Concept Note

Regional Workshop

on

"Transforming Cross Border Electricity Trade and Regional Electricity Market for an Energy Secure South Asia"

June 30- July 1, 2024, Dhaka, Bangladesh

Westin Grand Ballroom 1, Hotel Westin Dhaka, Dhaka, Bangladesh

Jointly Organised

by

Research and Information System for Developing Countries (RIS),

South Asia Group on Energy (SAGE)-RIS

&

USAID's South Asia Regional Energy Partnership (SAREP)

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Workshop

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"Transforming Cross Border Electricity Trade and Regional Electricity Market for an Energy Secure South Asia"

A. Background and Context:

01. South Asia (SA) region is one of the most vibrant and diverse regions in the world. It comprises 3% of the world's area, 21% of the world's population and 5.21% (US$ 4.47 trillion) of the global economy, as of 202[1]. Access to reliable, affordable, clean, and sustainable energy is a high priority not only to support rapid economic growth and improved welfare of more than 1.8 billion population[2] of the SA region but also to ensure energy and climate security in the region.

02. SA region (SAR) is highly vulnerable to the adverse impact of climate change and decarbonising power/energy sector is crucial in fight against climate change. Increasing population, rising energy demand, growth in the manufacturing sector, extreme weather / climate conditions such as heatwaves in India and Pakistan, climate change vulnerabilities, regional geopolitics, and global geopolitical events have intensified regional energy problems[3].

03. Energy security and climate change has become the one of the major concerns in the South Asian region. With Two-thirds of energy used in South Asia is mainly imported outside of the region and fossil fuels accounting for about 80 percent of energy production[4], transformational actions are needed to mitigate these energy and climate vulnerabilities.

04. South Asia Countries (SACs) are uniquely placed to achieve its clean energy transformation goals. The region has tremendous hydro potential (~350 GW) and significant solar (>1000 GW) and wind (1289 GW) energy potential[5]. While SA is endowed with large (> 350 gigawatts) hydropower potential, only around 20 percent has been exploited so far[6].

05. While CBET started as early as the 1950s in SAR, it is only in the last ten years that the region has witnessed a manyfold increase in CBET, from 1,400 MW in 2012 to 5,273 MW in 2024[7]. However, the potential is much larger. With a proper implementation of plans in cross-border interconnection, power trade could increase to about 43.8 GW by 2040[8]. Bangladesh electricity import could reach around 15.7 GW by 2050 from Neighbouring Countries[7] in one of the scenarios of the Integrated Energy and Power Master Plan (IEPMP) 2023.

06. Currently the cross-border power trade in the SAR is mostly in the form of bilateral trade. However, with the prospects towards substantial enhancement of cross border electricity trade in the region, the regional power trade market is expected to initially to transition to a trilateral model, with a third country offering wheeling facilities for the buyer and seller countries, that are otherwise not directly interconnected.

07. Without a regional resource development approach, most of these renewable energy resources will remain unutilised. The development of hydropower, a sustainable form of energy in the region would increase by 2.7 times over the next two decades if the region could facilitate an unconstrained flow of electricity across

1 https://en.wikipedia.org/wiki/South_Asian_Association_for_Regional_Cooperation#:~:text=The%20South%20Asian%20Association%20for,%2C%20Pakistan%2C%20and%20Sri%20Lanka.
2 https://www.adb.org/news/op-ed/how-south-asia-can-continue-world-s-fastest-growing-subregion-lei-lei-song
3 https://www.downtoearth.org.in/blog/renewable-energy/improvising-power-trade-in-south-asia-can-ease-renewable-energy-access-in-the-region-86944
4 https://blogs.worldbank.org/en/endpovertyinsouthasia/south-asia-navigating-green-energy-transitions-together
5 Ibid
6 https://sarepenergy.net/wp-content/uploads/2023/02/1.-Regional-Update-CBET-Emerging-Outlook-for-CBET-in-South-Asia-Rajiv-Ratna-Panda11th-TF-2-Meeting-SAREP-KathmanduNepal.pdf
7 https://sarepenergy.net/wp-content/uploads/2024/03/Presentation-on-Study-on-International-Best-Practice-for-Developing-CBET-Infrastructure-by-Rajiv-Ratna-Panda-PMS-SAREP-28-02-2024.pdf
8 https://sarepenergy.net/wp-content/uploads/2022/07/brief-report-09march.pdf

the borders in South Asia[9]. The region will save almost a 100 billion dollars from its electricity supply costs over the next two decades through the substitution of fossil fuels with hydropower.

08. Due to the immense diversity that exists among the South Asian nations, trilateral and multilateral power trade has the potential to accrue more benefits in terms of higher trade volumes, lower installed capacity and optimization of investment cost, lesser reserve capacity due to sharing of reserves, reduced CO2 emission and overall regional cost optimization and economies of scale.

09. With the opening up of India's power exchanges for cross border electricity trade, power trade through market platform has been initiated. Bhutan and Nepal have already traded through the power exchange platform of India. Bangladesh is also expected to join the power exchange market of India.

