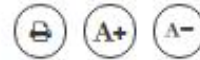


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# South Asian power grid will require an investment of Rs 45,000 crore by 2030: Pankaj Batra, SARI/EI

*The power transfer potential of cross border electricity trade could be about 5,000-6,000 MW presently, which by 2030 is expected to almost triple to about 15,000 MW*

Anshul Joshi • ETEnergyWorld • Updated: March 24, 2020, 22:55 IST



Pankaj Batra is the Project Director of South Asia Regional Initiative for Energy Integration (SARI/EI) program funded by United States Agency for International Development (USAID) and implemented by Integrated Research and Action for Development (IRADe). Talking to ETEnergyworld in an exclusive interview, he talks about how the program is enabling cross border power trade and working on common minimum grid code in the region.

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**Can you tell us how the SARI/EI program is enabling [cross border power trade](#) in the region, and is ensuring returns to investors and affordable electricity supply to its consumers?**

Studies done by Integrated Research and Action for Development (IRADe), under United States Agency for International Development (USAID)'s South Asia Regional Initiative for Energy Integration (SARI/EI) program, show that all the countries involved in [electricity trade](#) in South Asia gain in terms of economic value in case of cross border electricity trade. The program is attempting to facilitate this trade in energy, through technical assistance and capacity building to South Asian countries, so as to enable them to trade in electricity.

If an asset is used optimally, it effectively reduces the cost for all user countries, in effect reducing the cost for consumers of all countries, just like shared mobility operators. This trade reduces the stranded generating capacity existing in India, where stranded [thermal power plants](#) in India can sell their power across the border, where there is a shortage of power. Similarly, the excess [hydro power generation](#) in Nepal and Bhutan, in the high inflow season, will be able to find a market in India and Bangladesh, at a time when there is high demand in the latter countries. Hence, this would ensure return to investors in the power generation assets. Investors' returns for investment in common transmission infrastructure are ensured through written agreements with well laid out rules on how the costs are to be shared.

**How do you plan to go ahead further with cross-border electricity trade through regional [grid integration](#) in the South Asia region?**

Well, this can be made possible only through institutionalization. We are working to facilitate formation of forums of South Asian countries, in respect of regulators, planning agencies, transmission utilities, system operators, market operators and accounts settlement agencies. SARI/EI team is working with South-Asian regulators to form a regulatory forum under the broader framework of South Asia Forum for Infrastructure Regulation (SAFIR). This would be a neutral regional

body, which will work towards a consistent regulatory framework for cross border electricity trade (CBET) within the SAARC nations. We have already developed a white paper on such a forum and presented to the South Asian Energy Regulators.

In addition, SARI/EI is also supporting the Council of Experts of Energy Regulators under SAARC through technical assistance and in particular providing a detailed analysis on harmonization of technical standards for interconnecting South Asia and Central Asia through transmission infrastructure.

**What is the total potential of the SAARC grid in terms of capacity and the kind of funding that would be required to implement such a mammoth project?**

The potential for Cross Border Electricity Grid is huge, given the diversity of peak demands and in the type of supply resources between countries of South Asia. Power banking or bartering could take place between Nepal and India, because of diversity of resource availability. Nepal could supply hydro power in the high inflow season, when their demand is low and India could take their thermal units under planned maintenance, to be brought back in service in winter, when there is low inflow and high demand in Nepal.

But all this, also depends on how much a nation would like to depend on another country for their energy demand. The normal is 10-20 per cent. But, if the risks are allocated equitably between countries, there could be a dependence on import of up to 30 per cent of a country's demand. Taking that as the defining potential of trade, the power transfer potential of CBET could be about 5,000-6,000 MW presently, which would increase with increasing demand in the South Asia Region, over the years. By 2030, it is expected to almost triple to about 15,000 MW. Assuming a thumb rule figure of INR 3 crore per MW, the total investment required would be about INR 45,000 crores till 2030.

