Analysis of Lebanon's Nationally Determined Contributions (NDC)

Current State Assessment of Derisking Renewable Energy Instruments

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REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT

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Table of Contents

1. Introduction

1.1. Objective

The objective of the DREI assessment is to conduct a stock stake of the already identified Derisking Renewable Energy Instruments in the 2017 study. The current political and economic situation in Lebanon has had a detrimental impact on the renewable energy sector resulting in project delays, delays in securing finance amongst others. The purpose of this assessment was to conduct primary and secondary research to ascertain the identified risks and understand the relevance of the policy / financing instruments. Wherever possible, the report has also presents recommendations for mitigating the existing barriers / bottlenecks which limits the growth of the sector.

1.2. Approach

A three-step approach was adopted to undertake the assessment and devise the recommendations for mitigation each risk.

Review of documents

As a first step, a thorough review of the following documents were conducted:

- 2017 DREI report (UNDP, Lebanon: Derisking Renewable Energy Investment, 2017)
- National Renewable Energy Action Plan (NREAP) ((LCEC), 2016)
- Lebanon Economic Monitor (Bank, 2019)
- Reports from International Monetary Fund (IMF) (Fund, 2019)
- Other research studies published by other institutions

Stakeholder consultations

To achieve the overall objectives under the DREI framework it is important to understand the perspective of relevant stakeholders on the current state of the risk and their viability in the present situation. The consultations were primarily designed to capture existing barriers, relevance of the DREI instrument and potential improvement measures that could safeguard the sector. However, due to the underlying COVID-19 crisis the project team was unable to conduct in-person consultations. Alternatively, the team conducted the consultations through virtual platforms such as Skype and Microsoft Teams. The stakeholder groups that were consulted are shown below:

A total of 8 participants participated in the consultations and inputs were gathered using a questionnaire that was designed for each risk category. The list of questions are presented in the Annex.

Analysis of information

The findings were documented, and results were analyzed and accordingly mapped against each risk category. A tabulated summary for each risk category indicating barriers, opportunity, relevance of the existing DREI instrument and recommendations were developed.

2. Current state assessment of the DREI instruments

The recent macroeconomic and social events have had a detrimental impact on the economic situation of Lebanon, and it is becoming evident that the situation is expected to continue in the foreseeable future. The economic impacts have also created a gauge in the growth of the energy sector due to exacerbating financial crisis and associated project related risks that have engulfed the private sector. Some of the challenges pertinent to the sector as follows:

- Liquidity has become a pertinent issue as the government is not able to secure USD funds and with the government currently in default, the developers are unable to finance RE projects and pay their off-shore lenders
- Situation is highly uncertain as LBP is expected to be devalued and subsequently resulting in financing difficulties for RE projects.
- Present monetary rules, currency and exchange issues are impacting RE equipment supply (developers are not able to pay international suppliers) and also increasing the project cost.
- Government is now extremely dependent on a bailout package from IFIs in order to provide the stimulus for country to move ahead.
- Existing PPAs have not reached financial closure since the developers are not able to secure funds thereby resulting in delay of project implementation, and the Government securing payments in USD
- EDL continues to face financial bottlenecks thereby affecting its credit worthiness, lowering investor confidence, limiting its ability to pay tariffs. There is an emerging need to develop a plan to reform the electricity sector and reduce its fiscal cost.

In addition, various other financial, technical and operational risks exist, and they require construction and corrective measures in order to revive the sector. A robust crisis management strategy is required at the national level as well as the sectoral level to revamp and rebuild the growth and other sectoral priorities. The energy sector in particular requires assistance, both financially and technically to move ahead with the future plans that are essential for addressing the supply and demand gap.

As indicated in the approach, discussions were conducted with various stakeholder groups through a structured questionnaire. Information gathered from these discussions were analyzed in the context of the derisking instruments and their relevance. The following subsections present a high-level assessment of each risk category along with the recommended measures to mitigate the barriers.

