



Indonesian Wood Pellets Manufacturing
Strategic Plan 2014 – 2020
Solo - Indonesia



Certain statements in this presentation are forward-looking statements, which reflect the current expectations of management regarding the Company's future operations. Forward-looking statements consist of statements that are not purely historical, including any statements regarding beliefs, plans, expectations or intentions regarding the future. Such statements are subject to risks and uncertainties that may cause actual results, performance or developments to differ materially from those contained in the statements. No assurance can be given that any of the events anticipated by the forward-looking statements will occur or, if they do occur, what benefits the Company will obtain from them. These forward-looking statements reflect management's current views and are based on certain expectations, estimates and assumptions which may prove to be incorrect. A number of risks and uncertainties could cause our actual results to differ materially from those expressed or implied by the forward-looking statements, including: (1) a continued downturn in general economic conditions in Indonesia and internationally, (2) the inherent uncertainties associated with the demand for biofuels, (3) the risk that the Company does not execute its business plan, (4) an inability to finance operations and growth (5) an inability to retain key management and employees, (6) ; an increase in the number of competitors with larger resources, and (7) other factors beyond the Company's control.

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WOOD PELLETS

KEY STATISTICS OF INDONESIA



Indonesia



- Evergreen montane forest (> 1,000 m)
- Evergreen lowland forest (> 1,000 m)
- Evergreen wood and shrubland, and regrowth forests
- Other forest
- Deciduous wood and shrubland, and regrowth forests

- Dry dipterocarp forest
- Swamp forest and transitional shrubland
- Mangrove forest
- Burnt, dry, or sparse vegetation
- Inland water



Indonesian Forest area is about 130.68 million ha, classified into:

1. Conservation forest (26.8 million ha)
2. Protection forest (28.86 million ha)
3. Production forest (32.60 million ha)
4. Limited production forest (24.46 million ha)
5. Convertible production forest (17.94 million ha).



Key Statistics of Indonesia*

Total population	246,864,191 in 2012**
Rural population	119,858,489 in 2012** 48.6% of total population
Total land area (excluding inland water bodies)	181,157,000 ha
Total forest area	130,680,000 ha 72.14% of total land area
Production forest	75,000,000 ha
Protected forest - soil and water	28,860,000 ha
Protected forest - biodiversity conservation	25,820,000 ha

