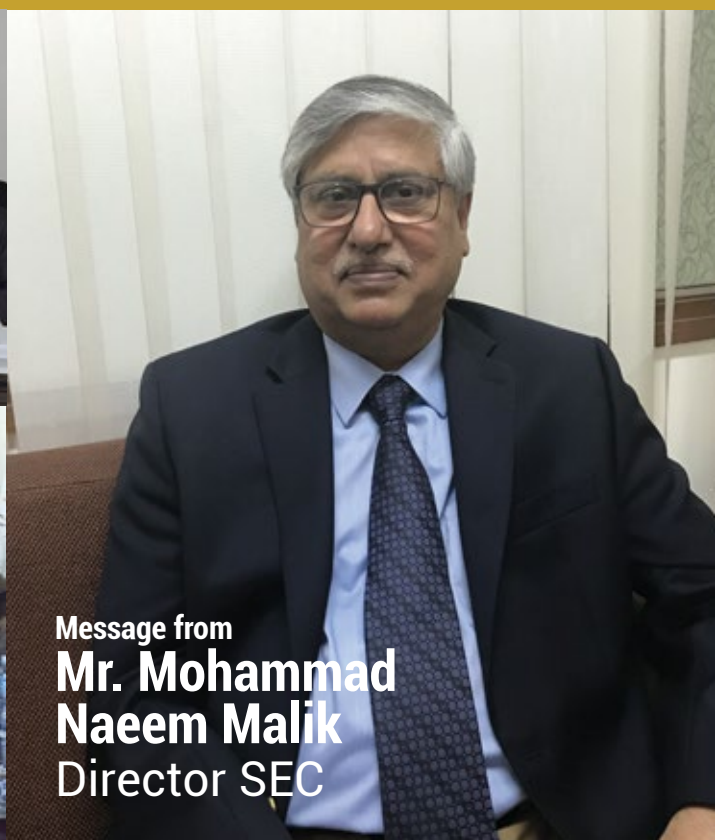
VOLUME 12, ISSUE 14, JAN-APR 2018

SAARC ENERGY CENTRE

Prime Minister Pakistan Shahid Khaqan Abbasi with Secretary General SAARC and Directors of SAARC Member States at SAARC Secretariat in Kathmandu, Nepal.

SAARC Dissemination Webinar on Deployment of Electric Road Transportation in South Asia

Secretary General of SAARC HE Amjad Hussain B Sial pays courtesy call on the Rt Hon Nanda Bahadur Pun, Vice President of Nepal



Message from
Mr. Mohammad Naeem Malik
Director SEC

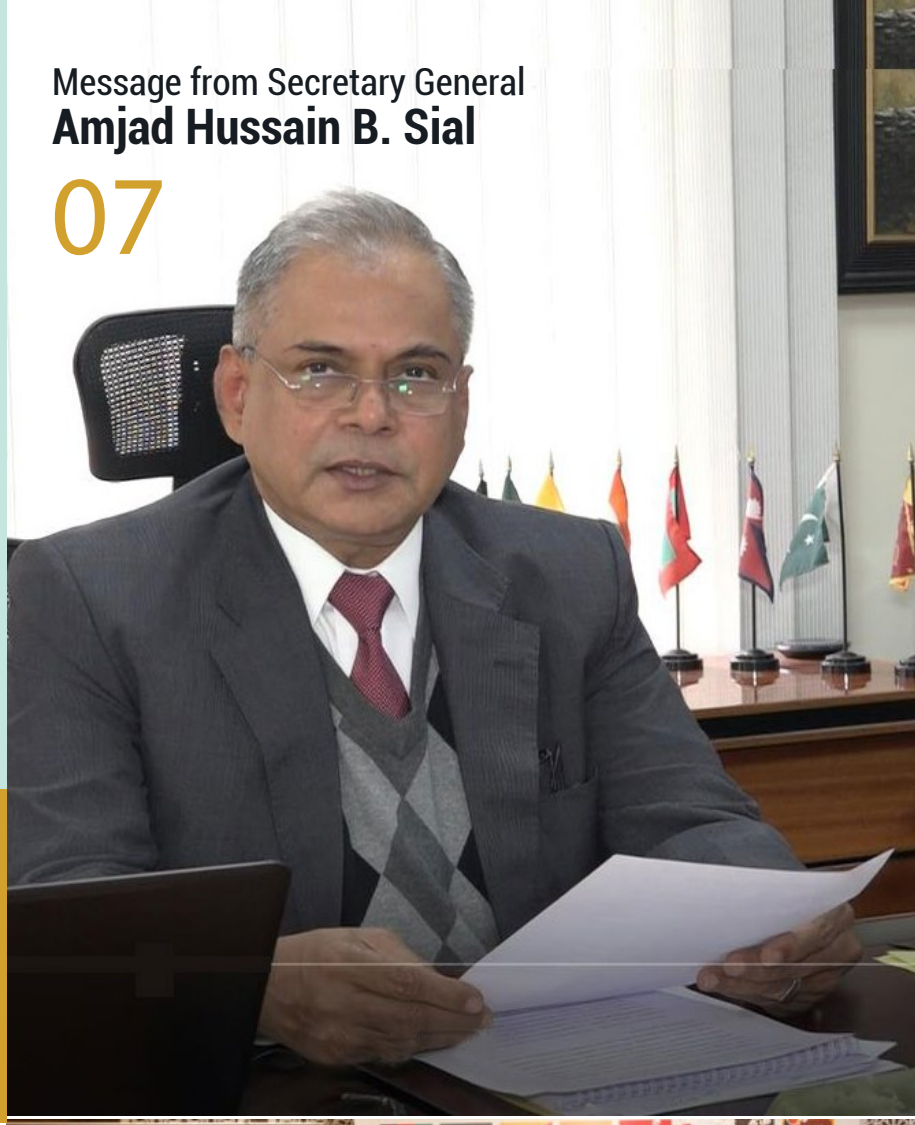
Vol.12 | 2018
(January to April)

