



# Private Sector Utility Scale Solar Power Support Project

Country / Region: **Armenia** | Project Id: **XSREAM035A** | Fund Name: **SREP** |

MDB : **International Bank for Reconstruction and Development**

Comment Type	Commenter Name	Commenter Profile	Comment	Date
Comment 1	Daniel Menebhi	Switzerland	<p>Thank you for circulating this proposal.</p> <p>We have the following questions (Q) and comments (C):</p> <ol style="list-style-type: none"> <li>Investment and project costs:               <ol style="list-style-type: none"> <li>(C) Please provide more details about the estimated project costs (overall and for both phases).</li> <li>(Q) What are in particular the costs associated with the proposed IBRD/SREP guarantees and who will cover them? Were these costs included in the economic and financial analysis?</li> </ol> </li> <li>Expected results:               <ol style="list-style-type: none"> <li>(C) Please clarify the nature of benefits for the 3 million people who have as we understand already 100% access to a reliable electricity grid.</li> <li>(C) It is unclear to what extent the SREP guarantee will be made available also to the 5 sub-projects under phase 2. Please clarify and outline the impact of your expectations on the SREP Results Framework.</li> <li>(C/Q) We noticed that while the overall objectives have been maintained or even increased (100 MW instead of 50 MW), the contribution from the MDBs has been substantially reduced (from USD 30 million in the IP to USD 4 million). This raises concern about the alignment of IBRD and SREP objectives. Why does the IBRD not consider a larger contribution?</li> </ol> </li> <li>Guarantee mechanism:               <ol style="list-style-type: none"> <li>(Q) What is meant by "covered debt tranche"? Is it the idea to create two tiers of commercial lenders, one [of about USD 20 million] with full coverage of principal and [7.5% pa] interest and the other with no guarantees? Or else, please clarify.</li> <li>(Q) On what basis will the privileged first tier lenders be selected?</li> <li>(Q) What will be the incentive of the second tier lenders? Why should they lend at so much worse conditions?</li> <li>(Q) How much of the covered debt tranche will be allocated to Phase 1 of the project?</li> <li>(Q) How much of the covered debt tranche will remain for Phase 2 and how likely are investments in this second phase, taking into account also the smaller capacities of the plants, which makes them less attractive to investors?</li> <li>(Q) How is the reduction of risk related to effected principal reimbursements and interest payments for Masrik-1 (Phase 1) taken into account to also reduce the guarantee in proportion of such payments and to release these reductions for other Phase 2 projects and thereafter as reflows to the SCF?</li> <li>(C) According to your Annex 6 Table 4 (Calculation of the Cost of Capital), an appropriate lending rate for 10 years to Armenia is 7.44% pa. (Armenian 10-year Eurobond yield). If the lending rate on debt is as stated 7.5% pa, why is there still a need for a 100% guarantee on principal and interest to cover the debt tranche of this project?</li> </ol> </li> <li>Economic and financial analysis:               <ol style="list-style-type: none"> <li>(Q) What is the underlying assumption regarding the electricity tariff at which Masrik-1 is expected to sell to ENA?</li> <li>(Q) Will the Phase 2 subprojects (be allowed to) sell at a feed-in tariff set by PSRC and what is the level of this tariff?</li> <li>(C) According to your calculations for Masrik-1 (Table 6 of Annex 6, p.57), the project IRR [10.24%] is well above the Weighted Average Cost of Capital WACC [7.84%], whereas the Equity IRR [13.00%] is slightly below the estimated cost of equity [13.37%]. This would indicate that commercial lenders get a significantly better deal than the equity investors already at market like conditions, irrespective of the IBRD/SREP guarantees. So why should these guarantees induce private developers to invest equity into these projects?</li> </ol> </li> <li>Masrik-1 tender:</li> </ol>	Apr 05, 2018



a. (C/Q) We are surprised that the Masrik-1 sub-project has already been tendered, before the approval of the SREP funding and the IBRD tranche. What will happen if these are not approved as expected?

b. (Q) Are you able to share some information about the success of the tender, in terms of number of qualified bidders who actually submitted proposals and in relation to the assumptions made in the economic and financial analyses?

6. Conclusions

a. (C) Intuitively, without being guarantee specialists nor insurance mathematicians, we are under the impression that the proposed USD 30 million guarantee envelope is too large and the proposed coverage (100% on principal and interest) too high to make this proposal an efficient use of public (IBRD and SREP) funds, in particular if it ends up guaranteeing only USD 20 million of debt. In our opinion only the default risks on principal repayments should be covered and only to the extent of their likelihoods (probabilities). Since the probability of default is certainly not 100%, there is no need for a 100% cover-age. As to the interests, we think that the related risks are already covered by the risk premium included in the (relatively high) proposed interest rate and do not call for additional guarantees in favor of the lenders. On the other hand, the equity risk (and/or alternative costs) seems to be insufficiently addressed to make the proposal attractive to private developers.

