

Widening Mechanism in Energy Conservation

Since energy conservation is of worldwide concern, and more a matter of national importance, it is on the above mentioned premise, that the Energy Conservation Act-2001(ECA) has been enacted to fill in the vacuum in legislative measures. It is a move in the right direction and the Bureau of Energy Efficiency (BEE) under the Department of Power, Govt. of India is the administrative authority for all measures towards achieving energy efficiency.

The scope for energy conservation is envisaged to be about 23%, considering power consumption in domestic, industrial, agricultural and commercial sectors – and including opportunities for increasing efficiency of equipments. Whether it is manufacturing steel, cement, paper or any other goods, it is imperative to effect energy consumption as low as possible per unit of product, without compromising on other aspects.

In this context, a terminology called Energy Intensity is used by economists to define energy consumption per unit of GDP that should be as low as possible. It is above unity here in India, where as it is 1/3rd in Japan or almost half in developed countries. This indicates this country has to go a long way in its journey on energy saving.

BEE has framed rules to implement ECA. Presently, thrust is on heavy industries where energy consumption per unit of product is high. It is essential for competitiveness in the global market. All industries as bulk consumers having load above 6000KVA are within the ambit of energy monitoring under ECA.

Initially, steel, aluminum, paper, cement, textiles, etc – 15 categories of power intensive industries are identified as priority sectors, where energy conservation measures are strictly enforced. BEE's endeavour in this regard is admirable. Corporate houses are also aware of the need to conserve energy and of the need to conserve energy and to reduce consumption as an essential one amongst other means to attain high productivity.

BEE has been conducting examinations for appointment of energy auditors and certified energy managers. These experts are a statutory requirement for companies to conduct energy auditing and certification. The arrangement bears similarity to the services of Chartered Accountants in financial management.

Under ECA, power given to the states is minimal – in a sense, the only in respect of buildings, the state governments may set rules and regulations for conservation of energy. One pertinent question arises about what conservation measures need to be adopted for small scale industries where power demand is less than 6000KVA.

Small scale industries, plenty in number, contributing about 40% of export and about 70% of labor force, deserve a look in energy consumption patterns where the level of awareness does not seem to be high. This is an area where adequate authorities are required to be given to the state governments to carry out energy audit for all installations within the range 500 KVA to 6000KVA.

Otherwise, with the present pace of progress or even by doubling, it will take few more plan periods to cover small and medium industries – in the way big ones are now targeted for compulsorily taking energy conservation measures, and monitored through certified auditors and managers.

There have been earlier attempts on generating some degree of awareness on energy conservation in industries and commercial houses, as is evident from statutory provisions in the company law since 1970s for incorporating a schedule in the balance sheet indicating consumption of energy and cost thereof. Prior to the ECA, few state governments including West Bengal issued executive orders to compulsorily conduct energy audit for installation above certain capacity with a view to implement principles of energy conservation. In the state, energy auditors were given accreditation.

Energy auditing was compulsory periodical features – advising industries, commercial houses and other establishments above 500KVA of load, on effecting economy in energy utilization. The endeavour was yielding both saving of energy and economy for the consumers.

After the promulgation of ECA, accreditation to auditors at the state govt. level was not renewed. Obviously for the reason that law stipulates certification from BEE only. Accordingly, energy auditing of small industries and other establishments stopped, except for very few of them, who voluntarily desirous of economy, wanted to get energy consumption examined by auditors. A healthy program on conservation of energy is thus gradually dying out.

Now, at the state level, there are nodal agencies according to the provision of ECA with powers and authority to enforce the provisions of the law.

In West Bengal, the State Electricity Board is the nodal agency. Neither BEE nor the nodal agency seem to be geared well to apply provision of the law in respect of small and medium scale industries having load demand above 500KVA and less than 6000KVA, notwithstanding the fact these industries offer vast scopes on economizing energy but for want of auditors with accreditation from BEE, and absence of determination to target them as power guzzling establishments. WBSEB is under restructuring and it is likely this will further affect appreciable efforts in the near future towards positive steps on energy conservation measures.

Conservation of energy through using efficient motors, pumping and air-conditioning, lighting, and a simplified process can reduce cost of final products and services. Energy consumption should be monitored with reference to arriving at output on lowest consumption per unit. An energy auditor can be an entrepreneur's friend, philosopher and guide.

During the time, energy auditing was compulsory in West Bengal, many factories, offices and housing societies were immensely benefited through energy consumption level, it is not necessary that new investments are always called for.

Energy auditors advise on better upkeep and remodeling of operation and maintenance along with small and big investment for higher gains in medium and long terms. In this context, it is felt, the ECA calls for a review to involve states intensively with powers to approach all installations within 500-6000KVA for energy conservation, as two frontal attacks – from centre and states respectively, in order that all establishments are brought under energy monitoring through a statute.

Otherwise, on an all India basis, it may take a long a time to establish an effective monitoring system to lower energy intensity to global average level. In fact, besides power, there is a need for raising energy efficiency in the transport sector as well. Accounting of energy and auditing, environmental and safety auditing, etc. are necessary tools in their respective fields as a sign of healthy growth towards quality improvement and economy.

The Department of Power, BEE, Chambers of Commerce and Industries, have responsibilities to work out remedial measures where deficiencies are prominent. It is on these considerations that the Energy Conservation Act,2001 should undergo amendment for involving states in a bigger way, and may be by deviating from a centralized approach so that wasteful energy gets not only checked, but energy conservation become profitable ventures in reaping benefits under exemption of taxes and disbursement of soft loans.

Reference book:

Electrical India,
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