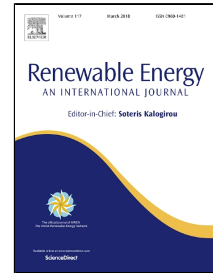


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# A Policy Framework and Industry Roadmap Model for Sustainable Oil Palm Biomass Electricity Generation in Malaysia

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The current global trends demonstrate the significant role of renewable energy in meeting the growing energy demand across all sectors to support national economic growth. In Malaysia, palm oil is one of the major agricultural export commodities with a total production of 17.7 million tonnes or 41% of the total world palm oil production in 2008. This research evaluates the sustainability of the grid-connected oil palm biomass renewable energy industry in Malaysia and proposes a policy framework and industry roadmap. The factors investigated include resource supply, the efficiency of waste to energy conversion technology used in the existing plants, and the attractiveness of the electricity interconnection scheme in encouraging exports of excess power from the participating mills to the main grid. A literature review and field survey were conducted to understand the barriers and possible enhancements to the current FiT system. The study concluded that harmonisation between upstream and downstream palm oil agricultural activities is essential for achieving the goal of making the oil palm biomass waste to energy industry sustainable. The policy framework and industrial roadmap models provide a distinctive enhancement to the FiT system besides indicating the way towards a sustainable biomass to the energy industry.

Keywords: Oil palm biomass; Feed-in Tariff; sustainability; policy framework; and industry roadmap model

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## 1. Introduction

The current global trends demonstrate the significant role of renewable energy and electricity generated from conventional fuels in meeting the growing energy demand across all sectors to support economic growth [1]. There are huge potentials and opportunities for developing and expanding small scale energy generation from agricultural wastes, and one of the most prominent agricultural crops available is oil palm crops. For the past few decades, the two leading palm oil producers and exporters in the world have been Indonesia and Malaysia. Both countries produce 17.7 million tonnes of palm oil annually and each held a 41.3% share of the total world palm oil production in 2008 [2] [3]. The domination of these palm oil powerhouses on the global scene in the year 2008 is shown in Figure 1.

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