Please comment.

b. (C) With regards to the initial financing plan as proposed in the SREP Investment Plan and taking into account the scarcity of remaining SREP funding, now also affecting the non-grant portion, we recommend that a more balanced funding of the guarantees (i.e. 50/50) shall be proposed by the IBRD. These guarantees should be disbursed pari-pasu in case of a default.

Response 1 Monyl Nefer IBRD  
Toga Makang

The World Bank wishes to thank Switzerland for the questions and comments raised Apr 11, 2018

. Responses are provided below.

Investment and project cost

1.a. The estimated costs for all the sub-projects were taken from the feasibility studies prepared by the Government's technical consultant in 2016-2017, which were financed by the SREP PPG.

1.b. There are two components of IBRD/SREP guarantee related costs – guarantee fees and transaction costs. Guarantee fees are borne by the beneficiary of the guarantee (commercial lenders) and are expected to have small impact on the final tariff. Based on the financial model simulation for the Masrik-1 tender, the guarantee fees will lead to a tariff of about 0.6% or \$0.05/kWh. The transaction costs are mainly for the cost of lawyer and transaction advisor to negotiate and close the guarantee related document. Both cost items will be paid by the project company as the borrower of the project. Guarantee costs have been factored in the project financial analysis to determine the weighted average cost of financing of the project. Transaction costs, as sunk costs, were excluded from the financial analysis. Both guarantee fees and transaction costs are not economic costs and were not included in the economic analysis; instead, social cost of capital was used for economic appraisal of the project.

Expected results

2.a. As the comment rightly points out, Armenia enjoys a 100 percent electricity access rate and there are no significant issues with quality of service. However, the larger scale-up of RE (solar in particular) that will be triggered by this demonstration program will eventually result in lower cost of power for all electricity consumers by displacing generation from less efficient gas-fired power plants and also to contribute to energy security by reducing dependency on imported fuel for those thermal power plants.

2.b. The SREP (and IBRD) guarantees would be made available to the two phases combined. The total capacity will be about 100MW, which has been used as the basis for the main results framework in the PAD (Annex 1) as well as the SREP results framework.

2.c. The reason for the reduction in the MDB allocation is two-fold:

(i) As reflected in the SREP IP, the solar project was to be implemented jointly by ADB and IBRD, with indicative allocations of USD20 million and USD10 million respectively. However, ADB decided to withdraw from the project during the preparation phase, which left IBRD as the lead MDB and only co-financier.

(ii) With sluggish economic growth and rapid buildup of public debt up to 2017 leading to fiscal consolidation in 2017, the Government of Armenia hit its exposure limit and suspended new borrowings including loans/guarantees from IBRD. This is why the IBRD allocation for this project has been reduced from the original USD10 million in the SREP IP to the current USD4 million. It is also relevant to clarify that the USD4 million IBRD allocated for this project are not new IBRD resources, but savings reallocated from two ongoing transmission projects in the World Bank's energy portfolio. No new IBRD lending is expected until 2020, should improving



macroeconomic situation not warrant otherwise.

In this context of scarce public financing, the SREP funds are critical to leverage private and commercial financing for solar technology deployment in Armenia, since the government has no track record in procuring privately generated RE energy. The program is a novel trial and will have a significant demonstration effect. In this context, the concessional SREP support will be a key element to remove a critical barrier to commercial investment and ensure and pave the way for a replication at scale.

Guarantee mechanism

3.a. & 3.b. The guarantee will only be available for commercial debt. The term "covered tranche" only aims to differentiate commercial loans from IFIs/DFIs loans. The project design did not anticipate the presence of two-tier lenders with differences in privileges.

It is likely that a combination of commercial banks and IFIs/DFIs loans will be used by the winning sponsors, which has been confirmed by the team's preliminary conversations with pre-qualified bidders. The two debt tranches (IFI/DFI and commercial) will be offered on a pari passu basis, which will give lenders equal rights to the payment and security of the project.

The difference between the two tranches is that debt provided by export credit agencies or other governmental, quasi-governmental or multilateral agencies is not eligible for IBRD/SREP guarantees. The main purpose for the guarantee is to leverage the limited public resources to crowd in private capital. As confirmed by the market sounding carried out by the Government's transaction advisor and findings from the Bank's team contacts in the banking sector, commercial banks do need guarantee cover to provide loans to this project and to do so at a competitive rate and tenor.

It is common practice for IFIs/DFIs and commercial banks to co-lend at the project level, and this is what we expect for the sub-projects in the proposed program. The lending conditions of IFIs/DFIs and commercial lenders will be a result of negotiations with borrowers reflecting several factors, include funding cost, risk premium and the relationship between the borrower (the developer) and the lenders (IFI/DFI and commercial banks). Furthermore, an inter-creditor agreement will be agreed between lenders upfront to ensure no lender receives undue advantage/unfair privilege.

