

**South Africa – Eskom Investment Support Project
Component B – Clarifications for CTF TFC**

The project is aligned to South Africa's objective of reducing greenhouse gas emissions over time in order to achieve energy security with climate responsibility. The project activities derive from the research and scenarios of the Long Term Mitigation Scenarios, a study of South Africa's mitigation potential which identified high-impact low-carbon interventions. The implementation of these interventions require accelerated development and financing of renewable energy projects in order that South Africa can find ways to transit out of a carbon-intensive, coal-dominated power sector. It has been the strong preference of the Government of South Africa that the CTF Trust Fund Committee is aware of their strategy and commitment to renewables, and details on the coal and energy efficiency components are for information and in the interest of full disclosure and transparency. The approval of CTF funding is explicitly sought for only Component B – Renewable Energy, and will be applied to these sub-projects under a separate CTF loan agreement.

United Kingdom:

We are unclear why the Trust Fund Committee has been presented with project documents major aspects that were not covered in the original Investment Plan and are clearly outside the mandate of the CTF. Surely the two CTF projects should be separated out?

The CTF support is being sought for the Upington Concentrating Solar Power project and the Sere Wind Power project which form the standalone Component B of the umbrella EISP. These are discussed in detail in Annex 4 of the PAD and discussion related to CTF criteria is in Annex 12 of the PAD. No approval is being sought from CTF for any other components of the umbrella operation i.e. components A and C.

The three components were presented as part of one project document for the following reasons:

a) All the three components together are supporting Government of South Africa's energy sector under the framework defined by its Long Term Mitigation Scenario. Eskom, as an energy sector state owned enterprise has agreed to implement these projects. As noted in the PAD, the Government is committed to increasing the efficiency of coal and increasing the share of renewable energy in power generation in order to achieve its objective of meeting its urgent energy needs while reducing emissions over the long term. GOSA does not consider these policy goals as contradictory, but rather as entirely consistent with the spirit of the Copenhagen Accord.

b) The three components constitute a package of support in the same sector (power generation) implemented by the same entity (Eskom) over a similar time frame. It is not unusual for MDB Project Appraisal Documents to include components that are co-financed by the CTF as well as those not co-financed by the CTF, i.e. which do not require concessional finance to buy down the additional costs/risk premiums of achieving emissions savings. In the case of the Turkey: Private Sector Renewable Energy and Energy Efficiency Project, for example, certain technologies were excluded from CTF support, but it would not have been practical or prudent to prepare a separate project document for those components, since all the activities were being implemented through the same local banks and sought to achieve the same national development objectives.

c) The PAD (that discusses all three components) was circulated to the TFC in the interest of transparency and to ensure that the Committee is aware of the comprehensive analysis of the current macro-economic situation of South Africa, its energy sector and issues currently facing the implementing entity within the context of the low carbon strategy of the Government of South Africa.

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We are unclear how, through which mechanisms/processes, the two renewable energy projects will bring about transformational change with respect to the generation of energy through renewable sources in South Africa. Please can you provide a clear narrative indicating how this occurs?

As stated in Annex 12 of the PAD, the CSP and Wind projects are the first commercial-scale interventions of low carbon technologies in South Africa. Their successful implementation would help in overcoming technological, institutional and financial barriers inhibiting the introduction of these technologies in South Africa and the region. Because of the high cost of these technologies compared to other alternatives, CTF concessional financing for the initial projects is essential for overcoming these barriers. These projects will also help in creating a nucleus of skilled staff and local capacity to jumpstart the broader induction of these technologies in the region. It is also anticipated that the project will assist with establishing local manufacturing capacity that will facilitate private participation. In this context, the Government of South Africa proposes to use its Integrated Resource Plan (IRP) for the electricity sector to allocate a major role in electric power generation to climate friendly technologies such as those being demonstrated at scale under component B.

CSP: The IBRD/CTF co-financed CSP plant would be a flagship activity in South Africa. As the largest facility using central receiver technology (including storage capacity), it would establish cost and performance benchmarks in the South African context for the broader deployment of CSP technology in the country. The replication potential is significant in South Africa and in the Subregion. At present, CSP has a levelized cost of electricity two to three times that of supercritical coal-fired power plants and very limited operational experience at scale, thus its replication in the private sector will depend on a strong demonstration effect and institutional learning from this first utility-scale plant. In addition, SANERI and other national institutions such as CSIR continue to further the CSP research in South Africa and underpin the long term development goals of ensuring that South Africa can rely on CSP. Furthermore, generous feed-in tariffs approved by the regulator should jumpstart development of the Solar IPPs in the country and the Region as a whole.

