

# GREEN BIOMASS INDUSTRY



GLOBAL GREEN  
SYNERGY SDN BHD

Business Opportunity and  
Collaboration with University

# My Story ...

From My 1<sup>st</sup> Palm Oil Mill Visit



# SENARIO OF GHG

If EFB send to landfill ...

**“1 TON OF EFB CAN GENERATE 0.035 TON OF CH<sub>4</sub> (METHANE)”**

EFB 2010 in Malaysia ->

**= 19,301,168 X 0.035**  
**= 675,540 TONS METHANE**

**1 ton of CH<sub>4</sub> is**  
**equivalent**  
**to 24 ton of CO<sub>2</sub>**

**675,540 x 24 times = 16,212,960 tons CO<sub>2</sub>**



# MY STORY ...



**BIO-WASTE**  
**EFB** EMPTY FRUIT BUNCH

**23** MILLIONS MTS EFB  
IN MALAYSIA

**16** MILLIONS MTS  
OF CO<sub>2</sub>

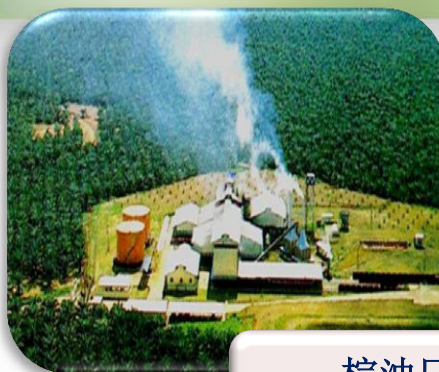
To Create ...



# Palm Oil Industry Biomass ... Introduction ...



新鲜棕榈果串  
Fresh Fruit  
Bunches (FFB)



棕油厂  
Palm Oil Mill



棕榈油  
Crude Palm Oil  
棕榈果油  
Crude Kernel Oil

棕榈生物质能  
Palm Oil BioMass

22.86 million MTs

12.20 million MTs

5.04 million MTs

60.75 million MTs



棕榈空果串  
Empty Fruit Bunches



中果皮纤维  
Mesocarp Fiber



棕榈核壳  
Palm Kernel Shell



棕榈油污水  
Palm Oil Effluent POME

# BECOMING PALM BIOMASS SOLUTION PROVIDER



# BIOMASS TECHNOLOGY OUTLOOK



Frond  
(OPF)



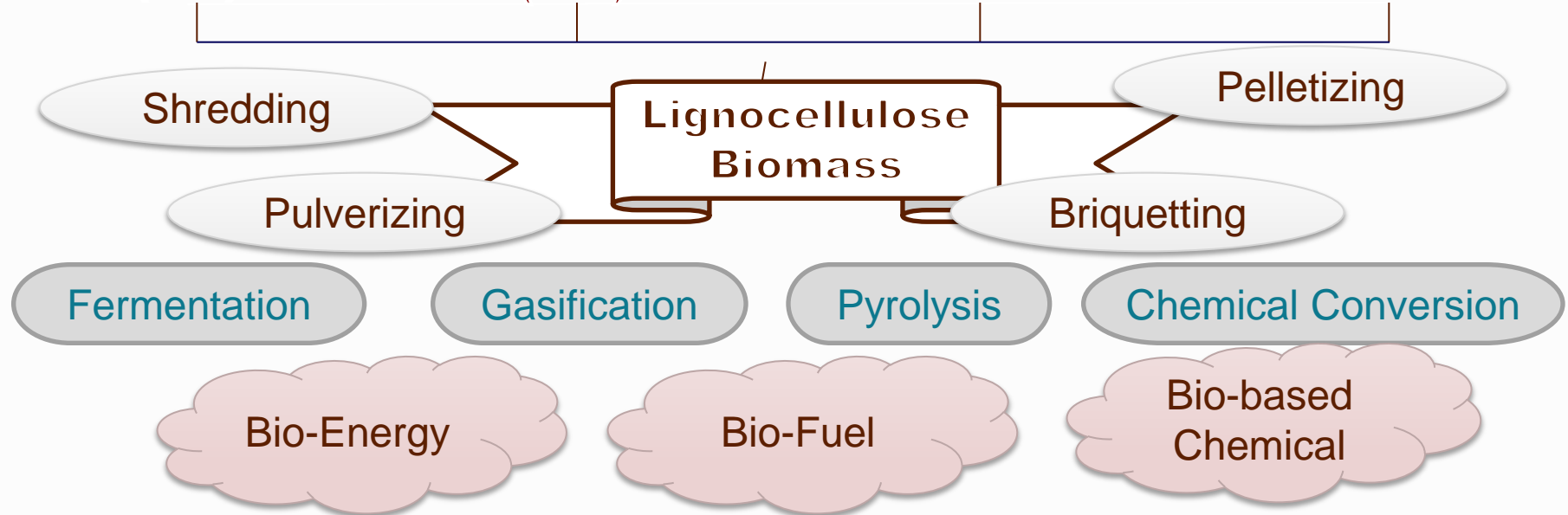
Trunk  
(OPT)