3.c. Please see the answer above. There will not be "second tier lenders" among commercial banks in this transaction.

3.d. A US\$30 million guarantee was made available subject to IBRD/SREP appraisal and approval conditions (see response 5.a. below). The market (bidders collectively) will determine the suitable financing structure including guarantees best suited to the project needs. This market-friendly approach is critical to ensure a successful Phase 1 result. However, the requested guarantee amount and cover will be examined carefully by the project team through the due diligence process to determine if the use of guarantees is efficient and consistent with precedents transactions. Based on our experience with other transactions supported with World Bank guarantees, this process is likely to involve several rounds of discussions with the winning bidder and its lenders.

3.e. As the question points out, smaller projects have the disadvantages of relatively higher transaction costs, which make them less attractive to investors. This is the reason why the Government decided to launch the solar program with the 50 MW Masrik-1 plant, the largest one identified. This approach would attract strong interest from first-tier developers and ensure strong competition.

Phase 2 of the proposed program will benefit from a full set of negotiated transaction documents (Power Purchase Agreement, Government Support Agreement, and Generation License) from Phase 1. Thus, the transaction costs for this phase are expected to be significantly reduced. Despite the smaller size, Phase 2 projects might be suitable for developers who are looking for less risk and exposure in Armenia. In fact, several Phase 1 short-listed bidders expressed interest in developing smaller projects in Armenia. Based on this, we believe there will also be strong competition for Phase 2. The team expects a substantial amount of the guarantee will remain for Phase 2, which will be confirmed once the due diligence for Phase 1 is confirmed.

We expect the credit risk exposure to decrease as the underlying loan is getting repaid, which will reduce the size of the guarantee accordingly. The reflow as a result of guarantee discharge (reduction of guarantee exposure) should be similar to the repayment under a SREP loan (to be tested with internal processes with no precedent). We would also like to note that the guarantee has the standard cover of termination payment. This is for the amount the government fails to pay under termination pursuant to the Government Support Agreement. The maximum termination payment cover will be outstanding debt and interest at a particular point



in time. This termination event can take place anytime during the PPA life.

3.g. We would like to clarify that the analysis differentiates between country risks, which are estimated based on secondary market trading information, and project risks, which are only partially correlated to country risks depending on the project contractual structure and other risks (e.g. technical, commercial and regulatory) unique to the project. Also, although the estimation of the loan costs might look reasonable, this does not mean that any commercial lenders would be able to participate at this rate, especially given the limited familiarity with RE lending in Armenia and the fact that this would be the first transaction of this type in the country. The offer of the guarantee is expected to create incentives and conditions to encourage commercial banks to participate in the project and offer competitive terms (interest and tenor). Finally, even if commercial banks can lend to the project, given the government's target to achieve grid-parity or lower tariff, IBRD/SREP guarantees would help the Phase 1 and Phase 2 sub-projects to secure better loan conditions given the effect of risk mitigation and of higher competition among lenders.

Economic and financial analysis

4.a. The electricity tariff assumption derived from the project financial model prepared by the Government's transaction advisor is US\$0.0957/kWh. As described in the response to question 5.b. below, the tariff proposed by the lowest bidder for Masrik-1 is significantly lower. The bid results came significantly lower than the estimate in the PAD possibly due to a combination of the following factors: 1) in the current PAD version, the cost estimate was not updated to reflect the latest cost reduction of solar panels; 2) strong competitions among bidders, which was evidenced by the solid interest shown in the pre-bid conference; 3) strong competitions among lenders, including IFIs; 4) strong drive to lower project cost via supply chain optimization. The updated version of the PAD to be submitted for Board approval will be updated to reflect the actual cost information obtained during appraisal of the winning bidder.

In addition, the project team will have a more definite understanding of the competitive tariff for Phase 2, given the experience of Phase 1, which will allow for a more accurate cost estimates.

4.b. Phase-2 sub-projects will not sell at a PRSC pre-defined feed-in-tariff. The tariff for these projects will be determined by the results of the auction, following the same competitive bidding modality that has been set up for the Masrik-1 solar plant. A good equity IRR for developers means an IRR significantly higher than its investment threshold, which is typically not country specific. An equity IRR slightly lower than the calculated cost of equity does not mean the project is not attractive to the developer. On the contrary, a 13% EIRR is a good result for most solar developers. It is not accurate to conclude that lenders have a better deal because overall project IRR is higher than the overall cost of capital. In this case, the lenders' IRR can be estimated as the interest rate adjusted by amortized front-end fees, much lower than the equity return. The difference between Project IRR and WACC arises from: 1) uneven project cash flow due to changing operating income and front-loaded debt service costs, and 2) the underlying assumption of any IRR that project interim cash flows are reinvested at that rate (other than WACC).

