



THE MINISTRY OF RESEARCH AND TECHNOLOGY  
REPUBLIC OF INDONESIA

# THE GREEN ECONOMY WE NEED

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# ABOUT INDONESIA

## GENERAL OUTLOOK

THE GREEN ECONOMY

### **Democracy**

153 district elections in 2013. With more than 237 million population, Indonesia is one of the biggest democratic countries in the world.

### **Economy**

6.6%-6.8% growth for 2013 (Central Bank calculation).

Proportion of people living below poverty line: 16.6% in 2007 to 12.5% in 2011 (World Bank report).

### **Cultural heritage**

746 languages (Ministry of Education and Culture, Indonesia 2011).

1,340 ethnic groups. All united by one language: Bahasa Indonesia.



# From nature & Culture

## to sustainable development

THE GREEN ECONOMY



[www.himpalaunas.com](http://www.himpalaunas.com)

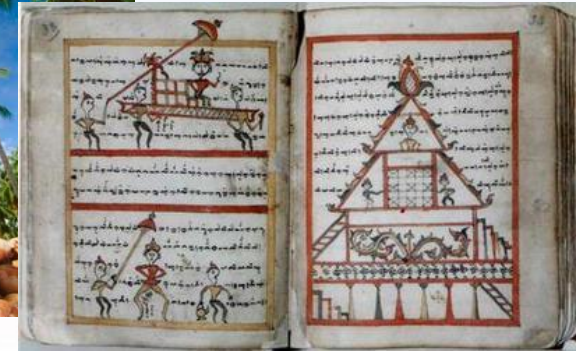


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[www.netsains.net](http://www.netsains.net)



[www.id.wikipedia.org](http://www.id.wikipedia.org)



[www.log.viva.co.id](http://www.log.viva.co.id)



# Sustainability we need

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**POLLUTION  
MINIMISED**

**RESOURCE  
INTENSIVE**

**SOCIAL  
INCLUSIVE**





# Some prerequisites to capture and expand the opportunities in green economy

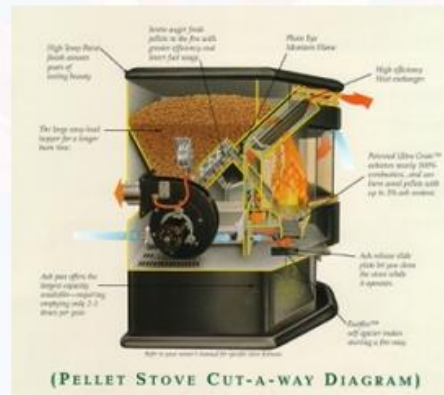
THE GREEN ECONOMY

## Entrepreneurship with global pursuits



<http://www.theparablesbusiness.com/>

## Asset in technology patented and proven



<http://www.triplepundit.com/>

## Carbon economy direct & continual learning



<http://netrightdaily.com/>

# To start (i): Example of a set of knowledge owned by a company to start a green business

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Solid Biomass Fuel (SBF) Manufacturing Project by M/s. Abellon CleanEnergy Limited (ACL) in district of Ahmedabad, Gujarat, India\*:

- Collection of biomass residues;
- Shredding of biomass residues at collection centre;
- Drying of the shredded biomass at plant;
- Pre-crushing process;
- Automatic intake batching (3 tonnes);
- Grinding;
- Mixing;
- Conditioning;
- Pelletizing;
- Cooling;
- Screening;
- Finished goods packing, dan
- Storage.

*\*PROJECT DESIGN DOCUMENT FORM (CDM-SSC-PDD) - Version 03, UNFCCC, Date : 25/07/2009*

# To start (ii): Expanding business scope, start from one commodity

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**IN FIVE YEARS, FROM ONE COMMODITY...**