2.1. Grid / Transmission Risk

Existing barriers	• Limited experience or suboptimal operational track-record of grid operator with intermittent sources (e.g., grid management and stability). • Utility lacks technical expertise on integrating additional renewable generation into the existing grid thereby calling for enhanced capacity building of the EDL staff. In addition, the lack of technical skills also acts as a deterrent for the utility to negotiate a PPA with the developer. • Although CEDRO conducted a Grid Code study, the grid code is yet to be enforced. • Eventually additional grid related investments will be needed to ensure synchronization and stability, this can partially be avoided is RE power installations (developer) include battery storage at their connectivity point. • Grid connectivity is still a problem for the developer as there is no indication from the govt. to ensure this connectivity. The price burden of this investment eventually falls on the project developer (securing and paying for sub-stations, land) and becomes a risk.
Opportunity	• The World Bank has developed a concept project, 'Lebanon Electricity Transmission Project' in June 2019 to support institutional strengthening of transmission and dispatch functions, as well as fund priority investments in Lebanon's transmission grid. • The World Bank and other investors have pledged to fund US$11 billion towards 12-year infrastructure investment program including power sector. However, this is subject to implementation of reforms by the govt.

Previous derisking instruments identified	• **Policy instruments**
	  ○ Strengthen EDL's grid management capacity
	  ○ Transparent, up-to-date grid code
	  ○ Policy support for grid infrastructure development
	• **Financial instrument**
	  ○ Take-or-pay clause in PPA

Relevance of the existing instrument	• Yes, the identified instruments are still relevant
Recommended measures to further minimize the risk	• A detailed grid stability and connectivity assessment is required for better identification of optimal locations for RE projects by indicating solar resource data with substation locations. This could be facilitated through Technical Assistance funded by multilateral / bilateral agencies. • A comprehensive capacity building plan for strengthening EDL's grid management capability. Possibility of exploring knowledge-transfer programs with other countries could be envisaged.

2.2. Counterparty Risk

Existing barriers	• Utility continues to face financial bottlenecks thereby affecting its credit worthiness, lowering investor confidence, limiting its ability to pay tariffs. This has resulted in private investors / lenders deferring to invest in projects since developers would have to be paid by EDL. • Presently, no government backed guarantee or loan products are being offered for RE projects (e.g. Rural Electrification Corporation (REC) of India offers financing for renewable energy projects developed by private sector) (Economic TImes, 2020). • Although Government was to provide a 6-mopnth guarantee for PPA payments by EDL, the current deficit is a cause of concern as there could be defaults for payments to RE developers. In addition, there are different signals from the government regarding the currency of the tariff payments. Originally payments were to be made in USD, if this changes to LBP then the guarantee will have a significantly lower value.
Opportunity	• Under the North Loop Efficiency Project, EBRD initiated the provision of a sovereign loan to assist Ministry of Energy and Water ("MoEW") and the state-owned utility Electricite du Liban ("EDL") in reinforcing and upgrading Lebanon's electricity transmission network. The project aims to provide TA support for corporate governance and compliance whereby implementation of anti-corruption measures to enhance EDL's corporate governance functions would be initiated. The project is pending board approval. • Govt. announced measures to slash deficit of EDL by USD 633 million in 2019 to boosting credit quality of the utility (Al Arabiya, 2019). Further, The World Bank and other investors have indicated an investment of USD 11 billion for improving Lebanon's infrastructure including the electricity sector (Al Arabiya, 2019) (McDowall, 2019).

Previous derisking instruments identified	• **Policy instruments**
	  ○ Strengthen EDL's management and operational performance
	• **Financial instrument**
	  ○ Government guarantee for PPA payments
	  ○ Concessional public loans to IPPs

Relevance of the existing instrument	• Yes, the identified instruments are still relevant
Recommended measures to further minimize risk	• For EDL to recover some of the deficits, decommissioning expensive thermal power plants and adding solar & wind to match the generation would be beneficial. This in some way could assist the utility due to fixed tariffs that could be defined through a PPA. • Organization restructuring exercise could be conducted to identify operational improvements. • The government backed 6-month guarantee for PPA payments by EDL must be in USD.

