

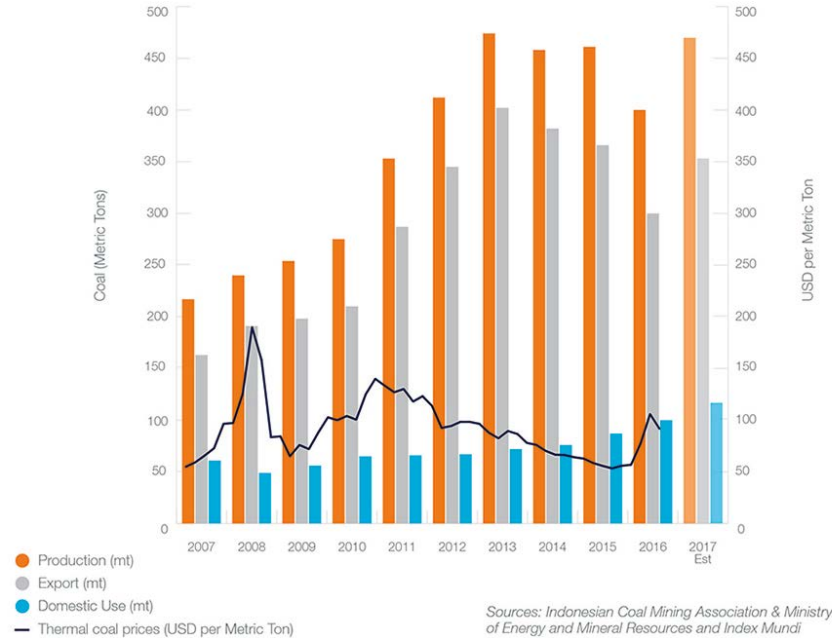
A man wearing a red hard hat and a high-visibility safety vest is looking up at a tree in a lush green forest. The background is filled with dense foliage and sunlight filtering through the leaves.

Mine Closure Practices in Indonesia (Law & Regulation Perspective)

The 8th Mine Rehab Conference 2018
PT. Jorong Barutama Greston

Mining Industry Growth

INDONESIAN COAL INDUSTRY & THERMAL COAL PRICES



Keys Development Strategy

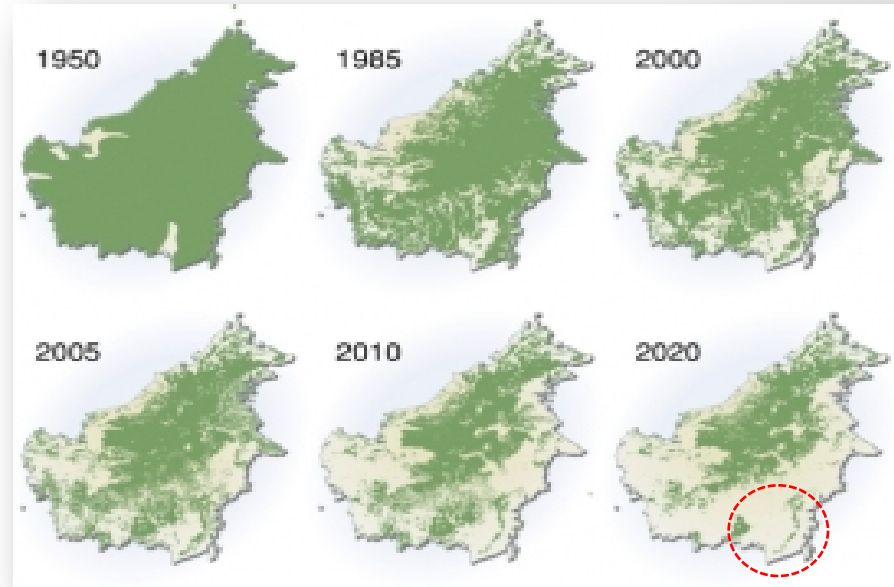
- Considered as the development country
- Energy and Mineral Resources
- Mining as an important role for the national economic growth.
- Energy security for the country
- Balance in sustainable development for the universe

Mining Industry Concerns :

- Un-renewable resource
- Land disturbance
- Mostly in the forestry area

Mining Industry Constraints :

- Borneo island is the 3rd biggest plant diversity in the world
- Rain forest heritage
- Climate change
- Carbon stock



