

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
M E (Civil) CONSTRUCTION ENGINEERING AND MANAGEMENT

**ENERGY MANAGEMENT**

**Objectives:**

To introduce concepts, phenomena, in the energy science to impart importance of energy planning to expose students for analysis, design and operations of energy systems and uses of energy.

To give an overview methods and tools to diagnose, analyze and solutions of various problems of potential energy applications.

**Course content :**

Definitions and basic concepts

Energy science & energy Scenario in Global Backdrop and Energy scenario in India.

Non renewable Energy Sources & renewable energy sources.

Current and Emerging Technologies: Coal Based Emerging Technologies  
Hydrogen Fuels and Fuel-Cell Technologies. Fusion fuel for future.  
Solar Ponds. Solar Photovoltaic systems. Geothermal energy.

Demand & supply assessment. Energy impact Assessment – predication  
and analysis. Regulation in energy management

Energy in urban as well as rural planning.

**References:**

1. Energy management handbook. Wayne C. Turner., Stevadofy
2. A text book of energy technology. Vedams ebooks Pvt. Ltd. New Delhi.
3. Non conventional Energy sources. G.D. Rai. Khanna publisher. New Delhi.
4. Handbook of energy Audit & environment. Y.P.Abbbi, Shashank Jain.  
TERI book store.
5. Solar energy by S. P. Sukhatme. Tata McGraw Hill. New Delhi.