Proceedings of the second meeting of the Utility CEO forum on demand side management

June 2013

pwc

Utility DSM Forum India

SHAKTI SUSTAINABLE ENERGY FOUNDATION

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Introduction

The second meeting of the Utility CEO forum on demand side management was held on 11 June 2013, with an objective to discuss a model state policy on utility- driven demand side management. The discussion was chaired by Gireesh B Pradhan, Former Secretary, Ministry of New and Renewable Energy, and was attended by 26 other participants representing the Forum secretariat, electric utilities, state governments, central and state electricity regulatory commissions, nodal agencies and other stakeholders.

Participant profile

1. Gireesh B Pradhan, IAS (retired), Former Secretary, Ministry of New and Renewable Energy
2. Umesh N Panjiar, IAS (retired), Chairman, Bihar Electricity Regulatory Commission
3. Krishan Dhawan, CEO, Shakti Sustainable Energy Foundation
4. Shakti Sinha, IAS, Principal Secretary (Energy and Finance), government of Delhi
5. Devender Singh, IAS, Principal Secretary to the government of Haryana and CMD, Uttar Haryana Bijli Vitran Nigam Limited and Dakshin Haryana Bijli Vitran Nigam Limited
6. Rajiv Yadav, IAS, Chairman, Assam State Electricity Board and CMD, Assam Power Distribution Company Limited
7. Meenakshi Singh, IRS, Member, Uttar Pradesh Electricity Regulatory Commission
8. Praveer Sinha, CEO, Tata Power Delhi Distribution Limited
9. Saurabh Kumar, MD, Energy Efficiency Services Limited
10. Anup Mondal, senior executive VP - operations, Reliance Infra (Mumbai distribution)
11. Abhijit Bose, Executive Director, Calcutta Electric Supply Corporation (CESC) Limited
12. Pramod Deo, Additional VP - DSM, Reliance Infra (Mumbai distribution)
13. SP Singh, Former Additional Deputy, Comptroller Auditor General of India (retired)
14. K Sreedhar Reddy, Deputy Director Distribution, Andhra Pradesh Electricity Regulatory Commission
15. Rakesh Shah, Advisor (RE), Central Electricity Regulatory Commission
16. Ravindra Kumar Verma, Chief Engineer, Central Electricity Authority
17. V Ramakrishna, Former Member, Central Electricity Authority
18. Sandeep Garg, Programme Specialist, United Nations Development Programme
19. Kamlesh Parikh, Superintending Engineer, Madhya Gujarat Vij Company Limited
20. V.K Jain, Superintending Engineer, Paschimanchal Vidyut Vitran Nigam Ltd
21. R P Singh, Superintending Engineer, Paschimanchal Vidyut Vitran Nigam Ltd
22. R P Aggarwal, Jaipur Vidyut Vitran Nigam Limited
23. Ravi, project engineer, Bureau of Energy Efficiency
24. Chinmaya Acharya, Chief of Programmes, Shakti Sustainable Energy Foundation
25. Natasha Bhan, Programme Lead (Electric Utilities), Shakti Sustainable Energy Foundation
26. Amit Kumar, Associate Director, PwC
27. Kulbhushan Kumar, Senior Manager, PwC

Welcome address

Krishan Dhawan, CEO, Shakti Sustainable Energy Foundation

Krishan Dhawan, CEO of Shakti Sustainable Energy Foundation (Shakti) extended a warm welcome to all participants and expressed his sincere gratitude to Gireesh B Pradhan, Former Secretary, MNRE, for agreeing to chair the forum's meetings in an honorary capacity. He introduced Shakti as an organisation working towards energy security, energy efficiency and deployment of low carbon options in the Indian economy. Dhawan highlighted that Shakti seeks to engage policymakers at the state and central levels in order to advance policy, programmes and dialogue among stakeholders.

He also asserted that Shakti recognises the challenges faced by the Indian power sector in bridging the demand-supply gap and that demand side management(DSM) has witnessed tremendous success in meeting energy shortages, in many parts of the world. Dhawan mentioned that megawatt scale DSM investments by utilities can substantially ease supply-side pressures faced by the country while attempting to meet the rising electricity demand.

He concluded his address by citing the rationale and objectives for establishing the Utility CEO Forum on DSM and its agenda for the second meeting.

