, politicians went ballistic. Energy minister (later deputy president) Mlambo-Ngcuka warned: 'We are considering strengthening the law so that if people make such

46. *Cape Times* (2005), 'Pebble Bed Needs Billions to be Viable', 15 August.

allegations there is a sanction.' President Mbeki, who was that weekend awarded the ludicrous United Nations 'Champion of the Earth' award, accused Earthlife of making 'reckless statements' which were

in my view, totally impermissible... We cannot go on scaring people about something that does not exist... These statements have been made by an NGO in order to promote its own interests, which is regrettable.⁴⁷

Earthlife's agenda was a bit broader than that, though, as two journalists from the hometown paper learned to their surprise:

When the *Pretoria News* visited the site yesterday radioactive warning signs were, at first, nowhere to be seen. A chicken-wire fence had been erected around the site. Less than 30 minutes after arriving there, Nuclear Energy Corporation of South Africa (NECSA) officials 'escorted' reporters off the site before erecting 'private property' signs as well as signs warning of radioactivity.

Officials from the National Nuclear Regulator (NNR) and NECSA also spent the day conducting radiation level readings. NECSA spokesman Nomsa Sithole said the signs 'are part of the organisation's security measures and are used to warn people to keep off the land.'

'I categorically deny that the site is a nuclear waste dump. All our waste is dumped within the nuclear facility itself,' she said.

Sithole said the site, a former calibration facility established in 1979, was used to calibrate the instruments used by Pelindaba staff. 'While I admit that the fence around the area is not up to scratch, there is no need for fear of radiation leaking from the site,' she said.

Sithole said the radiation warning signs had been posted to warn people about enhanced levels of 'naturally-occurring' radioactive materials mixed into the concrete calibration pads. She could not say why they were erected only yesterday.

NNR communication manager Phil Nkhwashu confirmed they were investigating the site, but declined to comment further.

Dr Stefan Cramer, a geologist who conducted tests at the site on Saturday on behalf of Earthlife, said there had been a grave lack of security and an oversight by Necsa concerning the nuclear facility. He said he had not seen such high levels of radiation in such an open area before. He claimed that the radiation in the immediate vicinity of the site was 200 times higher than natural radiation...

Government spokesman Joel Netshitenzhe said that given the undue panic generated by the scare, South Africans, including the media, needed to be cautious when handling information from organisations 'with their own narrow agendas'.⁴⁸

47. SAPA (2005), 'State Dismisses Nuclear Threat', 28 April.

48. Hosken, G. and S. Adams (2005), 'What is the Matter at Pelindaba?', *Pretoria News*, 29 April.

Earthlife's lead anti-nuclear campaigner Mashile Phalane explained that agenda: 'We want government to regulate the industry properly and punish anyone who transgresses the law.'⁴⁹ Fortunately, Earthlife will continue raising concerns about nuclear safety and other narrow agendas, while battling Mbeki, Mlambo-Ngcuka, Erwin and Netshitenzhe. In addition, thankfully, the Kyoto Protocol still prohibits the use of nuclear energy as justification for reducing greenhouse gases, and rejected the nuclear option within the Clean Development Mechanism, but that stance is under attack from the US and other pro-nuclear governments.⁵⁰ It remains to be seen whether under president Valli Moosa, the World Conservation Union advances Eskom's pro-nuclear agenda in the carbon markets, where Moosa's interests are potentially lucrative in the event the PBMR is ever built and authorised as a CDM.

Finally, it should also be recognised that there are enormous environmental and social problems associated with hydro-electricity across Southern Africa, not least of which is global warming gasses that are released in tropical dams due to vegetation decay.⁵¹ Favouring hydropower and the privatisation of Africa's existing energy agencies, Eskom had ventured into the following countries by 2000: Angola, Botswana, Cameroon, the DRC, Ghana, Mali, Mozambique, Swaziland, Tanzania and Zambia. In the early 2000s, major EE projects included

- a R100 million agreement to supply water and electricity in Gambia;
- a 15-year operation and maintenance contract for the new Manantali hydro station in Mali and its associated high voltage transmission system;
- the formation of a consortium with the French firms EDF and Saur International to bid for 51% of Cameroon's Sonel;
- an alliance agreement with the Libyan power utility, Gecol;
- an agreement with Nigeria's National Electricity Power Authority covering generation and operations, electro-mechanical repairs, transmission, and rehabilitate, operate and transfer (ROT) schemes;
- consulting and management contracts in Malawi; and even
- a bid for power stations operated by the Zimbabwean Electricity Supply Authority as repayment for outstanding debt owed to Eskom.⁵²

There have been many other feelers in Africa recently, including major contracts in Nigeria and at Uganda's extremely controversial Bujagali Dam. As

49. *Business Day*, 29 April.

50. Earthlife Africa, 'Other Energy-Related Developments', p. 4.

51. The World Commission on Dams found that in many cases, the greenhouse gas emissions from large dams exceeds those of conventional energy generation. See <http://www.irn.org> for more information.

