



## Money Making Opportunity Potential



## **Innovation Business Opportunity**



# MYScrim-OPT Parallel Oil Palm Scrim Lumber (FRIM002)

Renewable Resource Low Cost to Produce No CFCs Used Patented Technology



### MYScrim-OPT Parallel Oil Palm Scrim Lumber (FRIM002)



#### Project Overview

The research team at Forest Research Institute Malaysia (FRIM) has leveloped a novel process of using oil palm plantation biomass to produce strong, durable and reliable engineered lumber.

#### **Business Idea**

To design, develop, produce and distribute engineered wood products based on the processes developed for using the oil palm piomass.

#### **Business Model**

For the short term it is proposed that the business produce and sell engineered wood panels targeting the local furniture and flooring nanufacturing market and the panel export market. For the long term producing and selling high value engineered wood products ike furniture and flooring is proposed.

#### **Business Opportunity**

The depleting global forest resources combined with the increasing environmental awareness has led to businesses and consumers ooking for alternate sustainable sources of wood. In Malaysia, according to the Malaysian Palm Oil Council 4.48 million ha of land area is being used for oil palm plantations. Malaysia's oil palm ndustry is projected to spend RM4.4 billion to replant some 365,000 hectares from 2011 to 2013.<sup>(i)</sup>

#### Market Analysis

The North American & European Engineered Wood Market was estimated to have generated revenue of USD 24.4 billion in 2009 and is projected to grow to USD 55.6 billion in 2016.<sup>(ii)</sup> According to the 2010 annual report from the Malaysia Timber Council (MTC) in 2010 Malaysia exported 1.2 million cubic meters of Medium Density Fiberboard (MDF) amounting to a value of RM 1.2 billion.

#### **Competitive Advantages**

This product is based on the extensively available oil palm biomass n Malaysia – thus it provides an opportunity to use the oil palm replanting waste effectively and at the same time produce products based on a cheaper raw material. The developed process has a high yield of about 85% and the engineered lumber has low formaldehyde emissions.

#### **Competitor Analysis**

The oil palm based panels produced by this business will compete with the various existing types of wood panels to be further used in applications like flooring, paneling and furniture. The commonly available Medium density fiberboard is also an engineered wood product based on hardwood or softwood residuals. Oriented strand board, Glulam and laminated veneer lumber (LVL) account for approximately 60 percent of the total engineered wood market.<sup>(i)</sup>

#### **Technology Solution / Innovation**

It is estimated that every year, about 13.6 million oil palm trees are felled, chopped and left to rot before replanting. This waste has often delayed the replanting activity because many fear that the pests and diseases spawned in the rotting oil palm trunks (OPTs) would attack the young oil palm trees if they are planted too soon The problem can be solved if the OPTs are removed as soon as they are felled and sent to factories to manufacture Parallel Oil Palm Strand Lumber (POPS Lumber). POPS Lumber is an engineered lumber invented by FRIM that can make use up to 85 % of the OPT materials. Strands of OPT are coated with a known commercial adhesive, oriented to the length of the lumber before pressed into billets of various sizes. Later, FRIM refined the engineered lumber and invented another product named MYScrim-OPT.

#### **Project Challenges**

Malaysia has a well-developed wood and wood products industry – it will be challenging to penetrate this network and convince the distributors, suppliers and importers to try this new product. For the long term sustainability of this business it should be based around high value wood products like flooring and furniture – building this ecosystem will be a challenging process compared to just selling the wood and wood panels.

#### **Intellectual Property Rights**

POPS Lumber has been protected with patents filed in Malaysia (MY-144683-A), Indonesia (Poo200800581) and Thailand (0801005894. POPScrim patent is still pending (PI 20084309)

#### **Project Status**

The FRIM team has developed and prototyped the engineered lumber. It has been showcased at several local and international events and has won a few awards including WIPO Best Inventor at Geneva 2008, and Gold Medal at International Innovation & Technology Exhibition (ITEX) in 2010.

#### Financials

For the three year financial model it is assumed that the business will produce and sell high quality wood panels using the oil palm biomass. In the long term producing high value finished wood products like flooring and furniture will generate higher revenues. The model is based on a similar start-up case study – an engineered wood panel manufacturer based on a new technology.<sup>(iii)</sup> Based on this model the projected revenues are Year 1: RM 11.3 million; Year 2: RM 22.6 million and Year 3: RM 28.3 million.

#### **Funding Requirement**

The start-up process can be optimized by collaborating with existing large scale wood products manufactures for production know-how and infrastructure. Working with big oil palm plantations will ensure long term raw material security.

Source: (i) http://www.btimes.com.my/Current\_News/BTIMES/articles/NKEApalm/Article/ – [Last Accessed – 23 Mar 2012]; (ii) http://www.frost.com/prod/ servlet/press-release.pag?Src=RSS&docid=235377871 – [Last Accessed – 23 Mar 2012]; (iii) Nelson timber plant (2012 startup) http://www.nzwood.co.nz/industrynews/2011/08/17/new-technology-for-nelson-timber-plant-for-2012-startup/ - [Last Accessed – 23 Mar 2012];