

Workshop Report

Renewable Energy Microgrid Workshop

Astana, Kazakhstan

10 - 12 Aug 2017

Prepared by the Sustainable Energy Association of Singapore (SEAS)

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CBP-06. Renewable Energy Microgrid Workshop 10 – 12 Aug 2017

Microgrids are playing a critical role in energy access. They have especially been effective in island economies in SE Asia as well as developing countries with no or weak grid infrastructure. Ever dropping costs of renewable energy sources and fast developing technology has made new energy sources such as solar PV and wind an important part of modern microgrids. Such modern hybrid microgrids have proven to be more cost effective and cleaner compared to the traditional hydrocarbon based microgrids (e.g. diesel generator based microgrids).

Singapore is one of the leading nations in development of technology as well as commercial attributes related to renewable energy microgrids. Main goal of the workshop is to share ideas, showcase locally developed technology and help central Asian policy makers and regulators build a roadmap to enable the implementation of micro grids.

17 participants (listed in Annex 1) from 8 countries attended the 3-day workshop. There were 4 resource speakers from Singapore, presenting and sharing their knowledge and expertise with the participants in the workshop.

Programme Day 1 – Thu, 10 Aug 2017



The workshop was opened with an introduction to the Sustainable Energy Association of Singapore, the Sustainable Energy Centre of Excellence and the Ministry of Trade and Industry; the organizers of the workshop. This was followed by a brief introduction to the programme and a Speed Networking session where the participants introduced themselves.

This was followed by presentations designed to give the participants a high-level overview of what micro-grids are, how they work and where they can be deployed. This included an overview of Renewable Energy technologies, the commercial aspects and technical aspects of developing micro-grids.

The day was closed off with the presentation of a case-study on the use of micro-grids in the deployment of remote area telecom towers in Central Asia. This was a non-typical example of a micro-grid intended to show the participants that micro-grids are not limited to tropical islands.

Programme Day 2 – Fri, 11 Aug 2017

The second day programme was focused on all aspects required to enable the deployment of micro-grids. Starting with a case-study on the Renewable Energy Integrator Demonstrator of Singapore (REIDS), the participants saw how Singapore is enabling the deployment of micro-grids by providing test-bedding opportunities on an actual remote island.



The speakers went on to present successfully deployed business models and how they were structured, financing options including the Micro-grid Investment Accelerator (MIA) and how organizations such as the Alliance for Rural Electrification (ARE) and SE4ALL by ADB can assist in rural areas.

Day 2 also included a short presentation on a UN initiative to deploy microgrids for rural electrification in Tajikistan.

Programme Day 3 – Sat, 12 Aug 2017

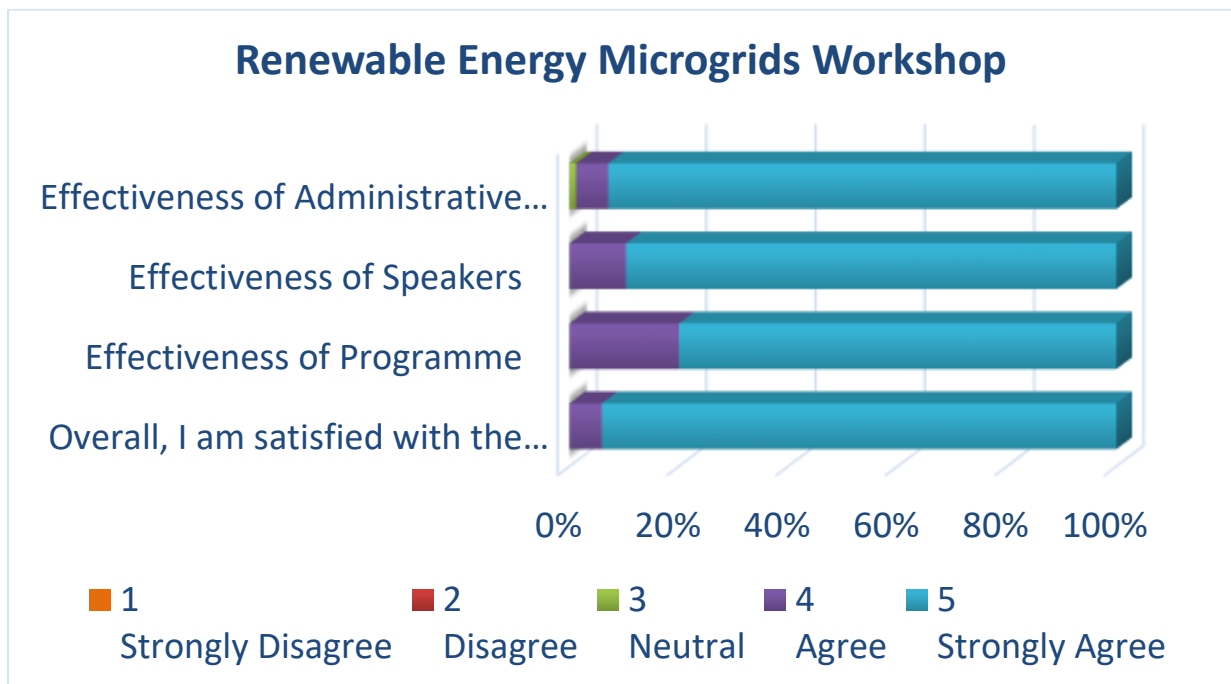
The final day of the workshop looked at policy and regulatory framework and how these can enable the deployment of microgrids. This was followed by a showcase of the available technologies by industrial players.