52. Greenberg, S. (2002), 'Eskom, Electricity Sector Restructuring and Service Delivery in South Africa', Alternative Information and Development Centre, Cape Town, June. Documentation available in *Business Day* editions: 9 March 2000, 26 April 2000, 10 August 2000, 12 September 2000, 17 October 2000, 10 November 2000, 29 November 2000, 25 January 2001, 27 March 2001, 8 November 2001, 12 March 2002, 16 July 2002.

John Daniel and Jessica Lutchman of the Human Sciences Research Council explain,

Hydro-electric power is regarded as a more viable option for South Africa at present and it is in this context that South Africa's developing trade and other ties to Africa loom large. Mozambique possesses substantial hydro-electric capacity (sourced from Cahora Bassa), some of which it sells to South Africa. SA's largest initiative is the Grand Inga project in the DRC. Grand Inga is expected to generate 40 000 Megawatts of electricity, sufficient to meet the needs of the entire continent as well as generate revenue for its members by exporting its surplus power to Europe. Grand Inga is the vital element in South Africa's long-term objective of ensuring its self-sufficiency in electricity. It is little wonder then that the South African government has committed so much in the way of time and effort, as well as military peacekeepers, to the task of bringing political stability to the DRC.⁵³

The danger of this sort of hydropower hype is obvious, however, and was recognised in 1998-2001 World Commission on Dams studies of large energy and irrigation facilities associated with megadams, which nearly invariably failed to meet economic expectations. As International Rivers Network campaigner Terri Hathaway put it in a useful corrective, reliance upon Inga may not be advisable given

Africa's vulnerability to climate change and political instability. Climate change will bring risks to hydro-dependent economies through increases in the severity and frequency of both droughts and floods. Worsening droughts will reduce hydropower production, while increased floods threaten dam safety and may also increase sedimentation (thus shortening the useful life of dams). Climate change will add to existing environmental stresses on riverine ecosystems and watersheds. Economic feasibility, environmental impact studies and engineering plans for Inga should take into account the hydrological uncertainties of a warming world.

Political instability is a very real concern across the region where the transmission grid would be built. The ongoing violence in DRC was recently rated the world's most forgotten crisis by Reuters. Over three million people have died since 1998 as a result of the civil war and ongoing strife in DRC. The Inga mega-project would centralize much of Africa's electricity source and require a grid of transmission lines through many of Africa's most politically unstable regions. Dams, power plants, and transmission lines are often made targets in political conflicts. The dependence of more countries' economies on Inga would increase its attractiveness as a target for sabotage by rebel groups. Less than 10 years

53. Daniel, J. and J. Lutchman (2005), 'South Africa in Africa: Scrambling for Energy', Presentation to the SA Association of Political Science Colloquium, University of KwaZulu-Natal/Pietermaritzburg, 22 September.

ago (in 1998), rebels seized Inga II and cut its power to Kinshasa, the capital of the DRC.⁵⁴

Conclusion

In sum, several important factors converge when we consider the nature of South African energy:

- South Africa, already amongst the most unequal countries in the world in 1994, became more unequal during the late 1990s, as a million jobs were lost due largely to the stagnant economy, the flood of imports and capital/energy-intensive investment—and these trends had enormously negative implications for the ability of low-income citizens to afford electricity;
- billions of rands in state subsidies are spent on capital-intensive energy-related investments such as new smelters, where profit and dividend outflows continue to adversely affect the currency;
- the price of electricity charged to mining and smelter operations is the lowest in the world;
- a pittance is being spent on renewable energy research and development, especially compared to a dubious nuclear programme;
- greenhouse gas emissions per person, corrected for income, are amongst the most damaging anywhere, and have grown worse since liberation;
- electricity coverage is uneven, and notwithstanding a significant expansion of coverage, millions of people have had their electricity supplies cut as the state provider moves towards commercialisation and privatisation;
- the possibilities of improving gender equity through access to free lifeline electricity are vast;
- for people suffering from the recent upsurge in TB, and indeed for 6,4 million HIV-positive South Africans, the public and personal health benefits of replacing coal, wood or paraffin with electricity are vast; and
- there are other important environmental, segregation-related and economic benefits that flow from clean electricity as a replacement for traditional fuels, which are at present not incorporated into social and financial decision-making, especially when it comes to pricing electricity.

All of these problems can be countered by critiques from civil society. However, most challenging is the lack of synthesis between the three major citizens' networks that have challenged government policy and corporate practices: environmentalists, community groups and trade unions. Our work at CCS aims to identify the numerous contradictions within both South African and global energy sector policies/practices, and help to synthesise the emerging critiques and modes of resistance within progressive civil society. Only from that process of 'praxis' can durable knowledge be generated.