Market Overview

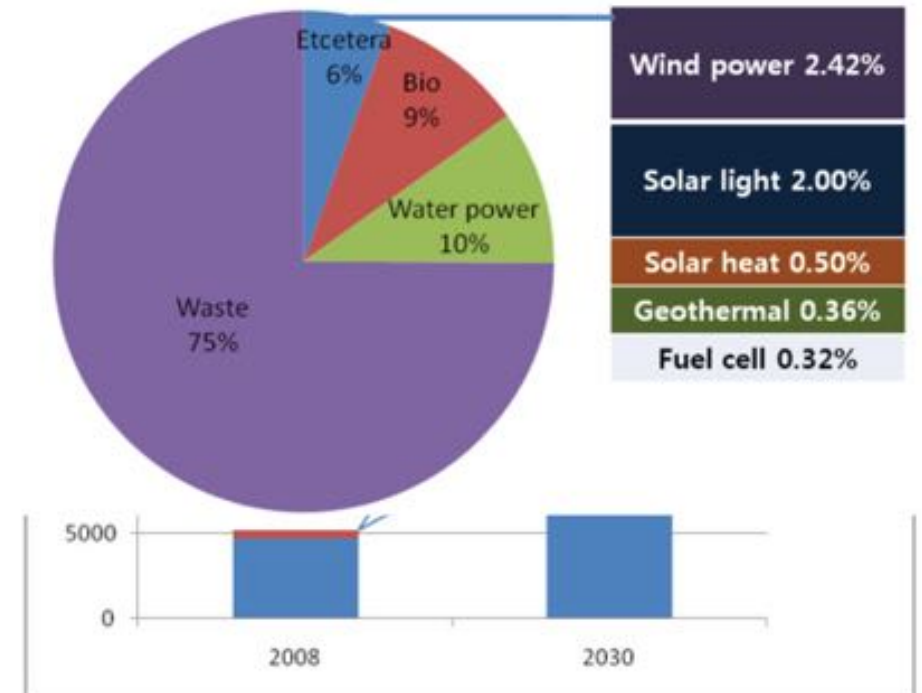
WOOD PELLETS

MARKET OPPORTUNITY PROFILE | KOREA



Supply of renewable energy

In today's environment, "green growth" is seen as an effective way to reduce emissions in response to concerns about global climate change. Renewable energy comprised 6,080,000 tonnes of oil equivalent (toe) in 2009 which represents 2.58 per cent of primary energy consumption. However, the Korean government aims to increase energy efficiency and the supply of renewable energy under its National Energy Master Plan in effect until 2030. Renewable energy generated from waste is the largest source at 74.89 per cent. The production of renewable energy from waste has increased steadily since 1998, growing 2.7 times between 2004 and 2005. Bio-energy increased by 9.54 per cent in the renewable energy sector, compared to the previous year and is expected to increase another 31.4 per cent by 2030.





EXPANDING OPPORTUNITIES FOR WOOD PELLET USE

DOMESTIC HEATING (KEROSENE)

Farm houses with smaller families and have low heating bills. In terms of cost, kerosene can easily be replaced by other fuels. Replacing kerosene with wood pellets could be used for pension, garden and farm housing.

DUTY-FREE OIL (AGRICULTURAL)

The cost of facility horticulture is the highest at 30 per cent. As a result, existing oil boilers have been replaced by electric boilers. However, wood pellets are expensive and difficult to manage for facility horticulture, so there is a need address that issue.

HEAVY OIL (INDUSTRIAL)

Heavy oil used for industrial production is cheap but is not good for the environment so it needs to be replaced, especially in small companies that fall under environmental regulations. The use of heavy oil is regulated by Atmospheric Environment Conservation. This regulation will be expanded in 2012 and heavy oil will be replaced by renewable energy.

ANTICIPATED EFFECTS OF WOOD PELLET EXPANSION

The spread of wood pellets is a countermeasure of the Climatic Change Convention as well as a solution to the energy problem. It will also create jobs. The anticipated effects of supplying five million tonnes of wood pellets by 2020 are as follows.

1. The wood pellet share of renewable energy (0.2 per cent in 2009) is expected to be 3.6 per cent in 2012 and 12.8 per cent in 2020.
2. Facility horticulture substitution (0.7 per cent in 2009) is expected to be 20 per cent by 2012 and 50 per cent by 2020.
3. The substitution effect of imported crude oil (103,000 barrels in 2009) is expected to be 4,478,000 barrels by 2012 and 59,651,000 barrels by 2020



PT Bumi Laras Hijau (BLH) is committed to making a positive difference to the Indonesian environmental situation. We encourage our customers to actively contribute to the environmental protection through our innovative technologies and consulting services. The partnership that we form between our customers and our suppliers allow us to add value to all stakeholders. We are passionate in our fight for ecological change in the Indonesian and Global markets.

PT Bumi Laras Hijau (BLH) will be one of the largest and most profitable privately owned Renewable Solutions companies in Indonesia within 6 years, with operations in several Islands and divisions in Renewable Technologies, Project Financing and Wood Pellets Manufacturing. We are poised for success.



Our Product Development:

- Renewable resource that is carbon neutral renewable heat sources.
- EN Plus quality pellet capability.
- Very low moisture content; less energy used to rid moisture.
- Low ash content of any Super Premium pellet. Less ash means less clean up.
- Very low chlorides (lower chlorides equals less corrosion).
- No additives, bark or containments, only 100% softwood pellets.