Wind: Similarly, the strong potential for scaling up to utility-scale wind power faces major barriers such as high costs relative to coal-fired production, inability to provide base load power due to output intermittency, and incremental transmission costs to connect isolated wind power sites to the grid. Even though wind power technology is well proven and major components are commercially available from multiple suppliers, the lack of proven performance on a large scale in South Africa creates a perception of high risk. Finally, the sector faces significant investments in transmission infrastructure. The proposed CTF financing would also support investments in transmission capacity that will allow Independent Power Producers to connect to the grid, thus catalyzing substantial private sector investment in wind power under the GoSA's REFIT program. Similar to the CSP, it is expected that the first utility-scale wind project in South Africa will jumpstart development of wind resources in South Africa, along with generous feed-in tariffs already approved by the sector regulator.

We are also unclear of the developmental benefits of the RE projects as they have not been clearly articulated. Further detail is necessary for us to complete our assessment.

The proposed CSP and wind projects are strongly linked to the Government's development and low carbon growth agenda. South Africa has identified the energy sector, including renewable energy development with CTF support, as an important priority for the country. South Africa has among the world's best solar resources and also a substantial wind power potential. Furthermore the development of these two sectors offers potential for the creation of new industries, jobs and skills and for South Africa to benefit from the competitive advantage of large scale and cutting edge renewable energy developments. Specifically, renewable energy will result in:

- (i) *Improved generation capacity* and make electricity generally more reliable and more resistant to fossil-fuel price fluctuations by virtue of diversification of the energy mix in the country's power system.
- (ii) *Supporting the climate change initiatives* of the government in helping them achieve the goals of reducing green-house gases arising from the electricity subsector. Both interventions (wind and solar) will also have pronounced environmental co-benefits such as reduced NO_x, SO_x and particulates emissions from avoided coal-fired power generation as well as the avoided environmental, health, and safety impacts associated with coal mining.

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(iii) *Domestic economic growth*: Over the medium term, it is expected that most of the components of CSP and Wind Power can be sourced locally in South Africa, resulting in domestic industrial development and employment. Solar thermal power plants contain many components that can be locally manufactured, such as standard steel components, certain control equipment etc.

(iv) *Creation of domestic jobs*: The construction and operations of these plants are also expected to lead to more local jobs; Eskom estimates that, in the case of the proposed 100 MW CSP facility, over 2,500 jobs will be created directly or indirectly during the first year alone.

(v) *Development of local know-how and intellectual capital*: The technological expertise built up in the process of the project development, construction, and operation, will benefit South African, engineering and construction firms and suppliers, as well as South Africa's energy and industrial research and development establishment, which have strong mandates for South African industry.

(vi) *Developing potential technological exports to the rest of Africa*: the proposed projects will support South Africa in continuing its leadership role in bringing newer energy technologies in Sub Saharan Africa. The proposed CSP plant, particularly when implemented through the leading regional utility, will also have a demonstration effect in the Subregion, thus making CSP more readily acceptable to wider audiences (including the private sector). In particular, the adoption of CSP in neighboring southern African countries could have significant positive development impacts by bridging energy gaps using low carbon technologies.

Spain:

For the purpose of the CTF, TFC consideration and approval we are of the opinion that component B of the IBRD loan should have been presented separately from the IBRD loan of 3,75 M \$ but together with the same renewable energy investment component in the upcoming AfDB loan. For us both projects (component B: renewable energy, wind and CSP, supported either by the IBRD or the AfDB) are the same, being the total size of the operation 350 M \$ for the CTF. We recommend that, for the sake of clarity and coherence, future proposals which imply the support of different packages of the same project should be presented together for CTF TFC consideration.

See discussion above re: separate presentation. This comment is noted for future projects and to avoid confusion Eskom will ensure that the co-financing for these projects with AfDB is adequately referenced for purposes of coherence.

We need to know which parts of the two projects in component B, Wind and CSP, will be supported and why by the IBRD, by the AfDB, or by the CTF. The size of both projects is uncertain. The figures in tables 5 and 7 do not coincide. Furthermore, what will be the role of the private sector in both projects? The document lacks a reliable estimation of the private sector cofinancing, clear in Annex 12. In paragraph 43 the risk of delays in attracting private investment in power generation and implementing measures to improve energy efficiency is considered substantial. Would it be possible to receive more details on the support from the private sector to component B?

Both Sere Wind and Upington CSP will be supported by IBRD and CTF, along with an anticipated participation from AfDB, AFD, KfW and possibly EIB. Annex 5 provides an overview of which subcomponents (procurement packages as expected today) will be cofinanced with CTF. Given that Eskom has not finalized its discussion with other lenders, it is not possible to identify which packages of the subcomponent (of the wind and CSP plant) will be parallel financed by these lenders.

Both projects (under Component B and proposed to be supported by CTF) are being developed by Eskom Holdings under the clear mandate from DoE's Integrated Resource Plan. Both projects are currently proposed to be public sector projects. However, the design and procurement of the power plants would bring in significant private sector participation and expertise to the sub-sectors. Specifically, the Sere Wind includes transmission activities that would serve as a backbone to evacuate power from Wind and Solar IPPs in the province.