54. Hathaway, T. (2005), 'Grand Inga, Grand Illusions?', *World Rivers Review*, 20, 2, April, <http://www.irm.org/pubs/wrr/issues/WRR.V20.N2.pdf>

APPENDIX: Documentation from Pretoria and carbon trading critics

1. Pretoria's Clean Development Mechanism policy

Department of Environmental Affairs and Tourism National Climate Change Response Strategy, September 2004

South Africa, as a non-annex I country, is not required to reduce its emissions of greenhouse gases. However, the South African economy is highly dependent on fossil fuels and the country can be judged to be a significant emitter due to the relatively high values that can be derived for emissions intensity and emissions per capita. Such calculations put South Africa as one of the world's top 15 most energy intensive economies, with a significant contribution to greenhouse emissions at a continental level.

There could be benefits to be derived from adopting a future strategy that is designed to move the economy towards a cleaner development path. This will further require development of a strategy to access investment through the Clean Development Mechanism (CDM) of the Kyoto Protocol, technology transfer and donor funding opportunities. However, even given this scenario, emissions can still be expected to increase with economic development, albeit at a smaller pace than would have happened without intervention...

Government urgently needs to establish procedures for the registration, coordination and reporting on projects to be undertaken through the CDM. Detailed discussions have been held between high-level delegations from DEAT, DTI and DME. The following mechanisms are proposed, are being developed or have already been instituted.

a) A CDM secretariat is being set up within DME and it is envisaged that the Director General of DME will act, for legal purposes, as the Designated National Authority (DNA) in terms of the Kyoto Protocol, in which capacity he will have full signing authority and the associated accountability.

b) The DNA will be advised by a steering committee, chaired jointly by DME, DEAT and the DTI. It is, however, essential that other departments (for example the Department of Foreign Affairs) be permanently represented on the committee, as should other stakeholders, including civil society.

c) The CDM secretariat will introduce proposals to the steering committee who will make recommendations to the DNA. The DNA will issue letters of approval.

d) DTI would provide guidance on possible trade and investment implications of projects and will assist in the marketing of potential CDM projects in South Africa.

e) DTI will be instrumental in ensuring that, where possible, the CDM is used to support national trade and investment measures.

f) The CDM secretariat would provide a single point of entry for all information pertaining to the CDM, and would be able to advise on all aspects of the necessary South African and international processes and requirements.

g) The secretariat would be responsible for the registration of all projects, but not for actual project management, which would be the responsibility of the project developers.

h) The secretariat would serve as a focal point to the CDM Executive Board, as set up under the Kyoto Protocol, and deal with correspondence from this Board.

i) The secretariat would also provide input into the negotiating process on the CDM, through the NCCC.

j) The arrangements could be considered as interim with the possibility of them being reviewed in light of performance achieved, status of the Kyoto Protocol negotiations and the future scale of the CDM market.

It should be understood up-front that CDM primarily presents a range of commercial opportunities, both big and small. This could be a very important source of foreign direct investment, thus it is essential that the DTI participate fully in the process. Contracting organisations from the recipient country can range from large private corporations, parastatals and the smaller commercial operations of academic institutes and consultancies aligned with NGOs. The actual range of potential projects is very large and can not be covered in detail here. However, as just a few examples, they could encompass fuel switching from coal to gas, clean coal technologies, energy efficient housing, the use of renewable energy resources or the production of electricity from landfill gas, as well as numerous other applications. The identification of suitable projects could be assisted by the results of the technology needs analysis referred to elsewhere in this document.

The overall governance and coordination of CDM is through the CDM Executive Board established under the Kyoto Protocol. The responsibility for constituting and appointing the Executive Board lies with the UNFCCC conference of parties/meeting of parties structures. There are mechanisms to ensure equitable regional representation and a balance between developed and developing nation representation. The Executive Board is mandated with the administration of an adaptation fund to oversee allocations to adaptation projects, specifically for the poorest and most vulnerable nations, with the prioritisation of funding in accordance with criteria established from the vulnerability assessments submitted to the UNFCCC conference of parties.

All information should be entered into a project information management system. However, the Secretariat could keep all proprietary information confidential at all stages. The detailed evaluation of greenhouse gas reductions needs to be done according to standard methodologies as laid down by the Executive Board and through the Designated Operational Entities (DOEs) mandated by the Board. On applying for pre-approval, a 2-month turn around time, or shorter, should be guaranteed. The project should be evaluated for economic benefits, social benefits, and technological feasibility. The public will be consulted on the sustainable development criteria, which can be unique for South Africa. The process for the application of these criteria will be specified. The primary role of the CDM process is to assess projects against these sustainable development criteria, but those

responsible will require the necessary information in order for them to do this. Technical feasibility could be evaluated through using specific members of an expert panel who have been chosen for their technical competence and willingness to respond rapidly. It is doubtful whether adequate capacity in this area would normally reside within the DNA and/or the steering committee or secretariat. However, the composition and role of this panel will need to be clearly defined as to the required level of their assessment and their terms of reference should be limited to that of acting in an advisory capacity only.

