

CLIMATE INVESTMENT FUNDS

April 5, 2016

**[APPROVE BY MAIL]: INDIA: PROPOSED LOAN POWER GRID CORPORATION OF INDIA LIMITED
SOLAR POWER TRANSMISSION SECTOR PROJECT GUARANTEED BY INDIA (CTF) (ADB)-
XCTFIN228A**

ADB RESPONSE TO COMMENTS RECEIVED FROM UK AND GERMANY

ADB Responses to UK Comments

Questions/Comments	ADB Responses
<p>Thank you for this proposal, firstly we'd like to say that it was very well written and included some really useful detail on the project.</p>	<p>Thank you.</p>
<p>1. Apologies if we've misunderstood this but our understanding is that the project is to connect 2000MW, including one known 1000MW project and one unspecified project. We wanted to understand where the second 1000MW project estimate was derived from, is there already a 1000MW project available or is this subject to change? Has a particular region already been identified for the 2nd sub-investment? We feel that it would make sense to optimise the location to access as many solar parks as possible (maybe by doing some sort of mapping exercise showing planned solar parks at this stage).</p>	<p>The proposed project is part of India's program to develop 100,000 MW (100 GW) of new solar capacity by 2021-22. The states are mapping and developing solar resources and the potential additional capacity to be connected in the future could be in excess of 2000 MW.</p> <p>POWERGRID, the state utilities, and regulatory commissions are coordinating their efforts to optimize solar parks and related transmission infrastructure.</p> <p>For the subsequent subprojects with an initial target of at least 1000 MW capacity, subprojects will be selected based on readiness and need. States allocated to POWERGRID by the Ministry of Power in January 2015 include Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Meghalaya, Rajasthan, and Uttar Pradesh; additional states may be allocated to POWERGRID in the future</p>
<p>2. GHG savings from this 2000MW installed solar capacity are fully attributed to this intervention, though arguably the transmission project is only indirectly responsible. Is there a chance that these GHG savings might be double counted (say if CTF funds, or other donor funds, are also used to finance other solar parks in India which are then connected to this transmission grid)? Could one way of addressing this be to combine the two investments and proportionately attribute the emissions savings from the two components?</p>	<p>The GHG emissions are not being double counted: the calculations include showing the proposed project bundled with the prior Rajasthan project to show that there is no double counting.</p> <p>Again, this and other donor-supported projects are part of the 100,000 MW program and care is being taken to ensure against double-counting. GOI and POWERGRID will also make use of other CTF funds and funds from other donors in other places to maximize the benefits given demand is so huge compared to available funds.</p>
<p>3. Does the project team think there could be any potential risks from the coal sector e.g. in the form of lobbying?</p>	<p>The potential risk from coal is not direct lobbying against solar. Rather it is the possibility that GOI could decide to support coal in favor of RE, which might slow down solar development. This is unlikely since solar is heading toward grid parity and coal</p>

Questions/Comments	ADB Responses
	<p>parity -- CTF is requested to help ensure this trajectory is maintained.</p> <p>The coal issue is noted because new domestic coal reserves are being developed and it is not a question of either/or: India needs another 250 GW of capacity as soon as possible and another 250 GW after that, and this will come from a mix of RE and fossil fuels. CTF is needed to ensure that the grid mix is as clean as possible.</p>
<p>4. Could the team please provide the results framework for the project?</p>	<p>Appendix 1 of the Draft RRP presents the Design and Monitoring Framework (DMF) of the proposed project with specific performance indicators targets, key activities and milestones. The impact of the project will be increased supply of renewable energy to the Indian power system and reduced greenhouse gas emissions intensity of the Indian economy. The outcome will be an increased contribution of solar energy to India's power mix and the output will be 2,000 MW of solar parks connected to the interstate transmission network.</p>
<p>5. "The CTF concessional financing will reduce the overall financial risk of the project by reducing the cost of capital" - by how much does the CTF concessional financing reduce the cost of capital?</p>	<p>The concessional financing does reduce cost of capital, and as noted above, part of the rationale for CTF cofinancing is to ensure that the grid mix is as clean as possible, and to accelerate deployment of utility scale RE and specifically to deepen the market penetration of large-scale solar.</p> <p>CTF financing is essential for enabling large-scale deployment of solar PV generation in a short time frame. It will help mitigate risks of additional costs of solar energy systems, transmission utilization, and cost of high levels of renewable energy penetration. It will contribute towards reduction in transmission charges making cost per kWh for solar PV remains affordable.</p>
<p>6. *"The project's financial viability was examined by comparing the incremental costs and benefits. The financial internal rate of return (FIRR) is calculated at 4.49% in real terms (8.87% on a nominal basis),</p>	<p>ADB requires that energy sector projects of this nature be financially viable (FIRR > WACC). In this case the CTF is helping reduce WACC and increase FIRR.</p>

Questions/Comments	ADB Responses
<p>which compares favorably with the estimated weighted average of cost of capital (WACC) value of 3.94% in real terms (7.66% on a nominal basis), thus substantiating the project's financial viability.** Would the project be financially viable without CTF concessional financing?</p>	
<p>7. Could the team provide more detail on what the sovereign guarantee covers?</p>	<p>The sovereign guarantee covers the entire project. In this case, it simply means that GOI is guaranteeing repayment of the loans rather than PGCIL itself (the terminology in the project title is as agreed with GOI).</p>
<p>8. Could the project team provide more detail on how a loan term of 40 years (mentioned on p7 of the cover document) reconciles with a 25-yr operational lifetime (mentioned on p8-9)? We think that an operational lifetime of 25 years seems quite short for a transmission asset so would be grateful if you could provide more detail on why this assumption has been made; and if that is indeed the expected life of the project, we feel that the CTF loan financing shouldn't have a longer term than that so grateful if the team could provide some more information on the reasoning behind this.</p>	<p>The 25 year lifetime is a basic planning and design benchmark. In practice the transmission assets will likely last 40 years or more.</p>
<p>9. We've previously raised with other India Solar projects that we want to ensure that lessons are captured and shared given the scale of the solar projects in India, could the team confirm how this project will learn from earlier similar projects and also share learning from the project?</p>	<p>The project's design will build on experiences and lessons from the existing solar parks and transmission projects such as the Charanka in Gujarat and Bhadla in Rajasthan.</p> <p>The project will have an M&E framework to help monitor progress on project outputs as well as progress on performance target indicators. The framework will contain strategies and activities to capture lessons from the implementation of the project and sharing of experiences to help inform stakeholders.</p>

ADB Respons to German Comments

Questions/Comments	ADB Responses
<p>We have noted that there is a funding gap of 20% of the total project cost, which should be covered according to the ADB proposal by commercial loans and/or bond issues. Given our substantial involvement in the green corridor project in India through KfW, we would be grateful if ADB colleagues could let us know whether additional funding has already been identified or if further funding is still needed?</p>	<p>This 20% is corporate borrowing raised by Powergrid. Powergrid conducts periodic local bond offerings and carefully manages its overall debt. While the regulators allow 70% debt and 30% equity, and DEA guidelines for MDB funding of central sector entities such as Powergrid are capped at 50%, this leaves Powergrid to raise the 20% themselves which they can raise from various local sources such as local commercial/local banks, domestic bonds etc.</p>