Masrik-1 tender

5.a. As per WB procedures, Board approval for the IBRD and SREP guarantees can only be requested once due diligence of the project and of the selected IPP developer has been completed. In turn, due diligence of the developer can only commence once the formal Letter of Award (LoA) is issued to the winning bidder. Thus, the World Bank management opted to wait until the tendering process is substantially underway before requesting SREP funding approval.

The RFP package for the Masrik-1 plant includes a letter of intent which includes indicative summary terms for the IBRD and SREP guarantees. The letter clearly states that the provision of any IBRD and SREP guarantee is subject to satisfactory due diligence and appraisal of the project by IBRD/SREP. The bidders are fully assuming the risk of non-approval of the IBRD and SREP guarantees.

5.b. Five out of ten pre-qualified bidders submitted technical and financial proposals to R2E2 on March 21. The technical proposals were opened on March 21 and all of them were deemed compliant with the RFP requirements. The financial proposals were opened on March 30. Out of the five bids, FRV (Fotowatio Renewable Venture), a Spanish firm owned by Abdul Latif Jameel (a Saudi conglomerate) had the lowest tariff at \$c4.19/kWh excl. VAT, followed by \$c5.03/kWh offered by a consortium between Shapoorji and Risen. The other three bids are significantly higher at \$c6.63 – c7.38/kWh. The tariff offered by the winning bidder will be reflected in the PPA to be signed with the off-taker (Electricity Networks of Armenia ENA). The tariff, which will be denominated in USD but paid in AMD, will be adjusted annually based on the USD/AMD exchange rate and Armenian inflation. 90% of the



tariff is subject to the FX movement and 10% of the tariff is subject to the inflation. Currently, the government's evaluation committee is preparing an evaluation report of all proposals. The final results are expected to be officially approved and announced by end of April or early May.

Bidders were not requested to submit detailed technical proposals or financial models. In the absence of further information, the team suspects that the bidders are confident to secure lower cost EPC and lower cost of financing than what were assumed in the economic/financial analysis. Further review of bidder parameters and financial model will be part of the World Bank's due diligence of the project before submission for Board approval.

6.a. Regarding the cover amount, it is indeed correct that the face value of the guarantee is USD30 million. However, we would also like to note that the value at risk is much less than US\$30mln. The guarantee payment will only be triggered by certain default events relating to the government not fulfilling its obligations under the Government Support Agreement. Since the government's default probability is much less than 100%, the IBRD/SREP value at risk (i.e. the expected losses given the probability of government default) is much less.

We would like to point out that the guarantee offered is partial because it only covers the political risks of the project. The lenders will still be fully exposed to project's commercial and technical risks. USD30 million guarantee including principal and interest coverage was offered to bidders for them to mobilize commercial loans. If interest or principals were only partially covered, under capital adequacy requirement of Basel III, the commercial lenders would not receive the benefits of the guarantee and it would thus be unlikely that they would be able to provide the long tenor financing required for this project. As a result, the proposed structure has been consistently used in IBRD loan guarantees for project finance lenders. That being said, the project team is willing to explore with the winning bidder structuring options to minimize the coverage (e.g. principal, interest) as well as the guarantee amount to the extent possible, taking into considerations the principles of resource efficiency and consistency with market precedents.

6.b. IBRD's strong commitment to the project remains unchanged. What has changed since the IP is Armenian government's limited capacity to take new debt. Please see answer to 2.c. The fiscal constraint of Armenia limited the possibility of IBRD guarantees because IBRD requires counter-guarantee from the government, which will be counted as (contingent) liability. The government can only reallocate approved IBRD loans in the amount of USD4 million to this project, which is the maximum IBRD allocation available at this point. On the other hand, SREP guarantee does not require government counter-guarantee and is not counted as government debt/liability.

The government agreed to offer up to USD30 million combined SREP/IBRD recourses as guarantees to bidders to secure a very competitive tariff. This strategy, based on the preliminary tender result, is working. In order to mitigate the moral hazard risk which could arise in the absence of a government counter guarantee for the SREP funds, the design of the guarantee is to offer IBRD/SREP in one package. Effectively, this means that the allocation of the guarantee amount will be proportionate to the IBRD/SREP resources available. As a result, if the guarantees got called, claims would be made to both IBRD and SREP. Given the presence of indemnity agreement between IBRD and the government, the incentives for the government to trigger the IBRD/SREP guarantees is minimized. This way SREP will indirectly benefit from the IBRD guarantee as a co-guarantee.

Response 2    Ruben Gevorgyan    Armenia

Dear Daniel Menebhi and Colleagues,  
My name is Ruben Gevorgyan, I am the newly appointed Director of Armenia Renewable Resources and Energy Efficiency (R2E2) Fund and Armenia's representative at the SREP Sub-Committee.