The expert panel would not be required to sit formally and review projects. Projects could be referred to the appropriate experts by Email. In cases that require an Environmental Impact Assessment (EIA), then a process of public participation will, in any event, need to be conducted and various stakeholders consulted. This type of process should not be duplicated, as it will inevitably result in the process becoming even lengthier. It should be noted that the risk with regards to obtaining approval of EIA's is borne by the project developers and the EIA could be carried out in advance of the CDM approval process should the project developer wish to do so. In addition the initiation or carrying out of an EIA should not be considered as invalidating the proposed project on the grounds that it represents 'business as usual'. The application for full approval should contain complete project specifications and a detailed account of the proposal for verifying the emissions reductions. The CDM Executive Board in Washington is likely to make approval conditional upon continued achievement of requirements. This process should not take longer than 14 weeks from start to finish, preferably much less, excluding the time taken to process the EIA, where necessary.

The allocation of certified emission reductions has not as yet been finalised. However, it is widely thought that ownership would essentially remain with the project developers to give the incentive to carry out CDM projects, with governments retaining overall custodianship of the national interests. It is expected that the CDM Executive Board would maintain a CDM registry and that South Africa, as the host party, as well as the project participants would have registry accounts into which certified emission reductions would be transferred directly by the CDM Executive Board.



2. Climate justice now!
The Durban declaration on carbon trading

As representatives of people's movements and independent organisations, we reject the claim that carbon trading will halt the climate crisis. This crisis has

been caused more than anything else by the mining of fossil fuels and the release of their carbon to the oceans, air, soil and living things.

This excessive burning of fossil fuels is now jeopardising Earth's ability to maintain a liveable climate.

Governments, export credit agencies, corporations and international financial institutions continue to support and finance fossil fuel exploration, extraction and other activities that worsen global warming, such as forest degradation and destruction on a massive scale, while dedicating only token sums to renewable energy. It is particularly disturbing that the World Bank has recently defied the recommendation of its own Extractive Industries Review which calls for the phasing out of World Bank financing for coal, oil and gas extraction.

We denounce the further delays in ending fossil fuel extraction that are being caused by corporate, government and United Nations' attempts to construct a 'carbon market', including a market trading in 'carbon sinks'.

History has seen attempts to commodify land, food, labour, forests, water, genes and ideas. Carbon trading follows in the footsteps of this history and turns the earth's carbon-cycling capacity into property to be bought or sold in a global market. Through this process of creating a new commodity – carbon – the Earth's ability and capacity to support a climate conducive to life and human societies is now passing into the same corporate hands that are destroying the climate.

People around the world need to be made aware of this commodification and privatisation and actively intervene to ensure the protection of the Earth's climate. Carbon trading will not contribute to achieving this protection of the Earth's climate. It is a false solution which entrenches and magnifies social inequalities in many ways:

- The carbon market creates transferable rights to dump carbon in the air, oceans, soil and vegetation far in excess of the capacity of these systems to hold it. Billions of dollars worth of these rights are to be awarded free of charge to the biggest corporate emitters of greenhouse gases in the electric power, iron and steel, cement, pulp and paper, and other sectors in industrialised nations who have caused the climate crisis and already exploit these systems the most. Costs of future reductions in fossil fuel use are likely to fall disproportionately on the public sector, communities, indigenous peoples and individual taxpayers.

- The Kyoto Protocol's Clean Development Mechanism (CDM), as well as many private sector trading schemes, encourage industrialised countries and their corporations to finance or create cheap carbon dumps such as large-scale tree plantations in the South as a lucrative alternative to reducing emissions in the North. Other CDM projects, such as hydrochlorofluorocarbons (HCFC) - reduction schemes, focus on end-of pipe technologies and thus do nothing to reduce the impact of fossil fuel industries' impacts on local communities. In addition, these projects dwarf the tiny volume of renewable energy projects which constitute the CDM's sustainable development window-dressing.

- Impacts from fossil-fuel industries and other greenhouse-gas producing industries such as displacement, pollution, or climate change, are already disproportionately felt by small island states, coastal peoples, indigenous peoples, local communities, fisherfolk, women, youth, poor people, elderly and marginalised communities. CDM projects intensify these impacts in several ways. First, they sanction continued exploration for, and extraction, refining and burning of fossil fuels. Second, by providing finance for private sector projects such as industrial tree plantations, they appropriate land, water and air already supporting the lives and livelihoods of local communities for new carbon dumps for Northern industries.

- The refusal to phase out the use of coal, oil and gas, which is further entrenched by carbon trading, is also causing more and more military conflicts around the world, magnifying social and environmental injustice. This in turn diverts vast resources to military budgets which could otherwise be utilised to support economies based on renewable energies and energy efficiency.

- In addition to these injustices, the internal weaknesses and contradictions of carbon trading are in fact likely to make global warming worse rather than 'mitigate' it. CDM projects, for instance, cannot be verified to be 'neutralising' any given quantity of fossil fuel extraction and burning. Their claim to be able to do so is increasingly dangerous because it creates the illusion that consumption and production patterns, particularly in the North, can be maintained without harming the climate.

