

## EE527: ENERGY ASSESSMENT & MANAGEMENT (3-0-0: 3)

### Energy resources & Consumption

Direct use of primary energy sources, conversion of primary into secondary energy sources. Prospecting, extraction and resource assessment and their peculiar characteristics. Energy consumption in various sectors and its changing pattern, exponential increase in energy consumption and projected future demands. Energy performance assessment for equipment and utility systems.

### Energy efficiency

Cost benefit risk analysis, energy efficient technologies in electrical system, environmental repercussions and the economic structure. Econometric in the context of multiple objectives, conflicting goals and decisions under uncertainty.

Environmental aspects of energy and pollution control, energy for sustainable development. Energy management approach, energy monitoring and targeting.

### Energy Security, Energy Vision:

Chemical and nuclear: non proliferation, energy Consumption and its impact on environmental climatic change. Energy Conservation Act and its features - Energy Conservation - Energy Audit - Energy Bench Marking - Maximizing System Efficiencies.

### Text Books and References

1. J. J. Winebrake, "**Alternate** Energy: Assessment & Implementation", The Fairmont Press INC, Georgia.
2. P. W. O'Callaghan, "Energy Management – A comprehensive guide to reducing costs by efficient energy use", McGraw Hill.
3. Energy Performance Assessment for Equipment & Utility Systems, Bureau of Energy Efficiency, **www.beeindia.in**
4. IEEE Std. 739-1995, "IEEE recommended practice for energy management in industrial and commercial facilities".
5. A. K. Tyagi, "Handbook on Energy Audits and Management", TERI.
6. W.R. Murphy and G. McKay, "Energy management", Butterworth & Co Publishers, Oxford, UK.
7. "BEE Study Material, Energy Management & Energy Audit", [www.bee-india.com](http://www.bee-india.com)