Content

Editor in Chief:
Mr. Ihsanullah Marwat

Contributing Editor:
Mr. Arshad Munir

Publisher:
SAARC Energy Centre
Phone: +92 - 51 - 222 8802 & 04
Fax: +92 - 51 - 222 1937
E-mail: info@saarcenergy.org
Web: www.saarcenergy.org



Message from Secretary General
Amjad Hussain B. Sial
07

09

33rd SAARC Charter Day 2017

17

Plantation week was kicked off by SAARC Energy Centre (SEC)

Message from the Editor-in-Chief

It is indeed a pleasure to introduce to you the 14th Issue of the SAARC Energy Centre (SEC) Newsletter in a new online format, which we hope you will enjoy. Our Editorial Committee decided that a completely web-based publication, moreover environment-friendly, would make the newsletter quickly available to the world at large, either for consultation or future reference. This Edition includes messages, reports, together with events organized by the University. I seize this opportunity to thank all those who have submitted their contributions for this Issue. The assistance and guidance of the Editorial Committee in the efforts of Mr. Arshad Munir Khan are highly appreciated. Special thanks to Director SEC Mr. Muhammad Naeem Malik, with his support and guidance release of this issue would have never been possible. Please feel free to provide your feedback and send pertinent information with photos for inclusion in our forthcoming issues.

Thank you very much!

Ihsanullah Marwat

About
SAARC Energy Centre

Energy cooperation is a driver for the SAARC process leading to durable peace in the region. SAARC Energy Centre has been created through Dhaka Declaration in 2005, as the Special Purpose Vehicle to realize the vision of SAARC leaders to establish an Energy Ring in South Asia. It has started journey from 1st March 2006 in Islamabad. SAARC energy cooperation program provides a major substantive element for economic prosperity of South Asia through meeting the energy demand of the countries. SAARC Energy Centre is converting energy challenges into opportunities for development. It is the platform involving officials, experts, academia, environmentalists and NGOs to tap potentials of cooperation in energy sector including development of hydropower, renewable and alternative energy, promoting technology transfer, energy trade, energy conservation and efficiency improvement in the region.

Slogan:
Energy for Peace & Prosperity.

Vision:
Energy security for South Asia through development of indigenous, regional as well as Intra-regional resources by enhancing cooperation and optimal use of resources.

Mission:
Contribute as a regional Center of Excellence on energy to fulfill the energy needs through sustainable and least cost energy solutions.

Goals:

- Strengthen South Asia's capacity to collectively address global and regional energy issues.
- Facilitate energy trade within the SAARC region, through the establishment of a regional interconnections and energy markets.
- Promote the role of private sector in energy sector (i.e., production, transportation, trade, energy conservation).
- Enhance regional human capital in energy sector.
- Promote use of alternative and renewable energies/technologies in the region.
- Induce the culture of energy conservation in the region.
- Promote Transfer of Technology (ToT) in the energy sector in South Asia.
- Contribute in providing regional energy data and information.
- Undertake programs to achieve the above goals by approaching the Region and beyond.

Director Message

Welcome to the News Letter Edition (Jan-Apr 2018) published by SAARC Energy Centre (SEC). South Asian economies have achieved impressive rates of economic growth since couple of decades. Economic activity is one of the three most basic drivers of energy demand; the other two are population and technology.

With the economic development, nations' energy needs and priorities changes. As economies develop, as happened with industrialized countries, the tendency is to adopt more efficient technologies for the provision of energy services.

In line with the economic evolution, SAARC Energy Center always kept itself abreast to latest technological development and facilitated Member States in the same spirit.

SEC started its journey in 2006 as technical arm for the SAARC organization on Energy matters. Since then, the Centre striving hard to implement the vision of SAARC Heads of States into a reality by providing an important platform for the Member States to cooperate and engage with each other, to work collectively to overcome the challenges of energy crisis in the region. The Centre has paved way for the Region to pool its vast knowledge and expertise and also bring latest international skills to capitalize on synergies in the energy sector.

