

Mining & Engineering Indonesia 2018: Mining Outlook: Global & Economic Outlook in Mining

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Jakarta, 12-14 September, Hall A1, JI EXPO
KEMAYORAN





Subject



- **Current Condition of the Indonesia Mining Industry**
 - Economic parametric
 - Total of mines in Indonesia
 - Mineral and Coal Reserves
 - Development of Mineral And Coal Mining Investments
 - The problem of Indonesia Mining Industry
 - Labor in the Minerals and Coal Industries
- **The Future of Indonesia Mining Industry**
 - Prices of coal and minerals, mineral and coal price trends of 2018
 - The Growth of Smelter
- **Indonesia Mining Challenges**



• INTRODUCTION



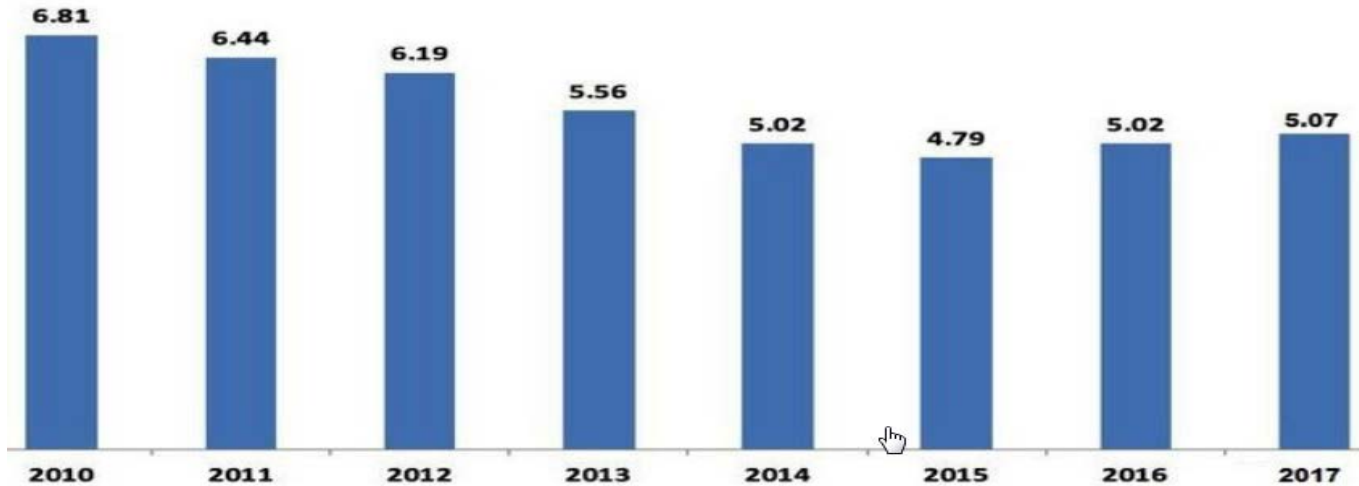
Economic Parametric



- Indonesia Economic Growth
- Gross Domestic Production National
- Gross Domestic Production in Mining



Indonesia Economic Growth 2010 - 2017

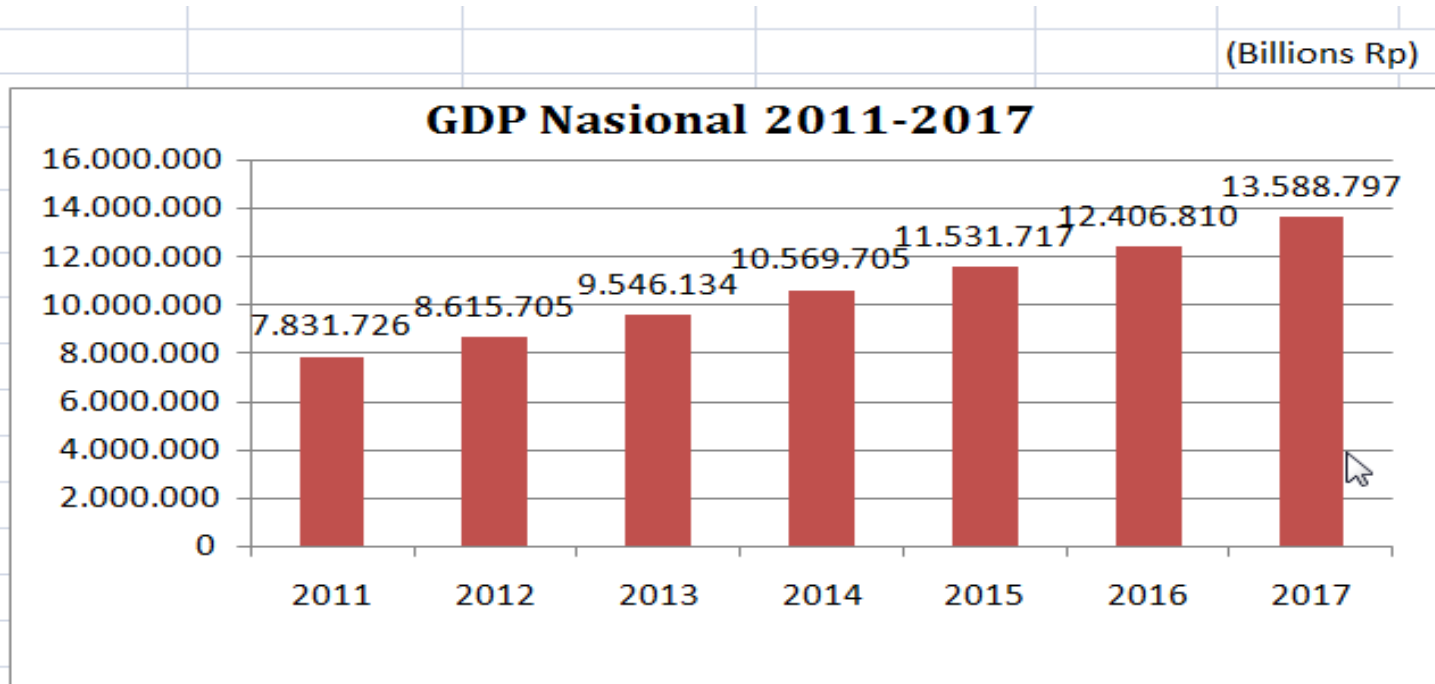


Sources : BPS

No.	Year	%
1	2010	6,81
2	2011	6,44
3	2012	6,19
4	2013	5,56
5	2014	5,02
6	2015	4,79
7	2016	5,02
8	2017	5,07