**Abellon CleanEnergy**  
fully established 2008

BIOMASS PELLETT



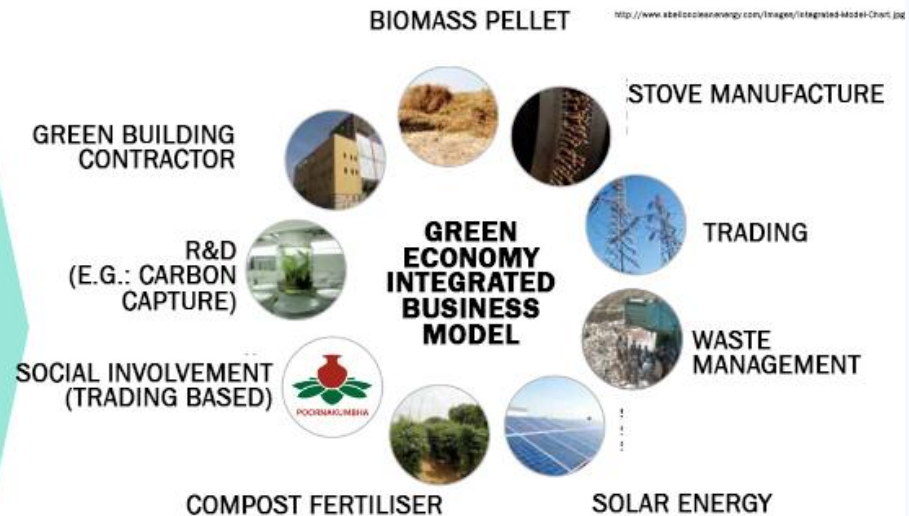
BIOMASS STOVE



BIOMASS BIOLER



**...TO MANY BRANCHES OF BUSINESS ACTIVITIES!**





To start (*iii*): Don't stuck with one buyer,  
see global potentials! (a)

THE GREEN ECONOMY

**TO FIND YOUR BUYERS  
JOIN GLOBAL CONFERENCES AND EXHIBITION**



**ISO/TC 238 - SOLID BIOFUELS**



European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**CEN/TC 335 - PUBLISHED STANDARDS (SOLID BIOFUEL)**

**GREEN ECONOMY IS STILL EVOLVING  
NEVER STOP TO MAKE ACTIVE POLICY ASSESSMENT ON GLOBAL DYNAMICS  
IN RELEVANT REGULATIONS OF NATIONS**