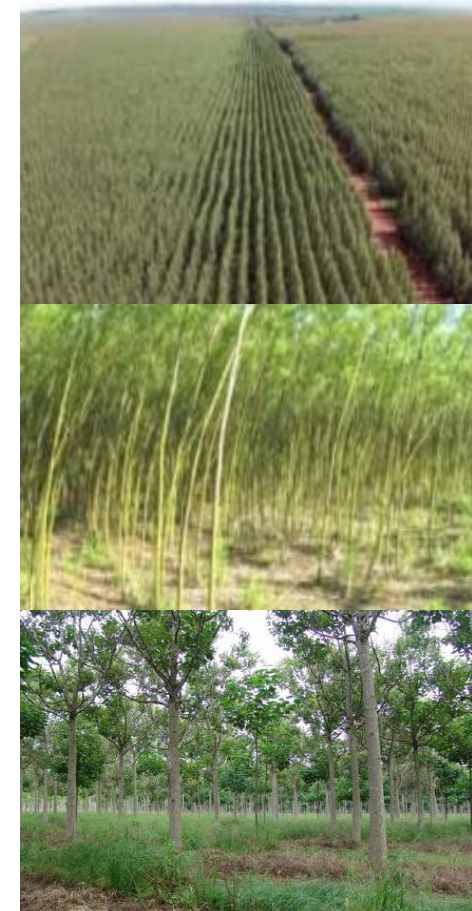
Wood Pellet
From Waste of Wood Industry



Wood Pellet
From Logging Industry Chain

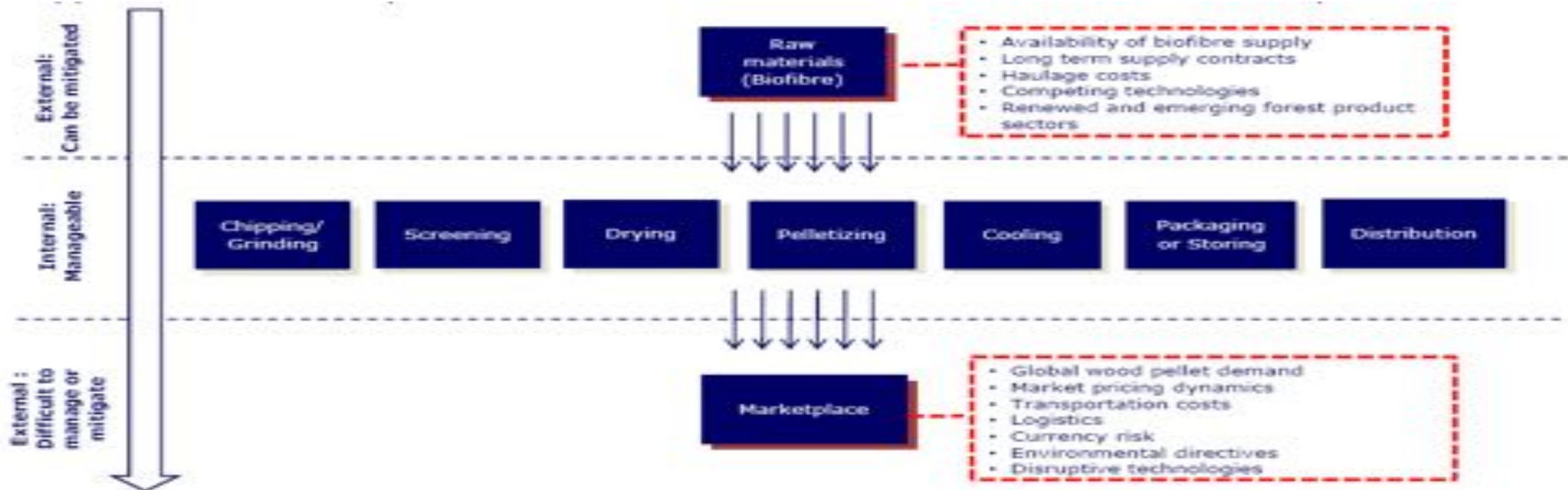


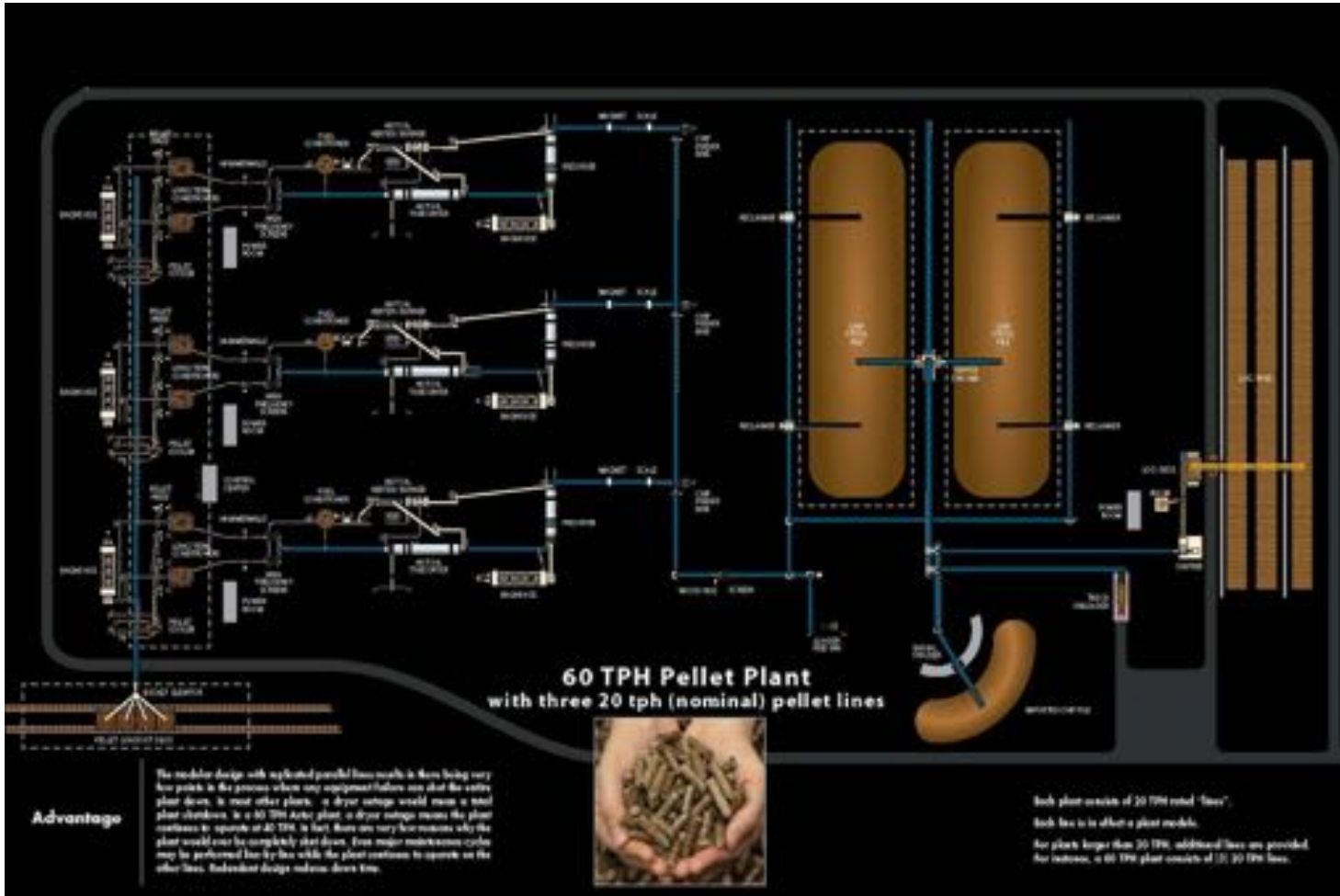
Wood Pellet
From Short Rotation Coppice Plantation





- The wood pellet production process can be broken down into three elements: Raw material supply, production, and markets.
- While the production risks are mostly manageable, there are key external risks on opposite ends of the process that must be considered and addressed where possible.





