

India needs a stronger policy push for energy efficiency

Energy efficiency has received scant policy attention compared to renewables and electric vehicles. This needs to change.

India's Energy Conservation Act recently completed 20 years. The Act's objective was to enable efficient use of energy and its conservation in India. It established the Bureau of Energy Efficiency (BEE) as the nodal agency to enable that. Quite a few programmes and regulations have been implemented since then. Some of these have been successful but energy efficiency's full potential still remains untapped. The International Energy Agency (IEA) estimates that India's energy demand can be reduced by as much as 30% by 2040 primarily driven by energy efficiency measures. Our forthcoming analysis based on bottom-up energy modeling shows that just a shift in behaviour of use of appliances can reduce the residential electricity demand in 2030 by 25%. These savings can reduce India's climate change inducing emissions, lower consumer energy bills, strengthen energy security and accelerate the adoption of renewables. But energy efficiency has so far remained at the margins of the policy discourse on India's energy transition. Quite a few provisions of the Energy Conservation Act were never implemented. The Act itself needs a complete overhaul to keep up with the times but has seen only minor operational amendments till date. Money has been meagre too. Only about Rs. 200 crores were allotted for energy efficiency measures out of the Ministry of Power's (BEE's parent ministry) Rs. 15000 crores annual budget for 2021-22. To compare, the Ministry of New and Renewable Energy (MNRE) has an annual budget of about Rs. 5000 crores. So what ails India's energy efficiency efforts and what can be done?

Market-wide adoption of energy efficient technologies faces several barriers like high upfront cost, lack of awareness, limited options to finance industry level upgrades and others. India has several energy efficiency policy interventions to overcome these barriers but their overall impact has been limited, primarily due to four overarching factors. First, BEE is trying to do too many things even though it has limited resources at disposal. This hampers effective implementation of its major programmes and constrains scale-up of its many pilot level initiatives. BEE's flagship Standards and Labeling (S&L) programme which prescribes minimum energy efficiency standards and comparative energy performance

labels covers 28 appliances and equipment. Perform, Achieve and Trade (PAT), a market mechanism for industry to trade energy saving certificates, has covered 1073 designated consumers across 13 sectors. Setting standards, revising them regularly, and ensuring compliance requires significant in-house technical expertise, tracking of market conditions, and compliance check for each sector/appliance. Due to limited resources these programmes have seen several instances of less-ambitious targets, delays in revision of standards and lax compliance testing processes reducing their overall effectiveness.

Second, a more recent development, is the unstated approach that bulk procurement is the silver bullet for market transformation of energy efficient technologies and no direct financial incentives are required. Energy Efficiency Services Ltd. (EESL), a public sector company, used this model extremely well to enable a rapid market transformation to highly efficient LED lighting. However, this model has not been able to achieve similar success for other appliances. But still there are no financial incentive programmes or tax concessions for energy efficient appliances. BEE's Super-Efficient Equipment Programme (SEEP), with a proposal to give time-bound incentives to manufacturers to cover incremental cost of manufacturing super-efficient appliances, has been gathering dust for the last 5 years. At the same time, electric vehicles and solar rooftop panels receive subsidy schemes from central as well as some state governments. Similar levels of participation from central, state and local governments is low in case of energy efficiency measures.

Third, the market for energy service companies (ESCOs), which conduct energy efficiency projects, is still at a nascent stage. There are only 150 ESCOs empanelled by BEE and it estimates that only 5% of the 1.5 lakh crore market has been tapped so far. BEE has been conducting several initiatives like capacity building, partial risk guarantee scheme and others but the scale is very small to have any cumulative impact. EESL was supposed to be a super ESCO and facilitate a conducive eco-system for developing a mature ESCO market but that has not happened either.

Fourth, the role of energy suppliers in promoting energy efficiency has been minimal. Revenues of electricity distribution companies (Discoms) are coupled to their sales and hence there is no incentive to conduct energy efficiency programmes. There are no regulatory mandates either like the Renewable Purchase Obligations. Hence even though all states have notified Demand Side Management (DSM) regulations and many electricity

distribution companies have DSM cells, the total expenditure on the programmes and the resultant savings are a miniscule fraction of DISCOM's annual sales.

Going ahead, India needs to prioritise energy efficiency urgently. One starting point can be to set ambitious sector wise energy efficiency targets. Targets can act as good rallying points and can spur policy action as well as investments at all levels. The Solar sector's periodically revised targets is a good example. But energy efficiency gains are invisible unlike shiny solar panels. Hence the targets need to be measurable with rigorous methodology and adequate data. Just setting targets of course will not help. BEE's role as the nodal agency needs to be strengthened. Budgetary allocation to BEE needs to be ramped up significantly. BEE can use these funds to open up regional offices for better coordination with the state agencies and local governments on its various programmes. It can operationalize its long stalled programmes like SEEP and also rapidly scale-up its various other initiatives. Another focus area can be raising awareness. Despite BEE's attempts, several surveys have shown that awareness of star labels remains limited particularly for smaller appliances and in rural areas. Lastly, BEE can use the funds to bolster its check testing mechanism to ensure compliance and increase credibility. Beyond BEE, innovative business and regulatory models are required to get the energy suppliers to play a much larger role in facilitating energy efficiency. A combination of policy signals, increased budgetary allocations, and financial support in terms of grants as well as low cost financing can further boost the nascent ESCO industry and have a multiplier effect just like what is being seen in electric vehicles and renewables. A revamp of the Energy Conservation Act can be a good place to incorporate many of the suggested changes. Without this urgent shift in strategy, we will continue paying lip service to energy efficiency and wasting the cleanest and the cheapest source of energy available to India today.

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