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Press Release

BSES, TERI, Panasonic & CEEW Partner to Launch Ambitious Demand Side Management Programs

- **Human behaviour has a direct bearing on one's energy usage**
 - **Unique Consumer Behaviour App to track, analyse a consumer's energy consumption patterns and offer tailored solutions**
- **Solar Micro Grids With Energy Battery Storage for decentralised distributed generation**
 - **Pilot locations used only 8% grid power, 92% was solar generated**
- **Green Division Concept for a carbon neutral division and net positive energy buildings**
- **These three initiatives have potential to reduce electricity consumption by around 380 MUs and 2.6 lakh tonnes of Co2**
- **DSM initiatives have the potential to reduce over 100 MW of power load in East and Central Delhi areas**

Leading discoms in the world are feverishly working-on Demand Side Management (DSM) initiatives to reduce power demand and bring-in energy efficiency. As part of the DSM initiatives, BSES Yamuna Power Limited (BYPL) has partnered with industry leaders like TERI, Panasonic India and Council on Energy, Environment and Water (CEEW) for launching three ambitious and novel initiatives– (i) 'Behavioural Energy Saving App', (ii) 'Green Division Concept' and (iii) 'Solar Micro Grids with battery storage'. Between them, they have the potential to save around 380 Million Units of electricity and 2.6 lakh tonnes of Co2 annually.

These were officially unveiled, today, during a work-shop titled, '*Green initiatives in Discom perspective*', organised by jointly by BSES Yamuna Power Limited (BYPL), TERI, Panasonic India and Council on Energy, Environment and Water (CEEW). DERC Chairman Justice S S Chauhan, Mr Ajay Mathur, Director General, TERI and Mr P R Kumar, CEO BYPL also addressed the gathering. BRPL CEO Mr. Amal Sinha was also present at the event.

Appreciating the work done on this front, the DERC Chairman, Justice S S Chauhan said, "We are encouraged to see initiatives being taken by BSES Discoms for demand side management. These are in line with steps taken at DERC level in terms of regulations, guidelines and consultations to Discoms at regular intervals for effective implementation"

Speaking at the event, Mr. P R Kumar, CEO BYPL, said , "Peak power demand, though a short term phenomenon, not only leads to a spike in the power purchase costs, but also increases the distribution / transmission costs. Through such initiatives, the peak power demand can be reduced by shifting a part of the power load to the non peak hours, resulting in monetary savings. It will also help in negating the

requirement of additional power purchase, ensuing distribution network security, reliability of power supply and further reducing the distribution losses."

Behavioural Energy Saving App in association with TERI

Rising electricity consumption in the residential sector is adding to the climate woes, necessitating an urgent shift towards smart energy consumption and energy efficiency. Studies have shown that human behaviour has a strong and direct bearing on ones habits. Energy usage patterns are no different.

Realising this, BYPL and TERI have joined hands to launch an ambitious program to try and influence and mould a consumer's behaviour towards energy usage. For doing so, they have developed a novel 'behavioural' energy saving app – "Susthome". It will track a consumer' energy consumption patterns, analyse them, compare it with that of similar homes in the vicinity and show energy saving potential. If their consumption is higher than that of similar more 'energy efficient homes', it will also provide customised and tailored solutions. Essentially, it will hand-hold the enlisted consumers in reducing their energy consumption, carbon footprint and electricity bills by influencing their behavioural patterns.

In the first phase – a pilot - is being rolled-out in select Cooperative Group Housing Societies (CGHS) in Mayur Vihar like Abhinav, Mahavilla, Una and Anandlok. In the second phase, the initiative will be scaled-up to cover around 2 lakh residential consumers and is expected to help consumers save upto 10% in their energy bills. This initiative has the potential to save around 72 MUs and over Rs 29 crore annually. It will also result in even more efficient management of power demand and potential to reduction of around 8-10 MW in East and Central Delhi areas.

In his address, Mr Ajay Mathur, Director General, TERI said, "With the changing dynamics of the energy sector, going "green" is the sustainable way to move ahead. The concept of Green Division provides us with a framework to aim for sustainability, which can be achieved if we start our work from the bottom - making our societies to be "green" and "smart" in terms of power and energy"

Green Division (zone) Concept with TERI

In a path-breaking initiative, BYPL and TERI have signed a MoU to build a 'Green Division', one of the first in the country. Based on the smart city concept, the model division (zone) will be carbon neutral and in this quest comprise of Net Positive Energy Buildings, Solar Power Generation, Electric Vehicles, Energy Efficiency Programs, Efficient Energy and Waste Management, DSM and Minimal Paper Consumption (through Digitisation). It will also lead to a reduced carbon foot-print.

The conceptual framework for the 'green division' will work at two levels (i) Utility and (ii) Consumer. While the former will be implemented at BYPL office locations (and operations); the latter will have measures targeting the consumers.

A pilot project and a concept demonstrator is being implemented at BYPL office locations in the Anand Lok Sub Division – part of the Mayur Vihar division. Several suitable simulation exercises were carried-out by TERI for validating the results and evaluating benefits. The pilot project has a potential energy savings of around 2.52 Million Units annually. In the Mayur Vihar division alone, the concept has the potential to save 18 Million Units and a reduction around 15,000 tons of Co2. Once rolled-out across BYPL, it has the potential to save around 300 MUs and a reduction of 2 lakh tons of Co2.

Solar Micro Grids With Energy Battery Storage with Panasonic and CEEW

Launched to accelerate the penetration of renewable energy, BYPL in partnership with Panasonic India, has launched a pilot to establish solar micro grids, becoming one of the first discoms in the country to do so in an urban setting. As a technology demonstrator, four such micro grids – combining roof-top solar with Lithium-ion (Li Ion) based battery energy storage systems - have been set-up at BYPL offices in East Delhi.

Panasonic's Li- batteries are at the core of these grid interactive microgrids, which coupled with real time communication for monitoring and control make operations flexible and allows relieving of congestion, stress and need to constantly upgrade. This is laying a significant foundation for new era of electricity segment and begin a journey towards Virtual power plant and V2G.

The initial results of the pilot project at four BYPL locations in East Delhi are very encouraging. They show that over this period only 8% of grid power (net of exports) was used. The balance 92% was generated and met through the solar plant coupled with energy battery storage. Besides electricity, a pan discom (including at consumer location) roll-out of 1000 such solar-energy battery storage micro grids has the potential to save over 1 lakh litres of diesel amounting to around Rs 15 crore on an annualised basis – cumulatively for the discom and the consumers. Moreover, this will lead to a CO2 reduction of around 10,000 tonnes.

To gauge and assess the system performance of the micro grid pilot and to popularise the concept, the discom has tied-up with Council on Energy, Environment and Water (CEEW), South Asia's leading not for profit research institution.

Studies and global benchmarks show that proper implantation of such DSM measures can help consumers, including residential, save anywhere between 10-30% in their monthly electricity bills. These DSM initiatives, including these three, have the potential for a load reduction of over 100 MW in East and Central Delhi areas.

BRPL & BYPL are premier power distribution companies and Joint Ventures between Reliance Infrastructure Limited and GoNCT.



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