



## **South African Government's Response to Questions on the Eskom loan application to the World Bank**

The World Bank Board will consider a \$3.75 billion project loan to South Africa's power utility, Eskom on 8 April 2010 to finance its capital expenditure programme. The premise upon which the World Bank loan application for Eskom was made, was based on the fundamental belief that developing countries must be allowed to develop their energy security for their populations, in the most cost effective and sustainable manner.

South Africa is pursuing an energy strategy compatible with both our commitments in the Copenhagen Accord to reduce emissions by 34% below the "business as usual" level by 2020, and 42% by 2025. This strategy includes meeting urgent generation expansion while committing to an aggressive programme to enhance energy efficiency measures and introducing renewable energy as well as demand-side management.

The generation technologies that Eskom has chosen to use are fully embedded in and informed by the Long Term Mitigation Scenarios (LTMS) adopted by the Government in 2008. The intention is to ensure that carbon emissions peak during 2020-2025, reaching a plateau for a decade, and then begin declining thereafter. Therefore the issue of carbon mitigation from increased generation needs to be viewed in a broader context, as the mitigations derive from several sources and sectors, and also over an extended time frame. Since the LTMS and its outcomes, there has been sound assurance among various stakeholders, within government, civil society and the private sector, of implementation actions that are required to meet its objectives. The Medupi power plant for example, is the first in Africa to use the cleaner coal "supercritical" technology, the same technology used in developed countries for new coal power generation.

The Government of South Africa and Eskom have sought to consult and engage with stakeholders, domestically and internationally, on Eskom's loan application to the World Bank. In the interest of transparency and good governance, we have listed the following questions and concerns raised by stakeholders and our responses.

| Questions   | Answers   |
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| <p>1. What measures will South Africa take to offset the CO2 emissions from Medupi?</p> | <p>South Africa's plan for reduction in CO2 emissions is not based on an offset structure, but rather focuses on achieving country emission reductions which are consistent with the Long Term Mitigation Scenarios (LTMS). The initiatives by Government should not be read with offsets in mind but rather be seen as country-planning that has the potential to alter the pace and path of emissions and in moving towards sustainable development, whilst ensuring stability of the region in general.</p> <p>The funding that South Africa will seek approval for in the near future from the Clean Technology Fund (CTF) is viewed as a significant facilitating mechanism for the LTMS. The renewable energy and energy efficiency projects that the CTF could fund are seen as catalytic in this regard, especially due to the potential for leveraging other funding to scale up the implementation of projects. South Africa through the CTF is looking at Concentrated Solar Power (CSP); wind energy; solar water heaters (SWH); and energy efficiency. Based on the projected annual Green House Gas (GHG) emission reductions and assuming a 20-year plant life, the direct cumulative emission savings from the proposed CSP plant would be 7.6 – 11.4 million tons of CO2– depending on the load factor. Catalytic potential: assuming that the proposed CTF-supported investment has leveraged four new 100 MW CSP plants over a period of four years, the direct cumulative emission savings from these leveraged CSP plants would be 38 – 56 million tons of CO2 – depending on the load factor.</p> <p>Based on the projected annual GHG emission reductions, emission savings from the proposed wind plants over a projected 20-year plant life would be about 4.8 million tons of CO2. These estimates assume that the power supplied by the wind power installations would otherwise come from coal-fired plants with an average thermal efficiency of 35 percent and emission factor of 1.09 tons of CO2 per MWh of generated power. Catalytic potential - assuming that the proposed CTF-supported investment has leveraged additional 500 MW of Wind energy by 2013, the direct cumulative emission savings from these leveraged Wind plants would be 28.5 million tons of CO2.</p> |

