ENVIRONMENTAL PROTECTION OF MINERAL AND COAL IN INDONESIA

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DIRECTORATE GENERAL OF MINERAL AND COAL MINISTRY OF ENERGY AND MINERAL RESOURCES REPUBLIC OF INDONESIA
ENERGY AND MINERAL RESOURCES STRATEGY POLICY

Corporate Social Responsibility

Pro Poor

Energy and Mineral Resources for People Prosperity

Pro Job

Pro Environment

Good Mining Practice

Reclamation and Postmining

Pro Growth

State Revenue

Investation

Added Value

Trading Balance

(Production, Eksport and Domestic)

Man Power

Local Content

State Revenue

Investation

Added Value

Trading Balance

(Production, Eksport and Domestic)
ENERGY AND MINERAL RESOURCES STRATEGY POLICY

INDONESIA MINERAL ORE MAP
ENERGY AND MINERAL RESOURCES STRATEGY POLICY

1. Law/Gov. Regulations
2. Environment Policy
3. Environment Management System
4. Provision and Procedure
5. Environment Programme
ASSURE VS INSURANCE OF NATURAL RESOURCE

Mining activity shall organize, restore and repair the quality of the environment and ecosystem in order to return to their original functions.
NATURAL ECOSYSTEM CHARACTERISTIC OF INDONESIA

17,500 islands
4th longest coastline
95,181 km in the world

Rainfall
Indonesia: 2000–5000 mm
Brazil: 1000 mm
Chili: 0.77 mm
Australia: 600 mm
MINING DEPOSITS CHARACTERISTICS

- Shalllow Deposit
  - Bauksit (elluvial)
  - Tin (Alluvial)
  - Gold (Alluvial)
  - Nickel (Lateritik)
  - Quartz Sand
  - Manganese
  - Coal

- Surface Mining will lead to Environmental Impact (rainforest, surface water, community)
<table>
<thead>
<tr>
<th>Policy</th>
<th>Programme</th>
<th>Procedure</th>
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<tbody>
<tr>
<td>a. Protecting the quality of surface water, ground water, sea water, and land</td>
<td>a. Disposal stability.</td>
<td>a. Specific and accurate exploration</td>
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<td>b. Protecting and restoring bio-diversity;</td>
<td>b. Disposal dimension according to its allotment.</td>
<td>b. Use of technology (recovery, impact)</td>
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<td>c. Guarantee the stability and safety of side rock piles and/or soil/rock covering, tailings pond, ex-mine area and other man-made structures.</td>
<td>c. Landscapeing and recountouring.</td>
<td>c. Land use efficiency</td>
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<td>d. Utilizing ex-mine area according to its allotment.</td>
<td>d. Mine water management.</td>
<td>d. Management of top soil, overburden, erosion, sedimentation, AMD</td>
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<td>e. Consideration local social and cultural values.</td>
<td>e. Acid mine drainage treatment programme.</td>
<td>e. Water utilization</td>
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<td>f. Protecting the quantity of ground water.</td>
<td>f. Erosion and sedimentation control.</td>
<td>f. Mineral and coal conservation</td>
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<td></td>
<td>g. Soil remediation</td>
<td>g. Actual reclamation</td>
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<td>h. Environment monitoring</td>
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Potential Environment Damage of Mining Activity

Open pit mining + High intensity rainfall + Land Clearing =

- Erosion & sedimentation
- Loss of soil fertility & transformation of soil physical properties
- Biodiversity Habitat loss
- Acid Mine Drainage & Water Pollution
- Potential of groundwater quantity depletion

High intensity rainfall

Land Clearing

Open pit mining
Mining Environmental Damage Prevention Programme

- Reclamation Plan Report
- Reclamation Guarantee
- Postmining Plan Report
- Postmining Guarantee
- SUSTAINABLE DEVELOPMENT
- Site Inspection
- Mining Activity Report
- Environmental Protection Report
- Water Quality Report
Conclusion

✔ Mining Activity in Indonesia have to be developed technically to adjust specific condition of Indonesia natural environment and consider occurrence of other natural resources.

✔ Good mining practice need to be implemented in order to prevent environment damage.

✔ Regulation and policy shall be forced to be implemented by local Government and Government to manage mineral and coal mining sector wisely.

✔ Reclamation activity shall organize, restore and repair the quality of the environment and ecosystem to achieve sustainable development.
Thank You

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ESDM untuk Kesejahteraan Rakyat
ESDM untuk Kesejahteraan Rakyat
Recontouring and Erosion Control

Cover Cropping

Top Soil Spreading

Revegetasi (Pioneer Plantation)