I would like to provide some comments on Proposal entitled, Armenia: Private Sector Utility Scale Solar Power Support Project, currently under consideration for approval.

It is accurate that Armenia has a 100 percent electricity access rate and that there are no significant issues with quality of service. However, Armenia depends on imported natural gas from Russia for about 1/3 of its generation capacity and a significant percentage of electricity generation comes from old and less efficient gas-fired power plants. Even displacing them with more efficient thermal power plant will not change our dependency on imported gas. Our policy goal is to diversify our generation sources and increase energy security by developing our indigenous renewables resources, while at the same time avoiding increased electricity costs for the population. The success of renewable energy development in Armenia will have a direct positive impact both for our energy security and our costs of generation, which are the main reasons why we have worked to prepare a solid project that would attract reputable international investors and result in the lowest possible

Apr 19, 2018



tariff. The tariff offered by the lowest bidder for the Masrik-1 solar plant proves the quality of our preparatory work, which we were able to complete thanks to a generous project preparation grant from SREP and the support from the World Bank.

Before becoming R2E2's Director, I was project manager for Masrik-1 in R2E2 and as such had extensive contacts with prospective investors. Almost all of them emphasized the role of the World Bank/SREP in the project. The availability of the World Bank/SREP guarantees is not only viewed as a financial support, but also widely regarded as a confidence vote for the project and for Armenia's energy sector, bringing creditability to investors. Thanks to the support from the World Bank/SREP, we were able to create adequate investment conditions to attract international solar companies to Armenia.

I would like to repeat IBRD's response to the questions raised by the Sub-Committee concerning SREP funds: in a context of scarce public financing, the SREP funds are critical to leverage private and commercial financing for solar technology deployment in Armenia, since the government has no track record in procuring privately generated RE energy. The program is a novel trial and will have a significant demonstration effect. In this context, the concessional SREP support will be a key element to remove critical barriers to commercial investment and pave the way for a replication at scale.

The lowest tariff for Masrik-1 projects is \$c4.19/kWh excl. VAT. We all realize that investors put different assumptions in their economic models and one of them is possible guarantees from IBRD and SREP. Even such low tariff means little until the Masrik-1 plant reaches financial close and is then successfully constructed. Any obstacles in this important path will risk the overall course of development of the sector and can jeopardize the hard work of the Government during the past 3-4 years.

Response 3 Daniel Menebhi Switzerland

We thank the IBRD and Armenia for their answers to our questions and comments. Apr 19, 2018

We have the following remaining concerns:

1. Although we do appreciate and support the pioneering character of the project and its overall design, we consider the overall amount of requested funding (USD 30 million) way to high to guarantee loans to the extent of USD 20 million. In our eyes, an adequate level of guarantee would cover only the residual default risk at any time in the foreseen credit period and should also take into consideration the likelihood of such default risk. In addition the guarantee amount should be reduced in relation of each repayment of loan principal. From the standpoint of an efficient and fair portfolio management for SREP, we cannot agree to set aside USD 26 million to provide guarantees that in our eyes far exceed what is needed to enable the project to go ahead.

2. We have the clear impression that the SREP portion of the guarantee is not treated in the same way as the IBRD portion (backup from the GoA). This disparity is exacerbated by the fact that the two portions are not equal (87% SREP and 13% IBRD). These proportions should be 50/50.

3. Whereas we do not have a precise idea on the amount that should be set aside to provide the proposed guarantees, we consider that the maximum risk to be assured (only during the first year) is the amount of principal, i.e. USD 20 million. That would call for an SREP contribution of maximum USD 16 million, which is probably still too high, as the likelihood of default is way below 100%. If using equitable proportions (i.e. 50/50) between the IBRD and the SREP contributions and assuming the IBRD portion is limited to USD 4 million for the reasons given in your answer 6b (fiscal constraints of Armenia), an adequate SREP contribution would be USD 4 million, making a total of USD 8 million to be set aside to cover the default risk. This would be still adequate if the likelihood of default is not higher than 40%.

With regards to these concerns, we invite the IBRD to determine a more adequate amount of SREP contribution, considering what is effectively (or at least probably) needed, within the range of USD 4-16 million, and not based on the initial "maximum" amount that was allocated to the SREP Investment Plan of Armenia.

Response 4 Monyl Nefer Toga Makang IBRD

Dear Daniel, thank you for these additional questions. Kindly find below responses from the World Bank. May 03, 2018

#1 [Mechanics of World Bank Partial Risk Guarantees]

The question touches on core mechanics and rationale of a World Bank (WB) guarantee covering commercial banks against the risk of payment default by the borrower (project company) caused by the occurrence of a political risk event or by an early termination of the project due to a government-related event of default. Such WB guarantee is known in the market as a "partial risk guarantee" or "PRG" and has been used in various projects across the world for over two decades. The WB PRG covers 100% of the principal and interest outstanding under the PRG-covered commercial bank tranche but only in case of payment default caused by a



government breach of its obligations under the project agreements. Without the political risk mitigation provided by the WB PRG, international commercial banks would not be able to lend long term to limited recourse projects in countries perceived (by the debt market) to have high political risks. From a commercial bank's perspective, Armenia, as a new market of project finance, for the time being falls in this category.