# To start (iii): Don't stuck with one buyer, see global potentials! (b)

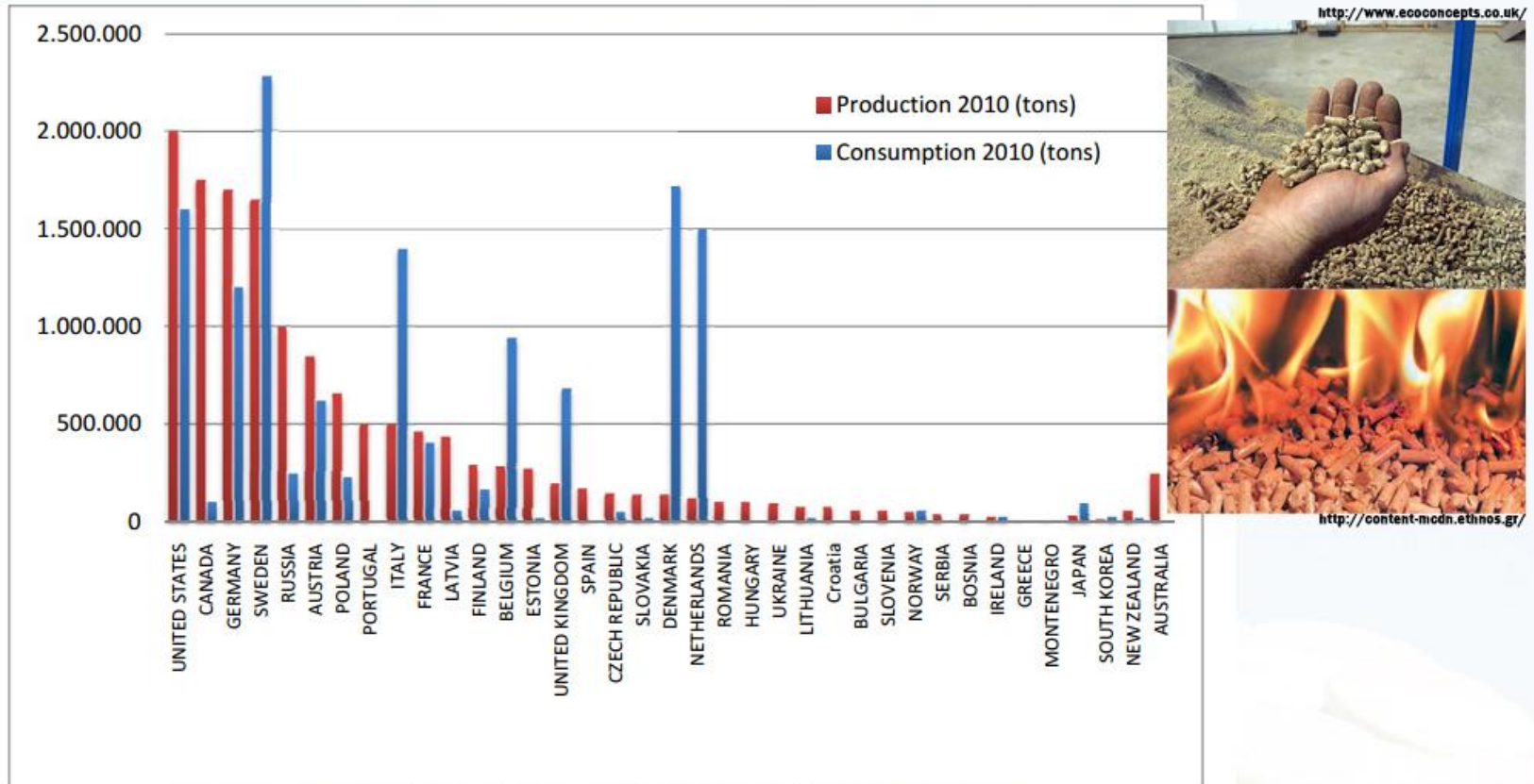


Fig. 1.6 – Wood pellet production and consumption by country in 2010

# Involving communities

THE GREEN ECONOMY

**BUILD THE RELATION WITH THE SOCIETY ONLY BASED ON REAL NEEDS,  
NEVER START ANY CONNECTIVITIES BEFORE REAL NEEDS ARISE.**



**THE SOCIETY  
=  
BUYERS**



**THE SOCIETY  
=  
