

CLIMATE INVESTMENT FUNDS

March 22, 2016

**APPROVAL BY MAIL: NEPAL: SOUTH ASIA SUB-REGIONAL ECONOMIC COOPERATION POWER
SYSTEM EXPANSION PROJECT (SREP) (ADB) - XSREN022A**

Response received from ADB

**Nepal: South Asia Sub-regional Economic Cooperation Power System Expansion Project
ADB Responses to Switzerland Comments**

| Questions | Responses |
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| <p>1. There are certain inconsistencies with the amount of co-financing the additional SREP contribution is supposed to trigger:</p> | |
| <p>a. According to table 1 (p.2) of the cover document, there is no additional financing, just the \$20 million from SREP.</p> | <p>Yes, SREP \$20 million grant will entirely finance the proposed expansion project, particularly, outputs 4 and 5.</p> <p>Table 1 does not show the expected private sector investment to be leveraged by SREP funds, which is an artifact of the ADB template for the Additional Financing mode. See next response.</p> |
| <p>b. According to the paragraph on Leveraging (p.6), the new project component is expected to leverage private sector equity and commercial debt estimated around \$70 million. Yet that corresponds also to the estimated total investment for the 25 MW project, at the estimated cost (\$2.79 million for 1 MW according to the footnote 11). In that case (i.e. if the private sector investment covers the total cost), why is a SREP contribution needed at all?</p> | <p>NEA, ADB, solar developers and service companies, independent power producers, and other stakeholders have had extensive dialogue to develop the project proposal. There is substantial first-mover risk and there is consensus that some concessional funds are needed to jump-start utility-scale solar development.</p> <p>Given the high upfront development cost in solar system installation and lack of fiscal incentives such as feed in tariffs in Nepal, SREP will be additional and instrumental to scale up utility scale solar project development in the country.</p> <p>The SREP \$20 million will provide an incentive for private sectors to install an aggregate capacity of <u>at least</u> 25 MW. The SREP funding will be used for providing viability gap funding (VGF) thereby making the project economically justifiable and commercially viable for the private sectors. It is expected that the private sector will make the initial investment for generating and transmitting energy up to the connection point agreed with NEA. The VGF will be delivered as front-loaded Power Purchase Agreement (PPA) tariff rate payments or initial payment to make the project viable until June 2022 on top of what NEA would have provided otherwise.</p> <p>SREP will also be used to fund capacity development support to NEA and creation of solar project transaction facilitation composed of individual international and national consultants to facilitate new utility scale solar development.</p> |

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| <p>c. According to the revised IP, \$70 million co-financing was supposed to include a \$50 million loan from the ADB, with the remainder to be defined. On our querying the difference could have been covered by an EU contribution. What happened to this proposed ADB loan and to the possible EU contribution?</p> | <p>The proposed ADB loan: As noted in the revised IP, the ADB loan contribution of \$50 million was for an energy sector policy-based loan which would support sector reforms; the ADB policy loan is being coordinated with a similar loan from the World Bank. This overall effort has been delayed, so the government and ADB agreed to mobilize the SREP funding as Additional Financing to the ongoing SASEC project. This decision was made in the context of dialogue with various stakeholders noted above, whereby the proposed project would utilize SREP as viability gap funding to leverage private sector investment.</p> <p>The EU contribution: In late 2015, ADB fielded a mission to Nepal to finalize the project proposal. The ADB mission met with the EU delegation which indicated that less than \$5 Million grant could be expected but would take time to confirm. ADB and the government agreed that pursuing this modest amount of funding with no guarantee would delay the project unnecessarily and opted to proceed without pursuing the EU funds for now.</p> |
| <p>d. Please clarify in a precise manner what co-financing from public and private sources the additional SREP contribution is expected to raise.</p> | <p>The SREP funds are specifically intended to mobilize private sector equity and commercial debt estimated of up to \$70 million for utility scale solar projects. The exact amount of private sector financing mobilized will be determined during project implementation.</p> <p>From the public sector, NEA will provide in kind contributions to support the project management unit (PMU) and the transaction facilitation group, such as office space, equipment, printers and office supplies.</p> |
| <p>2. In the answers to our questions on the revised IP, it was stated that:</p> <ul style="list-style-type: none"> a. The detailed mechanisms of funds flow will be determined during project preparation in accordance to SREP and ADB guidance b. The funds flow will be subject to loan covenants to be agreed between ADB and the Government | <p>A brief explanation on disbursement conditions and fund flow diagram is provided in para 12 and attachment 5 of the draft Additional Financing memo. Further details will be included in the request for proposal to be issued by NEA after receiving ADB approval.</p> <p>Key aspects to be included in the loan covenants for the funds flow and disbursements are included in para 12 and 14 of the draft Additional Financing memo and will be finalized upon approval of the</p> |