Indonesia Economic Growth 2010 - 2017



Sources : Bank Indonesia ; Processed

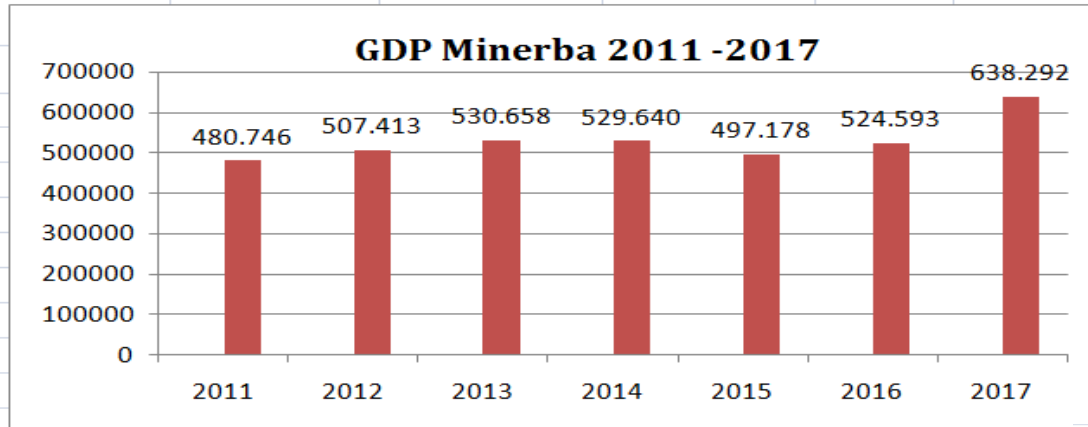


Gross Domestic Product (mineral and coal)



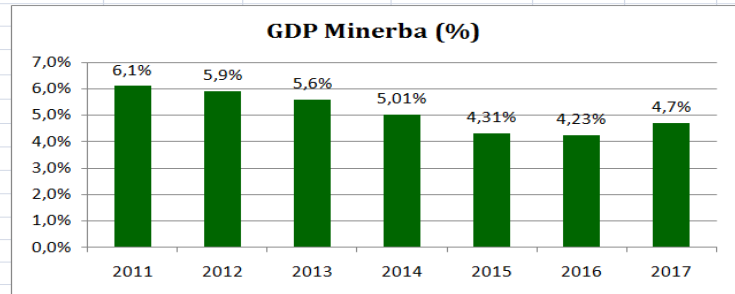
(Billions Rp)

GDP Minerba 2011 -2017



Sources : Bank Indonesia Processed

GDP Minerba (%)



Sources : Bank Indonesia Processed

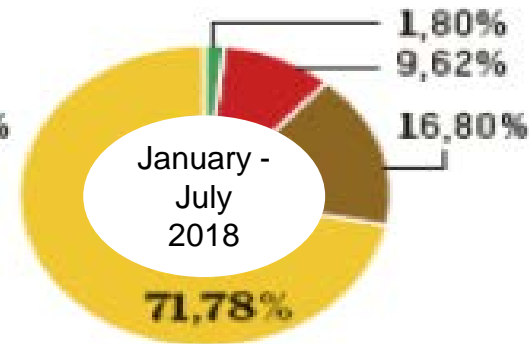
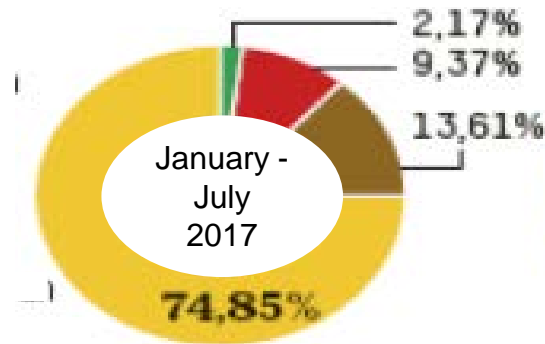


