

ELECTRICITY & AIR EMISSION

M.A.L.S.N.K. Manthrinayake¹ and R.P. Samarakkody²
1 Ministry of Power & Energy, 2 Waste Management Authority-
Western Province

Abstract

Today, the main source of generating electricity is fuel fired oil generators. Until 1996, the country's electricity demand had heavily depended on hydropower, which is cheap and more environmental friendly. Demand for electricity increases by 8% annually. At Present, it needs about 150 MW additional power in every year to the National Grid. Due to inadequate rainfall and lack of major potentials in Hydro Power, Government of Sri Lanka has compelled to identify Thermal Power as the best alternative in future additions. Therefore Electricity has now become a source of Air Emission.

Energy Sector Master Plan, which was prepared by "Nexant" team of consultants for the Ministry of Power & Energy under ADB Technical Assistance Funds in July 2004, identified the air pollution as the major threat in future in the field of power generation in Sri Lanka and hence the establishing a detail environmental database with respect to power generation will assist the implementation of cost effective prioritised solutions.

Thermal generation is mainly concentrated in Western Province. The total thermal installed capacity up to end of 2003 was reported as 1228.5 MW. Western Province & Colombo District is having capacities of 1080.5 MW & 751 MW respectively, which creates the percentages of 88% & 61% to the total installed thermal capacity. This study was oriented to calculate emissions due to thermal power plants. Out of total emission due to thermal power generation, about 2.69 million tons (90%) of CO₂, 29.35 thousand tons (92%) of SO₂, 54.42 thousand tons (90%) of NO_x and 913.1 tones (90%) of Particulate matters were emitted in the Western Province in 2003, according to the results that came out of this study.