- Upgrading Traditional Production Plan into Modern and energy efficient production facility
- Small scale production facilities for clustering system to support the supply chain
- Increase centralized production capacity up to **60 ton per hour**, with the latest technology to provide the best possible wood pellet plant equipment in the world today
Major components include: live bottom cold feed bins, a pre-dryer, 40M BTU convectec heater, 60M BTU burner, bio-mass tube dryer, waste screw, 4,000 gallon hot oil expansion tank, wood fuel skid, screw conveyors, distributor screws, wood fines conveying fans, pellet conveying fans, 50,000 ACFM scavenge bag house, long term conditioner, pellet cooler, pellet collecting conveyor, dust blower, bucket elevator, 5,000 cubic feet load out silos.
- Using proven equipment, with many possible applications to provide wood pellet plant owners, investors, and lenders with a high level of product investment security.



- Vertical Integration – Distribution & Manufacturing.
- Feedstock Security and alternative resources.
- Synergistic partnership with SME to increase clustering production-system across the country – Indonesia.
- Coverage **Heat** market and Industrial **Power** generation.
- **Met Initial Goal - Double capacity per year**
- **Next Stage Goal – Increase capacity to 3 million tons by 2020 through expansion, aggregation and acquisition.**



No	Industry			Amount	Amount
				container / month	ton / month
1	Barecore			500.00	12,000.00
2	Meubel			200.00	2,400.00
3	Sawmill				3,750.00
4	Others				1,250.00
	Plantation	Coverage Area	Amount		
		Hectare	ton / Hectare		
5	Kaliandra Merah	35,000.00	40.00		116,666.67
	Total Feedstock Projection Solo Region				136,066.67
	Total Wood Pellet Production in Solo Region (Projection)				95,246.67



No	Industry			container / month	ton / month
1	Barecore			6,000.00	144,000.00
2	Meubel			2,000.00	24,000.00
3	Sawmill				37,500.00
4	Others				12,500.00
	Plantation	Coverage Area	Amount		
		Hectare	ton / Hectare		
5	Kaliandra Merah	1,387,940.00	40.00		4,626,466.67
	Total Feedstock Projection Java Island				4,844,466.67
	Total Wood Pellet Production in Java Island (Projection)				3,391,126.67



Wood Pellet Sales Projection

No	Company	Price / Ton Export USD	Price / Ton Domestic (Rp)	Amount per month (Ton)	Total Sale per month (USD)	Total Sale per Year (USD)	Total Sale per Year (Rp)
1	Easton Korea	150.00		20,000.00	3,000,000.00	36,000,000.00	468,000,000,000.00
2	ECONES Japan	150.00		20,000.00	3,000,000.00	36,000,000.00	468,000,000,000.00
3	KOMIPO Korea	150.00		20,000.00	3,000,000.00	36,000,000.00	468,000,000,000.00
4	KEPCO Korea	150.00		20,000.00	3,000,000.00	36,000,000.00	468,000,000,000.00
5	Tea Company		1,500,000.00	20,000.00		-	360,000,000,000.00
6	Coal Co-firing		1,500,000.00	50,000.00		-	900,000,000,000.00

Total Production per year (Ton)	1,800,000.00
Sales Projection per Year (Rp)	3,132,000,000,000.00
Sales Projection per Year (USD)	240,923,076.92



Buyback Bagasse Pellet (Join Production with Sugar Cane Industries)