Indonesian Export Structure



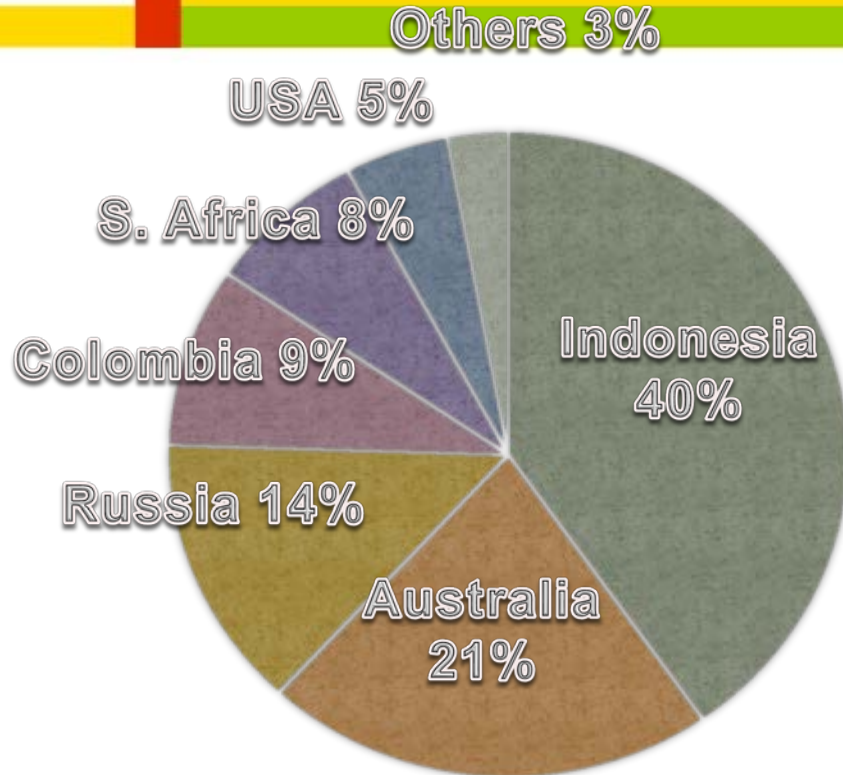
Indonesia's Export Structure

- Sector**
- Agriculture
 - Oil and Gas
 - Mining
 - Processing Industry





Coal Supply Seaborne Trade 2018 = 980 MT



Country	Tonnage (Million Ton)
Indonesia	395
Australia	211
Russia	134
Colombia	88
South Africa	75
USA	49
Others	28



Total of Mines in Indonesia



Contract of Work :	42 Companies
Coal Contract of Work :	76 Companies
Mining Bussiness Lisence :	6.335 C&C 3.286 Non C&C



Minerals and Coal Reserves

1. Minerals



Indonesian Mineral Reserves

Indonesian Mineral Resources 2016

JENIS	EMAS PRIMER	BAUKSIT	NIKEL	TEMBAGA	TIMAH
Badan Geologi update Oktober 2016	2.754.228.963	128.248.720	3.031.540.097	6.139.906.754	1.667.978.743
USGS	3.000	1.000.000.000	4.500.000	25.000.000	800.000



Mineral Reserve Analysis



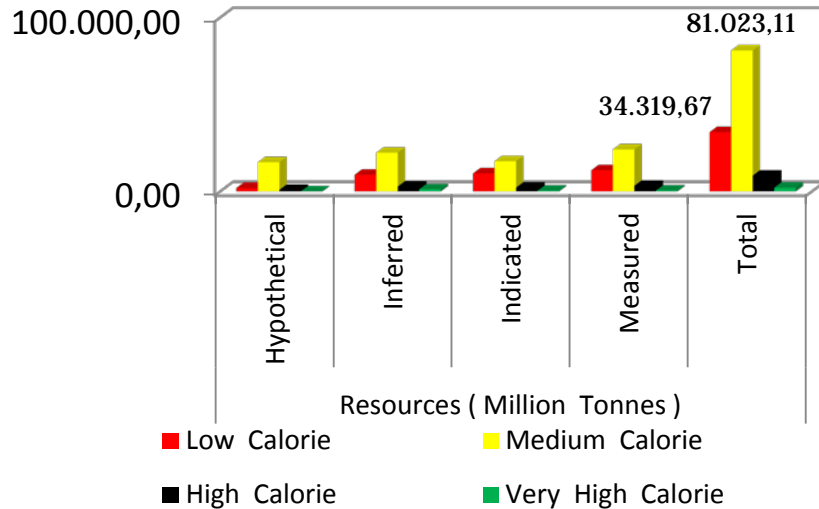
Commodity	Total Reserves 2017 (Ore Ton)	Mine Production	Refining Facility		Purification Products	Reserve Age Based on ore production / year
		(Ton / Year)	Existing	Plan		
		Total (Ton)				
Copper	2,8 Bllion	120,000,000 Copper Ore	2 Smelters 2,4 million tons/year	1 Smelter (2 million tons / year)	Copper Cathode	29 Years
		3,000,000 Copper Concentrate			Anode Slime	
Nickel	3,1 Bllion	17,000,000 Copper Concentrate	13 Smelters 31 million tons/year	18 Smelters (39 million tos / year)	NPI	47 Years
					FeNi	
Iron	2,3 Bllion	3,900,000 Iron Ore and Iron Sand	2 Smelters (846 thousand tons/year)	3 Smelters (6,6 million tons concentrate / year)	Sponge Iron	130 Years
		3,100,000 Iron Concentrate			Pig Iron	
Bauxite	1,6 Billions	2,000,000 Washed Bauxite	2 Smelters 4,4 million tons/year	4 Smelters 15 million tons / year	CGA SGA	535 Years
Lead	11,5 Millions	8,000 Lead Ore	Not Available	3 Smelters (450.000 tons concentrate)	Lead Bullion	108 Years
		5,000 Lead Concentrate				
Zinc	11,4 Millions	18,000 Zinc Ore	Not Available	3 Smelters (450.000 tons concentrate)	Zinc Oxide	105 Years
		9,000 Zinc Concentrate				
Manganese	87 Millions	73,000 Manganese Ore	1 Smelter (4 Thousand tons/year)	1 Smelter (26 Thousand tons)	SiMn, FeMn	21 Years
		54,000 Manganese Concentrate				



