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Desiccated coconut industry of Sri Lanka: opportunities for energy efficiency and environmental protection

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Abstract

The desiccated coconut (DC) industry is one of the major export oriented food processing industries in Sri Lanka. This paper discusses the production processes, types of fuel used, energy use pattern and the overall specific thermal and electrical energy consumption in the DC sector. An analysis of the energy use highlights the inefficient processes and the key energy loss areas. Options for energy conservation in the DC mills have been discussed, and carbon dioxide emissions from this sector and its mitigation potential are estimated. Other options to improve efficiency and reduce other pollution and policy aspects have been presented.

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Keywords: Desiccated coconut; Specific energy consumption; Energy efficiency; Sri Lanka; GHG emission

1. Introduction

The major energy sources used in Sri Lanka are biomass and oil. In 1999, biomass (mostly firewood) accounted for about 51% of the national primary energy consumption, of which about 24% was consumed in industries, such as the tea, desiccated coconut (DC) and rubber industries [1,2]. Fossil fuel (oil and a small quantity of coal) accounts for about 37% of the total energy consumption, which is totally imported. Between 1999 and 2000, the country's oil demand increased by 14% [3]. In 2000, the total electricity generation was 6843 GWh from an installed capacity of 1799 MW. Hydropower accounted for 46% of the installed capacity, and the rest is

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