

SLEMA News



Sri Lanka Energy Managers Association
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Year: 2016 Month: April- June

Workshop on "Energy Efficient Air-Conditioning Systems"

SLEMA conducted a workshop on "Energy Efficiency of Air Conditioning Systems" on 6th April 2016 at Ramada, Katunayake. The key resource persons at the workshop were Dr. Tilak Siyambalapitiya (Managing Director; RMA (Pvt) Ltd/ Past president; SLEMA), Mr. Chandana Dalugoda (ASHRAE Distinguished Lecturer, Chartered Engineer, Managing Partner; Chandana Dalugoda Consultants and Mr. Buddika Wasala (DGM- Central AC Division; Abans PLC).



Mr. Chandana Dalugoda making his presentation

The course has been specially designed for Maintenance Engineers, Supervisors and Energy Managers of Commercial Buildings, Hotels and Factories.

The event sponsored by Abans PLC was attended by 30 participants mainly from the private sector. Dedicated organizing efforts of SLEMA board member Mr. C. M. S. M. Fazvi was instrumental to the success of the workshop.

At the completion of the training, the successful participants were awarded certificates by SLEMA Joint Secretary Mr. Swetha Perera.



Joint Secretary Mr. Swetha Perera awarding the certificates

Energy Management Forum

SLEMA holds the Energy Management Forum (EMF) with the intension of uplifting the knowledge of SLEMA members on different areas of energy management.

The 15th EMF was held on 13th May 2016 at SLEMA Office, Colombo 8.

At the EMF, Mr. Nimal Perera (Immediate Past President; SLEMA) made a presentation on "Energy Management and Climate Change - A Global Perspective".

The 16th EMF session was conducted on 24th June 2016 under the topic "Sustainability = Profit" by Mr. Janaka Rathnakumara, Chief Operations Officer at Wijeya Newspapers Ltd. Mr. Rathnakumara is an Associate Member of SLEMA.



Mr. Rathnakuamara making his presentation

All SLEMA members are welcome to take part in future Energy Management Forums. Date and theme of the next Energy Management Forum will be informed to the members through email.

"Build Sampur project or face the consequences"

Published on "The Island" on June 16, 2016.

(Excerpts of lecture delivered by Dr. Tilak Siyambalapitiya at BCIS)

Sri Lanka is heading for a crippling power crisis due to an inordinate delay in implementing the Sampur coal-fired project as well as the failure on the part of the current administration to initiate any other power generation scheme, a forum organised by the Bandaranaike Centre for International Studies (BCIS) at its auditorium was told yesterday.

One of Sri Lanka's foremost experts in the power sector Dr. Tilak Siyambalapitiya warned of dire consequences unless the Indo-Lanka joint venture at Sampur was launched immediately.



Dr. Tilak Siyambalapitiya making his presentation

Dr. Siyambalapitiya asserted that Sri Lanka would experience severe power shortages in 2018 for want of tangible measures to improve the situation.

According to him, action hadn't been taken during the past two years in this regard.

Dr. Siyambalapitiya was addressing issues in respect of two major joint Indo-Lanka ventures in the power sector with the focus on long delayed Sampur coal-fired project.

The specialist also dealt with the proposed HVDC Grid Interconnection to link the national grids of the two countries.

Former President Chandrika Bandaranaike Kumaratunga and Indian High Commissioner Y.K. Sinha were among the invitees at the forum 'India-Sri Lanka relations in the 21st century.'

Recollecting attempts made by various governments since 1987 to establish a power plant in Trincomalee, Dr. Siyambalapitiya said that the much touted Sampur project seemed to be on hold.

Responding to a query from the audience, Dr. Siyambalapitiya emphasized that Sri Lanka couldn't go for a liquefied natural gas (LNG) plant instead of the coal-fired after having reached a vital stage of the Sampur project. Alleging that the current power purchasing arrangement between the Ceylon Electricity Board (CEB) and the National Thermal Power Corporation Ltd. (NTPC) of India was adverse to Sri Lanka, Dr. Siyambalapitiya urged the *Yahapalana* government to proceed with the project and renegotiate the power purchasing agreement.

