SARI/EI held a consultation meeting with the Bangladesh Energy Regulatory Commission (BERC) on October 19, 2016 to discuss the “Regional Regulatory Institutional mechanism: South Asia Forum of Electricity Regulators” white paper. The meeting was attended by senior officials from BERC.

The SARI/EI team presented the white paper’s key findings on the structure, functions, roles and responsibilities of the Forum to obtain input and suggestions from BERC. This feedback is being used to chart a road map for the formation of the South Asia Forum of Electricity Regulators (SAFER).

SARI/EI held a meeting on October 20, 2016 with the Honorable Secretary General of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). Mr. V. K. Kharbanda, Project Director, IRADe presented an overview of the SARI/EI program, progress, key accomplishments, and the way forward. He highlighted the various SARI/EI task force studies being conducted and highlighted how these studies might also be useful to BIMSTEC. Mr. Kharbanda suggested that since five of the eight SARI/EI countries also belong to BIMSTEC, the SARI/EI activities could have wide application to BIMSTEC for promoting and advancing energy cooperation and cross-border energy trade among BIMSTEC countries.

Mr. Rajiv Ratna Panda addressed a question from Hon. Secretary General of BIMSTEC concerning a proposal that BIMSTEC pursue a clear path to advance energy cooperation among BIMSTEC countries. Mr. Panda reported that energy literacy is very limited among the BIMSTEC member countries and suggested that BIMSTEC
consider publishing a biennial flagship “BIMSTEC Energy Outlook” publication. A publication of this nature would potentially not only improve the energy literacy among BIMSTEC member states but also bring cohesion to energy cooperation initiatives among BIMSTEC member states over a long period of time. The idea of a “BIMSTEC Energy Outlook” was positively noted by the BIMSTEC Secretariat.

SARI/EI organized a roundtable stakeholder consultation meeting on “Regional Investment Framework and Policy Guidelines for Promoting Investment in South Asian Power Sector and in Cross-border Energy Trade (CBET) in South Asia” on October 20, 2016 in Dhaka, Bangladesh. The meeting was attended by key stakeholders from the Bangladesh power sector, including policy makers, investors, bankers, private development, and senior officials from the Ministry of Power, Energy and Mineral Resources, the Board of Investment, and the Public Private Partnership Authority.

The meeting covered the key issues and concerns impacting investment in regional power development, the Bangladesh power sector, and CBET projects. Following this, the stakeholders identified areas requiring intervention and an appropriate investment and policy framework to promote regional investments. The meeting captured the key concerns of investors, lenders, multilateral development banks (MDBs), and project developers for promoting investment in the South Asian power sector, and in particular, the regional power projects and CBET projects with a view to develop a Regional Investment Framework and Policy Guidelines for Promoting Investment in South Asian power sector and CBET.

Delloitte presented on key findings of the report, including: (a) macro-economic and investment scenario, (b) investment promotion and protection, (c) key issues in business environment, (d) FDI policies in South Asian countries, (d) key lessons from South Asia, and (e) lessons from international experiences etc. The presentation was followed by open discussion on the key findings of the study. Suggestions were made during the meeting and will be incorporated into the report.
WORKSHOP ON THINK TANK FORUM FOR SOUTH ASIAN REGIONAL COOPERATION – INDIA

On October 27, 2017, IRADe organized a workshop in New Delhi, India for the Think Tank Forum. The workshop was attended by representatives of four leading think tanks, including the Observer Research Foundation (ORF) Centre for Resources Management, CUTS International (Consumer Unity & Trust Society), and the Center for Study of Science, Technology and Policy (CSTEP), Communication and Policy Engagement team. The participants deliberated ideas to promote the discussion on power trade through the lens of economic development, climate change and energy security.

Lastly, a limited request for proposals (RFP) for engagement of think tanks to support South Asian energy cooperation was launched. Six proposals from South Asian think tanks were received as part of this call and those are under review.

