

## Promoting Energy Conservation

### Scope for substantial savings

The urgent need for energy conservation was underlined recently when the country observed the annual National Energy Conservation Day on December 14. Leading companies that have contributed to energy conservation were presented awards on the occasion. While their efforts are noteworthy, the fact is that these initiatives need to be intensified given the current energy scenario in the country.

The Indian power sector more than trebled its installed capacity from 30 GW in 1981 to 108 GW in 2002-2003. Despite this, the country still faces severe energy shortages. These shortages are exacerbated by the inefficiencies in power generation, distribution and end-use systems. The extent of these inefficiencies is indicated by the country's energy intensity per unit of GDP, which is higher compared to Japan, the US and Asia by 3.7, 1.55 and 1.47 times respectively.

This not only suggests unproductive use of energy in the country but also substantial scope for energy savings. According to conservative estimates, the energy savings. According to conservative estimates, the energy saving in India is equivalent to creating nearly 25 GW of new capacity.

Meanwhile, increasing liberalization and competition across the globe have made productivity improvement, including costs reduction, an important benchmark for economic success. What is needed is a paradigm shift in the approach to energy policy issues – from a supply dominated approach to an integrated approach incorporating a judicious mix of investment in supply-side capacity, and operational efficiency improvement of existing generating stations and transmission and distribution networks.

Encouragingly, there has been a growing urgency amongst the power utilities in recent years to implement energy management and conservation programmes, on both the demand and supply sides of the energy value chain. Given this, financing of such projects acquires new significance. Financial backing for energy management and conservation projects has been coming from various agencies, including multilateral and bilateral financiers, commercial banks and FIs.

Projects	Energy conservation initiatives (Rs million)			
	2002-03		Cumulative (up to March 2003)	
	Sanctions	Disbursements	Sanctions	Disbursements
System Improvement	1,420	1,130	21,520	15,160
Capacitor installation	70	50	4,850	4,600

One organisation that is supporting the efforts of power sector entities in this direction is the Power Finance Corporation (PFC). The lending institution encourages borrowers to undertake activities aimed at promoting energy efficiency and its conservation in the power sector. PFC's leading programmes focus on renovation and modernisation of old power plants, and transmission network, and installation of capacitors and meters.

Some important projects that have been undertaken by the lending institution for promoting energy conservation include implementation of SCADA system in Jaipur (Rs 610 million), R & M of the power line carrier communication equipment (Rs 130 million), R & M of SCADA facilities at the Kaluua load despatch centre, (Rs 98 million), energy audit and load survey (Rs 16 million) and augmentation of VHF communication systems (Rs 26 million).

With increasing initiatives of this kind, the power utilities will move forward in this direction in a big way. This can effectively be an efficiency parameter for competition between the private and public sectors. The public power sector, plagued by system inefficiencies, can pass the improvement benefits so garnered to the consumers. This will also ensure that the lucrative industrial and other HT consumers of the SEBs and other state utilities do not switch to alternative sources of power supply on grounds of their lower price structures.

PEC also extends grants and interest-free loans to take up studies aiming at improved distribution management and proper electricity accounting. Besides, it is encouraging power utilities to put up plants with energy-efficient technologies. These grants have supported studies on distribution management systems, R & M, reform and restructuring and institutional development. Every year, PFC sets aside 1 per cent of its profits for funding such studies.

As for future plans, PFC is receiving proposals from equipment manufacturers who along with the distribution utilities are looking at the option of installing energy-efficient devices at consumer premises. As per a study, a unit of energy saved at the consumer and avoids two and a half to three times the capacity augmentation at the production end, factoring in parameters such as auxiliary power consumption, transmission and distribution losses, plant availability and PLF.

If such projects materialize, they will go a long way in solving the problem of inadequate capacity for generators, high system losses for transmitters and mounting bills for consumers.

**Reference Book:**  
**Power Line**  
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