Yes, it is indeed correct that Table 5 and 7 do not coincide. Table 7 refers to the data provided regarding the project (as estimated in November 2009) for the purposes of the South African CTF investment Plan. Since then,

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further analysis has been carried out for the proposed projects (wind and CSP), and updated. This update is reflected in Table 5, which provides the current assessment of project costs and financing plan for the proposed IBRD Project as a whole. The amount of CTF financing is US\$ 350 million for component B of the project. At present, the request from IBRD is for allocation of US\$ 250 million for the proposed Component B of the project. This will be clarified in the PAD Cover Sheet, Financing Plan and the Main Text of the PAD.

Still related to funding, we see a reference to the Carbon Partnership Facility as an additional funding source. Given the uncertainty about carbon markets post 2012 and the limits under the current definition of a program of activities we would appreciate an explanation on the possibility of using this instrument. Are other similar sources of revenue being considered?

Based on discussions with Carbon Funds and Carbon Partnership Facility, it is clear that component B would be eligible for carbon financing. Given the uncertain nature of the carbon markets today, Eskom and Government of South Africa would like to initiate further discussions on this opportunity in due course and during the implementation of the Project. It is our understanding that Eskom will consider both multilateral and private market offerings for Carbon Financing during the operational period of the two plants.

We are concerned about the sustainability of both renewable energy projects. Apart from the ordinary full cost recovery tariffs to be implemented in 5 years, renewable energy promotion requires substantial and durable feed-in tariffs. This is clear in paragraph 43 of Annex 12, where feed-in tariffs are even more influential than sources or terms of financing on the projects' IRRs. Beyond the recent tariff increases, would it be possible to get more details about the next regulatory and organizational steps to ensure the economic sustainability of these investments? Will they be treated differently inside Eskom?

The current regime for feed-in tariffs that have been announced and recently revised (upwards) are applicable to IPPs only. It is our understanding that the cost structure for any Eskom proposed renewable power plants would need to follow the agreed tariff adjustment process (multi-year tariff determination) for Eskom as a whole. Both Sere and Upington are part of the MYPD 2 that was considered by NERSA, and tariff increases granted, earlier this week. At this stage, these plants will be treated in Eskom like all other investments. Considering the fact that these plants form much less than one percent of Eskom capacity these should have limited impact on Eskom's finances. Because of high cost of these technologies compared to the alternatives, there is a need for long term low cost upfront financing and hence the critical role for CTF financing. Once the initial technological and institutional barriers are overcome by the implementation of these "first off" projects the future projects are expected to be a mix of public and private sector projects. Private sector participants will benefit from the feed in tariffs which will ensure financial and economic viability of these transactions.

Finally, as a minor comment, we suggest using either rands or dollars throughout the document in order to facilitate the comparisons.

In the final document we will ensure that relevant numeric are provided in US\$.

United States: On a related note, we are concerned about the consideration of this project so far in advance of its actual implementation, given its full financing package is not projected to be ready until December of 2010.

The proposed renewable investments consist of two distinct sub-projects – the Sere Wind Plant and the Upington CSP. Eskom has already initiated design work and completed the site selection for the

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projects. Eskom is also in discussions with other multilaterals and bilateral to finalize the financing plan and if IBRD/CTF Loans are approved, Eskom will be able to finalize the loans with other bi-laterals and multilaterals at the soonest. The date of December 2010 is a conservative estimate by Eskom to finalize all Loan/Grant Agreements from the bilateral and multilateral donors to the proposed renewable sub-projects. Design work followed by procurement of goods and works from the proceeds of the IBRD/CTF loans is expected to proceed soon after loan effectiveness. An updated schedule would be submitted with the CTF proposal.

Wind: Eskom had prepared the bidding documents for the Sere Wind Project which are now being updated to comply with Bank procurement guidelines. Hence the preparation of this project is well advanced. The CTF and IBRD together are proposed to finance initial and long-lead expenditures such as turbines, towers and generators. Eskom has already initiated discussions with bilateral and other multilaterals (who have indicated strong interest in cofinancing) for financing of the rest of the components.

CSP: Similar to the Sere Wind, Eskom has initiated and completed preliminary design work on the CSP. Because of the early stages of development of CSP technology and high costs, Eskom would only undertake this project if concessional financing such as those from CTF is provided. Unlike Sere, where the technology is better understood, Eskom has initiated a review of its CSP design in the context of global developments so as to ensure that optimal designs are used for execution. Upon the completion of this review by international consultants, Eskom proposes to begin the procurement process for the project. Availability of financing from CTF and IBRD will provide Eskom with about 60 percent of the financing for the key project components and will serve as a catalyst for other bilateral/multilateral financiers.