5th SARI/EI PROJECT STEERING COMMITTEE MEETING – COLOMBO, SRI LANKA

The 5th Project Steering Committee (PSC) meeting was held November 9 – 10, 2016 in Colombo, Sri Lanka. Members of the PSC from various South Asian countries along with representatives from USAID and IRADe attended the meeting. Dr. B.M.S Batagoda, Secretary, Ministry of Power and Renewable Energy, Government of Sri Lanka delivered the keynote address. Mr. V.K. Kharbanda presented an overview of the South Asian power sector. Dr. Kirit Parikh, Chairman, IRADe, presented the results of the analytical study on Macroeconomic Benefits of Cross Border Energy Trade between India-Nepal and gave an update on the Bangladesh analytical study.

Mr. Rajiv Ratna Panda, Head-Technical, IRADe presented on their SARI/EI annual work plan for 2016-2017 and strategies for synthesis of SARI/EI recommendations of the Combined Task Force Report. Members deliberated on the work plan and the same was agreed by the members for onward implementation by SARI/EI/IRADe. Ms. Monali Zeya Hazra, Regional Energy Manager and Clean Energy Specialist, USAID/India presented on the “Role of SARI/EI in regional capacity building in South Asia for advancing CBET in the Region” and spoke on the various activities that are being conducted by the United States Energy Association (USEA) under SARI/EI in the area of capacity building. Ms. Sarah Blanford, Senior Program Coordinator, USEA participated via teleconference. Dr. Jaquelin Cochran, Senior Energy Analyst, National Renewable Energy Laboratory (NREL), U.S., presented on regional energy projects in South Asia supported by the U.S. State Department and conducted under the SARI/EI platform, that focus on renewable energy development, power system modelling, and loss of load events.

**Brainstorming session on SARI/EI-beyond 2017:** PSC meeting attendees held a brainstorming session on the future of the SARI/EI program. The PSC members discussed strategies focusing on a) implementing the Articles of SAARC Framework Agreement on Energy (electricity) Cooperation, b) strategies for implementing the recommendations of SARI/EI beyond 2017, c) institutionalizing the process of CBET in South Asia (formation and implementation of a regional regulatory institutional mechanism such as the South Asia Forum of Electricity Regulators (SAFER), and a regional technical institutional mechanism for regional power system planning and
operation such as the South Asia Forum of Transmission Utilities (SAFTU), d) how to take the Think Tank Forum forward, and e) a strategic partnership with other regional institutions such as BIMSTEC, BBIN, and ASEAN.

**Site visit to the Regional Centre for Lighting:**
PSC meeting attendees visited the Regional Centre for Lighting (RCL) in Colombo, Sri Lanka. The RCL was established in 2009 funded by the U.S. Agency for International Development (USAID). To assist the RCL in its formation, the Lighting Research Centre at the Rensselaer Polytechnic Institute in New York — the world’s leading university-based research and education organization devoted to lighting — served as a knowledge partner and provided guidance to RCL.

Lighting brightens up life! For some, it is a way out of poverty. For others, it’s the provision of safer areas with higher security. Yet others look to it for improved health and better living environs. Lighting in modern cities is imperative for entertainment. It creates magic and inspires designs. Lighting technologies are here to serve a purpose. The more energy efficient, the more affordable and the more beneficial they are, the better they serve the masses. The RCL attempts to strike a balance among these, by optimizing technologies and maximizing gains. The PSC meeting participants visited the testing labs at the RCL and gained exposure to the various testing being carried out by the Centre and other pilot lighting projects.

**CAPACITY BUILDING IN HYDROPOWER PROJECT APPRAISAL**

On December 5 – 9, 2016, USEA conducted the first of three modules of the “Techno-Economic Hydro Power Project Appraisal Training.” A similar training was conducted in 2016 as a SARI/EI assistance program to support regional power trade. The training was organized by the U.S. Energy Association and conducted jointly by PTC India Financial Services Ltd. (PFS) and the National Power Training Institute (NPTI).