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|   | <p>The SWH conversion programme will lead to a reduction of approximately 32 million tons of CO<sub>2</sub>, assuming a 20-year life-span. Emission reductions that relate to energy efficiency are a bit more difficult to estimate. However an initial assessment suggests that annual emissions reduction could be in the range of 9 million tons of CO<sub>2</sub> per annum. This represents a cumulative estimate of 70 to 80 million tons of CO<sub>2</sub> by 2020 and is probably a conservative estimate as the increase in electricity prices has created a burgeoning industry for electricity efficiency enterprises in South Africa and many industries are taking up the challenge to reduce their consumption in a very positive manner.</p> <p>In addition structured and audited Energy Efficiency (EE) / demand side management (DSM) programmes such as Eskom's have progressed well since introduction in 2004/5. As a result the EE/DSM programme has achieved a cumulative audited savings of 1999 MW of generation to date. Eskom included funding for EE/DSM in its Multi-Year Price Determination (MYPD2), that will run from 1 April 2010 to 31 March 2013. Eskom will be implementing EE/DSM strategies that will produce an additional 1037 MW saving over three years. Eskom has also distributed approximately 40 million CFL's directly to households for free. These bulbs were physically installed by the distribution teams and the old incandescent bulbs were removed and destroyed. This has resulted in a saving of 1000MW. A further 5 million are currently being distributed.</p> <p>South Africa will intensify its focus on energy efficiency in order to maintain a healthy reserve margin which will provide time to make decisions on new capacity in a consultative and informed manner. The success of the initiatives contained in the loan (both projects and technical assistance) could defer the need to build by 2017 and allow for the introduction of other cleaner technologies.</p> |
| <p>2. Has the South African Government considered how it would like the remainder of the funds set aside in the Country Partnership Strategy envelope (\$2.25</p> | <p>The World Bank, under the Country Partnership Strategy (CPS), is providing South Africa with a \$6bn funding window, of which \$3.75bn is being used for the current Eskom application (see the Country Partnership Strategy Progress Report, submitted to the Board together with the loan application).</p>  |

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| <p>billion) to be used? Could it be used entirely for emission reduction measures as recommended by the Expert Panel?</p>  | <p>The Bank has however indicated that it would make an additional \$1.25bn available to Eskom after the approval of the package currently being considered. The \$1.25 billion of these additional aforementioned funds would be used to support emission reduction measures. South Africa is, however, yet to make a determination on whether and/or how it would use the remaining \$1bn. The country has a large infrastructure development programme in place and part of this programme requires supplementary resources. In consolidating the funding required, South Africa will consider all types of financing, including that of the World Bank.</p>  |
| <p>3. Will South Africa work with the World Bank to address any market or policy barriers that are delaying energy efficiency and renewable energy programmes, and to implement future actions needed to achieve South Africa's mitigation objectives?</p> | <p>The South African Government will be identifying barriers and enablers to its energy strategies and objectives as part of the Integrated Resource Plan (IRP). Government will take the necessary steps to address the enhancement of enablers and the removal of barriers to scale up the current set of energy efficiency and renewable energy programmes and implement future actions. Work with the World Bank in this regard has already commenced. The World Bank has been instrumental in providing finance for a study to ascertain which barriers exist to introduce independent power producers (IPPs), with an emphasis on renewable technologies and renewable energy feed-in tariffs (REFIT). Aside from the current IBRD application, South Africa also intends resubmitting a \$250m application to the Clean Technology Fund (CTF) for renewable energy under the co-financing structure with Multilateral Development Banks. This, in conjunction with a further \$100m from the CTF resources co-financed by the African Development Bank will form an integral part of the public sector initiatives to kick-start commercial scale renewable energy in South Africa. The Bank is in a unique position where it has a bird's eye view of developments in renewable energy in the world. The World Bank can assist and advise with respect to best practice in so far as regulation and implementation is concerned. Hence, South Africa does see a clear and ongoing role for the World Bank, along with other regional players such as the African Development Bank in assisting with meeting our committed targets for reducing emissions. In addition to financing for renewables, the Eskom Project also includes Technical Assistance for scaling up of Energy Efficiency and DSM.</p> |