- In addition, because of the verification problem, as well as a lack of credible regulation, no one in the CDM market is likely to be sure what they are buying. Without a viable commodity to trade, the CDM market and similar private sector trading schemes are a total waste of time when the world has a critical climate crisis to address.

- In an absurd contradiction the World Bank facilitates these false, market-based approaches to climate change through its Prototype Carbon Fund, the BioCarbon Fund and the Community Development Carbon Fund at the same time it is promoting, on a far greater scale, the continued exploration for, and extraction and burning of fossil fuels – many of which are to ensure increased emissions of the North.

In conclusion, 'giving carbon a price' will not prove to be any more effective, democratic, or conducive to human welfare, than giving genes, forests, biodiversity or clean rivers a price.

We reaffirm that drastic reductions in emissions from fossil fuel use are a pre-requisite if we are to avert the climate crisis. We affirm our responsibility to coming generations to seek real solutions that are viable and truly sustainable and that do not sacrifice marginalised communities. We therefore commit ourselves to help build a global grassroots movement for climate justice, mobilise communities around the world and pledge our solidarity with people opposing carbon trading on the ground.

10 October 2004

Glenmore Pastoral Centre, Durban, South Africa

DURBAN MEETING SIGNATORIES: *Carbon Trade Watch; Indigenous Environmental Network; Climate & Development Initiatives, Uganda; Coecoceiba-Amigos de la Tierra, Costa Rica; CORE Centre for Organisation Research & Education, Manipur, India; Delhi Forum, India; Earthlife Africa (ELA) eThekweni Branch, South Africa; FERN, EU; FASE-ES/Green Desert Network Brazil 2; Global Justice Ecology Project, USA; groundwork, South Africa; National Forum of Forest People And Forest Workers, India; Patrick Bond, Professor, University of KwaZulu Natal School of Development Studies, South Africa; O le Siosiomaga Society, Samoa; South Durban Community Alliance (SDCEA), South Africa; Sustainable Energy and Economy Network, USA; The Corner House, UK; Timberwatch Coalition, South Africa; World Rainforest Movement, Uruguay.*

SUPPORTING ORGANISATIONAL SIGNATORIES: *50 Years Is Enough: U.S. Network for Global Economic; Justice, USA; Aficafiles, Canada; Africa Groups of Sweden, Sweden; Alianza Verde, Honduras; Ambiente y Sociedad, Argentina; Angikar Bangladesh Foundation, Bangladesh; Anisa Colombia, Colombia; Asociacion Alternativa Ambiental, Spain; Asociacion Amigos Reserva Yaguaroundi, Argentina; Asociacion de Guardaparques Argentinos, Argentina; Asociación Ecologista Piuke, Argentina; Asociacion para la Defensa del Medio Ambiente del Noreste; Santafesino, Argentina; Asociación San Francisco de Asís, Argentina; Association France Amerique Latine, France; Asociacion Lihue San Carlos de Barloche / Rio Negro, Argentina; Association pour un contrat mondial de l'eau, Comité de Seine Saint; Denis, France; Associação Caeté - Cultura e Natureza, Brasil; Athlone Park Residents Association, South Africa; Austerville Clinic Committee, South Africa; Australian Greens, Australia; Auckland Rising Tide, New Zealand; BanglaPraxis, Bangladesh; Benjamin E. Mays Center, USA; Bluff Ridge Conservancy (BRC), South Africa; BOA, Venezuela; Boulder Environmental Activists Resource, Rocky Mountain; Peace and Justice Center, USA; CENSAT-Friends of the Earth Colombia, Colombia; Center for Economic Justice, USA; Centre for Environmental Justice, Sri Lanka; Center for Environmental Law and Community Rights Inc.; Friends of the Earth (PNG), Papua New Guinea; Committee in Solidarity with the People of El Salvador, USA; Centro de Derecho Ambiental y Promoción para el Desarrollo; (CEDAPRODE), Nicaragua; Christ the King Church Group, South Africa; Clairwood Ratepayers Association (CRA), South Africa; Cold Mountain, Cold Rivers, USA; Colectivo de Proyectos Alternativos de México (COPAL), Mexico; Colectivo MadreSelva, Guatemala; Comité de Análisis 'Ana Silvia Olán' de Sonsonate -, CANASO, El Salvador; Community Health Cell, Bangalore, India; Corporate Europe Observatory (CEO), Netherlands; C.P.E.M. N°29-Ciencias Ambientales, Argentina; Del Consejo de Organizaciones de Médicos y Parteras; Indígenas Tradicionales de Chiapas, Mexico; Ecoisla, Puerto Rico; EarthLink e.V.-The People & Nature Network, Germany; Ecological Society of the Philippines, Philippines; Ecoportal.net, Argentina; ECOTERRA International; El Centro de Ecología y Excursionismo de la Universidad de; Carabobo, Venezuela; Els Verds - Alternativa Verda, Spain; Environment Desk of Images Asia, Thailand; FASE Gurupá, Brasil; Forest Peoples Programme, UK; Foundation for Grassroots Initiatives in Africa, Ghana; Friends of the Earth International; Friends of the Earth Australia, Australia; Friends of the Siberian Forests, Russia; FSC-Brasil, Brasil; Fundación Argentina de Etoecología (FAE), Argentina; Fundación Los de Tilquiza, proyecto AGUAVERDE, Argentina; Groupe d'Etudes et de Recherche sure les Energies; Renouvelables et l'Environnement (GERERE), Morocco; Gruppo di Volontariato Civile (GVC-Italia), oficina de; Nicaragua, Nicaragua; House of Worship, South Africa; Indigenous Peoples' Biodiversity Network, Peru; InfoNature, Portugal; Iniciativa ArcoIris de Ecología y Sociedad, Argentina; Iniciativa Radial, Argentina; Institute for Social Ecology Biotechnology Project, USA; Instituto Ecoar para Cidadania, Brasil; Instituto Igaré, Brasil; International Fund for Animal Welfare (IFAW), Belgium; International Indian Treaty Council; Isipingo Environmental Committee (IEC), South Africa; Isipingo Ratepayers Association, South Africa; Jeunesse Horizon, Camerun; JKPP /Indonesian Community Mapping Network, Indonesia; Joint Action Committee of Isipingo (JACI), South Africa; KVV Translations, Spain; LOKOJ, Bangladesh; London Rising Tide, UK; Malvarrosamedia, Spain; Mangrove Action Project (MAP), USA; Mano Verde, Colombia; Mercy International Justice Network, Kenya; Merbank Clinic Committee (MCC), South Africa; Movimiento por la Paz y el Ambiente, Argentina; Movimiento por los Derechos y la Consulta Ciudadana, Chile; Nicaragua Center for Community Action, USA; Nicaragua Network (US), USA; Nicaragua-US Friendship Office, USA; NOAH-Friends of the Earth Denmark, Denmark; Núcleo Amigos da Terra, Brasil; Ogoni Rescue Patriotic Fund, Nigeria; Oilwatch*

