



***CLEANER PRODUCTION ASSESSMENT: IMPROVING RESOURCE
EFFICIENCY IN REBUILD AND DAG TIRE INDUSTRY,
Sri Lanka***

H. M. L. P. Karunarathne¹, U. S. E. Udagedara², S A Vanniarachchi³, D. V. D. Nisansala⁴, M. A. D.
Umayangani⁴

1 Department of Estate Management and Valuation, University of Sri Jayewardenepura

2 Faculty of Graduate Studies, University of Colombo

3 Carbon Consultant, Prime Consultancy Co Ltd

4 Faculty of Graduate Studies, University of Colombo

The objective of this study is to assess the present material, water and energy consumption of the factory operations and take necessary actions to improve efficiency of material, water and energy in the factory while reducing the negative impacts to the environment from factory operations. The methodology used in this study is Cleaner Production Assessment. Accordingly, the assessment covered all the major activities and areas in the tire factory. Primary data and secondary data were gathered a cross sections of the employees including the senior management were interviewed. After completion of the assessment, considerable amount of saving potential was identified. The main solutions that were raised from this analysis are repairing of steam leak, insulation of distribution lines, expansion of feed water tank, fixing up compressed air leak; avoiding the water leak from water pump and installation of low flow rate shower instead of the shower with higher flow rate. Expected annual saving from recommended projects for water conservation would reduce the water bill by 12.5%. The primary energy source is the electricity received from the national grid and secondary energy sources are furnace oil. Proposed annual saving through reduction of energy bill is 1.14%. This will mainly contribute to improve environmental image of the company and effective resource utilization. This will pave the path for green production concept as well. Further, optimum usage of water and energy gives direct cost saving as well as contribute to reduce the GHG emissions from the factory and hence will improve the image of the organization to acquire more business opportunities. The implementation will improve good housekeeping practices. Continuous capacity building of factory staff, proper record keeping, regular testing and improvements are the great necessity for implementation of CP in the factory.

Keywords: *Cleaner Production, Material Balance, Waste Cause Analysis, CP option generation*