2.3. Financing Risk

Existing barriers	• Access to domestic finance is also very minimal as banks do not have enough liquidity in USD to fund RE projects. The available finance for renewable have also been stalled since national banks are not in a position to act as an Advisor / Facilitator. • The existing PPAs have not reached financial closure since the developers are not able to secure funds thereby resulting in delay of project implementation, and the Government securing payments in USD. • Lack of ability of the Government to assess bankable and non-bankable projects as well as project financing needs. • Tariff payment in LBP is not bankable and hence all payments are preferred in USD. In addition, currency hedging of LBP is also not acceptable for current financing. • Lack of regulatory framework to ensure RE PPAs are bankable and also prevents concessional financing. • Delay in PPA negotiations impact project delivery and subsequently increasing cost burden for the developer. • Only companies which operate in and out of Lebanon will have the ability to bring in equity since there is no cap on fresh capital being infused into the country.
Opportunity	• The current IPP (wind) under development by Akkar Energy has received financial aid from EBRD and IFC in addition to 50% equity investments but had not reached financial closure.

Previous derisking instruments identified	• **Policy instruments**
	  ○ Fostering financial sector reform towards green infrastructure Investment
	  ○ Strengthening financial sector's familiarity with renewable energy and project finance
	• **Financial instrument**
	  ○ Concessional public loans to IPPs

Relevance of the existing instrument	• Yes, the identified instruments are still relevant
Recommended measures to further minimize risk	• Government could appoint experts with project financing experience to assess the bankability of projects. In addition, the experts could also provide support to evaluate the project and negotiate PPAs. Government could approach development banks / international financing institutions (IFIs) as they are keen on supporting RE projects due to their environmental and economic impact (cost of RE is cheaper than fuel price currently paid by Lebanon Government). In such partnerships, development banks could establish a financing line to local banks for lending to small RE projects.

	• Establishing an Impact fund / financing facility by blending finance from IFIs and local investors could deliver targeted concessional finance to project developers (e.g. Climate Investor One instrument supported by Netherland's FMO and managed by Climate Fund Managers provides financing for sub-investment grade projects across various countries thereby diversifying risk, reducing transaction costs and allocating concessional capital for projects (Tonkonogy, 2018). Climate related concessional funding could also be an option that can be explored in the future.

2.4. Political Risk

Existing barriers	• No risk sharing instrument/mechanism has been rolled out by the Central Bank. In the absence of such a mechanism, securing affordable political and performance insurance becomes a cause of concern and thereby prevents lenders from investing. • Policy changes in currency for IPP transactions has reduced foreign investments for RE projects • Absence of financial support and risk sharing instruments are increasing the project cost from a CAPEX perspective. • Although a distributed model seems to be a viable option for Lebanon (mini grids and micro grids), legally private sector needs a license to generate and distribute power and existing private generators do not have this.
Opportunity	• Present political uncertainty coupled with fiscal situations needs to stabilize for the Government to rethink about providing political insurance for RE projects.

Previous derisking instruments identified	• **Policy instruments**
	  ○ NA
	• **Financial instrument**
	  ○ Political risk insurance for equity investments

Relevance of the existing instrument	• Yes, the identified instruments are still relevant
Recommended measures to further minimize risk	• Government along with IFIs and National Banks should explore finding a new asset risk product to address changes in political decisions. • Government could consider exploring Solar PV hybrid with diesel generators thereby allowing licensed private players to enter the market. In addition, a suitable payment mechanism needs to be embedded to ensure this model is bankable.