RAW MATERIAL SUPPLIER**



**THE SOCIETY  
=  
SOURCE OF NEW BUSINESS IDEAS**



# Involving academicians

THE GREEN ECONOMY

**THE SUSTAINABILITY RELATIONS WITH THE ACADEMICIANS, ALWAYS DO IT WITH A CAUSE!**



**THE ACADEMICIANS  
=  
CLIENTS**



**THE ACADEMICIANS  
=  
RESEARCH PARTNERS**



**THE ACADEMICIANS  
=  
TRAINING FACILITATOR PARTNERS**

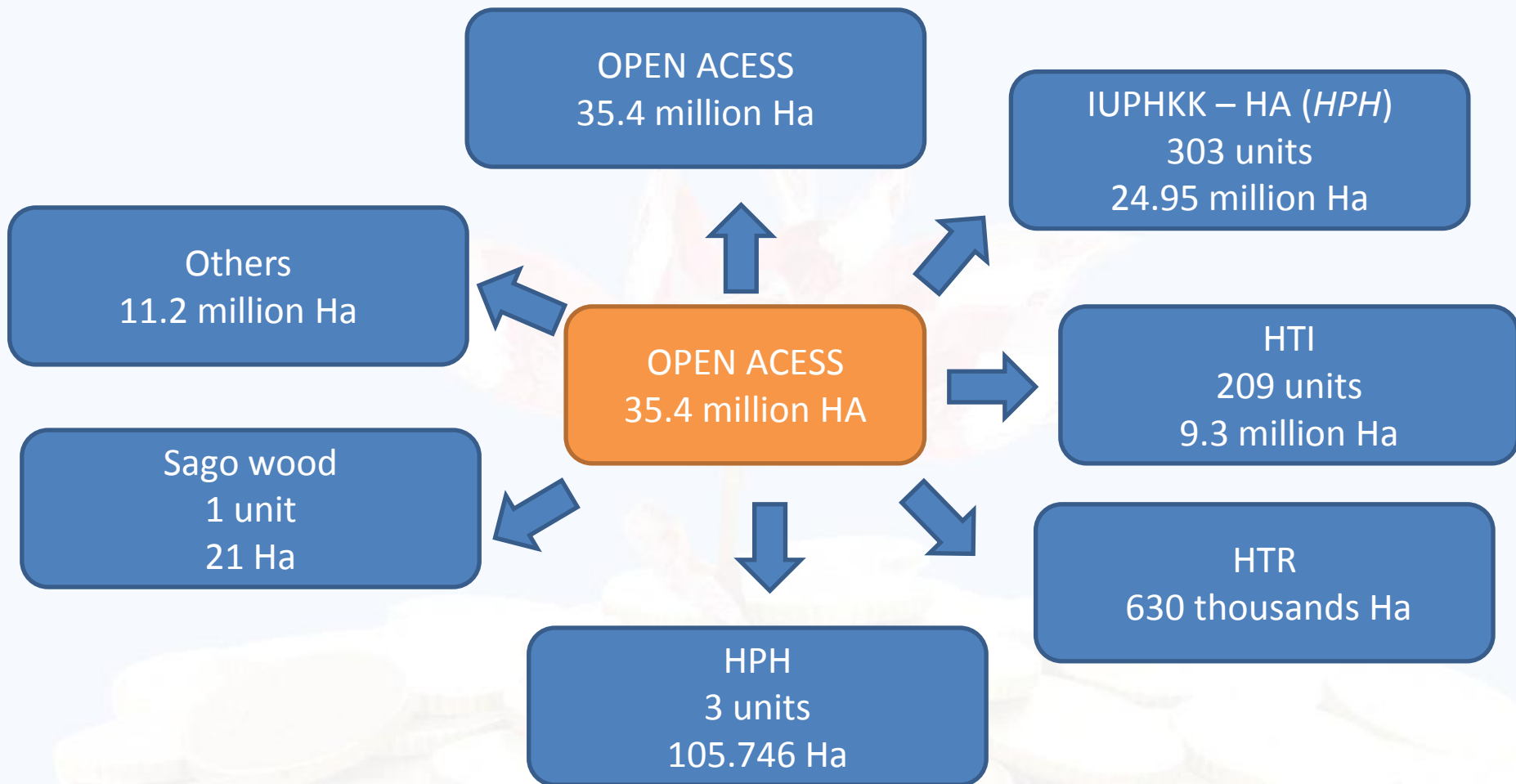
# Wood Pellet, case of Indonesia?

