TERMS OF REFERENCE

TITLE

Solar Energy Specialist in the Asian Development Bank (ADB)

DEPARTMENT/DIVISION

Regional and Sustainable Development (RSDD)/Sustainable Infrastructure Division (RSID)

LOCATION

Manila, Philippines

DURATION

Two years, with the possibility of a third-year extension if the professional performs satisfactorily

BACKGROUND

There has been a growth of over 40% annually since 2000 in the use of solar PV technology for power generation in the Organization for Economic Cooperation and Development (OECD) countries. Germany and Japan are the largest markets for solar PV generation, followed by the United States. Global solar generating capacity has continued to grow at a high rate despite the global financial crisis. A combination of technical improvements, tax credits and other incentives in 2008 lead to the doubling of the annual capacity addition, i.e., while 2.8 Giga Watt (GW) was added in 2007, 5.95 GW was added in 2008. The global production of PV cells has kept pace with the demand and it is also shifting to the Asia. Currently the market for utility-scale CST technology is smaller, only about 10% of the solar PV market. The lack of operational experience and a high capital cost are holding back the implementation of both types of utility scale solar projects. Presently, there are several solar power plants under construction or in the pipeline (mainly in Spain and the United States) that will ramp up the cumulative capacity very quickly and push utility scale solar power plants from demonstration to commercialization in the OECD. However, developing Asia is far behind in the utility-scale solar power deployment.

ADB's Developing Member Countries (DMCs) are closely examining the option to use solar energy to slow down GHG emissions, improve energy security and shift their economic growth to a low carbon path. Both the stand-alone solar system and utility-scale power plants are attractive to DMCs. The smaller capacity off-grid solar systems have been used to electrify rural areas for some years, these are often more economical and practical than extension of the grid in countries like PRC, India, Nepal, and Thailand. PRC also has by far the largest solar thermal capacity in the world for hot water generation. However, curbing GHG emissions will require deployment of a very large number of utility scale solar power projects in as short time as possible.

ADB investments in clean energy have increased from $223 million in 2003 to over $1 billion annually in 2008 and 2009, and the 2009 Energy Policy target is $2 billion annually by 2013. Lending for energy efficiency was about 38% of ADB's clean energy investment and for renewable energy 62%, which was mostly for hydropower and wind. Solar energy has gained little funding support from ADB till now. While ADB focuses on large-scale renewable energy

projects, electricity generation from solar PV remains very much a niche market compared to wind and other renewables.

TASKS AND RESPONSIBILITIES

The Solar Energy Specialist will report to the Director of Sustainable Infrastructure Division (RSID) under Regional and Sustainable Development Department (RSDD), and will work in close collaboration with energy and climate change experts within the ADB and from development partners. The specialist will be based in Manila, Philippines and will be expected to lead or provide expert inputs for the following activities:

- Solar Power Market Overview: an overview of global market trends – leadership companies, technology, pricing trend, projects under development and implementation.
- Technology Overview: Technical briefing of solar power generation, especially utility-scale technologies, i.e., Concentrated Solar Thermal and PV.
- Knowledge about regulatory framework: Past, present and future trends about renewable energy law provisions, incentives and programs, experiences and lessons sharing.
- Undertaking Technical Assistance preparation and assisting solar project formulation and implementation.
- Supervision and evaluation of investment operations in dissemination and deployment of solar energy, particularly utility-scale solar projects.

SELECTION CRITERIA:

- Bachelor degree in engineering or other related fields, preferably in post-graduate level.
- A minimum of 8 years' relevant experience or equivalent combination of years and experience in a field related to solar energy and power generation.
- A minimum of 2 years' relevant experience in utility-scale solar power generation operation and/or research, development, demonstration and dissemination.
- Demonstrated experience in working independently to undertake analysis and project preparation and supervision.
- Excellent oral and written communication skills in English
- Good inter-personal skills and willingness to work in teams in a multicultural environment.