Bunche  
(EFB)



Fiber  
(MF)



**Usage of biomass can be value-added from lower value activities to Higher value bio-energy, biofuels and bio-based chemicals**



# GGs's Products



**DRIED LONG FIBER**



**BRIQUETTE**



**PALM KERNEL SHELL**



**PALM PELLET**

# SOLID PALM BIOMASS



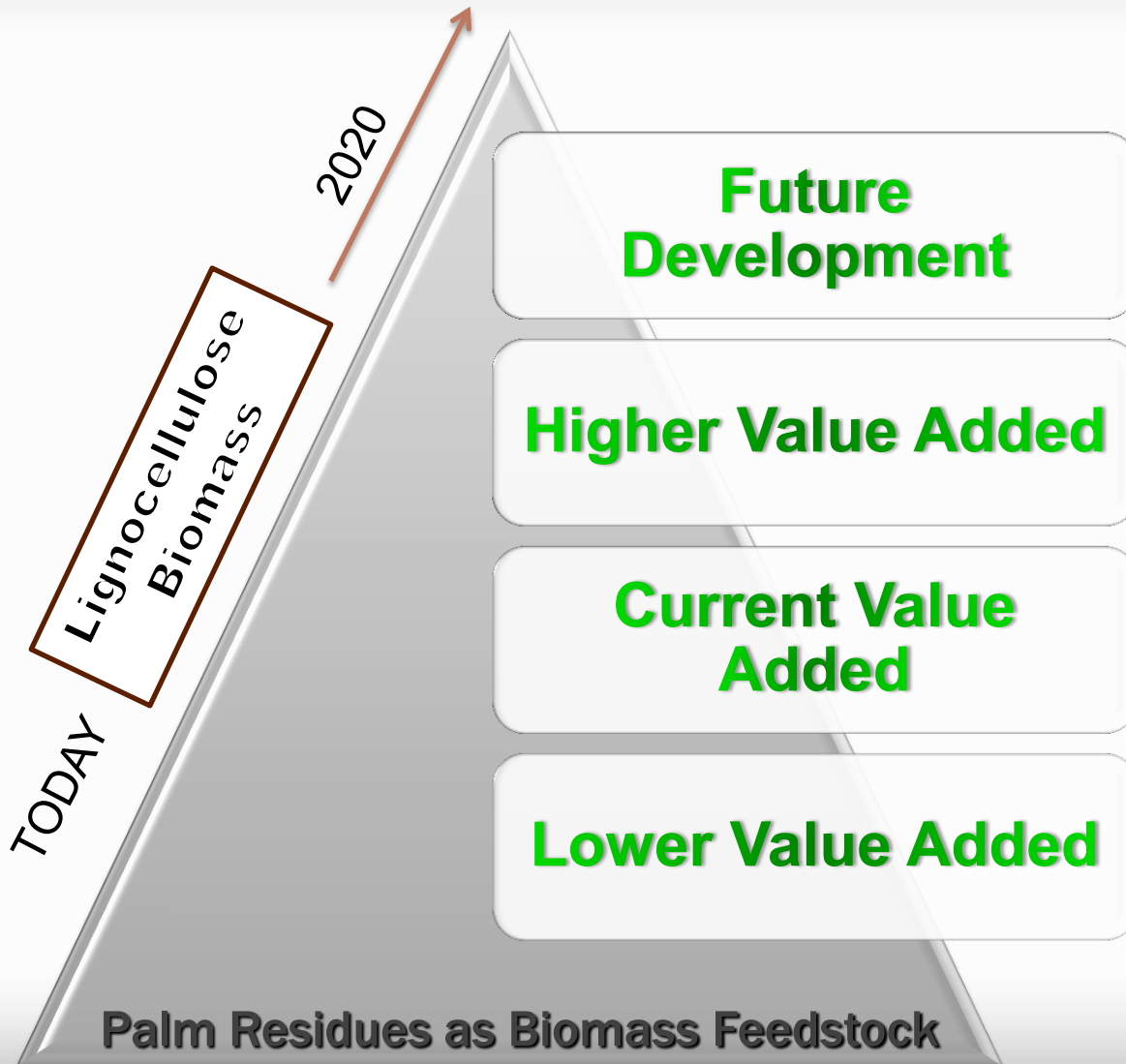
Palm Briquettes



Palm Pellets

**POTENTIAL ENERGY**

# Biomass Product Outlook



## Bio-Products Category



TO SHARE ...



# Transfer of Technology



- ❖ take the first step and challenge to develop this DLF Business & create of new market
- ❖ share the know-how through TOT Program to the Industry especially Palm Oil Mill Owner

# Buy Back Guarantee

- ❖ provide the Buy Back Guarantee Policy to new investor for no hassle on market and secure of ROI



10 New DLF Production Line Set up  
through this “Synergizing Effect”



# GGG's Technology



**Share**

with the industry



# The 1<sup>st</sup> Commercial Palm Briquetting Plant In Malaysia



# What is GGS ?

## Process & Supply Chain Optimization

i.e., Invest in process optimization & supply chain optimization personnel

Invest in R&D by engaging international experts in this field.