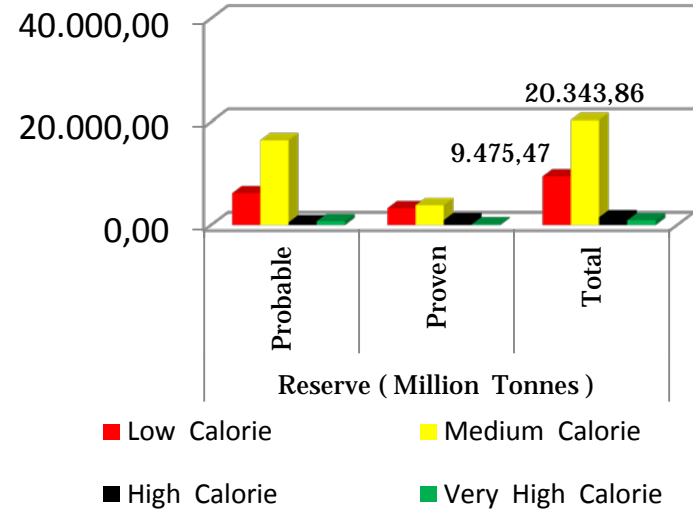
2. Coal



STATUS OF RESOURCE AND RESERVE INDONESIAN COAL - YEAR 2015



**Total coal resources : 127 Billion
Tonnes**



**Total coal reserves : 32 Billion
Tonnes**

Source: Directorate General of Minerals and Coal, Ministry of ESDM



STATUS OF RESOURCE AND RESERVE INDONESIAN COAL - YEAR 2015



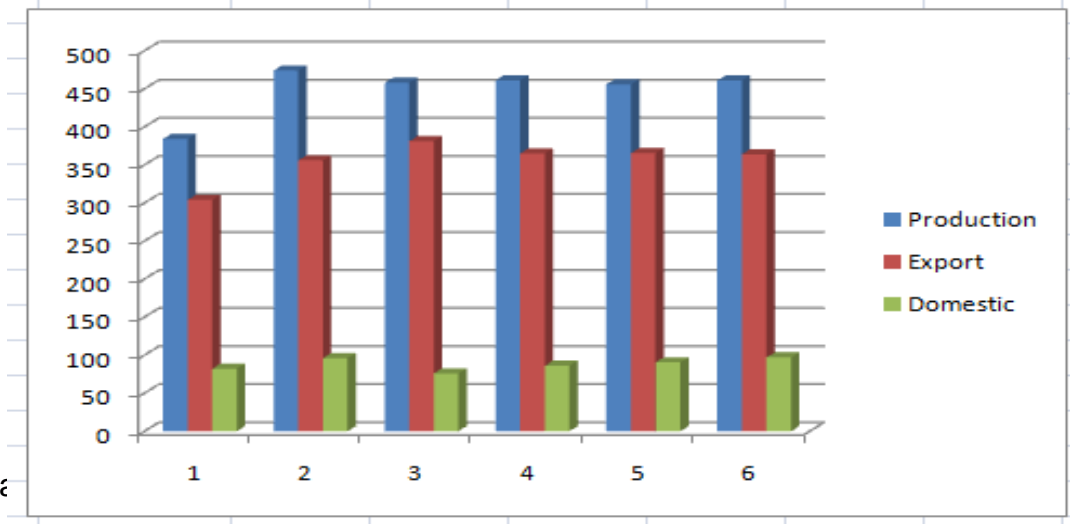
Quality	Resources (Million Tonnes)					Total	Reserve (Million Tonnes)		
	Hypothetical	Inferred	Indicated	Measured	Total	%	Probable	Proven	Total
Low Calorie	1.978,83	9.650,04	10.432,15	12.258,65	34.319,67	27,11	6.203,69	3.271,78	9.475,47
Medium Calorie	16.882,22	22.413,42	17.441,12	24.286,35	81.023,11	63,99	16.485,65	3.858,21	20.343,86
High Calorie	889,19	2.804,47	2.186,22	3.243,11	9.122,99	7,21	545,20	974,33	1.519,53
Very High Calorie	13,61	1.276,46	394,02	459,49	2.143,58	1,69	761,51	163,31	924,82
Total	19.763,85	36.144,39	30.453,51	40.247,60	126.609,35	100,00	23.996,05	8.267,63	32.263,68

Source: Directorate General of Minerals and Coal, Ministry of ESDM



Trend of National Coal Production, Exports, Domestic Sales & Average Coal Prices for Period of 2012 - 2017

Catagorie	Coal Production					
	2012	2013	2014	2015	2016	2017
Production	384	474	458	461	456	461
Export	304	356	381	365	365.5	363.97
Domestic	82	96	76	86	90.5	97.03



Source: Directorate General of Minerals & Coal



Analysis of Indonesia's Coal Availability for Electricity Requirements 50 Years Ahead

Data	Total
Estimated Indonesian Coal Reserves Dec 2014 <i>*Geological Agency of ESDM, June 2015</i>	32.384 Million Ton
Indonesian Coal Production Estimation 2015	335 Million Ton
Estimated Remaining of Indonesian Coal Reserves Dec 2015 <i>*with coal prices Dec 2014 (US\$ 64.65/ton)</i>	32.030 Million Ton
Low Calorie	9.000 Million Ton
Medium Calorie	20.500 Million Ton
High Calorie	1.600 Million Ton
Very-High Calorie	930 Million Ton
Coal Needs 2016 - 2025	1,800 MillionTon
Coal Needs 2026 – 2065 (assuming a 2% increase in demand per year)	14,000 Million Ton
Coal Requirement 50 Years Ahead	15,800 MillionTon

Low Calorie : 28 %
 < 5,100 Kcal/Kg (ADB)

Medium Calorie : 64%
 5,100 – 6,100 Kcal/Kg (ADB)

High Calorie : 5%
 6,100 – 7,100 Kcal/Kg (ADB)

Very-High Calorie : 3%
 6,100 – 7,100 Kcal/Kg (ADB)

** Classification based PP No.45 / 2013*
*** Percentage based on Reserve data as of December 2014 by ESDM Geology Agency, June 2015*