2.5. Currency & Macroeconomic Risk

Existing barriers	• Liquidity is a pertinent issue in Lebanon as the government is not able to infuse any USD funds. With the government currently in default, the ability for developers finance RE projects and pay their off-shore lenders is now an emerging risk. • Government regulation imposed for restricting transactions in USD (due to low reserves) has affected payments to international suppliers for technologies. In addition, exchange rates are also fluctuating drastically thereby leading to high risk in currency exchange. These risks have resulted in several developers removing their proposal to Government. • Present situation is highly uncertain as LBP is expected to be devalued and subsequently resulting in financing difficulties for RE projects. • Present monetary rules, currency and exchange issues are impacting RE equipment supply (developers are not able to pay international suppliers) and also increasing the project cost. • Government is now extremely dependent on a bailout package from IFIs in order to provide the stimulus for country to move ahead. • Only companies which operate in and out of Lebanon will have the ability to bring in equity since there is no cap on fresh capital being infused into the country.
Opportunity	• 2019 saw the launch of the new electricity plan that aims at reducing the budget deficit. Implementation of the same will remain key. • Increase of tariffs has been proposed in the new plan once the power production reaches a 20 hrs/day. • To supplement this, The World Bank and other investors have pledged $11bn to finance infrastructure, including electricity, which would provide much-needed assistance to efforts to improve the country's power infrastructure (McDowall, 2019).

Previous derisking instruments identified	• **Policy instruments**
	  ○ NA
	• **Financial instrument**
	  ○ NA

Relevance of the existing instrument	• NA
Recommended measures to further minimize risk	• Fiscal and monetary reforms for ensuring accessibility of funds for RE projects need to be explored. For instance, Government could consider relaxing capital controls to ensure foreign investments (e.g. regulate the transaction limit for USD inward and outward remittances). The absence of these reforms would impact the overall RE sector. • Government could consider establishing a risk based financing facility that can provide local currency financing for projects through hedging solutions in the absence of commercial solutions. In addition, securing

	concessional funding from IFIs / other governments through bilateral arrangements could help secure the necessary finance required for initiating projects (Tonkonogy, 2018). • Partial indexing of PPA tariffs in local-currency to hard currencies such as USD or EUR thereby protecting IPPs from currency fluctuations. During the PPA tender process, developers could be asked to specify the minimum degree of partial indexing they require, thereby minimizing the public cost of such an instrument ((UNDP, 2017). • Government could consider relaxing capital controls to ensure foreign investments (e.g. regulate the transaction limit for USD inward and outward remittances).

2.6. Power Market Risk

Existing barriers	• Solar PPA tender process was not effective as the project size (12 X 15MW capacity) was too small to be a bankable one. • No tender regulatory framework is in place in order to streamline the overall process. • Current PPA pushes all the risks to the developer and thereby increases the infrastructure cost associated with the project development and the implementation risk (increase costs). • Lack of ability of EDL and Government to evaluate PPAs and project financing. • Single tariff (lowest bid) was fixed for all PPAs which is not ideal as the cost of power would vary based on solar and wind resource availability across various project locations. • Payment was proposed to be paid in LBP for 25 years which is not ideal in the current fiscal situation. • Absence of an established regulator is a cause of concern as there is not clear monitoring authority to oversee implementation of PPA and other activities. • Although the Government the 2019 Electricity Plan, there is still lack of clarity on the implementation and financing requirement. The current plan is at a macro-level and does not evaluate the technical feasibility of installing a power plant (conventional / renewable). • Future of energy market in Lebanon is not clear as the policy implementation keeps changing every now and then. For e.g. In 2010, gas was being considered as an energy supply option but till date it was not implemented.
Opportunity	• To counteract the current power situation, Ministry of Energy and Water (MoEW) has called companies for IPP contracts thus opening the market • Renewable energy strategies and targets are laid out in the National Renewable Energy Action Plan 2016-2020 (NREAP).

	• An increase in investments in renewable energy technologies is expected due to efforts from the public and private sectors. Lebanese government has also launched several solar PV and wind energy projects under PPA agreements to help attain national goals. • 2019 saw the launch of the new electricity plan that aims at reducing the budget deficit. Implementation of the same will remain key. • Increase of tariffs has been proposed in the new plan once the power production reaches a 20 hrs/day. • To supplement this, The World Bank and other investors have pledged $11bn to finance infrastructure, including electricity, which would provide much-needed assistance to efforts to improve the country's power infrastructure.

