

Despite the global financial crisis, India's energy demand continues to rise.

Energy intensity is a measure to show how efficiently energy is used in the economy. The energy intensity of India is over twice that of the matured economies, which are represented by the OECD (Organization of Economic Co-operation and Development) member countries. India currently ranks as the world's 11th biggest energy producer, accounting for about 2.4% of the world's total annual energy production. The energy sector in India has been receiving high priority in the planning process. On the eve of the 59th Independence Day (on 14 August 2005), the President of India emphasized that energy independence has to be the nation's first and highest priority, and India must be determined to achieve this within the next 25 years.

Increasing pressure of population and increasing use of energy in different sectors of the economy is an area of concern for India. Despite the global financial crisis, India's energy demand continues to rise. With a targeted GDP growth rate of 8% during the 10th Five Year plan, the energy demanded is expected to grow at 5.2%. Driven by the rising population, expanding economy and a pursuit for improved quality of life, the total primary energy consumption is expected to be about 412 MTOE (million tons oil equivalent) and 554 MTOE in the terminal years of 10th and 11th plans respectively. Energy requirement increased from 390 BkWh (billion kilowatt-hours) during 1995/96 to 1234 BkWh by the year 2010 and peak demand increased from 61GW (gigawatts) to 123 GW over the same period. The country experienced peak shortage of 18.56% of energy during 2009-10. Though growth in electricity consumption over the past decade has been slower than the GDP's growth, this increase could be used to high growth of the service sector and efficient use of electricity.

India now ranks third amongst the coal producing countries in the world, which are the other major components of energy. It accounts for 55% of the country's total energy supplies. Coal consumption is expected to increase to 315MT over the forecast period. In India, slightly less than 60% of the projected growth in coal consumption is attributed to the increased demand of coal in the electricity sector while the industrial sector accounts for most of the remaining increase. The use of coal for electricity generation in India is expected to increase by 2.2% per annum during 2002-25 thus requiring an additional 59,000 MW of coal fired capacity.

Oil demand in India is expected to increase by 3.5% per year during the same period. Some of the existing oil and gas fields were experiencing a decline in their production since they had already been in production for several years and were passed their plateau phase. Given this context, particularly the high import dependence, the New Exploration Licensing Policy (NELP) was envisaged in 1997 (and operationalized in 1999) by the MoPNG (Ministry of Petroleum & Natural Gas), as part of its Hydrocarbon Vision 2025, a landmark 25-year planning document. In addition to NELP, other efforts were made to address the need for achieving energy security such as; acquisition of oil and gas assets abroad, developing strategic storage facilities at identified locations, exploring alternate sources of Energy, including coal bed methane, gas hydrates, etc. and improving the recovery of oil and gas through Enhanced Oil Recovery (EOR) and Increased Oil Recovery (IOR). India's consumption for natural gas has risen faster than any other fuel in the recent years. International Energy Outlook 2010 projects India's gas consumption to grow at an average annual rate of 5.1% thereby reaching 2.8trillion cubic feet by 2025 with the share of electric power sector being of 71% by that time.

Generation of electricity from sun is a flagship Programme of the government. The solar market potential is huge, while only a fraction of the aggregate potential has so far been realized. India has one of the world's largest programmes in solar energy which includes R&D, demonstration and utilization, testing and standardization, industrial and promotional activities, processed material for solar cells, inverters, charge controllers etc. The solar sector is expected to see an increased participation and collaboration especially in the technology and manufacturing space.

Government of India expects investments of up to \$55 billion in the next five years in the renewable energy sector which would generate 325,000 MW of power. India, one of the leading producers of wind power, is encouraging investment in renewable energy to curb emissions and reduce dependence on oil as the country imports nearly three quarters of the oil it consumes. IREDA (Indian Renewable Energy Development Agency) established in 1987, promotes renewable energy and energy conservation projects which is administered by the ministry of Renewable energy (MNRE). Renewable sources account for about 60,000MW out of India's capacity of about 80,000 MW.

The total outlay on energy in the Tenth Five-year Plan has been projected to be 4.03 trillion rupees at 2001-02 prices, which is 26.7% of the total outlay. An increase of 84.2% is projected over the Ninth Five-year Plan in terms of the total plan outlay on energy sector. The Government of India in the mid-term review of the Tenth Plan recognized the fact that under-performance of the energy sector can be a major constraint in delivering a growth rate of 8% GDP during the plan period. It is, towards this end, the Government of India's plan allocation for power sector excluding Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) doubled from Rs. 2,230 crore (US\$ 483.06 million) in 2009-10 to Rs. 5,130 crore (US\$ 1.11 billion) in 2010-11. Government of India expects investments of up to \$55 billion in the next five years in the renewable energy sector, which would generate 325,000 MW of power.

Understanding energy cost is vital for creation of awareness and savings calculation. In many industries sufficient meters may not be available to measure all the energy used. In such cases, invoices for fuels and electricity will be useful. The annual company balance sheet is the other sources where fuel cost and power are given with production related information. Hence the need to conserve energy, particularly in industry and commerce is strongly felt as the energy cost takes up substantial share in the overall cost structure of the operation. It calls for Management of Energy and the objective of which is to achieve and maintain optimum energy procurement and utilization, by minimizing energy costs and wastes (without affecting production & quality) and to reduce environmental effects. Very concerted efforts in a planned manner are to be established for Energy Management. Strategy needs to be established based on the target of energy conservation and the role of the Cost & Management Accountants are huge in this aspect.

To achieve Economic Growth, we need to and have to use more and more energy. In terms of end use, energy demanded in the transport sector is expected to be particularly high as vehicle ownership, particularly of four wheel vehicles is expected to increase rapidly in the years ahead. The judicious and effective use of energy to maximize profits and minimize costs should be implemented so as to strengthen India's position in the World scenario. Cost & Management Accountants have already demonstrated their skill and expertise in this field. In future, it is hoped that their contribution will be increased further. Wishing you A Happy, Successful & Prosperous New Year, 2011