Pointing out that Sampur project had been originally scheduled to commence operations during 2016, Dr. Siyambalapitiya said that the project wouldn't be able to meet even the second deadline in 2020 unless it got underway immediately.

Accusing the UNP-led UNF government of delaying Norochchola coal-fired power plant (2002-2003) period, Dr Siyambalapitiya estimated that the national economy had experienced a staggering loss of USD 4 billion due to over a decade long wait.

The energy expert blamed successive governments for not being firm in their decisions in respect of Sri Lanka's power sector requirements. The government couldn't afford to deprive the country of large power generation projects to meet the growing demand, Dr Siyambalapitiya said, asserting that it was now too late to initiate a dialogue on

whether to proceed with second coal-fired project or go for LNG.

Recently, the government announced that India had been requested to consider putting up an LNG plant at Sampur.

The owners of costly diesel-power generation plants would be the ultimate beneficiaries of successive governments' failure to adopt a tangible plan, Dr. Siyambalapitiya said. He warned that contrary to public pronouncements the government was likely to make, finally the ordinary consumers would have to suffer. Dr Siyambalapitiya recalled the circumstances under which those operating diesel-fired power plants immensely benefited during the power crisis.

Commenting on the proposed project to link the national grids of the two countries, Dr. Siyambalapitiya stressed that it was certainly not economically and financially viable. Explaining the extreme difficulties in implementing the costly project, Dr. Siyambalapitiya asserted that it wasn't likely to be implemented in accordance with presently available plans. However, Dr. Siyambalapitiya discussed the possibility of scaling down the project currently estimated to cost as much as US \$ 1 bn.

The expert questioned Sri Lanka's financial strength to implement such a project in light of the current situation.

Dr. Siyambalapitiya strongly advised the government to immediately initiate talks with India to renegotiate agreement on Sampur. He called for a cohesive action plan to meet Sri Lanka's demand for energy.

Smart Cities: Concept or Reality?

Compiled by Ms. Nadeesha Manamperi (Associate Member of SLEMA)

Digital transformation of the cities is now on everyone's attention. More than half of the humanity on the planet living in cities makes the cities extremely power hungry. High concentration of industry, transport systems and buildings demand high usage of energy in cities. World attention is on to create more sustainable, reliable and less energy consuming cities by making them SMART.

A Smart City is the new generation of information technology, synthetically using the internet of things (IoT), cloud computing, and spatial information integration for the daily functioning of the city. Its main features are digitization, intelligence and networking.

Power outages are extremely hazardous for SMART cities. Hence power reliability becomes first concern. Power resilience can be achieved by implementing micro grid architecture or automatic power re-routing systems. In this context SMART grids and SMART meters come in to play. SMART grids, capable of day ahead forecasts, system balancing with real time information and controlling household loads allow acquiring a great proportion of renewable energy to the city's energy mix. World's first solar road was launched in Dutch city Krommenie in 2014. This 70 m length road has generated 9,800 kWh of energy during its first year. Future SMART cities will definitely adopt large spreads of solar roads to fulfil the need of powering the city's electric vehicles.

A SMART city should essentially be eco-friendly. The green roofing of buildings is one way to attract wildlife and create the eco-friendly systems while gaining good insulation. Green buildings capable of reducing the waste in energy, water and materials effectively minimizes the carbon emissions of the city. To create a healthy society, it is important to adopt most of the clean energy mechanisms that can be generated from the buildings themselves such as solar PV and Wind. The next level challenge of green buildings is storing the generated energy. Fuel cells that operate from Hydrogen are the solution. The new developments allow separation of Hydrogen from water which is totally environment-friendly and cost competitive process.

SMART street lighting helps many functions of SMART cities. Street lights equipped with a large number of sensors are capable of multi monitoring parameters of the city such as air quality, humidity, noise levels, foot fall, parking, traffic as well as seismic activities. The dynamic and intelligent street lights can save power by dimming the light during the periods of no occupants.

A well implemented transport system which allows unrestricted mobility for people and goods is a main feature of a SMART city. Traffic management can be achieved by the high speed data achieved from the sensors. Bus lines and metro lines are on a map

giving up-to-date routes and time. Parking prediction mobile applications allow identifying potentially free parking spaces.