Some of the prominent interventions that SEC took in the year 2017, included Electricity Storage Technologies, Deployment of Electric Road Transportation in South Asia, Training on Demand Forecasting Tools, Template for Dispute Settlement Mechanism between SAARC Member States under Inter-Governmental Framework Agreement on Energy Cooperation (Electricity), Clean Coal Technologies, SAARC Energy Data Book, Training on Simulated Power Trading Market/Exchange etc. This year we are more focused on reduction in region's dependency on imported oils, through programs such as Promotion of Energy Conservation, Study on mobilizing International and Regional Finances / Funding for Implementation of Renewable Energy Projects in the Member States, SAARC Energy Outlook 2030, Infrastructure and enabling environment for road electric transport etc. Further to guidelines by His Excellency, Secretary General of SAARC for inclusion of physical projects in to our programs, this year SEC has launched two Solar PV Demonstration Projects, initially in Afghanistan & Bangladesh. This will be repeated yearly in other Member States in alphabetical order. In the same manner we are planning to increase the ratio of physical projects in our next year programs.

My sincere appreciation and thanks to Mr. Ihsanullah Marwat – Editor In Chief and all those who contributed towards bringing out this edition.

Mohammad Naeem Malik

Message from Secretary General

South Asia is home to about one fourth of humanity. A developing economy, having registered a repid gorwth in last two decades, South Asia has a huge growth potential. Among several other factors, energy, availability of which at affordable prices is conducive to the promotion of quality of life of peoples, will continue to to remain a prime mover of the region's economic growth.

Rapid urbanization and fast economic growth in the region have led to unprecedented surge in energy demand. Though many Member States have energy deficit, it is encouraging to note that the region is a vast pool of energy resources, which need to be fully exploited for self-sufficiency in energy and socioeconomic development and welfare of the peoples.

The process of regional cooperation in the energy sector began in January 2000 with the establishment of a Technical Committee on Energy. Thereafter in 2004, recognizing that this vital area of cooperation required focused attention, the Council of Ministers created a Working Group on Energy. Regional cooperation in energy received impetus with the identification of the concept of a "South Asia Energy Ring" during twelfth SAARC Summit in Islamabad in January 2004.

The Concept on the Energy Ring was approved by the Council of Ministers in January 2009, which, inter alia, delineated establishment of four expert groups on oil and gas, electricity, renewable energy and knowledge sharing, all four of which are now functional. Besides the forum of SAARC Energy Regulators, the SAARC Energy Centre, which serves as the Center of Excellence, is actively engaged in taking forward energy cooperation.

The SAARC Framework Agreement for Energy Cooperation signed during Eighteenth SAARC Summit in Katmandu in November 2014 is a step forward in the right direction. The Agreement is aimed at facilitating unrestricted cross border trade of electricity.

I commend the role played by SAARC Energy Center under the guidance of its Governing Board in promoting energy cooperation in the region.

I wish the Center every success in its future endeavors.

Amjad Hussain B. Sial

30th – 31st October 2017, Islamabad, Pakistan

THE 12TH MEETING OF GOVERNING BOARD OF SAARC ENERGY CENTRE

The 12th Meeting of Governing Board of SAARC Energy Centre was held on 30-31 October 2017 in Islamabad. GB Members from Afghanistan, Bhutan, Maldives, Nepal, Pakistan & Sri Lanka, representative of High Commission for Bangladesh, Islamabad, Mr. Ali Haider Altaf, Director (ETS) as the representative of Secretary General SAARC and Mr. Danish Mahmood (Deputy Director SAARC) from MoFA, Pakistan, attended the Meeting. Mr. Qazi M. Saleem Siddiqui, GB Member from Pakistan, being Chairperson of the GB, chaired the meeting. The chairman thanked Director (SEC) and his team for extending warm welcome, providing excellent hospitality and making admirable arrangements for the Meeting

6th and 7th March, 2018, Islamabad, Pakistan

JOINT AUDIT OF SAARC Energy Centre FOR FY - 2017

A three members Joint Audit Team, headed by Ms. Shereen Akhter, Deputy Controller General of Accounts, Office of the Auditor General of Pakistan with Mr. Fateh Muhammad Qureshi, Director, Office of the Auditor General of Pakistan and Mr. Mohan Kumar Parajuli, Director, Office of the Auditor General of Nepal audited the accounts of SAARC Energy Centre for the FY-2017 from March 6th & 7th, 2018.

December 8, 2017, Islamabad, Pakistan

33rd SAARC Charter Day 2017

SAARC Energy Centre in collaboration with Ministry of Foreign Affairs, Pakistan, and in partnership with SAARC Arbitration Council and SAARC Chamber of Commerce and Industry, celebrated 33rd South Asian Association for Regional Corporation (SAARC) Charter Day at the Ministry of Foreign Affairs, Islamabad, Pakistan on December 8, 2017.