→ **What is the price limit for sufficient reserve?**

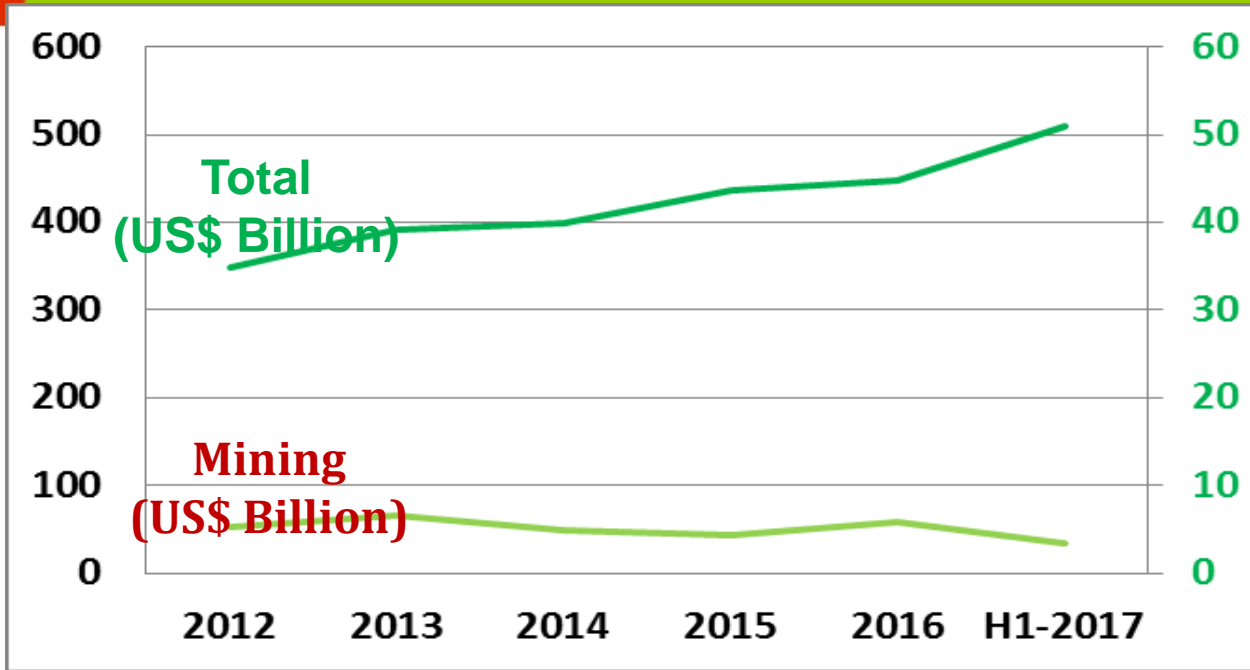


Development Of Mineral And Coal Mining Investments



Investment Value of All Indonesian Sectors

Investment in Trillion Rupiah



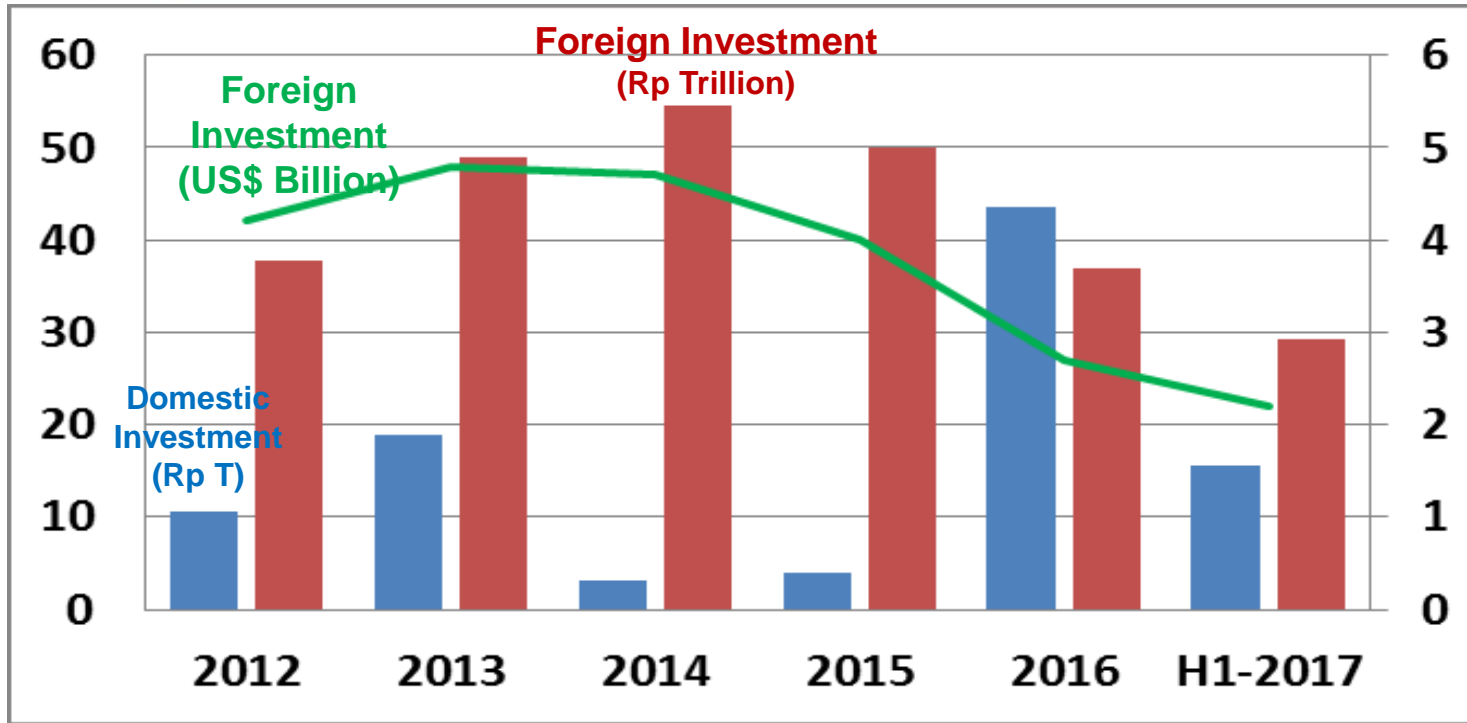
Investment in US\$ Billion

% Mining to Total	2012	2013	2014	2015	2016	H1-2017
	15%	17%	12%	10%	13%	7%



Investment Value of Indonesia Mining Sector

Investment in Trillion Rupiah



Investment in US\$ Billion

Source: BKPM, processed



Obstacles and Challenges in Managing Mineral & Coal Mining Investment

OBSTACLES

Decrease in investment trend

Improve business climate

Reserve and resource decline

Lack of coordination between government institution

Regional autonomy (UU No. 23 of 2014)