Setting the context

Gireesh B Pradhan, Former Secretary, Ministry of New and Renewable Energy

Gireesh B Pradhan, Chairperson of the forum commenced the meeting by elucidating the current status of DSM programmes in India and the urgent need to upscale them. He pointed out that the launch of the forum in February 2013 saw participation by the Central Electricity Regulatory Commission (CERC) and various power utilities of the country. Pradhan mentioned that at the first meeting, discussion centred around the '*Barriers and enabling mechanisms for advancing megawatt scale DSM programmes in India*', and that there was a general consensus among forum participants to develop and discuss a model state policy on utility-driven demand side management at the next meeting of the forum.

He asserted that the primary objective of such a model policy is to provide a guiding document for state governments striving to accelerate large-scale utility-driven DSM investments. Pradhan mentioned that the forum's secretariat will be providing advisory support to formulate the model policy and draft a state-specific policy for state governments. He cited a recent CEA publication, which predicted high energy deficits, especially in the southern states in the current financial year, and further remarked that the situation calls for demand-side solutions to complement supply-side measures. Pradhan also remarked that load shedding has been extensively adopted by many utilities across the country for managing demand- supply gaps. However, use of load shedding as a measure to manage demand should not be acceptable and should be limited as much as possible going forward. Instead, they should be replaced by structured DSM programmes, which do not impact the quality of life, and have been tried and tested globally to enable high quality power supply.

Presentation on the model state policy for utility- driven demand side management'

This presentation was delivered by Amit Kumar, Associate Director at PwC. It focused on the need for a state DSM policy, the current legal and policy framework, and the key elements of the proposed model policy. The presentation also covered the international best practice for creating an enabling policy framework for prioritizing DSM investments.

From (L - R) Kulbhushan Kumar and Amit Kumar

The presentation was followed by an enriching discussion and debate amongst the participants, facilitated by the Chairperson of the meeting.

The following sections briefly describe the comments and suggestions made by the participants on various elements of the model policy.

The round table discussion facilitated by the Chairperson

- **Definition of DSM**: Shakti Sinha, the Principal Secretary from the Delhi government, remarked that the definition of DSM adopted in the model policy considers only the interest of the utilities and that the interests of the consumers have been neglected. The forum unanimously agreed that the definition of DSM must consider both utility and consumers interests.

From left to right: Shakti Sinha, the Principal Secretary, Delhi government and Umesh N Panjiar, the Chairperson of Bihar state electricity regulatory commission

- **DSM targets:** V Ramakrishna, the former member of CEA, remarked that the DSM targets in the model policy need to be derived from a detailed load research study and through the assessment of the technical and economic potential of DSM. To this point, the Chairperson of the meeting opined that a detailed study may delay the whole process while Umesh N Panjiar, the chairperson of Bihar State Electricity Regulatory Commission, further explained that targets can be assessed quickly based on well- known established benchmarks of energy saving potential in various sectors of the economy. Saurabh Kumar of Energy Efficiency Services Limited cited that the Bureau of Energy Efficiency, in 2009, sponsored a study to assess energy saving potential in several states and across different electricity end-use sectors. He further explained that the findings of this study can be used to derive the overall potential for energy and peak demand savings, and subsequently establish targets under the State DSM Policies. Sandeep Garg, Program Specialist of UNDP cited that many BEE studies in the past have attempted to estimate the energy saving potential in various sectors of the economy. Ravindra Kumar Verma, Chief Engineer of CEA cited the findings of a recent workshop on DSM that identified monitoring and verification as the critical barrier for implementing Energy Services Company (ESCO) based performance contracting assignments. Further, Rajiv Yadav, CMD of Assam SEB opined that local conditions need to be considered while drafting the policy. He cited the example of temperatures in many parts of north-east India, which are usually under 30°C, and that under such conditions the use of air conditioners, need to be discouraged, as the use of de-humidifiers can provide the required cooling. He pointed out that such behavioural shifts have to be encouraged by the utilities in the north-east to promote DSM.

- **Loading order:** Umesh N Panjiar, the Chairperson of Bihar State Electricity Regulatory Commission opined that DSM and energy efficiency has to be the first resource in the established loading order of the utilities. The forum unanimously agreed that Indian utilities, in their current financial health, may not be able to comply with such a stringent policy framework and that the DSM needs to only be considered in the order of its resource cost effectiveness.

- **Rewarding the utilities based on DSM investments:** Ravindra Kumar Verma, Chief engineer of CEA was of the opinion that DSM investments can be incorporated as one of the important parameters in the Ministry of Power's annual awards scheme, aimed at recognising electric utilities for meritorious performance.

- **Verification of energy savings**: Panjiar, Chairperson of Bihar state electricity regulatory commission opined that the capacities of state nodal agencies for implementing DSM policies are still at the nascent stage. In this regard, the Forum has to develop cost effective tools for supporting these nodal agencies. This would enable the verification of energy savings resulting from implementation of policies.