Heart of SMART CITY function is real time data processing. The huge carbon footprint affixed to this process is something that goes hidden in general concern. To power-up all the servers, routers, switches, hubs associated with cloud computing demands heavy power consumption.

Everything online is the base of the function of SMART cities. This in a way gives great convenience to operate, but on the other hand, exposes to new threats of cyber attacks. A recent major smart city hack was faced by USA's Office of Personal Management in 2015, where the intruders gained access to 5.6 million finger prints of the people who are seeking security clearances. Simple threat as hacking to traffic light systems can cause severe consequences due to cascade effect and cause collapse functioning of the whole city. Strong data encryption systems are required to establish the digital security of SMART cities. Another concept is to run the systems fragmented.

The top ten smart cities of the world, according to the IET's Engineering & Technology magazine are Barcelona, Singapore, Copenhagen, New York City, London, Amsterdam, Hong Kong, Dubai, Rio de Janeiro and Paris. Copenhagen aims to become world's first carbon neutral city in 2025 as the ultimate result of 30 years' planning.

The concept 'SMART Cities' gives us hope in a way for sustainable development. But it's too early to assure that it will. Let's keep our eyes open and hope that SMART cities will have the potential to run securely and efficiently as designed.

Sri Lanka Green Energy Champion

Compiled by Mr. Namiz M. Musfer (Corporate Member of SLEMA)

The month of May 2016 was an exciting month not only for SLEMA, but for all green energy enthusiasts of Sri Lanka. Taking the announcement of the government to make Sri Lanka an energy sufficient nation by the year 2030, the Sri Lankan Embassy of the Federal Republic of Germany and GIZ in association with SLSEA and SLEMA launched a national competition to select the Green Energy Champion Project.



At the green energy champion campaign launching ceremony

The grand prize for the winning project proposal was EUR 30,000 equivalent in Sri Lanka Rupees, to be used in project implementation. This stiff competition was open to schools, NGOs, CBOs, household groups and SMEs. SLEMA was the technical collaborator of this great endeavour.

Overall objective of Green Energy Champion was promotion of green energy concept through the combination of renewable energy, energy efficiency, climate friendly low carbon impacts and sustainable development among communities. A "green energy village or community" was expected as the outcome of the implemented project. Nearly 80 applicant institutions and individuals competed to become the champion. SLEMA's project selection committee had to spend a couple of days to test the eligibility and shortlist good proposals for further evaluation by a panel of judges. Finally the top 6 proposals were selected using well-defined and comprehensive criteria from which the winner was determined.

The best proposal was from **Ananda College**, Colombo, recording a history in the country. Being a leading national school, where in addition to the students, teachers and other staff members of the school, this school is frequently visited by students, teachers and others from different parts of the country. Accordingly, a good demonstration in this school is expected to have a wider outreach and an impact. The solar PV system mounted in the school is planned to provide the entire electricity demand of the school hostel. Further, the organic garbage collected from the classes and the canteens is to be processed through a biogas system generating gas for cooking meals in the hostel. The slurry produced by the biogas system would provide organic inputs to organic farming including hydroponics. The excess electricity generated by the solar PV panels would be fed into the national electricity grid.

Congratulations!

Sri Lanka Energy Managers Association Congratulates Eng. Shavindranath Fernando; past president of SLEMA on his new appointment as Chairman of NERD Centre and wish him all the success.



Eng. Shavindranath Fernando
(Chairman- National Engineering Research and Development Centre (NERD))

SLEMA New Members

Associate Members:

Mr. Amal Karunasena
Mr. K. K. Vijrin Gunawardana
Mr. R. W. G. D. C. Weerasinghe
Mr. Surantha Jayawardana



UP Coming Event...

FIVE day Energy Manager Training Programme from 22nd to 26th August 2016
@ SLIDA

**Your valuable comments, criticisms and proposals are welcome. Please direct them to:
The Editor-SLEMA Newsletter**

For an electronic copy of this newsletter, please visit SLEMA web site
Send your views and all energy related news and advertisements to be published in SLEMA News to:
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