CHALLENGES

Regulation

Regulation : Infrastructure, incentive fiscal, and licenses. Example: Downstreaming

- No greenfield and no brownfield development.
- Regulation and authority of regional autonomy

ESDM as the Mine principle is not running

- Standards and norms concerning mine management are made by ESDM.
- Governor as an extension to the Center to supervise, guide the Regency/City



The Problem of Indonesia Mining Industry



Indonesia Contract of Work & PKP2B

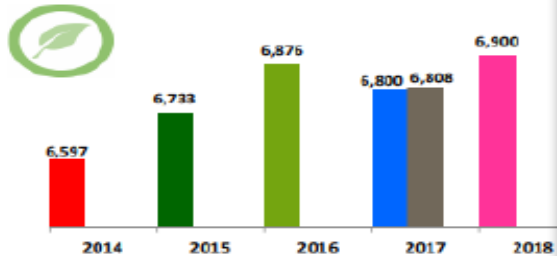
- **Certainty of Contract Renewal**
 - Long-term investment
 - Sustainability of exploration activities to increase reserves
- **Government Regulation**
 - Obligations to be paid by KK/CoW & PKP2B/CCoW holders
- **Overlapping Area with Plantation/Forestry**
 - Continuity of mining activities & conservation of reserves
 - More intense government presence is needed
- **Illegal Mining**

Must be created "Mining Area" so that mining production operations can run

Minerals and Coal

Minerals and Coal

Area of Ex-Mine Land Reclamation



Reclamation activities of ex-mining land, placement of reclamation guarantee fund into a unified mining process that must be implemented

Until 2017

- 24 companies have completed the construction of the smelter
- 26 other companies are still in the process of development
- Total, has been built smelter as many as 50 companies from 6 commodities, with the most commodity of nickel

Progress 100%

- nickel 15, bauxite 2, copper 1, iron 4, and manganese 2

Progress 50-100%

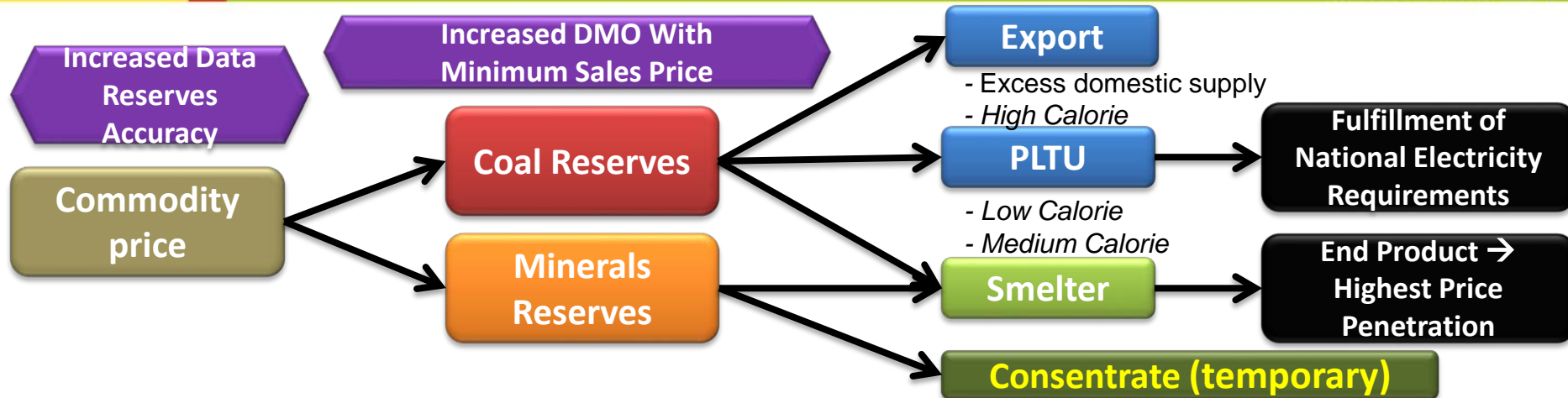
- nickel 3, iron 1, and zinc 1

Progress 0-50%

- nickel 12, bauxite 4, copper 2, iron 1, lead and zinc 2



Proposed and business direction of Indonesia's mineral and coal sector



1. Synergy between Smelter Development to produce end products, reduce dependence on foreign smelters in line with the National Industrial Development Plan.
2. Coal as the main energy source for power plants, it is necessary to reserve coal for domestic purposes..
3. Synergy between the mineral and coal industries in the construction of smelters and provision of electricity resources..
4. Increase Investment Exploration of Minerals and Coal to increase Reserves age, keep the ratio of Discovery and Mineral Depletion at a safe level.