The training opened with an inaugural session. Ms. Monali Hazra, Regional Program Manager and Clean Energy Specialist, USAID/India welcomed the delegates and highlighted the ongoing activities of SARI/EI in the cross-border energy program in South Asia and also highlighted the significance of this capacity building program in relevance to SARI/EI. Dr. Pawan Singh, Director (Finance), PFS, while addressing the team led them through the accomplishments and milestones of the Indian hydro power sector. Mr. J.S.S. Rao, Principal Director, NPTI spoke on the mandate and achievements of NPTI and expressed his gratitude to USAID for taking up yet another round of the PFS capacity building program. Prof. (Dr.) Rajendra Kumar Pandey, Director General of NPTI also addressed the delegates and spoke on the importance of a strong transmission network in South Asia. Mr. Rakesh Kalsi, Assistant Vice President, PFS delivered the synopsis of the second round of training. He elaborated on how the feedback from the previous modules has been incorporated to evolve this round of training to be more focused and insightful.

Twenty total executives participated in Module-I of the training conducted at the NPTI campus in Faridabad, India. The overall objective of the training is building the capacity
of the participants in techno-economic appraisal and financial analysis in the power sector. Class room lectures included: evolution of Indian power markets; geological survey and investigations for hydropower plants; design of hydro power plants; cost estimation; project planning; power evacuation; power purchase agreement design; environmental impact assessment; preparation of pre-feasibility reports; clearance and approval requirements; and inter-border transmission lines (India-Nepal).

Presentations were made by the following faculty:

1. Mr. N.C. Adak, Deputy General Manager, Power Grid Corporation of India Ltd.
2. Mr. Mukesh Aggarwal, Vice President, SBI Capital Market Services Ltd.
3. Mr. V.S. Bisht, Ex. Vice President, Prabhat Financial Services Ltd.
4. Mr. Yogendra Deva, Ex. Director, Geological Survey of India
5. Mr. S.K. Garg, General Manager, International Center for Civil Society Law
6. Mr. Vikas Garg, Director, Deal Advisory, KPMG
7. Dr. A.K. Jha, Senior Vice President, Lahmeyer International
8. Mr. V.K. Kharbanda, Project Director, SARI/EI, IRADe
9. Mr. G. Raj Kumar, Senior Advisor, Prabhat Financial Services Ltd.
10. Mr. Vinod Kumar, Head, Environment, NHPC Ltd.
11. Mr. R.K. Mahajan, Head, International Center for Civil Society Law
12. Mr. P.N. Prasad, IL&FS Energy Development Co. Ltd.

Participants:

Afghanistan
1. Mr. Zalmay Jan Hassanzi, Engineer, Naghlu Hydropower Plant, DABS
2. Mr. Khalid Khorsand, Director of Hydropower Plants, Da Afghanistan Breshna Sherkat (DABS)

Bhutan
1. Mr. Denkar, Engineer, Department of Hydropower & Power Systems, MoEA
2. Mr. Kuenzang Dorji, Senior Manager, Transmission Department, Bhutan Power Corporation
3. Ms. Kuenga Choden Dorji, Engineer, Department of Hydropower & Power Systems, MoEA
4. Mr. Zangpo Heruka, Senior Manager, Renewable Energy Department, Bhutan Power Corporation
5. Mr. Kinley Tenzin, Engineer, Department of Hydropower & Power Systems, MoEA
6. Mr. Krishna Prasad Timsina, Engineer, Department of Hydropower & Power Systems, MoEA
7. Mr. Phub Tshering, Engineer, Department of Hydropower & Power Systems, MoEA
8. Mr. Sonam Tshering, Executive Engineer, Department of Hydropower & Power Systems, MoEA
9. Mr. Karma Tshewang, Chief Engineer, Department of Hydropower & Power Systems, Ministry of Economic Affairs (MoEA)