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| <p>4. Would South Africa accelerate the de-commissioning of older plants if warranted by the success of demand side measures?</p>  | <p>We will explore the acceleration of the de-commissioning dates of older inefficient plants, if warranted as part of the overall energy strategy and as informed by the success of energy efficiency and demand-side measures. This will further contribute toward reaching our emission reduction targets. However, a view to de-commissioning is something that we can only do in the medium term given our current energy requirement and the fact that the new and more efficient technology will only come on stream in approximately 5 years. In addition, any decommissioning of plants would be determined as a result of the Integrated Resource Plan (IRP) process, which would include the life-cycle of the plant. De-commissioning older plants is an objective under the IRP that Government plans to table before parliament in the latter part of the year.</p>   |
| <p>5. Would South Africa work with the World Bank to incorporate carbon capture and storage readiness provisions in the Medupi and Kusile plants? What are the specific challenges of CCS readiness in South Africa?</p> | <p>The use of CCS technology internationally is in its early stages of development. It is expensive and the full environmental impact of its use is not fully understood, hence South Africa cannot commit to Medupi's readiness in this regard, especially given the critical commissioning schedule of Medupi. In terms of South African environmental legislation, Medupi is classified as an existing plant, and CCS was not a requirement (CCS was not being considered for large coal projects even in developed countries at that time) as evidenced in the Record of Decision by the South African Department of Environmental Affairs. This technology was not considered during the design phase of Medupi which commenced in 2005/2006 and thus predates the 2008 announcement. However, South Africa has a progressive framework within which new technologies could be applied as and when the geological studies and methods of transportation are being explored. CCS retrofitting as it pertains to Medupi cannot be discounted despite the fact that the plant is not being laid out specifically to facilitate a retrofit. All future plants, however, would have to make provision for CCS and the development and design of the Kusile plant is being and will be undertaken with this in mind as and when affordable technology becomes available. In addition South Africa is taking several steps to improve its knowledge of CCS. Eskom is part of a group of companies supporting a geological study into sequestration sites in South Africa and undertaking research into CO2 mineralisation and bio-extraction technologies. The South African National Energy Research Institution's (SANERI) stated vision is to have a CCS</p> |

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|   | <p>demonstration plant operational in South Africa by 2020. South Africa is also undertaking work at an international level to gain an understanding of CCS and CCS “readiness”. Furthermore, the CCS Trust Fund of the World Bank may also be utilised to supplement work that is being undertaken by South Africa in respect of CCS readiness.</p>  |
| <p>6. Does Eskom plan to upgrade the environmental technology at its other power plants, if need be with World Bank financial assistance?</p>   | <p>Yes, the upgrade of technology is fundamental to Eskom’s sustainability. In the Multi-Year Price Determination (MYPD2), 1 April 2010 to 31 March 2013, R1.5bn has been set aside to address the management of coal utilisation and for the retrofit of technologies which will bring the emission limits in line with new legal requirements. It is envisaged that this amount will increase substantially over the years and World Bank funding to support these initiatives will be considered as part of the on-going work in reducing our emissions.</p>   |
| <p>7. How extensive were your government’s consultations with civil society regarding the Medupi project? Were changes made to address any specific concerns? Have any civil society groups come out publicly in favour of the project?</p> | <p>There has been consultation with civil society at various stages. Initially as part of the development of the environmental impact assessment (EIA) for Medupi, extensive public consultation took place. Issues raised were captured in the record of decision (ROD) and amended ROD following appeals. There was also a process of engagement in the drafting of the Project Appraisal Document as required by World Bank procedures. Subsequent engagements have mostly been with civil society organisations on an individual basis. The South African government has furthermore engaged with the National Economic Development and Labour Council (NEDLAC), which includes representatives from labour, business and the community. Government has not sought to engage with certain groups, who are in principle opposed to a loan from the World Bank. Dialogue with civil society is seen as a process that will continue, as government seeks to address and allay all concerns.</p> <p>Some supportive statements to date include the following:</p> <p>“The way forward is clear. Achieving energy security across Africa will require us to tap into all available sources, renewable and non-renewable, including fossil fuel-based options, such as coal. We need access to financing, technology - such as carbon capture and storage, which are</p> |

already available or coming on stream - and the best available expertise to exploit all the energy options in the least harmful manner, even as we rapidly expand the uptake of more renewable sources of energy.”