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- Indonesian woods is capable to supply big volume
  - By the methods of SRC (Short rotation coppices 1 – 2 year rotation):
    - Planting of suitable varieties of coppices;
    - Repeated cutting/combined harvest (not killing the tree);
    - Re-sprouting of the crop 1-2 years cycle for up to 20-25 years;
    - Plants are made from lignin, hemicellulose, and cellulose;
    - Common lignocellulosic energy crops include wheat straw, miscanthus, short rotation coppice poplar and willow.
- (Source: Yetti Rusli, 2013)

# Productive Woods

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# Trees/Forest and GHG CO<sub>2</sub> Cycle

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- Planting trees: absorbing CO<sub>2</sub>;
- Managing Forests: holding solid C in term of standing biomass;
- Producing sustainable renewable biomass: absorbing CO<sub>2</sub> continuously, providing renewable green products – holding solid C and replace/substitute high CO<sub>2</sub> products (coal, oil, cement, steel, etc.);
- Reducing emission from forests: self-remedy.
  - (Source: Yetti Rusli, 2013)

# Why forests (CO<sub>2</sub>-cycle) important for CC mitigation and adaptation in Indonesia?

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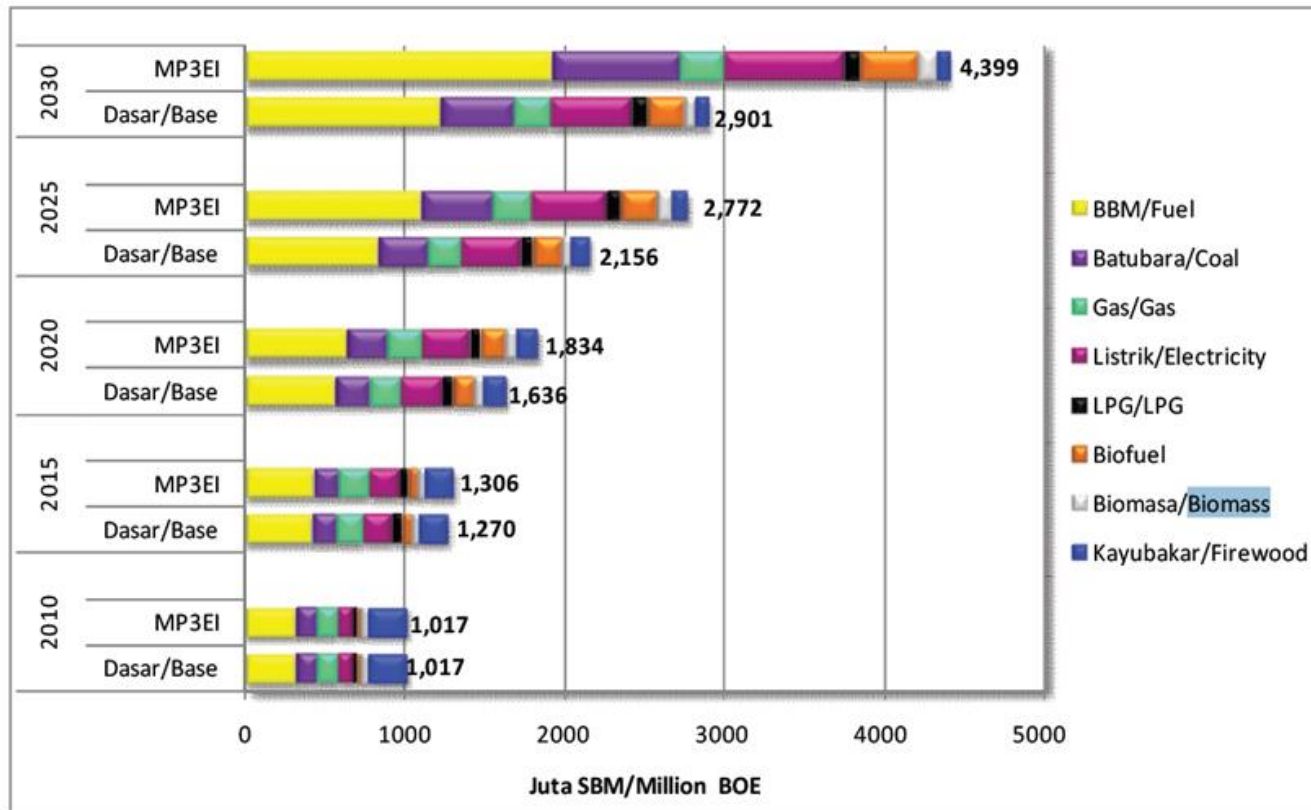
- Tropical countries could contribute to high growth and yield of biomass (absorbing GHG CO<sub>2</sub> faster)
- Provide biomass energy for domestic (reduce fossil fuel government subsidies) and global partners;
- Wide range of participations (community, public, private, government);
- Rich on experiences on fuel wood (*kayu bakar*);
- Towards Transfer Technology and New Market Mechanism (UNFCCC perspective)

- (Source: Yetti Rusli, 2013)

# Domestic market size on biomass

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*The projection of total final energy demand by fuel type*





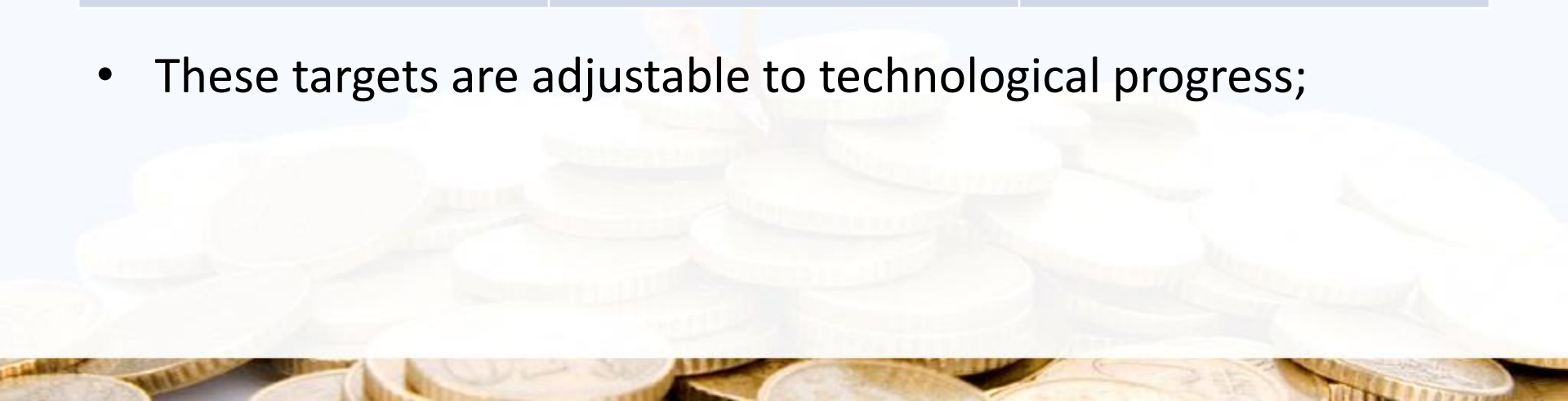
# CO2 decrement allocation in 5 sectors (2010)