International, Ecuador; Oilwatch Africa, Nigeria; Organizacion Fraternal Negra Hondurena, Honduras; Parque Provincial Ernesto Tornquist, Argentina; Pacific Indigenous Peoples Environment Coalition; (PIPEC), Aotearoa/New Zealand; Pesticides Action Network Latin America, Uruguay; Piedad Espinoza Trópico Verde, Guatemala; PovoAção, Brasil; Projeto tudo Sobre Plantas - Jornal SOS Verde, Brasil; Public Citizen, USA; Rainforest Action Network, USA; Rainy River First Nations, Canada; Red de Agricultura Orgánica de Misiones, Argentina; REDES-Amigos de la Tierra, Uruguay; Red Verde, Spain; Rising Tide, UK; Sahabat Alam Malaysia /FOE-Malaysia, Malaysia; San Francisco Bay Area Jubilee Debt Cancellation Coalition; USA; Scottish Education and Action for Development, UK; Silverglen Civic Association (SCA), South Africa; Sisters of the Holy Cross - Congregation Justice Committee, USA; Sobrevivencia, Friends of the Earth Paraguay, Paraguay; Sociedad Civil, Mexico; SOLJUSPAX, Philippines; Tebtebba Foundation, Philippines; The Sawmill River Watershed Alliance, USA; TRAPESE – Take Radical Action Through Popular Education; and Sustainable Everything, UK / Spain; Treasure Beach Environmental Forum (TBEF), South Africa; Uganda Coalition for Sustainable Development, Uganda; Ujamaa Community Resource Trust (UCRT), Tanzania; UNICA, Nicaragua; Union Chrétienne pour l'Éducation et Développement des Déshérités (UCEDD), Burundi; Union Mexicana de Emprendedores Inios, A. C., Mexico; Wentworth Development Forum (WDF), South Africa; Western Nebraska Resources Council, USA; World Bank Boycott/Center for Economic Justice, USA; worldforests, UK; World Peace Prayer Society, USA.