**- Archbishop Njongokulu Ndungane, African Monitor, Mail And Guardian, December 11, 2009**

“Criticism of the World Bank by some groups in the United States cavalierly ignores the economic and energy realities of South Africa. Over 12 million people have no electricity whatsoever and millions more only have access to power on a sporadic basis. Blanket opposition to coal plants smacks of an unseemly indifference to the plight of developing countries. Indeed, South Africa is seeking to electrify schools and medical facilities (which in developed countries, is taken for granted). The world spent decades trying to eliminate institutionalized injustice in South Africa. We cannot ignore the adverse socioeconomic repercussions that defunct system continues to have on millions of South Africans who lack the basic necessities of life”.

**- Energy Facts Weekly, March 9, 2010, available online at [www.energy-facts.org](http://www.energy-facts.org)**

“The gradual decline in South Africa’s energy security remains the greatest threat to South Africa’s economic development and sustainability. We noted with concerns Eskom’s presentation to Parliament on the 2 March 2010. Eskom has indicated that “the power supply is going to be extremely tight from 2013 and 2014 until we have base load power stations coming in”. This reality must inject some urgency in our approach with energy security. We believe that the approach must be to address short term risks, whilst simultaneously creating long term solutions.

Thus BUSA reiterates its support for the World Bank Loan to Eskom. BUSA is convinced that it is a necessary additional source of funding which South Africa cannot afford to forego. Failure to borrow sensibly for Eskom’s needs

will either mean yet higher electricity tariffs or the risk of load shedding if Medupi is not completed in time.”

***Media Statement by Business Unity South Africa, March 16, 2010, full media statement available online at [www.busa.org](http://www.busa.org)***

“As I've written before, until clean and cheap energy sources are available for deployment on a massive scale, developing nations like South African will remain stuck in the Development Trap: forced to either sacrifice climate and ecological security in the name of development and poverty alleviation or to condemn countless millions of citizens to energy poverty in the name of climate protection.

Breaking out of this untenable position is the urgent challenge of the century. The only way out of the Development Trap, and the only route to sustainable development and an end to pervasive energy poverty is to make clean energy cheap. On that front, the world can't afford to delay. Anything else is ultimately counter-productive, ineffective, or even cruelly unjust.”

***- Jesse Jenkins, Director of Energy and Climate Policy, Breakthrough Institute, in “Without Affordable, Clean Alternatives South Africa Turns to Coal,” [The Huffington Post](http://www.huffpost.com), March 23, 2010***

“The World Bank loan to shore up Eskom's power generation capacity should be used wisely. South Africa has thus far managed to meet its huge post-apartheid development challenges using its own resources. Successive post-apartheid governments have been wary of repeating the mistakes of other developing countries that landed themselves in debt traps through over-reliance on borrowing from the World Bank.

However we also need to harvest the benefits other developing countries, have derived from using the resources of finance and knowledge the World Bank has to offer. South Africa now stands at a critical point in charting its socioeconomic development.

Our current shortfalls could hinder the economic development of the region.



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|  | <p>We dare not fail to rise to our responsibilities. We dare not allow ourselves to be trapped into knee jerk reactions that may undermine our ability to use our natural resources to advance our socio-economic development.”</p> <p>- <b>Dr. Mamphela Ramphele, Chair, Technology Innovation Agency and Letsema Circle, South Africa, Op-ed published in Sunday Independent, March 7, 2010.</b></p>   |
| <p>8. What is the status of South Africa's Integrated Resource Plan? Will there be an emphasis on power diversification, to nuclear and renewable energy, for example?</p> | <p>The Integrated Resource Plan was considered by Cabinet at the beginning of 2010. Cabinet recommended that further consultations take place. The long term IRP (IRP2) planning process has already commenced. An inter-departmental task team has been set up to further the consultation process on the IRP as well as other restructuring initiatives in the energy industry. This committee reports to a special Inter Ministerial Committee on Electricity on a regular basis, and this is a sub committee made up of cabinet members to assess progress made on the IRP as well as other electricity-related matters. The key criteria for the decision making process on IRP (2) will include: Industry Structure, Climate Change, Funding, Energy Mix, Resource Planning, Energy Policy and Security of Supply as well as the protection of the poor.</p> |
| <p>9. What is the timetable for extending conventional electricity service to all citizens?</p>  | <p>The target is to achieve 100% connections by 2014. In this regard the South African Government's mass electrification programme has been an overwhelming success and has gone a long way in meeting the basic electricity needs of the South African population. The programme started in 1994 when electrification levels were in the region of 34 percent, and reached an 81 percent level of electrification by 2009. This large scale electrification took place without any significant additions of new generation capacity. Addition of new capacity will facilitate continuity of supply for the newly connected and those that will be connected as part of the 100% connectivity target.</p>  |
| <p>10. Will the Medupi project result in higher electricity rates for low- and/or middle-income households while subsidizing rates for industrial customers?</p>           | <p>For poor indigent households, the national fiscus provides a multi-billion rand subsidy in order to provide 50kw hours per month of free basic electricity in line with government's commitment.</p>  |