(Perpres No. 61/2011 tentang RAN/RAD Penurunan Emisi GRK)

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Sector	Decrement target (Gton CO2)	
	26%	41%
Forestry and peat areas	0.672	1.039
Agriculture	0.008	0.011
Energy & Transportation	0.036	0.056
Industry	0.001	0.005
Waste	0.048	0.078
Total	0.767	1.189

- These targets are adjustable to technological progress;



# Reinvesting to research

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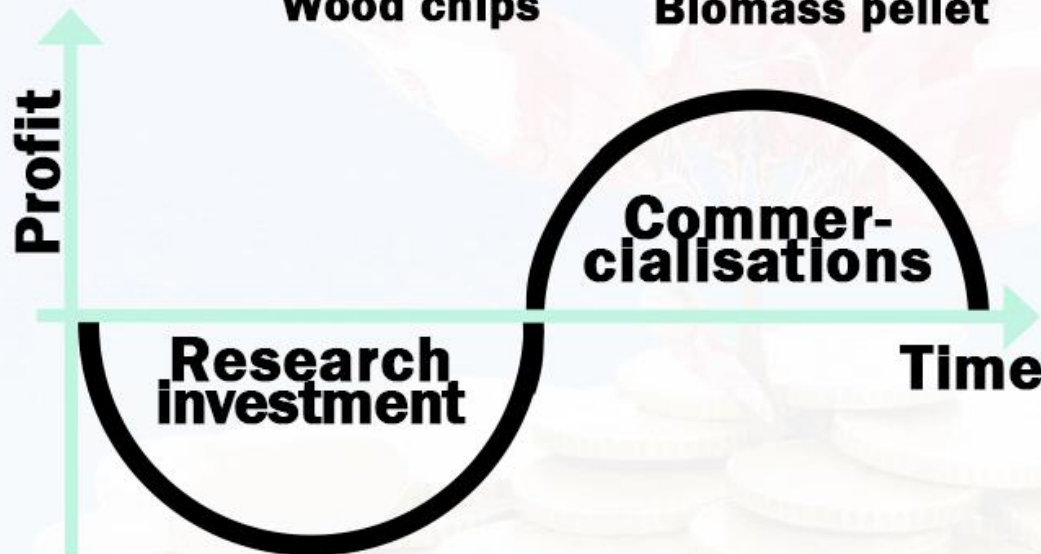
**Wood chips**



**Biomass pellet**



**Greenjet Fuel**



# RISTEK Policy to Support Green Economy (i): Development of Center of Excellence

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## GOAL:

*'To increase the capacity and capability of S&T institution, resources, and network in the field of priorities to improve S&T productivity and its utilization especially in the production sector toward national sustainable economic growth'*



# RISTEK Policy to Support Green Economy (ii): Development of Center of Excellent

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# RISTEK Policy to Support Green Economy (iii): Development of Center of Excellent

THE GREEN ECONOMY

Example of Center of Excellence:



Indonesia Oil Palm Research  
Institute (PPKS)



Indonesia Coffee and Cocoa  
Research Institute (ICCRI)