INDIVIDUAL SIGNATORIES: Aarran Thomson, USA; Ángeles Leonardo, Argentina; Arlex González Herrera, Colombia; Beth Burrows, USA; Dr. Bob de Laborde, South Africa; Brook Goldzweig, USA; Cesar Antonio Sanchez Asian, Peru; Christopher Keene, UK; Cláudia Sofia Pereira Henriques, Portugal; Claudio Capanema, Brasil; Daniel Tietzer, USA; Dany Mahecha Rubio, The Netherlands; Dora Fernandes, Portugal; Dulce Delgado, Portugal; Eduardo Rojas Hidalgo, Ecuador; Edwin S. Wilson, USA; Eileen Wttewaal, Canada; Elisa Marques, Portugal; Emmanuel Moutondo, Kenya; Fabry Saavedra, Bolivia; Federico Ivanissevich, Argentina; Florencia T. Cuesta, Argentina; Florian Salazar-Martin, France; Fernando Moran, Spain; German A. Parra Bustamente, Colombia; Hannes Buckle, South Africa; Hansel Tietzer, USA; Helena Pinheiro, Brasil; Dr. Hugh Sanborn, USA; Hylton Alcock, South Africa; Hsun-Yi Hsieh, Taiwan; Inês Vaz Rute da Conceição, Portugal; Irina Maya, Portugal; Dr. J. Gabriel Lopez, USA; James Mabbitt, UK; Jane Hendley, USA; Janet Weyker, USA; Javier Lizarraga, Uruguay; Jelena Ilic, Serbia & Montenegro; Jenny Biem, Canada; Joana Gois, Portugal; Joao Forte, Portugal; Josep Puig, Spain; Judith Amanthis, UK; Judith Vélez, Isla Verde, Puerto Rico; Karlee Rockey, USA; Kiki Goldzweig, USA; Laura Carlsen, IRC; Leonardo Ornella, Argentina; Lina Hällström, Sweden; Lorna Salzman, USA; Luis E. Silvestre, Puerto Rico; Luis Edoardo Sonzini Meroi, Nicaragua; Ing. Mabel Vulllioud, Argentina; Manuel Pereira, Portugal; Marcelo Bosi de Almeida, Brasil; Maria Benedetti, Cayey, Puerto Rico; Maria de Fátima Marques, Portugal; Maria Fernanda Pereira, Colombia; María Jesús Conde, Spain; Dra. María Luisa Pfeiffer, Argentina; Martha L. Downs, USA; Dr. Martin Mowforth, UK; Mary Galvin, South Africa; Matheus Ferreira Matos Lima, Brasil; Maurice Tsalefac, Professor, Université de Yaoundé, Camerun; Michaeline Falvey, USA; Miguel Parra Olave, Chile; Mike Ballard, Australia; Norbert Suchanek, Germany; Nuno Miguel O. P. Matos Sequeira, Portugal; Oya Akin, North Cyprus; Pablo Alarcón-Cháires, Mexico; Patrícia Angelo Batista, Portugal; Patricia Raynor, USA; Paulo Cesar Scarim, Brasil; Pedro Ribeiro, Portugal; Peter Rachleff, Professor, Macalester College, USA; Peter Sills, USA; Dr. Philip Gasper, USA; Prakash Deshmukh, India; Priscila Lins P. F. do Amaral, Brasil; Rafael Arturo Acuña Coaquira, Bolivia; Rafael Chumbimune Zanabria, Peru; Rafael Renteria, USA; Raj Patel, South Africa; Ray Hajat, Malawi; Robin Clanahan, South Africa; Roger de Andrade, France; Rogerio M Mauricio, Brasil; Roxana Mastronardi, Argentina; Ruth Zenger, Canada; Rufino Vivar Miranda, Mexico; Sajida Khan, South Africa; Sandra C. Carrillo, USA; Sara Hayes, USA; Saul Landau, USA; Sheila Goldner, USA; Sister Aloysia Zellmann, South Africa; Steve Wheeler, UK; Tobias Schmitt, Germany; Tyrell Haberkorn, USA; Usman Majeed, Canada; Wak Kalola, Canada; Zoraida Crespo Feliciano, Puerto Rico.

To sign on to this declaration please send an email to info@fern.org or visit www.sinkswatch.org

3. South Africa needs climate justice now! Second Durban declaration on carbon trading

Exactly one year ago, the Durban Declaration on Carbon Trading was signed by environmental justice organisations and concerned citizens who spent the prior week analysing carbon trading, before rejecting the strategy.

Since then, yet more evidence of global warming has emerged. Leading officials concede that September's brutal hurricanes were mainly attributable to higher Gulf of Mexico water temperatures.

And yet as climate change generates destruction and misery, the very people and corporations responsible for these problems – especially in the US/EU-centred petro-mineral-military complex and associated financial agencies like the World Bank – are renewing their grip on power.

Without shame, the largest petroleum corporations visited Johannesburg in September to celebrate their world-historic profits.

Without a worry for his legitimacy, George W. Bush established a new alliance of hyperpolluters – the US, Australia, India and China – in July to again foil serious carbon reduction efforts.

Without caveat, the G8 leaders met in Gleneagles in July, giving the architect of the Iraq War, World Bank president Paul Wolfowitz, the green light to accelerate his institution's prolific contribution to climate change.

Without a thought to Wolfowitz's legacy or agenda, the chair of the World Bank/IMF Development Committee, South African finance minister Trevor Manuel, welcomed him to his new job in April, calling him 'a wonderful individual... perfectly capable'.

The South African government's willingness to buy into the North's agenda for the South's continued subordination is not an accident or aberration. It is, instead, an integral part of a system – named 'global apartheid' by president Thabo Mbeki – that must be fully dismantled. What role are Pretoria's politicians and technocrats playing? Is it similar to that of the elite collaborators of the apartheid-era Bantustans?