The Future of Indonesia Mining Industry



Orientation of Mineral Resource Management Changes

**Mine Life
Cycle**



**Product
Life Cycle**



National Resource Development Orientation

ENVIRONMENT
SUSTAINABILITY

INVENTORY

ECONOMIC
DEVELOPMENT

UTILIZATION

SOCIAL
INCLUSION

CONSERVATION

TRIPLE BOTTOM LINE

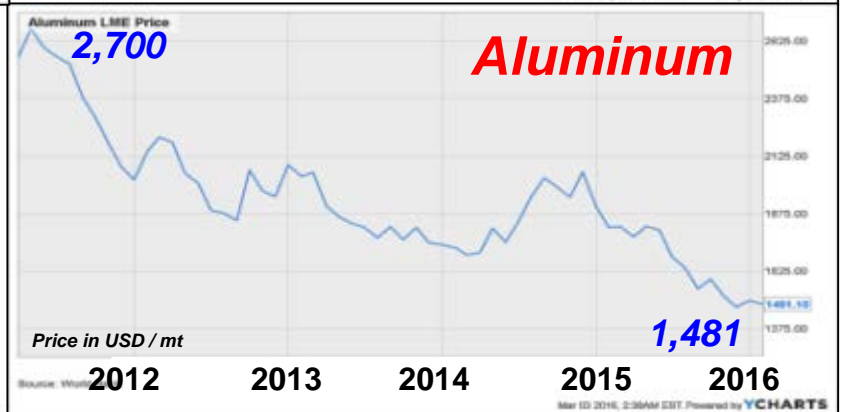
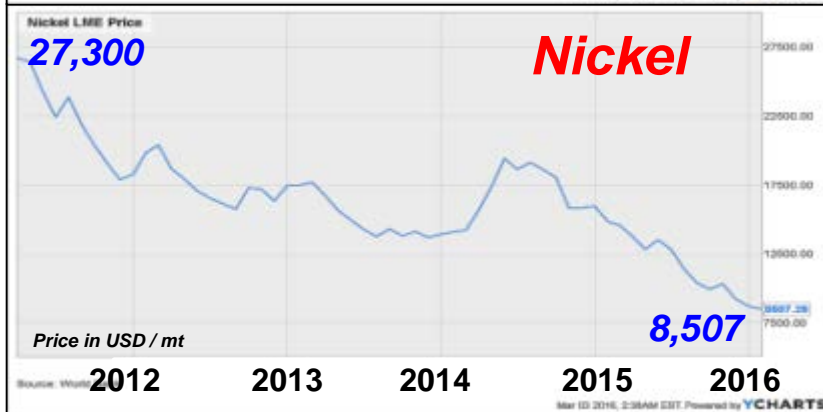


Orientation of Mineral Resource Management Changes





World Mineral Price (LME)

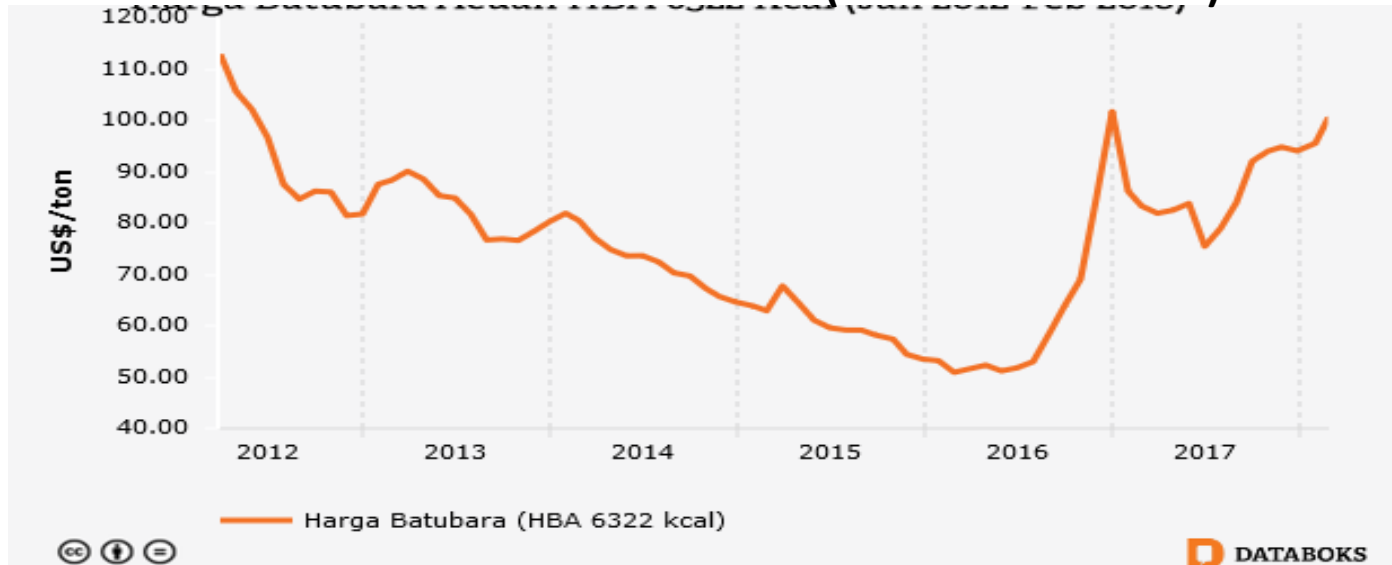




Annual Coal Prices Reference



HBA Coal Price Reference 6322 Kcal (Jan 2012-Feb 2018)