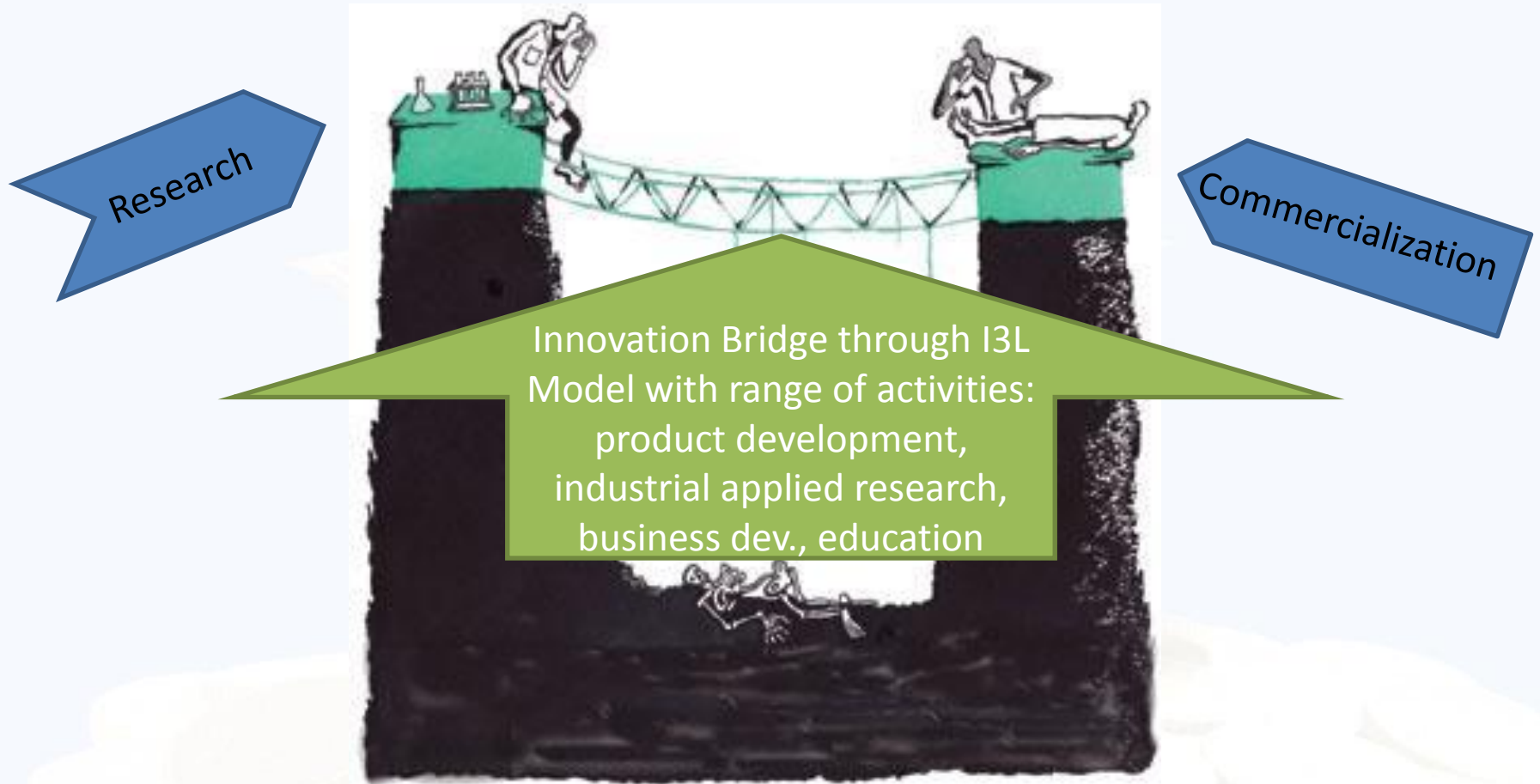


Center for Tropical Horticulture  
Studies - IPB

# Lesson Learnt:

Indonesia International Institute for Life-Sciences (I3L) Model:  
“Develop Innovation Bridge”

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[www.nature.com](http://www.nature.com)



# INVEST IN INDONESIA, WHY NOT?

CASE OF SWEDEN INITIATIVE: INDONESIA INTERNATIONAL INSTITUTE OF LIFE SCIENCES (I3L)

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## ENTREPRENEURIAL CAPTURE OF OPPORTUNITIES

February 16, 2012

### **I3L, A SWEDISH-INDONESIAN FLAGSHIP PROJECT!**

Ambassador Polano participated in the topping off ceremony of the I3L, a cooperative effort between KALBE Farma, Sweden's Karolinska Institute and also other foreign universities.

February 16, 2012

### **I3L: MODAL INOVASI INDUSTRI INDONESIA - SWEDIA**

Indonesia International Institute for Life-Sciences (I3L), lembaga pendidikan berbasis riset inovasi bidang ilmu hayati mulai beroperasi pada tahun 2013 dan berdiri berkat kerjasama antara Indonesia-Swedia.

The I3L website is currently under development. We have lots of exciting things lined up, please check back often as we work to bring you the latest information and updates.  
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**THANK YOU!**

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