

International Energy Journal, Vol. 4 No. 1, June 2003 [Special Issue: Cleaner Production in Asia and the Pacific Region]

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Sustainable Growth through Green Productivity: A Case of Edible Oil Industry in India

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Abstract

The economic policies highlighting only productivity and economic growth, without addressing environment, have resulted into adverse and irreversible environmental impacts. A combined approach called Green Productivity signifies a new paradigm on socio-economic development aimed at the pursuit of economic and productivity growth while protecting the environment, simultaneously. A study was undertaken with the support from Asian Productivity Organization (APO) for application of GP in soyabean sector in India in view of productivity and environmental pollution. Soyabean sector plays a vital role in strengthening Indian economy in terms of export potential and employment, and rapid growth is expected in this sector in India. The study was carried out at Rama Phosphate Ltd., Indore (M.P.) processing soy having 400 TPD Solvent Extraction Plant and 100 TPD oil refinery. The field studies included various areas such as water, wastewater, energy, steam, emissions to air, loss of oil during extraction as well as refining and various housekeeping measures. Based on the information gathered during the review and detailed study, concentration diagram and eco-maps were prepared to identify major problem areas like oil loss in DOC and refinery, hexane loss in SEP, energy loss, and inadequate steam generation. Each problem area was subjected to intensive cause effect analysis using Ishikawa diagrams. Subsequently, 38 GP options were identified for implementation resulting into reduction in oil content in DOC, hexane loss, increase in SEP capacity, increase in power generation and saving in steam cost and coal. By applying the concept of Green Productivity, M/s. Rama Phosphate Ltd., Indore has not only gained financially but also increased the overall productivity by 20% and the regulatory requirements. The company reduced the hexane losses by 13% and oil losses in de-oiled cake (DOC) by 20%. The boiler efficiency of the existing boiler increased from 60% to 80%. Apart from these benefits, the company received ISO 14001 certificate, the first in edible oil sector in India, by the end of project.

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