Nepal
1. Mr. Pawan Kumar Acharya, Chief Project Financing Officer, Sanima Bank
2. Ms. Suman Joshi, Senior Relationship Manager, NMB Bank Ltd.
3. Mr. Dilip Bahadur Khatri, Account Officer, IBN
4. Ms. Pragya Pandey, Head of Corporate Credit and Infrastructure, Mega Bank Ltd.
5. Mr. Parmeshwar Pant, Manager, Corporate Credit, Kumari Bank
6. Mr. Hari Prasad Rimal, Public Relation Officer, IBN
7. Mr. Neelesh Shrestha, IBN
8. Mr. Sunil Shrestha, Computer Officer (Admin and Account), IBN
9. Mr. Hari Krishna Uprety, Senior Community Relation Officer, Investment Board of Nepal (IBN)

4th SARI/EI MEETING OF TASK FORCE-3 – KATHMANDU, NEPAL

IRADe organized the 4th meeting of Task Force-3 (TF-3) in Kathmandu, Nepal on December 7, 2016. Mr. Michael Boyd, Senior Energy Advisor, USAID/Nepal welcomed the delegates. The inaugural session was presided by Dr. Kirit Parikh, Chairman, IRADe. The Chief Guest, Mr. Chiranjiwee Chataut, Joint Secretary, Ministry of Energy, Government of Nepal delivered the keynote address. Vote of thanks was given by Mr. S.K. Ray, Technical Specialist, IRADe. The meeting was attended by TF-3 members from different South Asian countries and core team members from Nepal, along with core team nodal officers from Bhutan.

After the inaugural session, country representatives discussed the Ministry of Power guidelines on CBET. Mr. Ray provided an overview of SARI/EI activities and an update on TF-3 key activities, followed by SARPEX market rules and design. The data sampling for a SARPEX mock exercise session was presented by Mr. Puneet Chitkara, KPMG and the SARI/EI team. Mr. Gaurav Jain, Senior Research Analyst, IRADe presented the key recommendations and implementation plan of TF-3 “Assessment and Recommendation of Commercial Terms & Conditions for CBET and Suggesting the Model of Power Exchange in the South Asian region.”

The Task Force members’ concurrence has been received on SARPEX market rules, design and the selection of days based data sampling method has been agreed. The key recommendations from the study and an implementation plan was discussed in detail and agreed. The group also discussed the action plan and strategy for engaging the country governments and ensuring buy-in of the country governments for the pilot market including stakeholder consultation. Mr. Shankar Khagi, Environment & Energy Specialist, SEED Office, USAID/Nepal delivered the vote of thanks.

STATUS OF DEMAND DRIVEN STUDIES

Task Force 1 Studies:

1. Study 2: The draft report has been prepared on the TF-1 second study on “Regional Investment Framework and Policy Guidelines for Promoting Investment in South Asian Power Sector and in Cross Border Electricity Trade Projects in South Asian Region.” Further, the key findings of the study were discussed at the stakeholder consultation meeting in Bangladesh on October 20, 2016. The stakeholder consultation with Nepal and India will be carried-out in the next quarter, subsequent to which the report will be finalized and presented in the 6th meeting of Task Force-1.
A draft of the “Building Consensus & Developing a White Paper on South Asian Forum of Electricity Regulators (SAFER)” has been prepared. It has gone through stakeholder consultations in Bangladesh, Bhutan and Nepal. It will be further discussed with India and Bangladesh stakeholders in the next quarter, subsequent to which the report will be finalized.

Task Force 2 Studies:

- Study 1: The report on “Assessment of Electricity Trading Potential of South Asian Countries” has been finalized and an executive summary is being prepared. The report will be edited and printed, then strategic outreach and consensus building buy-in of task force recommendations will take place in the next quarter. The additional scope of work for calculation of economic benefits of CBET is expected to be awarded in the next quarter.

- Study 2: The report on the second study of TF-2 on “Harmonization of Grid Codes, Operating Procedures and Standards to Facilitate/Promote Cross Border Electricity Trade in South Asia Region” was completed in September and October 2016. The report is being published in three volumes. The separation of volume work is going on. The 3rd volume, which is on framework grid code guidelines, is being designed and is expected to be printed to publish by the first week of February 2017. The framework grid code guidelines (Volume 3) will be released and launched in Bhutan and Nepal in March 2017.