Ms. Tehmina Janjua, Foreign Secretary of Pakistan, in her welcome address said that Pakistan is one of the founding members of SAARC has been committed towards its goals of regional stability. Still, serious efforts are needed for strengthening regional cooperation across South Asia, She Emphasized.

The foreign secretary said SAARC region was bestowed with immense natural resources and

manpower that could be exploited for the welfare of the people through collaborative efforts.

Mr. Muhammad Naeem Malik, Director SAARC Energy Center, elaborated role of the center, as working arm on energy, its past contributions and future commitment in fluffing the expectations of over 1.8 billion people of the region.

The event was attended by the high commissioners, ambassadors and diplomats from the SAARC member countries and observer states, representatives of the SAARC bodies based in Islamabad and officials from various federal ministries as well as journalists and media persons.

Islamabad on 12-13 November, 2017

Fourth Meeting of SAARC Experts on Renewable Energy

The Fourth Meeting of SAARC Expert Group on Renewable Energy was convened in Islamabad on 12-13 November, 2017. The Committee considered the Matrix on the progress made in implementation of decisions taken at the previous meetings. The meeting also considered and recommended the project proposals prepared by SEC for project-based collaboration with funding agencies.

Mr. Ahsan Javed, RF (RE) on behalf of SEC made a presentation on Challenges and Way Forward for Promotion of Renewable Energy (RE) in the SAARC Region. In his presentation, he briefed the meeting on SEC's mandate, Spectrum of SEC programme activities, ongoing activities of SEC on RE and, challenges and the way forward for promotion of RE.

Mr. Bhaskar Pradhan
Program Leader (Energy Trade)
SAARC Energy Centre

Mr. Bhaskar Pradhan has bachelor degree in Electrical & Electronics Engineering from University of Kerala, India and has his master degree in Electrical Engineering from University of New Brunswick, Canada. He is engaged with SEC as Program Leader (Energy Trade) on deputation from Druk Green Power Corporation (DGPC), Bhutan since January 2018. He has started his professional career since 2002 and has experience in various areas of work in power sector. Before being deputed to SEC he was working in the area of Power Market especially cross border trade, domestic generation tariff, power purchase agreements and representing the organization as a focal person in areas related to energy with various stakeholders. He also has good knowledge on Deviation Settlement Mechanism (DSM).

Islamabad on 12-13 November, 2017

Experience sharing Workshop **Identification, Comparison and Scenario Based Application of Power Demand/Load Forecasting Tools**

SAARC Energy Centre, Islamabad organized a two days workshop on Identification, comparison And Scenario based application of Power Demand/Load Forecasting Tools in Thimphu, Bhutan on 24 – 25 August 2017, in collaboration with the Department of Hydropower & Power Systems, Ministry of Economic Affairs, Bhutan.

A total of 34 delegates from Member States Afghanistan, Bhutan, India, Maldives, Pakistan and Sri Lanka including Resource Persons from India, Pakistan & Sri Lanka, attended this training workshop. Mr. Ihsanullah Marwat – Research Fellow (Energy Efficiency) coordinated the whole program on behalf of SEC as Program Coordinator.

The Inaugural session was chaired by Mr. Karma Tshewang, Chief Engineer, Department of Hydropower & Power Systems, Ministry of Economic Affairs, Government of Bhutan, followed by five technical sessions. The event was closed with the Valedictory Session on second day of the event, chaired by Mr. Karma P Dorji, Chief Engineer, Department of Hydropower & Power Systems, Ministry of Economic Affairs, Government of Bhutan.

The Workshop focused on Fundamentals of Load Forecast; Load Forecasting Methods and Techniques; Determination of Electricity Demand Forecast by Combining Short Term Time Trend and Long Term Econometric Modeling; Framework for Setting up Bhutan Power Planning Component with respect to Load Forecast; Long Term Power Demand Forecasting using Regression Model; Analysis of External Impacts on Electricity Demand Forecast; Power Market Survey Model: Bottom-up Approach for Forecasting Power & Energy Demand; Load Forecasting and its Application of Forecasting Tools (Hands on Training using MiPower Software); and a Visit to National Load Dispatch Center, Bhutan Power System Operator.

Islamabad on 12-13 November, 2017

Dissemination workshop
"Potential for Energy Storage Technologies in Electricity Sector of SAARC Member States"

SAARC Energy Centre, Islamabad organized a two days Dissemination workshop on Potential for Energy Storage Technologies in Electricity Sector of SAARC Member States in Kathmandu, Nepal on 13 – 14 November 2017. The event was arranged in collaboration with Department of Electricity Development, Ministry of Energy, Government of Nepal as the Knowledge Partner.

SEC especially organized this workshop to disseminate findings and recommendations of the study report on "Potential for Energy Storage Technologies in Electricity Sector of SAARC Member States" and its finding among relevant professionals of SAARC Member States.

A large number of delegates from Member States Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka attended the workshop. Mr. Ihsanullah Marwat Research Fellow (Energy Efficiency) coordinated the whole program on behalf of SEC as Program Coordinator.