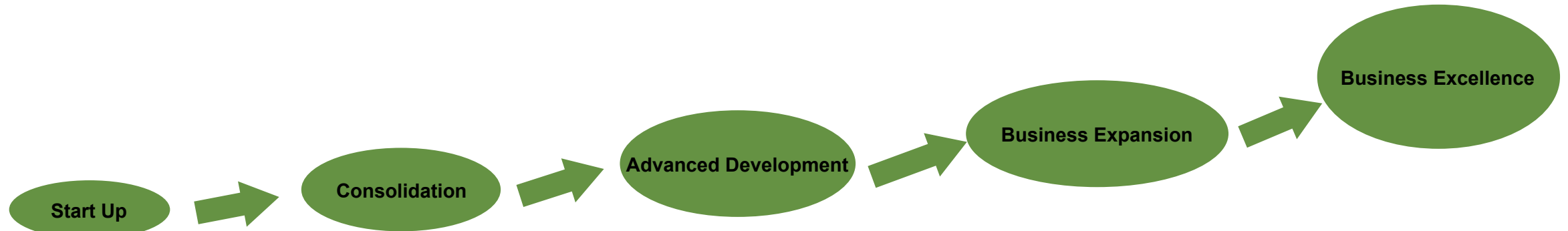
No	Description	SG Material Ton Cane Day	Bagasse Production Ton / Day	Bagasse Pellet Production Ton / Day	Total Production Yearly (Ton)	Bagasse Price USD/Ton	Turnover Yearly (USD)
1	Sugar Cane Jogja	3,000.00	900.00	720.00	129,600.00	110.00	7,128,000.00
2	SG - Mojosari	2,000.00	600.00	480.00	86,400.00	110.00	4,752,000.00
3	SG - Trangkil	3,000.00	900.00	720.00	129,600.00	110.00	7,128,000.00
4	SG - Rest (25 Site)	75,000.00	22,500.00	18,000.00	3,240,000.00	110.00	178,200,000.00
Total Production Capacity (Bagasse Pellet - Ton)							3,585,600.00
Total Bagasse Pellet Production (50% of Total BP Production, 50% for Feedstock of Biomass Power Plant)							1,792,800.00
Total Sales Turnover Bagasse Pellet Projection per Year (USD)							197,208,000.00
Total Sales Turnover Bagasse Pellet Projection per Year (Rp)							2,563,704,000,000.00

BLH

WOOD PELLETS

Sukoharjo Plant | 5000 Ton / Month





2014 - 2015	2016	2017 - 2018	2019	2020
Start up - Phase	Stabilization - Phase	Adv. Development - Phase	Expansion - Phase	Excellence - Phase
Feedstock, Production and Supply Security	Target Market Domestic and International	Product and Technology	Marketing - Mix	Advanced Market Demand and Driven
<ul style="list-style-type: none"> ❑ Internal Consolidation ❑ Fixing Strategy ❑ Data Sampling ❑ Business Identity and Focus ❑ Set Up Production System ❑ Master Plan / Blue Print Wood Pellet Manufacturing in Indonesia. 	<ul style="list-style-type: none"> ❑ Market Orientation ❑ Infrastructure ❑ Human Resource ❑ Brand Image ❑ Clustering System ❑ Synergistic Partnership ❑ Customer Value – Preparation ❑ Market Value 	<ul style="list-style-type: none"> ❑ Product Development ❑ Engineering and Technology Development ❑ HRD Upgrading ❑ Fixing Cluster – System in Java Island ❑ Production with Cluster System preparation ❑ Brand name Stabilization ❑ Large Scale Centralized Manufacturing Plan 	<ul style="list-style-type: none"> ❑ Product and Values Differentiation ❑ Business Expansion (Engineering & Network) ❑ Brand Stabilization ❑ International Support ❑ Project partnership ❑ Customer Loyalty ❑ International and Domestic Partnership 	<ul style="list-style-type: none"> ❑ Process Efficiency ❑ Product Stabilization ❑ Engineering and Technology with high level quality ❑ International Partnership ❑ Brand Image ❑ Customer Loyalty ❑ Market Demand and Driven



1. “Indonesian Brief – Forestry” – ASFN National Focal Point Indonesia, Indonesian Ministry of Forestry
2. “Wood Pellets, Korea – Market opportunity” - Government of British Columbia, Canada.
3. PT BLH, Renewable Energy Business Profile
4. Woodworking and Logging Industry in Java Island, Indonesia





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THANK YOU

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