Task Force 3 Studies:

- Study 1: The report on the TF-3 study on “Assessment of Commercial Terms and Conditions for CBET and Suggested Model of Power Exchange in South Asian Region” has been completed. The Model PPA and Model TSA has been shared for copy editing and designing. The power pricing mechanism and recommendation report has been drafted and will be made available for copy editing and designing in the next quarter. The executive summary of the report is being prepared.

- Study 2: The Pilot Market/Mock exercise of SARPEX (South Asian Regional Power Exchange) is ongoing. The main objective of this exercise is to explore the feasibility of a regional power exchange in South Asia, develop the draft market rules and design for the regional market, as well as build the capacity of the participating nations to participate in an exchange platform. The draft design and market rules has been discussed and finalized with TF members and the Market Advisory Committee (MAC). The process for forming up a Market Advisory Committee and identifying core team members has been completed. The draft agenda for the core team capacity building has been prepared.

Implementation of SARI/EI Task Force recommendations and Article of SAARC Framework Agreement on Energy Cooperation:

- Developing the framework and guidelines for a non-discriminatory open access regime in transmission and grant of open access to initiate power trading and facilitate CBET in the South Asian countries.

The “Developing the Model Framework Guidelines for Non-discriminatory Access/Open Access Regime in Transmission and Grant of Open Access in South Asian Countries” study was awarded to Deloitte on the basis of a bid evaluation conducted in October 2016. As a next step, the draft report on the prevailing practices in India and SAC related to open access regime, its governing and institutional arrangement has been conducted and further study is ongoing as per timeline. After the international review and draft framework is prepared, stakeholder consultations will be held in Bangladesh, Nepal, Bhutan, and India. These consultations will take place during the next quarter and the report will be finalized.
Developing a model framework for trading license regime and guidelines for grant of trading license to initiate/advance power trading in South Asian countries and facilitate CBET in the South Asian countries

Bids have been evaluated and finalized by IRADe for a model framework for trading license regime and guidelines for grant of trading license to initiate/advance power trading in South Asian countries and facilitate CBET in the South Asian countries. The study will be awarded during the next quarter.

SARI/EI Analytical Studies:

- **Study on Nepal-India CBET**: The draft report has been prepared for the India-Nepal modelling activities and shared with stakeholders for their comments and feedback. In India, the report has been shared with stakeholders, such as representatives from Ministry of Power, National Institution for Transforming India (NITI Aayog) and the Central Electricity Authority. In Nepal, the report was shared with the Nepal Electricity Authority, the Ministry of Energy, the Ministry of Finance, the Investment Bank of Nepal, and Institute for Integrated Development Studies (IIDS). The report is undergoing editing and designing for release.

- **Study on Bangladesh-India CBET**: Ms. Anjana Das, Senior Energy Modelling Consultant from IRADe undertook a trip to Bangladesh in October 2016. She met with representatives of various local think tanks. Power Cell organized a meeting with relevant stakeholders, such as the Bangladesh Power Development Board, Power Grid Company of Bangladesh Limited, and others. Input from the meetings were used to update the results of the technological model for Bangladesh.

An in-house review of the scenarios and results was conducted by IRADe. They have initiated establishing the Bangladesh macro model. IRADe has also analyzed the SAM for Bangladesh and the national accounts data, and conducted a first run for the Bangladesh economic model.