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| <p>c. Disbursement conditions and other details will be elucidated during project preparation</p> <p>Please indicate precisely where the details about these mechanisms, loan covenants and disbursement conditions can be found in the project document.</p> | <p>Additional Financing. These include conditions such as prior approval of the request for approval by ADB before issuance, meeting social and environmental safeguards conditions by ADB and Government of Nepal, detailed technical and financial due diligence of the projects before signing the PPA etc.</p> |
| <p>3. Along with the revision of the IP, Nepal switched from a request of capital/concessional loans to 100% grant contribution for this project. This issue was flagged by SREP contributors including Switzerland, especially given the increasing scarcity of grant resources in the remaining SREP funds which have led to increasing limitations of grant components in the SREP investment plans of the more recent SREP recipient countries. In light of this we would like:</p> <p>a. That Nepal and the ADB consider to what extent capital/concessional loans could also be used for the SREP contribution in this project. We would expect this to be possible given the nature of the proposed attribution process via a competitive bidding by private operators.</p> | <p>The government of Nepal has clearly stated its expectation that all SREP funds should be in the form of grant. Despite efforts by private sector arm of ADB and IFC for using SREP resources as concessional loan for private sector small hydro for a long time, the revised IP provided the rationale and justification for the reallocation from private sector to public sector window of ADB to provide grant resources to the country to promote private sector for the utility scale solar which was endorsed by the SREP Sub-committee. It should be noted here that grants will be used to mobilize private sector and competitive process will be followed to minimize the amount of grant per project and maximize the total solar power installations in the country. This pioneer work will lead to reduction in the cost, increase in confidence by the utility and the IPPs and more such projects will be implemented gradually towards no grant element.</p> |
| <p>b. In case, the 100% grant approach is retained, Nepal and the ADB should give a detailed justification why capital/concessional loans could not contribute to the results in their eyes.</p> | <p>The government's position about grant versus soft loan has been clearly stated, hence the prospect of concessional loans is theoretical.</p> <p>Pursuant to the government's view, ADB believes that concessional loans are a theoretical option. However, the leverage obtained would be less than with 100% grant. The project has been developed so as to maximize the impact of a relatively small amount of grant funds.</p> <p>Delivering SREP as concessional loans bring us back to the question of why concessional funds are needed at all: if the various stakeholders engaged in dialogue to develop the project believed that conventional financing would be sufficient, the project would have already proceeded.</p> |

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| | <p>As noted above, small SREP grant resources will be instrumental in mobilizing private equity and commercial bank loans to finance utility scale solar projects. This will give the market confidence to the IPPs and NEA to pursue more of such projects and will demonstrate transformational impact.</p> |

**Nepal: South Asia Sub-regional Economic Cooperation Power System Expansion Project
ADB Responses to US Comments**

| Questions | Responses |
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| <p>1. According to the project document, SREP funding is needed in the absence of feed in tariffs or other incentives for developing solar power (p. 3). However, the cover note says that SREP funding will be a benchmark for solar feed in tariffs, and the project document says that once SREP funding has been expended, the remainder of the PPAs will be covered by a fixed solar tariff (p. 4).</p> <p>Please explain what solar tariffs the Government of Nepal currently has and what solar tariff will cover the remainder of the PPAs. If a solar tariff is under development, please describe the process for developing it and explain how this SREP funding will relate to that process.</p> | <p>Nepal has not established fiscal incentives such as feed-in tariffs (FIT) for on-grid utility scale solar power. As a benchmark, hydro IPPs of up to 25 MW, NEA pays \$0.048 / kWh for wet season and \$0.084 / kWh for dry season. In 2013, average retail tariff rate was \$0.0795 / kWh; NEA’s average cost of supply is about \$0.09/kWh.</p> <p>When the SREP IP was revised in 2015, the expected generation cost for solar PV was about \$0.15/kWh. In India, IPP off-take prices for solar have been dropping rapidly; most recent bids were as low as \$0.07 / kWh.</p> <p>ADB, NEA, and the government engaged in extensive dialogue about whether to attempt to define a FIT or benchmark tariff, or take a different approach which could facilitate price discovery in Nepal while also mobilizing IPP development. On this basis, the proposal is to use SREP funds as viability gap financing to cover some of the potential difference between NEA’s average cost of supply and IPP off-take prices (the “viability gap”). This approach will support policy evolution and capacity development for instruments such as FIT, net-metering regulations, new power purchase agreements and other incentives.</p> <p>The power purchase agreements will avail of SREP funding as Viability Gap financing (VGF) until 2022 of the Power Purchase Agreement (PPA), after which an off-take tariff will be set for the remaining PPA period. This mechanism avoids direct subsidies to IPP and maximizes the leverage of SREP funds.</p> <p>In parallel with the SREP activities, ADB, World Bank, USAID and other development partners are assisting NEA to implement it’s a financial restructuring plan and management reforms; the Electricity Tariff Fixation Commission is also strengthening its capacity to review retail tariff adjustment petitions from NEA. The Electricity Act 1992 and the Electricity Regulations 1993 which provide a framework for the regulation of electricity distributed to the consumers and</p> |