Whilst the WB PRG insulates such lenders from political risks, it does not cover the lenders against commercial risks, such as non-performance by the project company. In such cases when the government has no financial obligation to the project company, the commercial banks under the PRG-tranche are uncovered, cannot claim under the WB PRG and as such assume full risk of default under their loans.

The maximum amount covered under the WB PRG always reduces with the amortization of the PRG-covered debt tranche.

We remain available to discuss further the rationale and use of the WB PRG on some of the riskiest projects. The WB PRG is an established product globally and is generally required by international commercial banks where no alternative mitigation for political risks is available.

#### #2 [SREP versus IBRD guarantee contributions]

The SREP and IBRD portions will be treated exactly the same insofar as (i) the right of the PRG-covered commercial banks' rights to claim under the SREP/IBRD PRG, and (ii) the subrogation rights and the recourse to the government under the GSA (following a payout under the SREP/IBRD PRG following a default due to a political event / government-related event).

The sole difference – and this is generally applicable and not specific to this project – is that the IBRD portion always requires a counter guarantee from the local government.

IBRD's exposure is only USD 4 million because the government of Armenia has consistently indicated that it cannot take a larger exposure to IBRD due to limitations related to its sovereign debt ceiling. (For details please refer to our original response dated 10 April 2018.)

Lastly, please note that there has never been a call/claim under a World Bank guarantee given the nature of due diligence and quality of structuring that goes into projects where such guarantees are deployed as well as the unique partnership that exists between the World Bank and governments.

#### #3a [Determination of adequate guarantee exposure]

Thank you for your comments. All are perfectly valid and applicable for guarantees structured to cover short/medium term exposure to political and commercial risks where the probability of default could be estimated and there is likely an element of recourse to a sponsor with strong balance sheet.

However, in complex limited recourse project finance transactions in the energy or infrastructure sectors, where (a) long term (10-15-20 years) debt is critical to ensure the end-user tariff is competitive and affordable, and (b) the government does not provide explicit unconditional and irrevocable financial guarantees of the project debt, commercial bank lenders require full mitigation of political risks. Without such level of political risk mitigation there will be no commercial bank lending to such projects.

This is our experience globally for two decades and is supported by clear market evidence from projects globally (please refer to Phu My 2.2 in Vietnam in 2001 or Nam Theun 2 in Laos in 2005 or Azura-Edo IPP in Nigeria in 2015).

#### #3.b. [Size of the proposed guarantee versus funding allocation in SREP investment plan for Armenia]

The SREP guarantee amount requested was not sized based on the maximum amount available, but rather based on the market demand to mobilize commercial finance to a pioneering renewable project in a new country. The preliminary indication from the developer and commercial lenders suggested that the full amount of \$30m (covering ~\$20m of principal plus resulting interest) will be required. If the required amount turns out to be less than \$30m due to different financing plans, we propose to allocated the savings to the second phase of the renewable program in Armenia.

The slide deck attached presents the required guarantee coverage based on different scenarios and input assumptions.

Comment 2 Katie Berg

United States

Thank you for the opportunity to review this project. There seems to be no environmental rating for this project. We would like to know whether any of the sub-projects is likely to be Category A.  
Thank you,  
Katie Berg