**What is the current scenario of power trading market and how do you plan to cater to this opportunity?**

The current scenario of power trading is either through government to government deals or by purchase through competitive bidding, as is the case in Bangladesh. Nepal is importing power to the extent of about 600 megawatt (MW) and Bangladesh to the extent of about 1,160 MW from India. India is importing peak power of about 1,800 MW from Bhutan. The SARI/EI program is driven by three inter-governmental task forces. The task force 3 (TF-3) focuses on creating a South Asian Regional Electricity Market (SAREM), for advancing energy integration. Under TF-3, we aim to enhance bilateral and multilateral trade agreements, as well as trading through the power exchange. SARI/EI is working with South Asian stakeholders for developing efficient and transparent market rules and design for a South Asian regional power exchange. This will also help to increase private investment in power in the region.

**You have talked about Common Minimum Grid Code for South Asia. What are your plans on this front? Are you in talks with Indian government officials and various other governments in the South Asia region for this?**

The draft Common Minimum Grid Code has been formulated under the SARI/EI program at the behest of CERC, the Indian electricity regulator. The CERC has already taken out the Cross Border Trading Regulations in March, 2019, in accordance with the revised Guidelines of the Ministry of Power, Government of India, issued in December, 2018. With the broad framework in place, we have now drafted the Grid Code for South Asia, with minimum requirements, in order to facilitate cross border trading of power, while ensuring secure, reliable, economic, and efficient operation of the grid.

Like the Grid Code for India, similar Grid Codes exist for each country, which are more detailed and have different limits for frequency, voltage, connectivity, etc. The common minimum grid code for South Asia, which has been vetted through a series of consultations with the government stakeholders in each country, will

ensure coordinated optimal operation of the [South Asian grid](#). This has been accepted in the Executive Committee Meeting of SAFIR (South Asia Forum of Infrastructural Regulators), wherein SARI/EI has been asked to conduct further consultations with expert groups to be formed by each country regulator.

And Yes, we are in talks with the Ministries and Regulators of all countries, as well as utilities of each country to take this forward and will be holding further consultations with them on the Common Minimum Grid Code, in order to drive at a consensus.

**Recently you organised a two day conference in Dhaka, where experts discussed interconnected electricity grid to boost [renewable energy](#) trade in BIMSTEC region? What are the plans on that front? What programs will be launched in this direction?**

In 2018, BIMSTEC signed an MOU for establishing the BIMSTEC grid interconnection to facilitate electricity trade among the member states by putting in place a region-wide grid. BIMSTEC secretariat has agreed to work with SARI/EI on implementation of BIMSTEC Grid Interconnection. SARI/EI will also be developing the integrated BIMSTEC masterplan which will establish a framework for trade in the BIMSTEC region, that brings together five countries from South Asia (Bangladesh, Bhutan, India, Nepal and Sri Lanka) and two countries from South-east Asia (Myanmar and Thailand).

**There are reports of Government of India planning South Asian power grid. Power minister RK Singh said that apart from Bhutan, Nepal, Myanmar and Bangladesh, which already take power from India, there are plans to connect Sri Lanka with power transmission lines as well. How will you leverage this opportunity?**

We are already working with Sri Lanka as part of our initiatives to facilitate Cross border electricity trade in the South Asia region, which includes trade in electricity through transmission lines interconnecting India and Sri Lanka. The SARI/EI program operates under a project steering committee comprising senior

representation from governments, independent energy experts, and representatives from SAARC countries.

SARI/EI will be partnering with key stakeholders in Sri Lanka such as public utilities commission of Sri Lanka to support the development of regulatory and policy frameworks such as the hearing process as well as developing a framework for grid integration of renewables. Broadly, it is likely to be a high voltage direct current (HVDC) link of 500 MW initially, capable for transfer of power both ways. Although, initially to a large extent, Sri Lanka would be importing power from India. It could be for most part over sea transmission lines and some part as under sea cable, or can be totally over sea transmission lines.