

Energy Saving and Management

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A program on “Energy Saving and Management” led by Sri. Sasi Mattom formerly Assistant Engineer KSEB, was conducted for first year and third year students.



Electricity is produced by burning fuels like coal or oil, by using the energy of flowing water or of steam or by using nuclear fuels. You may argue that since fuels are limited in supply, we can always switch to producing electricity by using flowing water. In that case, electricity would then be a renewable source of energy. But this is not actually so because hydroelectric projects have already been set up at most of the possible sites on major rivers in the country. These power projects are already producing electricity to their maximum capacity and there are no prospects of increasing the supply of electricity to meet increased demand. Hence, electricity, too, becomes a non-renewable source of energy.

This program provides an overall view of energy conversion and management in industry and in buildings by following the streams of energy from the site boundaries to the end users. Written for an audience of both practitioners and faculty/students, Energy Conversion and Management: Principles and Applications presents general principles of energy conversion and energy sources, both traditional and renewable, in a broad range of facilities such as electrical substations, boiler plants, heat and power plants, electrical networks, thermal fluid distributions lines and insulations, pumps and fans, air compressor systems, cooling plants, HVAC, lighting, and heat recovery plants. The book also examines principles of energy auditing and accounting, the correlation between energy and environment, and includes detail on the economic analysis of energy saving investment and education in the field of energy. Explores a broad array of power generation and distribution facilities around the concept of energy conversion, from traditional and renewable sources, correlating many apparently disparate topics. Elucidates fundamental formulas and information-rich figures to help readers in solving any practical energy conversion problems. Emphasizes a holistic perspective on energy conversion and management with a vision of each application as a system beyond its individual elements.

The objective of energy management is to achieve and maintain optimum energy procurement and utilization throughout the organization, and: To minimize energy costs/waste without affecting production and quality. To minimize environmental effects. Energy management services are needed for safe and efficient operation of the power system. They are needed to maintain the balance between electricity supply and demand, maintain power system stability, and enable electrical energy to be delivered safely, reliably, and economically from generators to consumers. In addition to these primary functions, grid services also provide various other contributions that make the operation of the power system more efficient and make electricity more affordable for consumers