**ONGOING AND UPCOMING ACTIVITIES (JANUARY – MARCH 2017)**

- Award and initiation of “Linking South Asia with Burma & South east Asia to Advance Cross Border Energy Trade: A Political Economy Study” (January 2017)
- Follow-up scoping mission to Bhutan to discuss targeted capacity building by USEA (January 10, 2017) – Bhutan
- Final report release of “Macro-Economic Benefit of Cross Border Energy Trade between Nepal and India” (January 19, 2017) – Nepal
- Modules 1 and 2 of the “Capacity Building Program for Designing, Managing and Operating a Power Trading Entity” (January 30 – February 3 & March 20 – 24, 2017) – India
- Core team members meeting on SARPEX exercise (February 7 – 9, 2017) – New Delhi, India
- Module 2 of the Techno-Economic Hydro Power Project Appraisal Training (February 20 – 24, 2017) – India
- Sponsorship of Bhutan executives to the “Advanced Power Purchase Agreement Excellence 2017” (March 20 – 22, 2017) – UAE
- Stakeholder consultation meeting on SARPEX (March/April 2017) – Bangladesh, Bhutan and Nepal
- Roundtable stakeholder consultation meeting on the “Regional Investment Framework and Policy Guidelines for promoting investment in South Asian Power Sector and in Cross-Border Energy Trade (CBET)” – India
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- Roundtable stakeholder consultation meeting on the “Regional Investment Framework and Policy Guidelines for Promoting Investment in South Asian Power Sector and in Cross-Border Energy Trade (CBET)” – Nepal
- Launch of the report on “Harmonization of Grid Codes, Operating Procedures and Standards to Facilitate/Promote Cross-Border Electricity Trade in the South Asia Region: Framework Grid Code Guidelines” – Bhutan
- Launch of the report on “Harmonization of Grid Codes, Operating Procedures and Standards to Facilitate/Promote Cross-Border Electricity Trade in the South Asia Region: Framework Grid Code Guidelines” – Nepal, along with SAARC
- Finalization of terms of reference and award of the “BIMSTEC Energy Outlook” study
- Award of the study on “Developing Model Framework for Trading license Regime and Guidelines for grant of Trading License to Initiate/advance Power Trading in South Asian Countries and Facilitate CBET in the South Asian Region”
- Launch of the report on India-Pakistan CBET, along with SAARC

ABOUT SARI/EI

The SARI/EI program, funded by the United States Agency for International Development (USAID), promotes integration of energy systems and enhances cross-border energy trade among the South Asian countries by focusing on the following three development outcomes for overall socio-economic development of the region:

**Harmonize Policy, Legal and Regulatory Issues**

The key result of the Harmonization of Policy, Legal and Regulatory Issues component is to create the enabling systemic conditions for a sustainable market for investment and implementation of cross-border energy trade.

**Advance Transmission System Interconnections**

The key result of the Advancement of Transmission System Interconnections component is to create the enabling, systemic conditions for a sustainable market for investment and implementation of subregional bilateral transmission interconnections beginning with the Eastern Subregion of South Asia.

**Establishment of South Asian Regional Electricity Markets**

The key result of this component on Establishment of South Asian Regional Energy Market is to create the enabling and systemic conditions for a sustainable market for energy trading and exchange among the South Asian countries.

The overarching objective of the SARI/EI program is to develop a common template for technical and commercial aspects of power exchange among the South Asian countries. It intends to create the right enabling environment to support the establishment of a South Asian electricity market, gain consensus and support from the key decision makers and stakeholders in the South Asian Region.

SARI/EI WEB PAGE

For current information on SARI/EI, please visit the web page: [www.sari-energy.org](http://www.sari-energy.org)
BACKGROUND

Over the last two decades, South Asia has been one of the fastest growing regions in the world, with an average annual growth rate of 6% as measured by GDP per capita. Yet despite this impressive macroeconomic growth, the energy sector in the region has not been able to keep pace, and continues to experience chronic problems of supply shortage and poor quality of service. South Asia’s energy security dilemma is one of the single energy development challenges of the 21st century critical to the economic future of almost 1.5 billion people. Given this dilemma, the only long-term solution is the sustained increase in regional energy cooperation among the South Asian countries.

USAID’s South Asia Regional Initiative for Energy’s (SARI/EI) role over the past decade in advocating energy cooperation in South Asia has transitioned to the next phase of advancing regional energy integration and cross-border energy trade (CBET) in eight South Asian countries (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka).

This new phase titled South Asia Regional Initiative for Energy Integration (SARI/EI) is designed to build upon USAID SARI/Energy’s successful implementation in the past decade to move South Asian countries towards increased regional energy security. The program will address policy, legal, and regulatory issues related to energy in the region; promote transmission interconnections; and work towards establishing a regional market exchange for electricity.
South Asia Regional Initiative for Energy Integration

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