The Workshop focused on the role of Energy Storage Technologies in Electricity Sector (ESTES), its application areas, present status in advance world, and particularly in perspective of SAARC Member States. It started with the background, history and importance of the ESTES. Proven and viable Energy Storage technologies were discussed one by one in detail. The study report was thoroughly shared with the audience. India being regional leader in the area was separately discussed as a special case. In the end best practices and "way forward" were discussed in detail. The Inaugural session chaired by Mr. Nabin Raj Singh, Director General, Department of Electricity Development (DoED), Government of Nepal, followed by technical sessions. The event was closed with the Valedictory Session of the event, chaired by Mr. Madhusudan Adhikari, Secretary, Water and Energy Commission Secretariat, Government of Nepal.

Kathmandu, Nepal | 14th November 2017.

SAARC Dissemination workshop
"Assess the Present Situation, Gaps in Capacity, Technology and Policy & Regulatory Instruments in Coal Sector in the SAARC Member States"

SAARC Energy Centre organized a one day dissemination workshop on Study report: "Assess the Present Situation, Gaps in Capacity, Technology and Policy & Regulatory Instruments in Coal Sector in the SAARC Member States" in Kathmandu, Nepal on 14 November 2017. The event was arranged in collaboration with the Department of Electricity, Ministry of Energy, Govt. of Nepal as the Knowledge Partner.

SEC envisaged this dissemination workshop aiming to discuss the contents of study and implementation the suggestions and recommendations given by the Expert/Author in the study report. The workshop also gave the emphasis on the necessary capacity building measures and the available technology of coal power plants in the regional market of South Asia. The policy interventions and the requisite regulatory framework required for the promotion of conventional/new Coal power generation technologies also aimed to discuss during the workshop.

Delegates from Member States and Resource Persons from Bangladesh and India attended this dissemination workshop. The workshop attracted an overwhelming participation from the host Member State Nepal. The Inaugural session chaired by Mr. Rajendra Prasad Khanal, Director General, Department of Mines and Geology, Ministry of Industry, Govt. of Nepal, followed by three technical sessions. The event was closed with the Valedictory Session on the same day, chaired by Mr. Rajendra Prasad Khanal, Director General, Department of Mines and Geology, Ministry of Industry, Govt. of Nepal. SEC received the inputs/ comments from distinguished participants from Member states and incorporated in the final report.

Mr. Billal Hussain
Research Fellow (Power)
SAARC Energy Centre

Mr. Bilal Hussain is an Electrical Engineer from UET Lahore and finished his Masters on Renewable Energy Management from University of Applied Sciences Cologne, Germany. He has served National Transmission and Despatch Company (NTDC) Pakistan for around five years as Assistant Manager in several directorates notably Central Power Purchase Agency and Power System Planning. He has an extensive experience in grid system engineering, power system planning and energy purchase agreements. On academic front, he has a publication in his name and has executed several model-based research projects focusing energy technology, policy and cost factors in multiple countries. He holds a strong grip on the modern computer-based modeling tools. His areas of interest are regional energy cooperation & dialogue, sustainable power systems and RE technologies.

Dhaka, Bangladesh | 10th – 11th December 2017

SAARC workshop on **System Operation and Settlement Mechanism, Cross Border Trade/Regional Power Market in South Asia**

SAARC Energy Centre (SEC), Islamabad, under its approved programme, organized a two-day training workshop on System Operation and Settlement Mechanism, Cross Border Trade/Regional Power Market in South Asia in Dhaka, Bangladesh on 10 – 11 December 2017. The event was arranged in collaboration with the Department of Power Cell, Power Division Ministry of Power, Energy and Mineral Resources, Bangladesh as the Knowledge Partner.

The objective of organizing this workshop was to prepare the professionals of SAARC Member States for undertaking cross border trade through its modalities including system operation and settlement mechanism.

A total of 30 delegates from i) Member States Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka; ii) Resource Persons from Bangladesh, India & Pakistan attended this training workshop. The workshop attracted an overwhelming participation from the host Member State Bangladesh; Bangladeshi delegates, dominated by SEC's Knowledge Partner for this Workshop i.e. Power Division, Ministry of Power, Energy and Mineral Resources, Bangladesh followed by delegates from Power Cell.

Mr. Mohammad Hossain, Director General, Power Cell, Power Division, Ministry of Power, Energy and Mineral Resources, Government of Bangladesh chaired the workshop started with the Inaugural session followed by five technical sessions. The event was closed with the Valedictory Session on second day of the event, chaired by Dr. Ahmad Kaikaus, Secretary, Power Division, Ministry of Power, Energy and Mineral Resources, Government of Bangladesh.

Vol.12 | Jan-Apr 2018

Plantation week was kicked off by SAARC Energy Centre (SEC) – January 2018

SAARC Energy Centre celebrated plantation week from 23-29 January 2018. This year main focus was on direct seeding method, and target area was Margalla hills of Islamabad. The activity was led by Mr. Ihsanullah Marwat under the guidance of Dr. Shoaib Ahmad. All staff of SEC participated on rotational basis.