Previous derisking instruments identified	• **Policy instruments**
	  ○ Long-term, legally binding RE targets
	  ○ Establishment of an enabling regulatory framework
	  ○ FIT/PPA tender (standardized PPA)
	  ○ Independent regulator for power sector
	• **Financial instrument**
	  ○ NA

Relevance of the existing instrument	• Yes, the instruments are still relevant

Recommended measures to further minimize risk	• Develop a tender regulatory framework and establish an independent regulatory authority.
	• Establish a capacity development cell within EDL.
	• Conduct a pre-qualification assessment of bidders before the tender and invite only eligible firms to submit their proposals.
	• Identify a few locations (preferably on Government land) where large solar projects >50 MWp can be implemented.
	• Government could consider appointing technical advisors for overseeing the tender process (include preparing the tender documents, development of tender evaluation criteria, pre-qualification assessment, due diligence etc.). Partnering with donor agencies could be a viable option.
	• Ideal solution that could be followed in the future
	  ○ Government to allocate land for the project
	  ○ Conduct a pre-qualification evaluation of firms
	  ○ Invite tenders
	  ○ Select the best financial offer and commercial conditions

2.7. Permits Risk

Existing barriers	• Securing environmental permit is a bottleneck and many developers are yet to reach this stage. This is due to the lack of long-term monitoring

	data (at least 1 year) required for completing the Environmental Impact Assessment (EIA) process. The developers are required to collect such site-specific data and there are apprehensions about the investment required to collect the data. • Time consuming process and linked to other regulatory requirements.
Opportunity	• The current situation presents land-owners with the option to sell their land for cash with some guarantee being provided by the Government to ensure payment security.

Previous derisking instruments identified	• **Policy instruments**
	  ○ Streamlined permits for RE permits
	  ○ Contract enforcement and recourse mechanism
	• **Financial instrument**
	  ○ NA

Relevance of the existing instrument	• Yes, the instruments are still relevant.
Recommended measures to further minimize risk	• Fast track approval of permits is important as delays could add up to the project cost.

2.8. Social Acceptance Risk

Existing barriers	• Community based projects are not being considered by the Government due to the lack of legislation that allows development of mini grids / micro grids (e.g. In USA, the State of Minnesota established a legislation for consumers to access RE and utilities provided an on-bill credit option for consumers subscribing to community and other small / centrally located RE programs (Group, October).
Opportunity	• There is a wide acceptance of RE projects in Lebanon as many developers have undertaken awareness campaigns prior to any project implementation.

Previous derisking instruments identified	• **Policy instruments**
	  ○ Awareness raising campaigns
	  ○ Stakeholder outreach, including operations of private generators
	• **Financial instrument**
	  ○ NA

Relevance of the existing instrument	• Yes, the instruments are still relevant.

Recommended measures to further minimize risk	• Implement a legislation that allows developers to setup mini grids or micro grids and also establish innovative mechanisms (on-bill credit) for consumers to access these projects. • Government could consider undertaking a mini grid or micro grid assessment through a Technical Assistance supported by multilateral agencies (The World Bank, UNDP, GIZ, EBRD).

2.9. Developer Risk

Existing barriers	• Lebanon's private generator owners have charged customers extortionate prices to fill a gap in electricity supply from the state, profiting from the country's crumbling infrastructure. • Securing land is an issue especially for wind projects due to time taken for acquiring permits and licenses. In addition, the validity of land agreements is dependent on the PPA being signed and the project being built. This can be a back door risk to the developer and owner and there is a likelihood where the land agreement could have an exit time. • More than 95% of the technology is imported and the hike in import duties have increased the capital cost. In addition, the present fiscal regulations have resulted in developers delaying payments to suppliers. • All permits with government agencies in addition to negotiations with utility has to be taken up by the developer. • Lack of a resource mapping and grid connectivity study which presents the appropriate location for implementing RE projects. Presently, the resource mapping study is a conditional clause in the wind contract awarded by the Govt. • Access to grid is not guaranteed and developer has to construct a substation or upgrade an existing one. • Current fiscal situation is leading many developers to cancel signed projects due to the risk of securing financing.
Opportunity	

Previous derisking instruments identified	• **Policy instruments**
	  ○ Capacity building for resource assessment (wind only)
	  ○ Technology and Operations & Maintenance (O&M) assistance
	• **Financial instrument**
	  ○ NA

