

Q&A Session for 100 MWp Floating PV Project at Kranji Reservoir – 30 November 2018

Is this RFI binding for the Proposer?

Following the selection of the Proposer, there will be discussions with Relevant Government Agencies to set out a Memorandum of Understanding (MOU) to detail the specific aspects that the Proposer and the Relevant Government Agencies would be bound to. We expect these to include the requirement for the Proposer to pay for all necessary engineering and environmental impact studies, insurance coverage plan, and liquidated damages in the event of non-performance or failure by the Selected Proposer and/or the Selected Solution providers to meet any conditions or guidelines that have been set out.

In a scenario where the Selected Proposer is not granted all the approvals from the Relevant Approving Authorities after investing in engineering and environmental impact studies, will there be a mechanism to reimburse the Selected Proposer for the investment?

There will be no mechanism to reimburse the Selected Proposer for the investment.

Does the Proposer have to run a tender to select the Solution Provider? Is there an opportunity for a Proposer to submit their initial bid alongside the Solution Provider (i.e., project developer) as a “joint” proposal? Does the Proposer have final discretion over selection criteria and selection of the Solution Provider in the Evaluation Stage (Two)?

The Selected Proposer has to conduct an open selection of Solution Provider. A joint proposal with the Solution Provider is not allowed as it would undermine the ability to have a fair selection for the Solution Provider. In selecting the system builders and owners, the evaluation criteria should include requirements from EDB and the Relevant Government Agencies, and the evaluation committee should include representatives from EDB. The Relevant Government agencies would provide their inputs on the proposal from the Solution Provider, and reserves the right to veto a proposal if it clearly contravenes the interests of Singapore or the Singapore Government.

The evaluation should include the following criteria:

- Cost of the electricity generated from the System, of which the water reservoir surface rental fee would be a component;
- Track record in Singapore;
- Technical competency; and
- Financial ability.

The Proposer is encouraged to suggest other critical evaluation parameters for the selection of the Solution Providers in the Evaluation Stage (Two).

What will be the business model adopted for this project? Will more than one proposal be selected?

The selected end-user(s) from the RFI is expected to consume all the electricity generated from the floating solar PV system. The details of the contract between the end-user(s) and the eventual operator of the system will be decided at a later stage. Only one proposal will be selected. This could be a single end-user, or a consortium of end-users.

Can you clarify the exact definition and role of the “Selected Proposer”?

The Selected Proposer will be responsible for the following, but is not limited to:

- Being the end user of the electricity produced by the floating solar PV facility
- Being in charge of all the development work of the facility (studies, permits)

- Selecting the “Selected Solution Provider” through a competitive process
- The Selected Proposer would not be the owner and operator of the floating solar facility

Is the reference to the experience and track record addressed to the Proposer OR the Solution Provider? Does EDB expect the End User to have knowledge and expertise in building energy systems?

The reference to track record is in track record of supporting the development of other renewable energy projects globally, and size of renewable energy procured globally.

How sure are EDB and PUB of the deployment at Kranji? What are the factors that will affect the decision? When will the full set of technical and regulatory requirements be detailed? Is there a framework or report that can help proposer to baseline their assumptions?

Unlike Tengeh reservoir where technical and environmental studies have already been done and are near completion, Kranji is a new reservoir identified for potential floating solar PV deployment. Technical design, as well as business feasibility and environmental studies, have not been conducted. Should there be significant impact on the environment or water quality, or poor economic viability, the project may not proceed. The full set of technical and regulatory requirements will be discussed with the Relevant Approving Authorities after the Proposer is selected.

When will the full set of EDB and Relevant Government Authorities criteria be provided?

This depends on the scope of the proposal and will be fully defined only after the RFI stage has closed.

Should the bid price be based on cost of energy, investment value or both?

The bid price should be based on the cost of energy, and should be a reflection of the Proposer’s willingness to pay. It does not need to factor in the cost of water surface rentals nor transmission and distribution charges for connection of the solar systems to the grid, as these would fall under the cost bidden by the Solution Provider in the Evaluation Stage (Two).

How will the water surface rental fee be established? At what point in the process will this occur? Will the fee be proposed by the Solutions Provider or established by SLA? Is there a basis that can be used to price this fee?

The water surface rental fee will be established by SLA after taking in inputs from the Solution Provider’s proposal. This will occur after the Solution Provider has been selected. There is no basis currently that can be used to price this fee.

How will the cost of transmission and distribution charges be established?

The selected Proposer will need to work with SP Group and EMA to determine the suitable connection points. The cost of cabling and substations to connect to the SP substation will be borne by the Solution Provider. The transmission and distribution costs will be determined with SP Group.

How did EDB/PUB decide on the size of the floating solar system at Kranji? What percentage of the reservoir will be occupied by solar PV? Is there the possibility to do a project that is not 100 MWp?

Based on preliminary assessment, the maximum solar deployable area in Kranji Reservoir is 92ha, which is around 22% of the water surface. This area is derived after factoring in the different uses of the water space, including the space needed for reservoir operations. This is estimated to yield a potential solar capacity of up to 100MWp, which could reduce 52,000 tonnes of carbon emissions each year. This is equivalent to taking 11,200 cars off the road annually.

In order to compare consistently across the different proposals, we are seeking for the proposals to be sized at 100 MWp. However, this is an indicative size, and we are open to proposers providing a second alternative proposal based on a different system size, which can be further discussed with the relevant government agencies if the proposer is selected.

Who does the Selected Proposer pay electricity price (P) to? How is the reimbursement mechanism of (D) expected to work? Can the Selected Proposer invest the 50% R&D savings in its own energy related R&D projects in Singapore? What are the requirements to qualify an R&D project for an investment from the 50% savings?

The Selected Proposer pays P-D to the Selected Solution Provider. The R&D savings (X) would be pooled into an R&D fund that would be managed by the Selected Proposer and Relevant Government Agencies to advance the development of suitable renewable energy systems for deployment in Singapore.

Is there flexibility on the timeline?

Yes, there is flexibility on the timeline, which is just meant to be indicative in nature. The exact timeline will depend on the rate of progress of discussions between the Selected Proposer and the Relevant Government Agencies, and the outcomes of the environmental and engineering studies.

How long of a PPA term would the EDB be expecting?

The Proposer is required to indicate the key terms of the PPA that it is willing to commit to, including the price of electricity, the quantity of electricity and the duration of the PPA. The Proposer is required to indicate all cost assumptions in arriving at the PPA terms. This could include estimations of the total cost of deploying the System (PV panels, cabling, inverters, operations and maintenance etc.) and the cost of financing such a System. The Proposer is encouraged to propose variants to the conventional fixed price PPA if the objective of ensuring the bankability of the System can still be met.

Will the service connection charges and the use of system (UOS) charges for consumption of electricity from the grid be included in the cost of electricity offered by selected solution provider (c)?

No, it will not be included in c. The selected proposer who will be the consumer of the electricity will need to bear these charges separately.

Can the renewable energy credits be used to offset the carbon tax?

No, the renewable energy credits are not used to offset the carbon tax. However, through the use of renewable energy, the total carbon emissions from the company's operations is likely to decrease, which would likely decrease the amount of carbon tax that the company needs to pay.

Who will be the owner of the environmental attributes and who will certify the environmental attributes?

The selected proposer will be the eventual owner of the environmental attributes as the proposer procures all the renewable energy produced by the system. The selected proposer is free to define which international platform should be used for the certification of the environmental attributes.