HIGHLIGHTS

1. Reserves and Potential for Generation

India's energy-mix comprises both non-renewable (coal, lignite, petroleum and natural gas) and renewable energy sources (wind, solar, small hydro, biomass, cogeneration bagasse etc.).

Information on reserves of non-renewable sources of energy like coal, lignite, petroleum, natural gas and the potential for generation of renewable energy sources is a pre- requisite for assessing the country's potential for meeting its future energy needs. The changes in the reserves over time indicate the research and development going into the discovery of new reserves and the pace of their exploitation. They also facilitate in devising effective conservation and management strategies for optimal utilization of these resources.

1.1 Coal and Lignite

India has a good reserve of coal and lignite. As on 31.03.10 the estimated reserves of coal was around 277 billion tones, an addition of 10 billion over the last year. Coal deposits are mainly confined to eastern and south central parts of the country. The states of Jharkhand, Orissa, Chhattisgarh, West Bengal, Andhra Pradesh, Maharashtra and Madhya Pradesh account for more than 99% of the total coal reserves in the country. The total estimated reserve of coal in India as on 31.03.2009 was around 267 billion tonnes. There has been an increase of 3.6% in the estimated coal reserves during the year 2009-10 with Andhra Pradesh accounting for the maximum increase of 16 %. This indicates that the geological explorations in the country during the year have led to the discovery of about 10 billion tonnes coal (9.6 billion tonnes increase in reserve plus 0.5 billion tonnes production) (Tables 1.1 and 3.1).

The estimated reserve of lignite as on 31.03.2010 was 40 billion tonnes, of which 80 % was in the southern State of Tamil Nadu. The increase in the estimated reserve of lignite during the year 2009-10 was 2.1%, Rajasthan accounting for the maximum increase of 5.5% (Table 1.1(A)).

1.2 Petroleum and Natural gas

The estimated reserves of crude oil and natural gas in India as on 31.03.2010 stood at 1206 million metric tonnes (MMT) and 1453 billion cubic meters (BCM), respectively (Table 1.2). Geographical distribution of Crude oil indicates that the maximum reserves are in the Western Offshore (46%) followed by Assam (23%), whereas the maximum reserves of Natural Gas are in the Western Offshore (40%) followed by Eastern offshore (29%). The increase in the estimated reserve of crude

oil during 2009-10 was 56%, with Tamilnadu accounting for the highest increase of 85.3% FOLLOEWD BY Gujarat (73.3%). In case of Natural Gas, the increase in the estimated reserves over the last year was 30%. The maximum contribution to this increase has been from Tamilnadu (139%), followed by Andhra Pradesh (75%) (Table 1.2)

1.3 Renewable energy sources

There is high potential for generation of renewable energy from various sources-wind, solar, biomass, small hydro and cogeneration bagasse. The total potential for renewable power generation in the country as on 31.03.2010 is estimated at 90,313 MW (Table 1.3). This includes an estimated wind power potential of 48,561 MW (54%), SHP (small-hydro power) potential of 15,385 MW (17%) and 22,536 MW (25%) from bagasse-based cogeneration in sugar mills. The geographic distribution of the estimated potential across States reveals that Karnataka has the highest share of about 14% (12,948 MW) followed by Gujarat with 13% (11,364 MW) and Andhra Pradesh 10,015 MW (11.1%), mainly on account of wind power potential. The estimates of Ministry of New and Renewable Energy for solar energy potential are estimated at 20-30 MW per Sq.km. for most parts of the country.