- **Renewable energy applications:** V Ramakrishna, the former member of CEA, asserted the need for mandatory use of solar PV systems by large commercial consumers. In this regard, the Chairperson opined that the state renewable targets need to be integrated into the model DSM policy and that utilities must be allowed to adopt renewable energy resources in order to achieve DSM targets.

- **Consumer acceptance:** Panjiar, Chairperson of Bihar state electricity regulatory commission asserted the need to establish a win-win situation for both the utilities as well as the consumers while promoting the DSM agenda in the states. He opined that the DSM planning process, which undertakes feasibility of DSM programmes, must demonstrate cost effectiveness for both the utilities as well as consumers in order to reduce the regulatory uncertainty of DSM investments.

- **Best practices**: Praveer Sinha, CEO of Tata Power Delhi highlighted the potential of net metering framework in order to make solar energy solutions far more viable for consumers and promote DSM. Ravindra Kumar Verma opined that bankable DSM products in the market will enhance the acceptability of DSM to all stakeholders, although the lack of robust monitoring and verification protocols can be a critical barrier. Chinmaya Acharya, Chief of programs in Shakti

Sustainable Energy Foundation cited the success of standard offer programmes adopted worldwide in order to overcome monitoring and verification issues.

The chairperson concluded the discussion by asserting that the state DSM policy needs to specify some targets in order to ensure effective implementation. He also mentioned that the forum will undertake a wider consultation process in the coming months and by the next meeting, finalise the model state policy on utility-driven DSM.

Presentation on renewable energy based demand side management in Tamil Nadu

This presentation was delivered by Anurag Verma, a Senior Consultant of PwC. It focused on the need for renewable energy- enabled DSM, findings of the walk- through audits and field visits, feasibility analysis, role of the Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) and associated policy makers, expected benefits for TANGEDCO and other stakeholders, and finally, the synergy between the state DSM policy and the off grid implementation roadmap being prepared under this project for Tamil Nadu.

Presentation by EESL

This presentation was delivered by Saurabh Kumar, MD of EESL. It focused on the need for enhancing the capacity of the energy services industry, roles and responsibilities of the EESL, and the profile of projects currently supported by EESL. Some of the major projects highlighted by Saurabh Kumar are as follows:

- Replacement of inefficient agriculture pump sets in Karnataka with the Hubli Electricity supply Company (HESCOM)
- ESCO- based performance contracting services within the municipalities of Ludhiana and Bangalore
- Baseline audit for the perform achieve and trade (PAT) scheme of the bureau of energy efficiency (BEE)
- Energy audit of public sector buildings
- Supporting the activities of the standards and labeling programme of BEE

Mr. Saurabh Kumar, MD, EESL

He also gave an overview of the profile of services offered by EESL, to various electric utilities in the country, in order to promote DSM investments. He mentioned that the EESL will be willing to finance the initial capital investment required to implement the DSM action plan under the shared savings or guaranteed savings model and further provide project management or implementation services bearing both, the financial and technical risks of large scale DSM projects. Capacity building of DSM cells is another critical area of the Indian electric utilities sector that requires attention. Kumar also highlighted the potential for integration of LED lighting into BEE's Bachat Lamp Yojana (BLY) and mentioned that EESL will be providing ESCO services to replace incandescent lamps with LED bulbs in the country under a framework similar to the BLY scheme.

Way forward and agenda for the next meeting

The Chairperson of the meeting mentioned that the model DSM policy is currently in the draft stage and that the forum will aim to finalise the draft model DSM policy before the next meeting. In order to accomplish this, the forum will undertake a wider consultation process in the next few months, by seeking comments and suggestions from stakeholders across the country. Apart from this, the forum also debated other themes for discussion for the next meeting. Innovative DSM programme designs and monitoring and verification were the two broad areas of choice of the forum.

Praveer Sinha, CEO of Tata Power Delhi and Mr. Anup Mondal, Senior executive VP of Reliance Infra sought to make separate presentations on DSM pilot programmes, initiated by their respective organisations for the next meeting. The Chairperson welcomed these requests and indicated that the forum will be incorporating their presentations in the agenda of next meeting.

Shakti Sinha from the Delhi government sought the forum's support for formulating the DSM policy and for the state of Delhi. The Chairperson welcomed the request and indicated that Shakti Sustainable Energy Foundation and PwC will provide the required support to the Delhi government in its quest for notifying the state policy on utility-driven DSM.