10. Going in future, fully regional and multilateral power trade can be expected in the region preferably through a common regional trading platform and establishment of South Asia Regional Power Pool or similar regional market design/structure as seen/observed in the case of other regions of the globe.

11. The importance and potential benefits of Regional Energy Cooperation and CBET is recognized by SA countries. Various CBET projects at bilateral, trilateral, and regional level are under discussion and in construction stage.

12. CBET will further gain momentum with a greater number of cross-border power projects and transmission interconnections being planned and proposed, in particular in Bhutan, Bangladesh, India, Nepal, and Sri Lanka sub-region, which will enable greater integration of power systems of SA countries. With the One Sun, One World, One Grid (OSOWOG) initiative pioneered by the Government of India, the region will get interconnected beyond SA. With OSOWOG taking shape, the need for multi-country transmission interconnection and integration of regional electricity markets will take place across the globe. An interconnected Asian grid spanning from the western end of the Gulf region (GCC – Gulf Cooperation Council) to the eastern parts of Southeast Asian (ASEAN) grid will allow for leveraging the 5-hour time zone difference regarding solar power generation and utilization[10].

13. Recognizing energy security challenges and climate change vulnerabilities, SA country governments are ratcheting up their clean energy targets to minimize emissions and have come up with net zero goals. India, Maldives, Nepal, and Sri Lanka have embarked on this clean energy transformation journey and have announced net zero target year of 2070, 2030, 2045 and 2060 respectively[11]. Bhutan has committed to remain carbon neutral[12]. Massive electricity demand growth is expected in SA countries. The peak demand of South Asia is around 264 GW, and it is expected to increase to 741 GW by 2041[13].

14. Cross-border electricity trade and regional electricity market can provide for an energy secure and climate prosperous south Asian region, therefore transformational action is needed. A regional electricity market trading would bring cost optimization, enhanced energy security, and support regional economy for the South Asia countries.

15. In this backdrop, the South Asia Group on Energy (SAGE) at RIS along with South Asia Regional Energy Partnership (SAREP) Program of USAID aims to organise a Workshop on "Transforming Cross Border Electricity Trade and Regional Electricity Market for an Energy Secure South Asia." This cooperation of SAGE-RIS and USAID, India plans to promote, initiate, and facilitate effective policy dialogue and capacity building on a bilateral, sub-regional and regional basis for energy and related issues, among SA countries.

9 Ibid
10 https://sarepenergy.net/wp-content/uploads/2023/03/Envisioning-Trans-Regional-Energy-Connectivity-between-the-South-Asia-Region%E2%80%93Southeast-Asia-Region%E2%80%93Gulf-Region-Prospects-and-Opportunities-by-Rajiv-Ratna-Panda-Power-Market-Speci.pdf
11 https://sarepenergy.net/wp-content/uploads/2023/03/Envisioning-Trans-Regional-Energy-Connectivity-between-the-South-Asia-Region%E2%80%93Southeast-Asia-Region%E2%80%93Gulf-Region-Prospects-and-Opportunities-by-Rajiv-Ratna-Panda-Power-Market-Speci.pdf
12 https://www.saarcenergy.org/wp-content/uploads/2021/12/SEC-MI1.pdf
13 https://sarepenergy.net/wp-content/uploads/2023/02/1.-Regional-Update-CBET-Emerging-Outlook-for-CBET-in-South-Asia-Rajiv-Ratna-Panda11th-TF-2-Meeting-SAREP-KathmanduNepal.pdf

B. Objective of the Regional Workshop:

To provide a platform for dialogue, discussion, exchange of ideas and deliberation on:

- Energy Security Challenges of South Asian (SA) Countries
- Perspective role of Cross Border Electricity Trade (CBET) and development of a Robust, Competitive Regional Electricity Market for enhancing Regional Energy Security in SA.
- International Experiences and Best Practices in Developing Regional Transmission Interconnection Infrastructure Plan, Trilateral/Multilateral CBET and Models of Development of Regional Power Market.
- Opportunities and Challenges in Transitioning from Bilateral to Trilateral/Multilateral CBET and Development of South Asia Regional Electricity Market for Energy Security and Clean energy Transition.
- Developing a Regional Energy Trading Platform-South Asia Regional Energy Exchange with Institutional participation/contribution of South Asian Countries.
- Bangladesh Perspective on Participation in the Power Exchange Platform of India.
- Strategies and Way forward for Trilateral/Multilateral CBET and Development of Regional Power/Energy Market and CBET through Power Exchange.

C. Format of the Workshop:

The workshop will be organized in physical mode with high level participation of from South Asian countries. On 30th June 2024 (Sunday), a Closed Door Session – Developing BBIN Sub-Regional Cross Border Transmission Infrastructure Interconnection Plan will be organised followed by a high-level networking dinner will be organised. On 1st July 2024, the workshop will be inaugurated which is expected to be inaugurated by Mr. Nasrul Hamid, MP, Honourable Minister of State, Ministry of Power, Energy and Mineral Resources, Government of Bangladesh. The technical session of the workshop consisting of three technical sessions will be organised with formal presentations by the participating speakers on 1st July 2024 (Monday). The workshop is being jointly organized by SAGE-RIS and USAID's SAREP Program.

