

For immediate release

More than 90 per cent Indian households have metered electricity connections and are billed regularly: CEEW study

- *77 per cent of grid users are satisfied with their electricity services*
- *More than 75 per cent of AC users have star-labelled ACs*
- *88 per cent of Indian households now have LED bulbs*

New Delhi, 7 October 2020: 93 per cent of grid-electrified Indian households had metered connections and 91 per cent were billed regularly according to two independent studies released today by the Council on Energy, Environment and Water (CEEW). The studies also found that 77 per cent of grid users were satisfied with their electricity services. Further, consumer satisfaction in the rural areas of Bihar, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh, and West Bengal had more than tripled from 23 per cent in 2015 to 73 per cent in 2020. The studies, which also examine energy efficiency in Indian households, found that 88 per cent of Indian homes had LED bulbs on the back of the Government's *Unnat Jyoti by Affordable LEDs for All (UJALA)* scheme and other state government initiatives.

The studies are based on findings from the India Residential Energy Survey (IRES) 2020 conducted by CEEW in collaboration with the Initiative for Sustainable Energy Policy (ISEP). IRES, covering nearly 15,000 households across 152 districts in 21 states of India, is the first-ever pan-India survey on the state of energy access, consumption and energy efficiency in Indian homes.

Sanjay Malhotra, Additional Secretary, Ministry of Power, said, "I congratulate the CEEW team on the launch of these studies which give us insight into access and efficiency issues and will help us in framing future actions. While a 77 per cent satisfaction rate is high given the increasing expectations, a 23 per cent unsatisfaction rate is also a significant number. Our focus is now going to be on quality, reliability and consumer satisfaction to increase satisfaction rates from 77 per cent to 90 per cent and even higher. We are setting up a committee to develop a framework to rank the distribution companies. Improving satisfaction rates, and viability and sustainability of discoms is very important. State-run discoms lose almost a rupee per unit sold. Electricity is an enabler, and we need to improve the wherewithal of the discoms while simultaneously providing electricity to poorer households."

Shalu Agrawal, Programme Lead at CEEW and the lead author of the studies, said, "India has made a commendable effort on household electrification. With nearly all households electrified, India's energy policy must now focus on sustaining electricity use and consumer satisfaction. Reliable supply, efficiency in revenue collection, and consumer-centric service delivery would be central to achieving these goals. We also need to implement ultra-low tariffs for poor households across all states. Electricity access has unlocked consumers' aspirations, and more people would seek better lighting, thermal comfort, and infotainment. More than 20 per cent Indian homes bought their first fan and TV during the decade of 2010-20. We expect to see multiple positive spillovers like higher demand for consumer durables, industrial growth, and livelihoods."

The CEEW studies also found that 97 per cent of Indian households were connected to the grid, with another 0.33 per cent exclusively relying on off-grid electricity sources such as solar home systems, solar mini-grids, and battery storage. However, an estimated 2.4 per cent of Indian households remained unelectrified. Most of such households were concentrated in the rural areas of Uttar Pradesh, Chhattisgarh, Rajasthan, Madhya Pradesh, and Bihar. Further, the studies found that the

inability to afford grid-electricity was a key reason for these households to not have a connection. Given the availability of free-connection under the *Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya)* scheme, these households were either not aware of the scheme, not able to access it, or were deterred by the recurring monthly expenditure of paying electricity charges.

State of access to electricity

The studies found that there was an improvement in metering in several states, including a six-fold improvement in Uttar Pradesh. However, billing issues remained pronounced in rural areas adding to the burden of discoms' poor finances. The studies found that Jharkhand had the lowest share of grid users billed regularly (55 per cent), followed by Bihar (64 per cent). Billing irregularities were high in Assam, Uttar Pradesh, and Madhya Pradesh as well. Given the poor payments rates across many states, power utilities must facilitate direct and indirect digital payment mechanisms by leveraging microentrepreneurs, such as grocery shops and general merchants. The CEEW studies found that only 17 per cent of billed consumers pay their bills digitally (27 per cent in urban India and 12 per cent in rural India). This was despite the fact that 70 per cent of Indian households had a smartphone.

According to the studies, an average Indian household received 20.6 hours of power supply from the grid. Urban households received ~22 hours of power supply. However, the studies found that two-thirds of rural and two-fifths of urban households face outages at least once a day. Households in Delhi, Kerala, and Gujarat receive more than 23 hours of daily supply, while households in Uttar Pradesh, Jharkhand, Haryana, Assam, and Bihar face the longest power outages.

India is yet to achieve access to affordable, reliable, sustainable and modern energy for all. To achieve this Sustainable Development Goal, in addition to identifying and electrifying the remaining 2.4 per cent households, CEEW studies recommend focusing on sustaining electricity use in an affordable manner.

Energy efficiency

While India is closer to universal electrification, not all Indian states have made equal progress in their pursuit of energy efficiency. The CEEW studies found that only 25 per cent of Indian households were aware of the Bureau of Energy Efficiency's star labelling programme. States with richer and more educated households had higher awareness levels.

India has made significant progress on energy efficiency uptake in case of LED bulbs and air-conditioners (ACs). The studies found that two-thirds of the total lighting stock of 1 billion lamps and tubes in Indian homes were LED-based. The share of households using LED lamps in Odisha was the highest, followed by Delhi, Uttarakhand, and Himachal Pradesh, mainly due to proactive government schemes. The studies found that more than 75 per cent of AC users had star-labelled ACs and 60 per cent households owned star-labelled refrigerators. However, the results for other key appliances such as geysers, televisions, ceiling fans, and washing machines were less encouraging. While 93 per cent Indian homes used fans, only 3 per cent had energy-efficient fans.

The studies found that 40 per cent of the households ranked appliance cost as the most important factor in purchase decision, followed by other parameters including brand popularity, durability and energy savings. Making energy-efficient appliances affordable through bulk procurements, advance market commitments, or end-user financing is needed to drive adoption of efficient appliances.

Sunil Mani, Programme Associate at CEEW, said, “Since millions of new households are now part of the grid infrastructure, there is a significant need to increase energy-efficiency awareness among them to optimise electricity demand. Government agencies such as the Bureau of Energy Efficiency (BEE) and the Energy Efficiency Services Limited (EESL) are working towards promoting energy-efficient appliances in Indian households. However, all governments must learn from the best practices of others to implement the necessary mix of market and regulatory policies to increase the penetration of energy-efficient appliances. Designing an aggressive, consumer-centric and decentralised consumer awareness strategy, improving the market availability of energy-efficient products and making energy-efficient appliances more affordable will be the key steps in this direction.”

The two studies, ‘State of Electricity Access in India’ and ‘Awareness and Adoption of Energy Efficiency in Indian Homes’ can be accessed [here](#) and [here](#). Both studies are based on insights from the India Residential Energy Survey (IRES) 2020.

About CEEW

The Council on Energy, Environment and Water ([CEEW](#)) is one of Asia’s leading not-for-profit policy research institutions. The Council uses data, integrated analysis, and strategic outreach to explain – and change – the use, reuse, and misuse of resources. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with wider public. In 2020, CEEW once again featured extensively across nine categories in the *2019 Global Go To Think Tank Index Report*. The Council has also been consistently ranked among the world’s top climate change think tanks. Follow us on Twitter [@CEEWIndia](#) for the latest updates.

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