Direct seeding involves the sowing of seeds directly into the soil to achieve germination and establishment. It can be achieved mechanically or by hand to recreate virtually any mix of vegetation. It can be used as an alternative to planting nursery grown seedlings or the two re-vegetation techniques can be used in conjunction.

SEC team developed special tools to increase the plantation speed, whereas seeds of native trees were collected, sorted and sowed to have maximum success ratio considering local conditions.

New Delhi, India | 20th – 22nd November, 2017

Stake Holders meetings regarding study to **"Compare the Prevailing Policy Measures, Technical Standards and Techniques including Labeling Schemes for Energy Efficiency / Conservation in SAARC Member States with Advanced World"**

Energy efficiency holds enormous promise to advance the nation's energy, economic, and environmental goals. An improvement in end-use efficiency / conservation offers great opportunity to address energy security, price and environmental concerns. Advancements in energy efficiency can help power the Member States' economy, boost energy security and independence. In the year 2017 an in-house study was undertaken at SEC to "Compare the Prevailing Policy Measures, Technical Standards and Techniques including Labeling Schemes for Energy Efficiency / Conservation in SAARC Member States with Advanced World". India being one of the leading Members of SAARC in the area was visited by the study team to hold stake holder meetings with relevant institutions, agencies and individual expert in the year to share their experience. The activity was supplemented by another approved program activity of SEC under special projects "Archive on SAARC Energy Centre".

SEC team comprised of Mr. Muhammad Naeem Malik (Director), Mr. Salis Usman, Program Leader (Energy Trade) AND Mr. IhsanUllah Marwat, Research Fellow (Energy Efficiency).

Some of the prominent meetings among several were with S. N. Goel (Managing Director & CEO), Indian Energy Exchange Limited, Dr. Ajay Mathur

(Director General), The Energy & Resources Institute (TERI) & Ex. Director General of the Bureau of Energy Efficiency, Government of India, Mr. V. K. Kharbanda (Project Director), Integrated Research and Action for Development (IRADe), SARI/EI, Dr. (Mrs.) Jyoti Parikh (Executive Director) Integrated Research and Action for Development (IRADe), Mr. K. K. Chakarvarti (Expert Consultant/ Senior Advisor – Knowledge Exchange Platform (KEP), KEP Secretariat, Bureau of Energy Efficiency.

Mr. Muhammad Umar Mukhtar
Research Fellow (Energy, Transport & environment)
SAARC Energy Centre

Mr. Muhammad Umar Mukhtar joined SAARC Energy Center in January 2018 as Research Fellow –Energy, Transport & Environment. He did his Electrical Engineering from National University of Sciences & Technology (Pakistan), and completed his MSc in Renewable Energy & Clean Technology from the University of Manchester (United Kingdom) in 2014 on the prestigious Commonwealth Scholarship. Moreover, he is also an esteemed Alumni of the Australia Awards Scholarship, and successfully completed his short course on "Energy Security and CrossBorder Energy Trade in South Asia" from the Australian National University (Canberra, Australia) in 2017. Before joining SEC, Mr. Mukhtar was working as an Associate Consultant – Renewable Energy with Reenergia-Enhar, and provided consultancy to various clients such as French Development Agency (AFD), Asian Development Bank (ADB), International Finance Corporation (IFC) and Enclude B.V. Prior to that, he worked as Production and Project Engineer in Coca Cola Pakistan, and was involved in the commissioning of their $100 million greenfield plant. Moreover, he also worked as a Graduate Trainee Engineer (Operations) in the 230 MW combined cycle power plant at Engro PowerGen Qadirpur Limited.

Tuesday, 6th March, 2018

SAARC Dissemination Webinar
"Study to Investigate the Difficulties for Household Solar Home Systems in SAARC Region"

SAARC Energy Centre, Islamabad had successfully organized a Dissemination Webinar on the findings of the report on "Study to Investigate the Difficulties for Household Solar Home Systems (SHS) in SAARC Region" on Tuesday, 6th March, 2018. The webinar presented the difficulties and problems which broadly include technical, financial, organizational and social issues faced by the Solar Home Systems programmes in South Asia. The experts during the course of the webinar had suggested solutions and recommendations for effective implementation of Solar PV technology in off-grid electricity supply.

The Webinar was attended by a total of 69 professionals that included delegates from Member States, Representatives of Regional/International organizations, Academia and private sector. The Resource Persons from Bangladesh, India, Pakistan and UNESCAP Thailand delivered detailed presentations on different aspects of off-grid SHS and also gave short talks during knowledge sharing session of the webinar. All the presentations delivered during the webinar are available at SEC's website.

Wednesday, 11 April 2018

Dissemination Webinar **"Deployment of Electric Road Transportation in South Asia"**

SAARC Energy Centre, Islamabad had successfully organized a Dissemination Webinar on "Deployment of Electric Road Transportation in South Asia" on Wednesday, 11th April, 2018.