Apr 06, 2018



Response 1	Monyl Nefer Toga Makang	IBRD	The World Bank thanks the US for the opportunity to provide clarification on the E&S rating for the proposed project. Environmental and Social Impact Assessments have been completed for all the 5 sub-projects. Based on the identified potential environmental and social impacts, all of them have been rated as Category B (please see page 1 in PAD datasheet).	Apr 11, 2018
Comment 3	Simon Ratcliffe	United Kingdom	Dear Mafalda, Please note that we have been unable to post these comments on the Collaborative Platform today. It appears the site is down for maintenance. We have a number of questions for the project team related to the above project. With regard to the envisaged guarantee, we have a number of questions. These are: Given the uncertainty over how, or whether, it will be used at all, as set out in the risks described on pages 68 and 69 of the proposal, how was the size of the guarantee amount determined? As is mentioned in the proposal; a. there is a risk that the guarantee may not be required by bidders; or b. there is a risk that demand is so high that the available funds will not be sufficient to support all six sub-projects. This raises the following questions: 1. In the event that the guarantee is under-subscribed, remaining funds will be available during subsequent phases of the project. Is this efficient/appropriate use of scarce funds, given other demands on SREP funds? 2. In the event of the guarantee being over-subscribed and unable to meet demand, is there then not a risk that investors could withdraw their interest? 3. Is there no way of establishing greater certainty regarding the size of guarantee required by pre-qualifying investors for the project pipeline, for example, and then sizing it appropriately to ensure efficient use of SREP funds? Kind regards, Simon	Apr 06, 2018
Response 1	Monyl Nefer Toga Makang	IBRD	Thank your for giving the team the opportunity to the team to address the concerns raised. The IBRD/SREP guarantee design prioritizes the Phase 1 project as the success of the first solar project has the demonstration effect to showcase the grid-parity clean energy potential in the country. Phase 1 project, as the first competitive IPP in the country, has higher inherent risks and requires more support to ensure sufficient competition from quality bidders. As such, US\$30mln guarantee was made available, subject to IBRD/SREP appraisal and approval, to all short-listed bidders for Phase 1. It is up to the bidders to make best use of the available guarantees to secure debt with competitive rate and long tenor. Based on the preliminary information we gathered, the financing will come from IFI/DFI and commercial banks. IFI/DFI is likely to pick up at least 50% of the debt. The remaining will be financed by commercial debt. The amount of guarantee required to cover commercial debt, based on the team's estimation, will not exceed US\$30million for Phase 1. If the IFI/DFI loans represent more than 50% of the total debt, a significant portion of the USD30 million guarantee will not be needed. The unused balance will be allocated to Phase 2. For Phase 2 projects, the need for guarantees will be reduced since developers and lenders will be expected to have become more familiar and comfortable with Armenia solar project risks given the Phase 1 experience. As a result, the guarantee requirement should, in principle, be smaller. A similar approach will be taken to make a certain amount of guarantee (no more than what is offered in Phase 1 and what is remaining) and let the developer make best use of it to come up with the most competitive price. Given that preparatory activities for Phase 2 sub-projects have also been completed under the SREP PPG activities and that the RFP package prepared for the Masrik-1 plant will only require minor adjustments, it is expected that the Government will launch the second auction round by the end of 2018, latest. In this regard, there is very limited risk that SREP funds "sit" unused for a long time. If the full USD26 million allocation had not been used by Phase 1 + Phase 2 sub-projects, remaining will be returned to SREP at the end of the 24-month period following SREP funding approval during which we expect Phase 2 bids to be awarded.	Apr 11, 2018
Response 2	Simon Ratcliffe	United Kingdom	Thank you for your answers to our questions. There are a number of other issues we would like to raise. These are: 1. Will this increased electricity generation capacity affect the gas-for-electricity swap agreement that Armenia has with Iran? If so how? We are keen that the increased capacity isn't used to subsidise or increase electricity exports and displace emissions savings; could you provide us with assurance this will not be the case? 2. The Masrik-1 sub-project will have the largest installed capacity (46MW) of all six sub-projects by far. Why is there this disparity and how do you imagine this will affect private sector engagement during the bidding process, particularly the smaller capacity projects?	Apr 13, 2018



3. Given that the plants will be constructed, financed, owned and operated by private sector developers, do you have any safeguards in place to ensure affordability for consumers?

Response 3 Monyl Nefer  
Toga Makang IBRD

Thank you for giving us the opportunity to address your concerns.

Apr 23, 2018

#1 Impact of increased electricity generation capacity

The solar generation capacity will not participate in the gas-for-electricity swap between Armenia and Iran. Electricity export of about 1.2TWh to Iran is fully met with generation from 220MW Yerevan TPP and 440MW Hrazdan-5 TPP, and yet these plants have excess capacity to satisfy incremental export demand.

#2 Private sector engagement during the bidding process

Masrik-1 sub project, the largest projects identified in the feasibility study, was chosen on purpose to take advantage of the economies of scale and to attract international investors, who expressed strong interests in 50MW+ sites. As this is the first utility scale solar project in the country, it is important to bring international expertise and financing to make the project a success. Masrik-1 project will partially de-risk the solar investment and leave a fully negotiated set of contracts for the future tendering. As a result, despite smaller sizes for the other five sites, they remain to be attractive to international investors. Moreover, the size/capacity of the future sites is only constrained by the availability of community land. The government and/or private developers could thus agree/decide to consider acquiring adjacent private lands to any of the sites if there is indeed a strong case for larger site(s).

#3 Safeguards in place to ensure affordability for consumers

The tariffs offered by the three lowest bidders for Masrik-1 are lower than the average cost of generation in Armenia and does not make the end-user electricity tariff less affordable. Given the results of Masrik-1, we also expect that the tariff for the second round of solar plants will also be below the average cost of generation.