Relevance of the existing instrument	• Yes, the instruments are still relevant.
Recommended measures to further minimize risk	• Conduct resource mapping for solar in connection with the grid connectivity study below

- Conduct grid connectivity study for the potential solar and wind locations
- To safeguard the developer, the following could be the ideal approach:
  - Government to identify and hold the land through an agreement with the landowner
  - Lease the land to the developer at a fix rate
  - Undertake grid study

3. Conclusion

While the focus of this assessment was to understand the current state of the derisking instruments that were identified earlier, certain pragmatic measures have also emerged for pushing the renewable energy agenda of the country. In a nutshell, financing and currency & macroeconomic risk are the priority risk areas that require immediate assistance. Reforms need to be identified to fast track and scale up technology deployment as per the NDC and sectoral plans. In addition, the technical capacity of the Ministries and the utility have to be improved significantly to ensure the procurement process is transparent and fair.

Building on these, a prioritization of actions which are to be taken to address the DREIs have been identified. The actions have been categorized as immediate priority (1-year) , short-term priority (2-3 years) and medium-term priority (3-5 years). In addition, each of the measures have been prioritized based on their importance as low, medium and high using the below mentioned scheme.

Low	Medium	High

Risk category	DREI measures to further minimize risk	Immediate (1-year)	Short (1-2 years)	Medium (3-5 years)
Currency & macroeconomic risk	• Fiscal and monetary reforms for accessing funds for RE projects			
	• Establish a risk based financing facility blended with finance from IFIs / donors			
	• Partial indexing of PPA tariffs to hard currencies such as EUR or USD			
Financing risk	• Appoint experts for overseeing PPA process and assessing project bankability			
	• Establish an impact fund / financing facility by blending finance from IFIs and local investors			
	• Explore climate related concessional funding			
Political risk	• Establish a new asset risk product through collaboration with IFIs and National banks			
	• Establish a regulation that licenses private generation of power			
Power markets risk	• Establish a tender regulatory framework			
	• Establish an independent regulatory authority			
	• Conduct a pre-qualification assessment of bidders			
	• Identify few location (preferably on government land) for large projects >50 MWp			

Grid / Transmission risk	• Undertake grid stability and connectivity assessment			
	• Define a capacity building plan for strengthening EDL's grid management capability			
Developer risk	• Conduct resource mapping study for solar and wind with optimal location for projects			
	• Develop a safeguard strategy to secure land for developer			
Counterparty risk	• Decommission expensive thermal power plants and add solar & wind to recover some deficits			
	• EDL organization restructuring exercise			
	• Government backed 6-month guarantee for PPA payments by EDL must be in USD			
Social Acceptance risk	• Implement a legislation that allows developers to setup mini grids or micro grids			
	• Undertake mini grid / micro grid technical assessment			
Permits risk	• Fast track approval of permits			

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5. Annex – Questionnaire for stakeholder consultations

For each of the risk category analyzed, a set of structured questions were designed to capture the relevant and most up-to-date information. The questionnaires for each risk category are presented below.

Risk category	Key questions
Grid / Transmission risk	• What is the current status of the implementation of the grid codes developed for wind and solar? • Has EDL contracted any external agency for implementation support? • From a resource perspective, is there a training and capacity building plan for increasing the competence of the staff? • With respect to the PPA, were discussions held with developers on the 'take-or-pay' clause in the agreement? Given the fiscal deficit, what are the risk mitigation measures that has been conceived by EDL to ensure smooth uptake of this clause? • In the absence of the World Bank concept, what plans does EDL have to enhance the grid/transmission infrastructure and is there any plan on improving preventive maintenance of the existing grid network? • For large RE projects, are investors willing to take the onus of ensuring power supply to the grid? For projects that are away from the grid, would they consider investing in installing the transmission network?
Counterparty risk	• Are there concrete discussions around privatisation of EDL still in place? • What measures have been taken by EDL to improve its systems and processes? E.g. anti-corruption policy etc. • Have investors seen any improvement in EDL's operational capability as compared to what their perceptions were in 2017? • Is the govt. planning to provide letter of support for PPA payments to IPPs? Do PPAs have a payment schedule defined by EDL to avoid any delays? What has been discussed so far? • Is there any discussion around formulating public loans for RE projects to be implemented by private developers? • How is EDL planning to pay IPPs? Are there measures in place to avoid any delays?
Financing risk	• Is the govt. planning to improve access to international finance for RE projects? Is there support from govt. for private investors / developers to get international assistance? • Has the local financial sector improved in terms of providing project based lending? Are there any new products apart from the NEEREA scheme? • Given the current political situation, will project delays in implementation be a risk for the investor? How is the market perceiving this? Do investors have a plan to recover the investments?