1. **Closed Door Session –** Developing BBIN Sub-Regional Cross Border Transmission Infrastructure Interconnection Plan (Sunday, 30th June 2024)
2. **High Level Networking dinner** (Sunday, 30th June 2024)
3. **Inaugural session** (Monday, 1st July 2024)
4. **Working Session-1:** "Prospects of Transforming Cross Border Electricity Trade and Regional Electricity Market for Enhanced Regional Energy Security: Opportunities and Challenges" (Monday, 1st July 2024)
5. **Working Session II:** "Opportunities, Challenges and Strategy for Developing Regional Cross Border Transmission Interconnection Infrastructure - South Asia (BBIN) Sub-Regional Transmission Infrastructure Interconnection Plan for facilitating the transition from Bilateral to Trilateral/Multilateral Cross Border Electricity Trade" (Monday, 1st July 2024)
6. **Working Session III:** Bangladesh Perspective on Participation in the Power Exchange Platform of India (Monday, 1st July 2024)
7. **Working Session IV:** Workshop Summary and Conclusion (Monday, 1st July 2024)

D. Expected Outcomes of the Regional Workshop:

The event is expected to enhance knowledge sharing and improved understanding and awareness of I) Energy Security Challenges of South Asian Countries ii) Opportunities and Challenges and Role of Cross Border Electricity Trade (CBET) and development of a Robust, Competitive Regional Electricity Market for enhancing Regional Energy Security iii) International Experiences and Best Practices in Regional Transmission Infrastructure Interconnection Plan, Trilateral/Multilateral Cross Border Electricity Trade (CBET) and Models of Development of Regional Power/Energy Market iv) Developing a Regional Energy Trading Platform I.e. South Asia Regional Energy Exchange (SAREX) with Institutional participation/contribution of South Asian Countries V) Developing BBIN Regional Transmission Infrastructure Interconnection Plan VI) Roadmap and Action Plan & VII) Strategies and Way forward.

E. Participants:

Regional Workshop participants will include policy makers, representative from government, ministries/departments of power, energy, market authorities, load dispatch centers, power exchanges, power utilities from South Asian countries.

F. Point of Contact:

1. Sukrit Joshi, Research, and Information System for Developing Countries (RIS), Email: sukrit.joshi@ris.org.in
2. Rajiv Ratna Panda, South Asia Regional Energy Partnership (SAREP), Email: rpanda@sarep-southasia.org

G. Research and Information System for Developing Countries (RIS):

Research and Information System for Developing Countries (RIS) is a New Delhi–based autonomous policy research institute that specialises in issues related to international economic development, trade, investment, and technology. RIS is envisioned as a forum for fostering effective policy dialogue and capacity-building among developing countries on global and regional economic issues. The focus of the work programme of RIS is to promote South-South Cooperation and collaborate with developing countries in multilateral negotiations in various forums. RIS is engaged across inter-governmental processes of several regional economic cooperation initiatives. Through its intensive network of think tanks, RIS seeks to strengthen policy coherence on international economic issues and the development partnership canvas.

H. South Asia Group on Energy (SAGE) at RIS:

South Asia Group on Energy (SAGE) at RIS aims to achieve a balanced and optimal development of energy infrastructure through mutual understanding and cooperation. The group will have the role of promoting, initiating, and facilitating effective policy dialogue and capacity building on a bilateral, sub-regional and regional basis for energy and related issues, among South Asian countries. SAGE aims a) to identify infrastructural constraints in Power Transmission connectivity and suggest an appropriate strategy to address these constraints b) identify potentials in trade and investment, particularly in the energy sector and suggest measures to address gaps in regulatory policies in the sector across the region c) identify regional solutions to technology in the power sector, both in generation and transmission of power, and suggest financing options of the regional project as well as a source of funding for this initiative and d) suggest an institutional framework for planning and monitoring of project implementation and propose possible areas of cooperation between regional economies.

I. US Agency for International Development (USAID):

USAID is the U.S. Government's international development agency and a catalytic actor driving development results. USAID leads international development and humanitarian efforts to save lives, reduce poverty, strengthen democratic governance, and help people progress beyond assistance. USAID objective is to support partners to become self-reliant and capable of leading their own development journeys.

J. South Asia Regional Energy Partnership (SAREP):

The South Asia Regional Energy Partnership (SAREP) is a flagship program of USAID to advance objectives of the U.S. Government's Clean Enhancing Development and Growth through Energy (EDGE) Asia initiative. SAREP is working on developing regional power markets, improving coordination and planning, strengthening national and regional institutions, building consensus on power trade, and institutionalizing supporting frameworks and mechanisms. SAREP activities is accelerating cross-border power trade by supporting stakeholders to participate in trilateral, multilateral, and exchange-based markets.