**COLLABORATION WITH UNIVERSITIES**

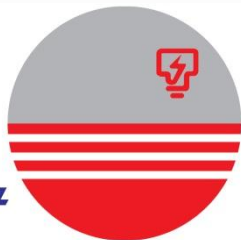


The University of  
**Nottingham**

UNITED KINGDOM · CHINA · MALAYSIA

**“Process network synthesis & optimization of palm oil biomass utilization” and  
“Product supply chain synthesis of palm oil biomass”**

**UNIVERSITI  
TENAGA  
NASIONAL**



**Feasible Study on Palm Pellet usage at TNB Power Plant**





TO LOVE ....  
TO LOVE ....

# The Environment



**CO<sub>2</sub> Reduction is  
84,000MTs P.A.**

**By 2014  
CO<sub>2</sub> Reduction is  
840,000MTs P.A.**

# Commercialization & Research Experience with Universities



**UPM**  
UNIVERSITI PUTRA MALAYSIA  
BERILMU BERBAKTI



The University of  
**Nottingham**

UNITED KINGDOM • CHINA • MALAYSIA



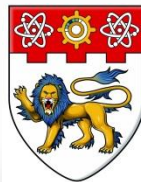
اَوْبُو سَيْبِي تِي كُو لُو كِي مَارَا  
UNIVERSITI  
TEKNOLOGI  
MARA



[www.ggs.my](http://www.ggs.my)



University  
of Wrocław



**NANYANG**  
TECHNOLOGICAL  
UNIVERSITY

# Signing of MOA with University of Nottingham, Malaysia Campus



The University of  
**Nottingham**

UNITED KINGDOM • CHINA • MALAYSIA

[www.ggs.my](http://www.ggs.my)