	• How are investors enhancing their skills to evaluate RE projects prior to lending? Are there any govt. backed capacity building programs?
Political risk	• Are RE projects facing major delays due to the current civil unrest? If so, what are the measures being implemented to ensure the project completion as per schedule? • Has the central bank rolled out any risk sharing product that can be utilised by private developers? • How are developers managing payouts to contractors? • In the absence of lending from banks, what measures are being contemplated to increase private sector investment in RE? • With mounting state debt, what plans do the govt./EDL have to pay IPPs? Are there are risk insurances in place to ensure payouts? • What kind of political risk guarantee measures are being proposed in the PPA? • Given the political risks facing the country, are project costs likely to increase? If so, how would that impact the developers from a financing perspective? How will additional funds be sourced?
Currency / macroeconomic risk	• Are investors likely to face any interest hike on financing received from banks for RE projects? Have banks proposed any measures such as fixed rate, hedging to lower burden on private sector? • Is there a likelihood of currency devaluation? If so, what are the safeguard measures in place for private developers? • Is there a provision in the PPA to address currency risk? For e.g. whether the PPA is linked to an exchange rate of the currency of the power producers' debt with no limitation to transfer funds to offshore accounts as and when required.
Power market risk	• With the onset of IPPs, do investors see EDL as a competent regulatory authority to manage large RE projects? • Does EDL have capable resources for drafting PPAs or do investors still feel there is scope for improvement? • Is the private sector consulted as part of the target setting process? • Is technology availability and access to finance taken into consideration while defining the targets? • Has involvement of LCEC assisted investors for faster uptake of projects with EDL? • How was the tariff for RE fixed in the PPA? What was the process deployed between the investor and EDL? What was the basis behind arriving at the fixed rate? • Would the investor / developer be able to recover the cost at the tariff rate fixed in the PPA?
Permits risk	• Has the govt. established a separate unit for issue RE related permits? If not, what is typical timeline for acquiring permits?

	• Has the govt. established any mechanism for corruption and fraud control? Has any investor faced any pertinent issue while approaching the govt. for a project? • Is the govt. planning to allocate land based on resource availability and connectivity to the grid? • Are connection approvals (for distribution of electricity) required at the permits stage? If not, is it taken care through the PPA?
Social Acceptance Risk	• How are private developers planning to infuse uptake of decentralized solutions like SWH to residential owners? • Does the govt. have any plan on conducting awareness programmes for public on enhancing application of RE? • What has been the perception of NEEREA scheme amongst residential users? • Is the govt. planning to increase the implementation of community based RE projects in the future? For e.g mini-grids etc, EV charging infrastructure etc. • Do private investors see the potential for implementing community owned models for faster uptake of RE solutions? • Are there any new incentives are being envisioned by the govt / lending institutions for residential consumers to increase adoption of RE solutions?
Developer risk	• With resource availability quite good across coastal regions, what measures have been put in place to secure land availability? • Does the govt. / LCEC have a plan of action on capacity building and awareness for their staff? • Is the political unrest resulting in delay in construction and other activities due to unavailability of labour, access to technology etc.? If so, what measures have been proposed to address this issue? • How are private developers planning improve skills at the O&M level? Are they planning for any collaborative strategies with the govt. / LCEC? • How mature is the supply chain in Lebanon? Are private developers more reliant on import of technologies? Are they facing any issues due to the current political and economic crisis? For e.g. payments to vendors, technology imports, customs clearances, rises in taxes and import duty etc.