The objective was to disseminate the knowledge generated, findings and recommendations of the study report among the professionals/experts of the Member States. The study was conducted by SAARC Energy Center (SEC) during the year 2017.

The webinar presented an overall view of Electric Road Transportation initiatives in South Asia, the Challenges & Opportunities in deploying Electric Road Transportation in SAARC Region, investigating the constraints and measures to overcome these for future deployment of Electric Road Transportation in SAARC Member States. The webinar also elaborated the way forward and road map charted out by the study team for deployment of Electric Road Transportation. It was attended by delegates from Government departments, research organizations, academia, associated industry and entrepreneur's etc. specifically from South Asia.

Tuesday, 6th March, 2018

SEC Demonstration Projects

Solar Cookers

SAARC Energy Center has developed different models of Energy Efficient Improved Cooking Stoves (ICS). These models are energy efficient, low cost and environmentally friendly. One of the major benefits is to address most common issue of indoor pollution in South Asia. Major victims are women who are mainly exposed to such pollution during cooking by direct burning of dirty fuels such as cow dung, charcoal or wood.

Solar PV

SAARC Energy Centre had successfully commissioned a pilot demonstration project of 13 kW Hybrid Grid-Tied Solar Photovoltaic (PV) with 10 kWh Lithiumion battery pack. The project shall demonstrate the technical and economic viability of roof-top Solar PV technology to visiting delegates from host country and other Member States.

Solar Cooker

Solar cookers are also introduced to address indoor cooking and reduction in direct burning of biomass that puts major impacts on the indoor environment but also contributes in overall damage to environment. Moto behind this demonstrational project is "Clean cooking empowers women".

Solar Lamps

Worldwide 1.1 billion people still lack access to energy; small solar lamps are a lowcost solution to light the life of those poor.

14-15 March 2018, Karachi, Pakistan

33rd Multi Topic International Symposium 2018. Organized by the Institute of Electrical & Electronics Engineer Pakistan (IEEEP)

Mr. Bhaskar Pradhan, working as Program Leader (Energy Trade) for SAARC Energy Centre participated in the Symposium organized by the Institute of Electrical & Electronics Engineer Pakistan (IEEEP), Karachi Centre during the 33rd Multi Topic International Symposium 2018 held on 14/15.03.2018 at Hotel Pearl Continental, Karachi. He presented during the technical session on the "Cross Border Electricity Trade in South Asia". The subject matter was one of the key agenda point deliberated on the day where the floor was highlighted on the Electricity Trade that are taking place among SAARC nations.

15-18 January, 2018, Abu Dhabi

Participation of SEC's Professionals in "World Future Energy Summit 2018"

World Future Energy Summit 2018, which is the world's foremost global annual event dedicated to advancing renewable energy and clean technologies was held in Abu Dhabi National Exhibition Centre from 15-18 January, 2018. In the event, there were multiple exhibitions with technical seminars and series of Techtalks related to different fields of energy (including advanced Solar PV/thermal, Electric Vehicles, Energy Storage & Batteries, Sustainable Waste Management & Recycling, Water-Energy Nexus, Energy Efficiency, and etc.)

Dr. Shoaib Ahmed, DD (Coord) and Mr. Ahsan Javed, RF (RE) had participated in the event on behalf of SAARC Energy Centre. The professionals from SEC were able to learn valuable insights into new technologies, equipment and markets. The event also helped SEC professionals to make linkages with the experts/ professionals/ companies from around the globe.

SAARC Development Fund (SDF) commits $30 m for 2 energy projects

SAARC Development Fund (SDF) has activated its infrastructure window by giving inprinciple approval to two energy projects in Nepal and Sri Lank with total commitment of USD 30 million.

Dr. Sunil Motiwal, CEO, SDF provided details of the projects in-principle approved in the SDF Board of Directors meeting held on 18-19 March 2018 at Thimphu, Bhutan. Dr. Motiwal informed that SDF Board has in-principle approved one waste to energy project in Sri Lanka and another hydropower project in Nepal under its Infrastructure Window.

1. The waste to energy project is first of its kind in Sri Lanka where the municipal waste will be converted to electricity and supplied to the grid. The total installed capacity of the plant is 13.2 mega-watts (MW). The project is estimated to cost about USD 64.55 million with proposed SDF credit exposure of up to USD 15 million.

2. The Hydro-electric project (HEP) in Nepal is a 900MW installed capacity project to be developed on run-off-river scheme in Nepal. The project will harness abundant availability of water in Nepal for generation of the electricity. The electricity generated out of the project is proposed to be supplied to the grids in Nepal, Bangladesh and India and will provide energy connectivity to three SAARC Member States - Nepal, Bangladesh and India. The project is estimated to cost more than USD 1.4 billion with SDF credit exposure upto USD 15 million.