There is no better example than the South African government's 'National Climate Change Response Strategy' of 2004. What can only be described as the pimping of Clean Development Mechanism (CDM) projects appears as a central objective: 'It should be understood up-front that CDM primarily presents a range of commercial opportunities, both big and small. This could be a very important source of foreign direct investment, thus it is essential that the Department of Trade and Industry participate fully in the process.'

This is the same government – led by Eskom and the DTI - that has disconnected an estimated ten million low-income South Africans from electricity due to inability to pay, while committing billions of rands of

subsidies to yet another energy-guzzling aluminium smelter, at Coega in the Mandela Metropole. Even before Coega, on a per capita basis, the carbon intensity of the South African economy was roughly twenty times worse than that of the United States.

To propose 'commercial opportunities' associated with carbon trading and, simultaneously, the intensification of South Africa's world-record CO₂ emissions, does have a certain logic. It is the logic of an immature, greedy society led by calculating, corrupt politicians and neoliberal technocrats – not a society in which we can be proud of membership.

As in the first Durban Declaration on Carbon Trading a year ago, we again reject the claim that this strategy will halt the climate crisis. We reiterate that this crisis has been caused more than anything else by the mining of fossil fuels and the release of their carbon to the oceans, air, soil and living things.

A year ago, we suggested that people need to be made more aware of carbon trading threat, and to actively intervene against it. By August 2005, the inspiring rise of citizen activism in Durban's Clare Estate community forced the eThekweni municipality to withdraw an application to the World Bank for carbon trading finance to include methane extraction from the vast Bisasar Road landfill (instead, the application was for two relatively tiny eThekweni dumps).

But the heroic battle against Bisasar's CDM status was merely defensive. We join community residents in urgently seeking the safe and environmentally sound extraction of methane from the Bisasar Road landfill, even if that means slightly higher rubbish removal bills for those in Durban who are thoughtlessly filling its landfills, without recycling their waste.

We endorse calls for Clare Estate's apartheid-era dump to now finally be closed, a decade after originally promised. Simultaneously, we agree that good jobs and bursaries be given to the dump's neighbours, especially in the Kennedy Road community, as partial compensation for their long suffering. Their fight for housing and decent services has been equally heroic; the current handful of toilets and standpoints for six thousand people should shame the eThekweni municipal officials, whose reprehensible response has been to mislead residents into believing dozens of jobs will materialise through World Bank CDM funding.

We also seek a commitment to a zero waste philosophy and policies by eThekweni and all other municipalities in South Africa. In Bellville, Western Cape, we offer solidarity to the many residents who are also victims of apartheid-dumping, and who may also be victimised by the Bellville Landfill's status as a CDM project.

We also seek allies in South African, African and international civil society. A year ago, only cutting-edge environmental activists and experts understood the dangers of carbon trading. Others – including many well-meaning climate activists – argued that the dangers are not intrinsic in trading, just in the rotting 'low hanging fruits' that represent the first and easiest projects to fund, at the cheapest carbon price.

Since October 2004, however, numerous voices have been raised against carbon colonialism. These voices oppose the notion that, through carbon trading, Northern polluters can continue their fossil fuel addiction, drawing down the global atmospheric commons in the process.

Rather than foisting destructive schemes like the toxic Bisasar Road dump on the South, the North owes a vast ecological debt. For playing the role of 'carbon sink' alone, political ecologist Joan Martinez-Alier and UN climate change commissioner Jyoti Parikh calculate that an annual subsidy of \$75 billion is provided from South to North.

Many advocates of environmental justice signed the Durban Declaration and sponsored debates within their own organisations and communities. The South African Climate Action Network is overdue for such a debate.

A year ago we also noted that the internal weaknesses and contradictions of carbon trading are likely to make global warming worse rather than 'mitigate' it. We are ever more convinced of that in South Africa, partly because in August, a leading official of state-owned Sasol publicly conceded that his own ambitious carbon trading project is merely a gimmick, without technical merit (because he cannot prove what is termed 'additionality'). The 'crony' character of the CDM verification system may allow this travesty to pass into the market, unless our critique is amplified.

We said last year that 'giving carbon a price' will not prove to be any more effective, democratic, or conducive to human welfare, than giving genes, forests, biodiversity or clean rivers a price. Over the last year, the South African government's own climate change strategy has been increasingly oriented itself to the 'commercial opportunities' associated with carbon.

The results include inadequate subsidies and R&D commitments to renewable energy; a renewed focus on nuclear energy using the specious, incorrect argument that it is safer, cheaper and cleaner than coal; and a turn to potential hydroelectricity projects, which even the South African-based World Commission on Dams condemned as often contributing more to global warming than coal-generated electricity (through methane emissions from plant decay).

Last year we committed ourselves to building a global grassroots movement for climate justice. In coming days, weeks and months, we commit ourselves to returning to our roots in South Africa, and to mobilising communities around the country against the farce of carbon trading. Real solutions are needed, and with our world-leading CO₂ emissions, South Africans must be at the cutting-edge of progressive climate activism, not partners in the privatisation of the atmosphere.

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