# Signing of MOU with University of UNITEN, Malaysia Campus



**UNIVERSITI  
TENAGA  
NASIONAL**



# Pyrolysis from Biomass to Liquid with University of Wroclaw, Poland

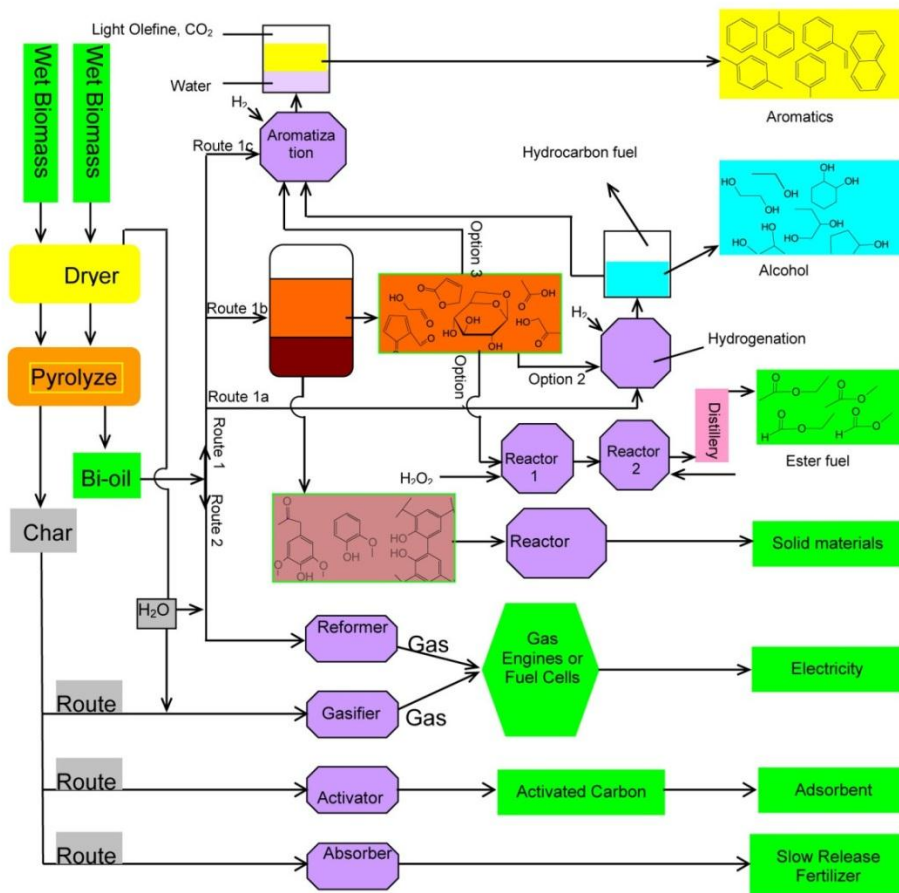


Figure 1. Flow-sheet diagram of biorefinery concept

“Pyrolysis Based Bio-refinery to produce liquid fuels, chemicals and materials from oil palm biomass”



# New Technology for Biomass “Torrefaction” with University of Wroclaw, Poland



University  
of Wroclaw

# R&D on Bio-Compost with University Putra Malaysia

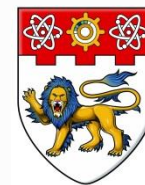




# Technology Exchange with NTU Singapore



**As an  
Entrepreneurship  
Speaker from Industry  
and factory visitation  
tour to palm oil mill  
Malaysia**



**NANYANG  
TECHNOLOGICAL  
UNIVERSITY**

# 4<sup>th</sup> Technopreneurship & Innovation Symposium & Exhibition (TISE 2012)



BEING INVITED AS SPEAKER



**2011 World Winner of  
JCI Creative Young Entrepreneur Award**



**2011 Malaysia Top Winner  
JCI Creative Young Entrepreneur Award**



**2011 Malaysia Winner  
MCCC – Golden Green Award**

# Your Biomass Servant

Global Green Synergy Sdn Bhd

[www.ggs.my](http://www.ggs.my)

HOPE & PEACE in GREEN

Thank You !