SDF was established by the Heads of the eight SAARC Member States i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka in April 2010 with the aim to promote the welfare of the people of SAARC region, improve their quality of life, and accelerate economic growth, social progress and poverty alleviation in the region.

The Fund serves as the umbrella financial institution for SAARC projects and programs which are in fulfillment of the objectives of the SAARC Charter.

New Hybrid Solar Cell Can Harvest Electricity From Actual Raindrops

As advanced and efficient as our solar panels are becoming, they're still pretty much useless when rain clouds arrive overhead. That could soon change, thanks to a hybrid cell that can harvest energy from both sunlight and raindrops.

The key part of the system is a triboelectric nanogenerator or TENG, a device which creates electric charge from the friction of two materials rubbing together, as with static electricity – it's all about the shifting of electrons.

TENGs in this case the rolling motion of raindrops across a solar panel. Here two polymer layers were used to form a TENG on top of a photovoltaic cell.

In tests, the textured polymer layers acted as a mutual electrode for both the TENG and the underlying solar panel, conducting energy between the two devices when raindrops hit and bring the layers into contact.

As the extra layers were transparent, sunlight could still be captured, by separating the positively charged ions in salty rain, the scientists were able to get them binding to the graphene which then acted as a pseudocapacitor – essentially, two layers with different energy levels that then produced an electric current.

Bangladesh to add 18,905 MW power to grid

Bangladesh has over 70 public and private sector power plants presently under construction. These power plants will add 18,905 MW to the national power capacity. Out of these nearly 47 are going to be operational in next five years.

State Minister for Power, Energy and Mineral Resources Nasrul Hamid informed that "they are hopeful in achieving their target vision – 'Access to electricity for everyone within 2021'."

According to the officials of the Bangladesh Power Development Board (BPDB) 47 power plants are expected to start operation within the time-frame from 2018 to 2024. These 47 power plants will have a cumulative capacity of 13,813 MW. Apart from this, tenders have been

floated for installing 30 more power plants with a total capacity of 5,092 MW.

Mohammad Hossain, the Director General of Power Cell, a technical arm of Power Division, Ministry of Power and Energy & Mineral Resources and Member Governing Board, SEC added that 47 of the upcoming power plants will start their corresponding operations step by step. According to him "Out of these power plants, 18 are staterun having a total capacity of 7,313 MW and rest of them are privately owned having an accumulated capacity of 6,458 MW,".

India to supply 500MW More Power to Bangladesh by July

India will supply another 500MW power to Bangladesh through the BheramaraBherampur inter-connection by July 2018 next year. Discussions are underway to finalize the 765 KV power transmission line from Assam to the eastern part of India through Bangladesh (Bornagar-Parbatipur-Katihar) through which a portion of the power will be supplied to Bangladesh.

"This line would be extremely useful as it would serve to bring in excess hydropower, not only from the North Eastern part of India but more importantly from Bhutan and the sub-region.

" Since 2013, India has been supplyng 500MW of power from the BheramaraBherampur inter-connection. 160 MW power is also being supplied to Bangladesh using the Tripura-Comilla interconnection. Several projects in the power sector have been included in the new line of credit of $4.5 billion announced during the visit of Prime Minister Sheikh Hasina to India in April.

The India-Bangladesh power sector cooperation which was more or less bilateral in nature has now been taken to the sub-regional plane. India and Bangladesh have already signed MoUs for trilateral cooperation in the power sector with countries like Bhutan and Nepal. It is expected that these initiatives will contribute to bringing about energy security in the region.

Leaders launch start of Afghan section of TAPI gas pipeline

The long-awaited mega gas pipeline project of Turkmenistan, Afghanistan, Pakistan and India (TAPI) connecting the energy-rich Central Asia with South Asia was inaugurated on Friday, February 23, 2018 with leaders of the four countries attending its groundbreaking ceremony in Serhetabat followed by another in Herat.

In an exceptional show of regional cooperation, the quartet aims to complete the 1,840kilometre pipeline at a cost of $8 billion within two years to begin pumping 33 billion cubic metres (bcm) of natural gas annually from Turkmenistan's giant Galkynysh gas field (second largest in world) to Fazilka near the border with Pakistan in northern India, while the project has allowed Turkmenistan to find new consumers in Asia by reducing its dependence on Beijing, which buys about 35bcm gas annually. It is also being seen as a central plank in ambitious regional development goals.

TAPI will lead from a gas pipeline into an energy and communication corridor, the pipeline would underpin development of road, rail and communications networks.

Afghanistan, which suffers from chronic energy shortages, is expected to take 500 MMcfd of gas itself, with the rest divided equally between Pakistan and India, each getting 1,325 MMcfd. In addition, Kabul will earn hundreds of millions of dollars in transit fees.

SAARC Energy Centre
697, St 43, Sector E-11/4 (NPF)
Islamabad, Pakistan

Tel. : +92 - 51 - 222 8802 & 04
Fax : +92 - 51 - 222 1937
E-mail : info@saarcenergy.org
Website : www.saarcenergy.org