The participants were given a chance to put together a presentation on the state of microgrids in their countries, their learnings for the week and the key take-aways they could implement upon returning to their countries that would enable the deployment of microgrids further.



Feedback

The participants' responses were extremely positive in all aspects of the programme and logistics.



Annex 1 – Participant and Speaker List

No.	Title	Full Name	Job Title	Name of Institution/ Organisation	Country
1	Mrs	Sona Atayan	Leading Specialist	Ministry of Energy Infrastructures and Natural Resources of the Republic of Armenia	Armenia
2	Ms	Amirova Ilaha	Adviser	State Agency on Alternative and Renewable Energy Sources	Azerbaijan
3	Mr	Gurbanov Rauf	Deputy Head of Department	The State Agency on Alternative and Renewable Energy Sources of Azerbaijan Republic	Azerbaijan
4	Mr	Rauf Ahmadov	Deputy Chief Head of Department	The Ministry of Energy, State office of Controlling Energy	Azerbaijan
5	Mr	Viacheslav Chekurov	Chief of Main Economic Department	Ministry of Energy of the Republic of Belarus	Belarus
6	Ms	Tatsiana Ulashchyk	Chief of Department	Ministry of Energy	Belarus
7	Mr	Beshidze Nugzar	Senior Specialist	Ministry of Energy of Georgia	Georgia
8	Mrs	Natalia Jamburia	Chief Specialist	Ministry of Energy of Georgia	Georgia
9	Ms	Anuki Batiashvili	Senior Adviser	Ministry of Energy of Georgia	Georgia
10	Mr	Feklistov Dmitriy	Head of Division	JSC KEGOC	Kazakhstan

No.	Title	Full Name	Job Title	Name of Institution/ Organisation	Country
11	Mr	Karybaev Urmat	Expert	"National Energy Holding Company" OJSC	Kyrgyzstan
12	Ms	Anara Ormonbekova	Expert	National Energy Holding Company OJSC	Kyrgyzstan
13	Ms	Anvarova Gulnora	Head of Department	Tajik Technical University	Tajikistan
14	Mr	Radzhabalieva Mavdzhuda	Leading Specialist	Ministry of Economic Development and Trade of Republic of Tajikistan	Tajikistan
15	Mr	Jurabek Izzatillaev	Researcher	JSK "Uzbekenergo" Scientific Technical Centre	Uzbekistan
16	Mr	Khudayberdiev Abror	Head of Department	JSK "Uzbekenergo"	Uzbekistan
17	Mr	Khimmatali Juraev	Junior Scientific Researcher	Physical-Technical Institute, Uzbek Academy of Sciences	Uzbekistan

Registered but did not attend

No.	Title	Full Name	Job Title	Name of Institution/ Organisation	Country
1	Mr	Sapargaliyev Madiyar	Chief Specialist	JSC Financial Settlement Center	Kazakhstan
2	Mr	Shyrlanov Azamat	Chief Expert Department of Renewable Energy Sources	Ministry of Energy	Kazakhstan

No.	Title	Full Name	Job Title/ Position	Name of Institution/ Organisation	Country
1	Mr	Mark Netto	Co-Founder	75 Ventures Pte Ltd	Singapore
2	Mr	Apanda Marlon Joseph	Managing Director	Allotrope Philippines	Philippines
3	Mrs	Katarina Hasbani	Consultant	The August Company	Singapore
4	Mr	Popov Pavel	Director	HOMSOL	Germany
5	Mr	Roch Drozdowski-Strehl	Deputy Director	Nanyang Technological University	Singapore
6	Mr	Sagar Gubbi	Managing Partner	Ecoforge Advisors Private Limited	India
7	Mr	Sujay Malve	CEO	Canopy Power Pte Ltd	Singapore
8	Mr	Jamshed Vazirov	Project Manager	United Nations Development Programme (UNDP)	Tajikistan