Source : WWF.com Report 2005

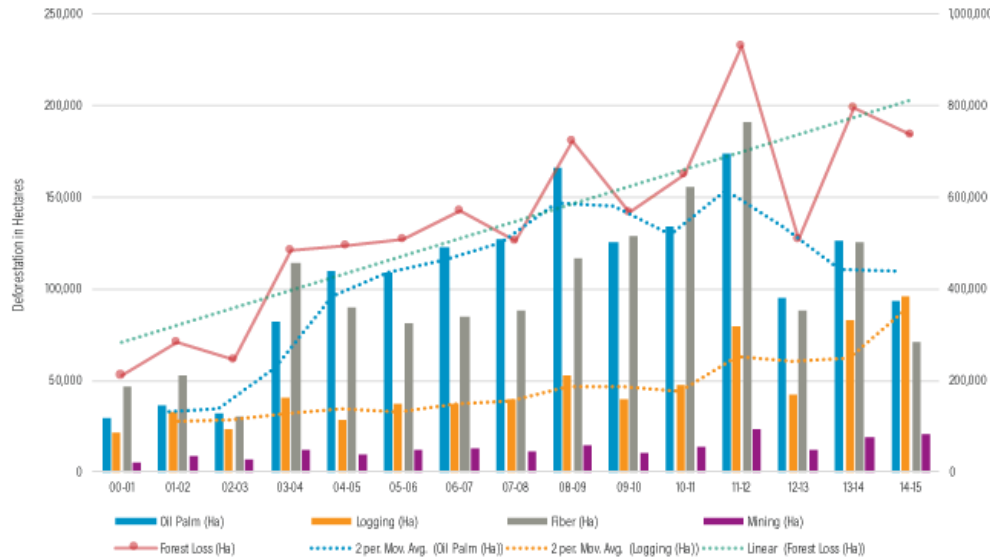


- PT Jorong Barutama Greston (South Borneo)
- Concession area : 4,883 Ha
- Forestry area ; 4,555 Ha
- Operate since ; 1998 - 2019

Deforestation in Borneo Island

Forestry Used Area by Industry

Forest Change in Indonesia by Concessions Type



Mining Industry Key Issue

- Most small used area
- Most small impact damage
- More obligation to be fulfill for un-renewable resource

<http://bit.ly/2tTwnVh>



WORLD RESOURCES INSTITUTE

Law and Regulation - Forestry

Mostly Mining Area are within the Forestry Area ; therefore Forestry Regulation should be come first

1. Guidelines on permits of borrow and use forest area
(Regulation of the Minister of Forestry No. P.50/2016)
 - Compensation cost as the Non Tax State Income
 - Reclamation to repair and restore forest function
 - Water shed rehabilitation
 - Availability of forestry area depend on “quota”
2. Guidelines for assessing the success of forest reclamation
(Regulation of the Minister of Forestry No. P.60/2009)
 - Land scape arrangement
 - Control erosion and sedimentation
 - Revegetation (growth, healthiness, diversity and density)

Basically the **standard criteria achievement should be follow the success criteria under forestry on reclamation** ; however the **coverage aspect of mine closure more broad** :

Reclamation and post mining in mineral and coal mining business (Regulation of the Minister of Energy and Mineral Resources No. 07/2014)

1. Reclamation Guarantee

- Based on 5 years mine plan
- Need the bank guarantee or accounting reserve
- Evaluation and withdrew in yearly basis based on progress

2. Post Mining Guarantee

- Based on local spatial plan and mine closure plan
- Fulfill the forestry standard success criteria
- Need cash deposit refer to the mine closure program and cost
- Evaluation and withdrew accordance with the progress and criteria

Post Mining Plan & Approach

1. Must be consider as **an integral part of operation and production plan**; started from the beginning of mining activities
2. Must be prepared accordance with the **approved documents** :
 - Economical study
 - Technical study
 - Environmental impact assessment (*AMDAL*)
 - Valid permits of borrow and use forest area (*IPPKH*)
 - Stakeholder engagement and acceptance



Post Mining Principle & Success Criteria

1. Principle of post mining document

- Protection and management of mining environment
- Occupational safety and health
- Conservation of mineral and coal resources

2. Success criteria of post mining coverage

- Protecting the quality of water (*surface, ground, sea*) land, air based on threshold limit value
- Protecting and restoring biodiversity
- Stability and safety of slope, dumping area, settling pond etc.
- Utilization ex-mined area according with the allotment/purposes
- Considering local social and local wise value
- Protecting the quantity of ground water in compliance with the provision of the law and regulation

Water Management :

- Water quality – acid water
- Water quantity – ground water
- Drainage – void management

Soil management :

- Backfilling - material balance
- Dump site acid leaching
- Poor fertility

Revegetation

- Plant growth
- Density – plant healthy
- Diversity – native forest plant



Swampy Forest



Native Forest Seedling



Grass Seedling

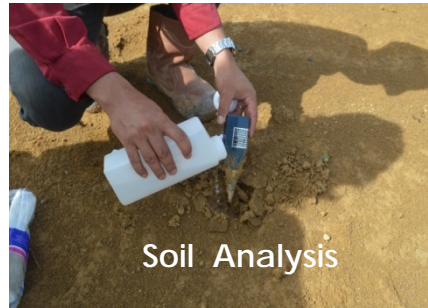
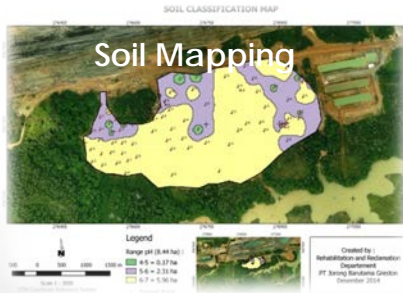


Water pH Quality

Mine Rehabilitation Challenging

University of Lambung Mangkurat

1. Cooperation with **Local University** in South Kalimantan Province)
2. Establishment of **Research Center for Post Mining**
3. Several research already conducted
 - Breeding and seedling of native forest plant
 - Maintaining and enriching the planted (diversity & density)
 - Mapping of soil quality and soil augmentation
 - Conservation of virgin "*galam*" forest
 - Support eco-tourism program
 - Support on swampy forest project





Thank You

Responsible and Good Post Mining