

TERMS OF REFERENCE

Consultant for Interconnection Study

Publication date: 29th Jan 2022

Submission date: 04th Feb 2022

Country: Bangladesh

Duration: 132 Days

Description of procurement:

Past ADB assistance programs have focused on region-wide planning and modelling analysis to assess and advocate RCI in the energy sector, and some actions on physical connectivity have been initiated between some countries. The TA focuses on more specific investment projects identified in the SASEC Operation Plan 2016-2025; take problem-solving approaches on common issues related to the pas and ongoing projects and proposals; an apply lessons learned from them to future investment projects. Due to the diversity of resources, demand patterns, time differences, etc. there is a huge scope for integrating the SASEC countries and Southeast Asian countries in an interconnected power grid. There will be economic gains to all countries and in some cases, they would be put into different growth trajectories. As these countries move towards clean energy transition, such interconnections become particularly valuable. In order to build a consensus for such integration it will be very useful to assess the economic benefits. The costs of transmission interconnections should also be estimated.

Scope of the Project:

Consultant will review the existing and planned studies and initiatives to promote power trade between South Asia and Southeast Asia. To assess economic benefits, consultant will construct technology selection models for each of the selected SEA countries and linked to the models of SASEC countries. Various Scenarios of these models will provide the hourly and seasonal trade levels for each country for number of years. Based on the scenario results, potential interconnection lines, keeping the maximum and minimum trade possibilities, a robust range of transfers will be identified together. The connections will be assessed for their economic viability. The various possibilities will be discussed with expert stakeholder consultations, to choose among optimal Transmission system models for each pair of countries. This model would consider the highest voltage power system in each country, existing interconnections, and proposed alternative interconnections, for optimization under the given hourly trade levels.

Based on this, the consultant would deliver the following for the SASEC-SEA region:

- Potential for regional power trade cooperation in the region, annual quantum, seasonal and hourly trade volumes
- Identify the preferred interconnections.
- Estimate the economic benefits to the countries
- Estimate the capacity of the transmission network required for regional cooperation
- Suggest the Preferred transmission links for interconnections.
- What will be the environmental benefits in terms of lower CO2 emissions

- Lead the presentation on the findings to the key stakeholders and incorporate comments and suggestions in the final report

Eligibility Requirement:

The expert should have master's degree in engineering, science, economics, or related areas, preferably with PhD, and have 20 years of general experience and 12 years of relevant experience as lead investigator/researchers in the areas of regional cooperation in the energy sector, climate change and clean energy. Expert should have deep understanding of opportunities and challenges for power trade between SASEC countries and Southeast Asia and economic modelling for power trade. Prior experience working with international organizations will be required.

For more information, please email to info@tenderingproject.es