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|  | <p>For residential customers supplied directly by Eskom the National Energy Regulator of South Africa (NERSA) has introduced an Inclining Block Tariff in areas with low income households (Home-light Tariff). This tariff and its structure will benefit low income households and generally result in a reduction in tariffs to these customers. For example, a customer with a 1000kWh consumption a month would see a total price reduction of 27.28c/kWh for 350kWh and an increase of 19.63c/kWh for the remaining 650kWh. A customer using approximately 800 kWh per month would not be affected by the tariff increase.</p> <p>As the majority of the Home-light monthly per customer consumption is lower than 350kWh, the under-recovery of revenue that results from this tariff structure means that a cross-subsidy in the form of higher tariffs for other classes of consumers occurs. Sales directly by Eskom to residential customers accounts for 5% of Eskom sales.</p> <p>There is a common misconception that industrial customers are subsidised by residential customers, justified by comparing the average prices paid between the two customer categories. However, one cannot directly compare the two values as the cost to supply all customers is not the same i.e. the cost to supply an average industrial customer is significantly less than the cost to supply a residential customer.</p> <p>When using the average price of electricity for different customer categories, it is important to understand the electricity supply cost chain and where exactly in this chain the different customers take their supply. Smaller users of electricity have much higher costs per kWh than larger users for the following reasons:</p> <ul style="list-style-type: none"><li>• Typically a residential customer is supplied on the network at a low voltage whereas a large industrial customer would be supplied on the network at a high voltage. This means that many more electrical networks have to be built, maintained and operated to supply smaller customers than that which is required for larger customers on higher</li></ul> |
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|  | <p>voltage networks..</p> <ul style="list-style-type: none"> <li>• More electrical losses occur at the lower voltages as the electricity has to travel further distances.</li> <li>• As a ratio of overall consumption, smaller customers also tend to use much more electricity in the more expensive peak periods.</li> <li>• Smaller customers have a poorer load factor (use electricity inconsistently during the day) than larger customers. This means that their average cost of electricity per kWh is higher than that of a larger customer who uses electricity more evenly throughout the day.</li> </ul>  |
| <p>11. What procedures were followed to ensure the Medupi contracts were awarded transparently? Does the Government plan a response to the opposition on the issue of the Chancellor House-Hitachi contract?</p> | <p>Eskom's commercial activities are governed in the first place by the Constitution of the Republic of South Africa, 1996 and by the Public Finance Management Act, 1999 (PFMA). Both require that an organisation such as Eskom should have in place a procurement system which is "fair, equitable, transparent, competitive and cost-effective". Within this framework Eskom has an approved set of Commercial Policies and Procedures complying with the PFMA, the use of which is mandatory.</p> <p>In addition to the PFMA and the Constitution, Eskom's procurement process must adhere to the requirements of administrative justice and comply with a number of common law and statutory provisions regulating procurement, corruption, fraud, competition and related matters.</p> <p>Together with the robust commercial procedures, Eskom's procurement processes include an audit oversight framework. For the audit framework, a panel of external Auditors, including amongst others Deloitte, Price Waterhouse Coopers and Ernest &amp; Young, are in place. For all transactions larger than R750 million, the auditors carry out a non-financial due diligence and probity checks on all members of the Evaluation Teams and Tender Committees.</p> <p>Regarding the the Chancellor House-Hitachi contract, Government is mindful of some of the concerns raised in this regard. Government is, and will continue to engage with all concerned stakeholders on this important question with a view to having a constructive dialogue. We will ensure that we have a transparent framework to deal with matters such as these.</p> |

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