Response 4 Simon Ratcliffe  
United Kingdom

Thank you for the responses to our previous questions. We have an additional question that we would appreciate the project team's response to. This is:

May 02, 2018

What steps will the Bank take to ensure the repayment of the SREP amount in the event that the government defaults? As noted SREP, unlike IBRD, is not indemnified by the Government in the event of default so potentially has little interest in securing repayment for SREP.

Many thanks.

Response 5 Monyl Nefer  
Toga Makang IBRD

Thank you for giving us the opportunity to address the concern raised.

May 04, 2018

From a documentation perspective, separate but substantially identical SREP and IBRD guarantees would be issued: one in which IBRD acts in its own capacity, and one in which IBRD acts as implementing entity of the SREP. The terms of both guarantees would require demands to be made and honored on a pro rata/pari passu basis between the two guarantees, with the effect of a single guarantee covering up to USD30 million of exposure under the commercial bank tranche of senior secured project debt (the "Covered Tranche").

Through the senior secured lenders' security interest in the Government Support Agreement (GSA), in the event of a payment default by the GOA, all senior secured lenders to the Project, including the commercial banks under the Covered Tranche, will have recourse against the GOA subject to the GSA provisions regarding dispute resolution and international arbitration.

Moreover, both guarantees would confer customary subrogation rights allowing IBRD and SREP to be subrogated to the rights of the commercial banks under the Covered Tranche, including, among others, the rights to receive payments under the loans and to enforce and receive proceeds of the security over the project company's shares, contract rights (including under the GSA ) and other assets—on a pari passu basis with all other senior secured lenders. Should any amounts be claimed under the IBRD and SREP guarantees, IBRD (acting both for itself and as implementing entity of the SREP) will be subrogated to the rights of the commercial banks under the Covered Tranche and thus will also have recourse to the GOA under the GSA in order to recover all amounts outstanding paid under the guarantees. Any amounts that are recovered from GOA through the GSA provisions will be allocated pro-rata to all senior secured lenders (including SREP and IBRD as subrogees).

This recovery process on a pari passu basis across all senior secured lenders (including, via subrogation, IBRD acting in its own capacity and/or as implementing entity of SREP) is the norm in international project financings like that proposed for the Masrik-1 project. Please note that this position is accepted by all international lenders in a senior secured position, including development finance institutions (DFIs) such as EBRD, EIB, IFC and FMO, as well as export credit agencies (ECAs)



such as the UK's ECGD, Germany's Hermes, France's COFACE.

The above description of the recovery rights and process confirms that, through their subrogation rights, SREP and IBRD are on equal footing with the senior secured lenders (including any DFIs and ECAs) with respect to recovery from GOA of any amounts paid under the guarantees.

Notwithstanding the above, a separate "Indemnity Agreement" will be entered into between IBRD acting in its own capacity and the Government of Armenia (GOA, through the Ministry of Finance) for up to USD4 million providing a sovereign counter-guarantee in relation to draws under the IBRD guarantee only. This feature should be considered in the context of the wider relationship between the World Bank and its member state governments, and as the ultimate recovery tool rather than the primary/main avenue for recourse. When events occur which give rise to a legal remedy under the Indemnity Agreement or the other guarantee-related legal agreements, the World Bank consults with the member country and exercises remedies when warranted and as it deems appropriate, taking into account, among other things, country-, sector-, and investment-specific circumstances, the extent of possible harm caused by circumstances giving rise to the remedy, and the member country's commitment and actions to address the identified problems. The World Bank takes a graduated approach to exercising remedies. If the World Bank does decide to demand payment under the Indemnity Agreement, when the payment is overdue by 60 days, the World Bank suspends all its loans to, or guaranteed by, the member country concerned. It is important to note that to date, there has never been a claim under a World Bank (IBRD/IDA) guarantee and as such, the indemnity agreement has not been invoked. One can conclude therefore that the value of the World Bank indemnity agreement is preventive of a default rather than a recovery mechanism.

In conclusion, SREP's and IBRD's interests are aligned. On similar transactions, other international lenders/guarantors – including DFIs and ECAs – consider their interests as being aligned with those of the World Bank as guarantee provider.

Comment 4 Daniel Menebhi Switzerland

Thank you for circulating the revised decision. As we still need to obtain some additional clarification, we kindly would like to request an extension of the deadline for non-objection until May 23. Thank you for the attention.

May 10, 2018

Comment 5 Daniel Menebhi Switzerland

We support the approval of the adjusted decision text under the provision of the understanding that there is no automatic permeability of SREP funding between Phase 1 and Phase 2.

May 23, 2018

Should Armenia and/or the World Bank see the necessity to reallocate part of the SREP funding from Phase 2 to Phase 1 or to use releasable guarantee amounts from Phase 1 for Phase 2, another decision by the SREP Subcommittee must be sought. As indicated earlier, the guarantees shall be reduced in proportion to the reimbursements and interest payments effectuated under the loans they cover and the funds shall then be released as reflows to the Strategic Climate Fund.