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| <p>2. The proposed VGF for on-grid solar does not map back to the original project’s objectives, stated in the memo as follows: The project aims to assist Nepal’s energy sector development by facilitating (i) expansion of domestic power transmission capacity, (ii) power exchange with India, (iii) augmentation and expansion of the distribution networks, and (iv) mini-grid-based renewable energy access in rural areas.</p> <p>Please explain the rationale for adding this new output to the existing project.</p> | <p>determination of tariffs are likewise being reviewed.</p> <p>The additional financing is expected to help achieve the project’s overall impact of increased electricity access in Nepal and improved power exchange across the border. It will also contribute to project outcome of increased grid capacity and enhanced renewable energy development through facilitating the development of utility scale solar PV projects. The new output will be in addition to the four outputs of the original project which include: (i) power transmission capacity increased; (ii) power distribution network improved; (iii) mini-grid-based renewable energy systems in off-grid areas increased; and (iv) capacity development support to NEA and AEPC.</p> <p>As noted in pg 3 of the Draft Memo on SASEC Additional Cofinancing, the ongoing SASEC project is performing well and the government requested that SCF cofinancing be mobilized as additional financing to the project and expand its scope to include solar PV development as new output. Given the lack of fiscal incentives for solar power project development and high upfront cost in solar PV system installation, the use of SREP financing modality will be the most appropriate one to scale up implementation.</p> |
| <p>3. The need for the projects is inferred to exist because tariffs required to make these projects viable are above the current NEA rate for solar projects of this type but does not mention what this rate is or what estimates were used to determine how much in grant each project would likely require (that links back to the \$20 MM estimate for 25 MW of total capacity to be delivered). What due diligence was done to establish the need and expected outputs?</p> | <p>As noted above, for hydro IPPs of up to 25 MW, NEA pays \$0.048 / kWh for wet season and \$0.084 / kWh for dry season. NEA’s average cost of supply is about \$0.09/kWh.</p> <p>It is impossible to predict the actual off-take price required to make new solar IPP projects viable. The first project will probably be the most expensive but leveled costs are expected to decline rapidly, as has been the case in India. Assuming 25 MW of capacity and about 36 GWh/y output, \$20 million could support an offtake price about \$0.03/kWh higher than NEA’s average cost of supply, i.e., about \$0.12/kWh.</p> <p>Multiple IPPs are developing solar projects in different locations around the country, and sufficient details have not been made available to assess individual projects. The VGF approach was adopted in part to address this lack of specificity and pursue development as fast as possible.</p> |

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| <p>4. Unless most of the work has already been undertaken, the proposed timeline seems overly optimistic, with plans to commission plants and deliver electricity by first quarter of 2018.</p> <p>There is no work plan or other list of key milestones in the project proposal that shows how this might be accomplished that can provide credibility to this assertion other than a mention of getting documents out to tender by May 2016. Is there a work plan you could share?</p> | <p>As noted above, multiple IPPs are developing solar projects in different locations around the country, and sufficient details have not been made available to establish a work plan with milestones.</p> <p>Based on the dialogue among ADB, NEA, IPPs and solar vendors, and recent experience on utility-scale solar projects in other countries, after tendering and PPAs are in place, construction is expected to be complete within 12 months, i.e., the first solar plants would be in initial operation by early 2018.</p> |
| <p>Finally, we would recommend that the project makes sure that the eligibility/financial criteria have hard hurdles for ensuring developers are qualified, have done this before at this scale, and that an independent financial analysis be done during intake to make sure the project's financials work at the requested tariff/VGF.</p> | <p>Thank you for pointing this out.</p> <p>The RFP will include eligibility and financial criteria which will screen qualified developers. Aside from this, the transaction facilitation team will ensure that the subprojects and developers are meet all the requirements set by the government and ADB.</p> |