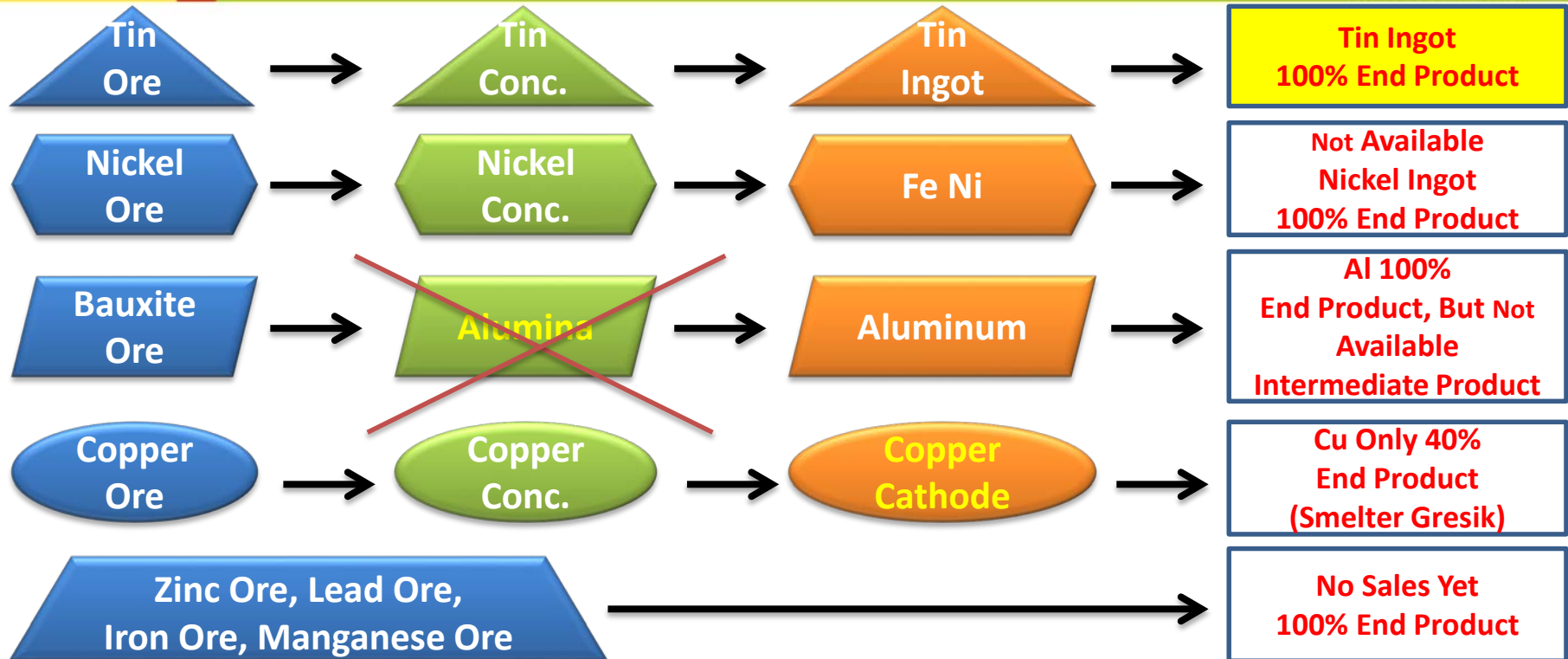




THE GROWTH OF SMELTER

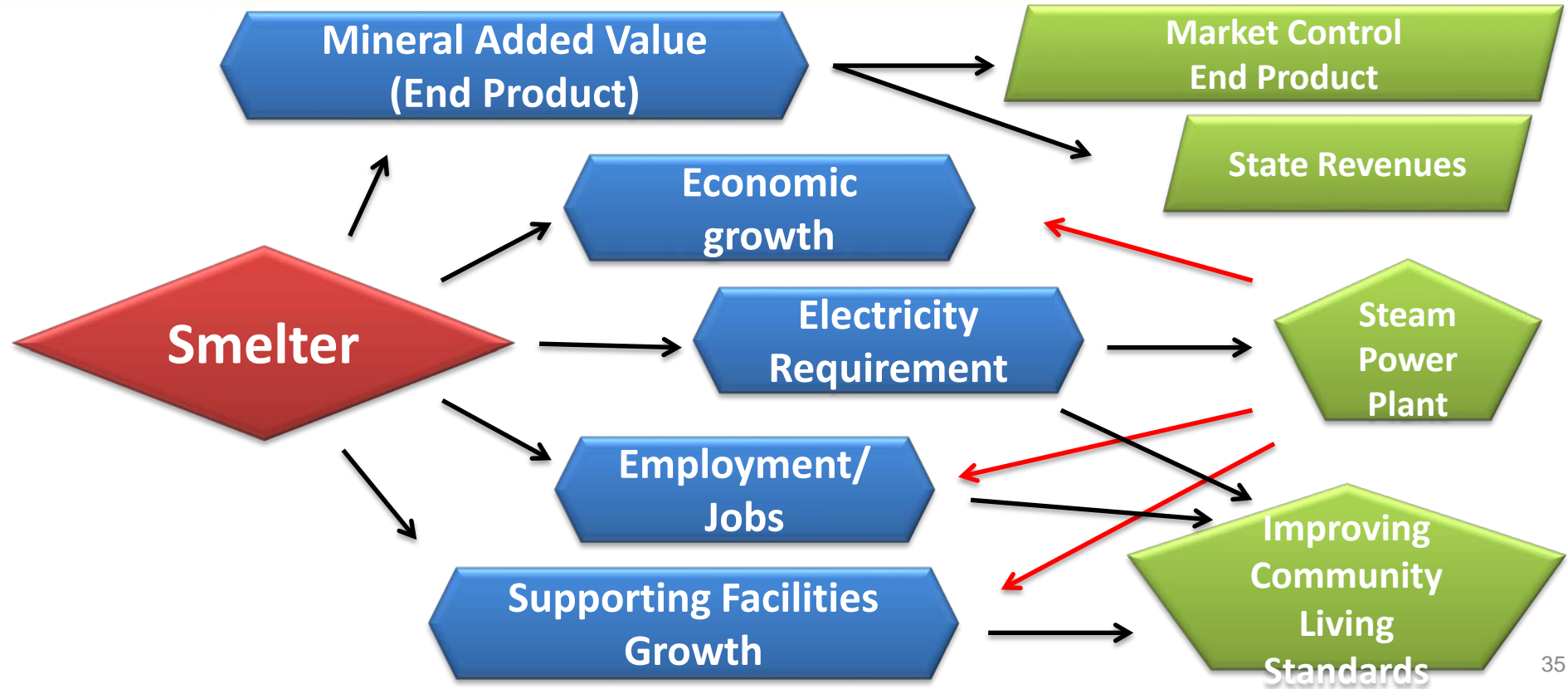


Condition of Indonesia Mineral Processing



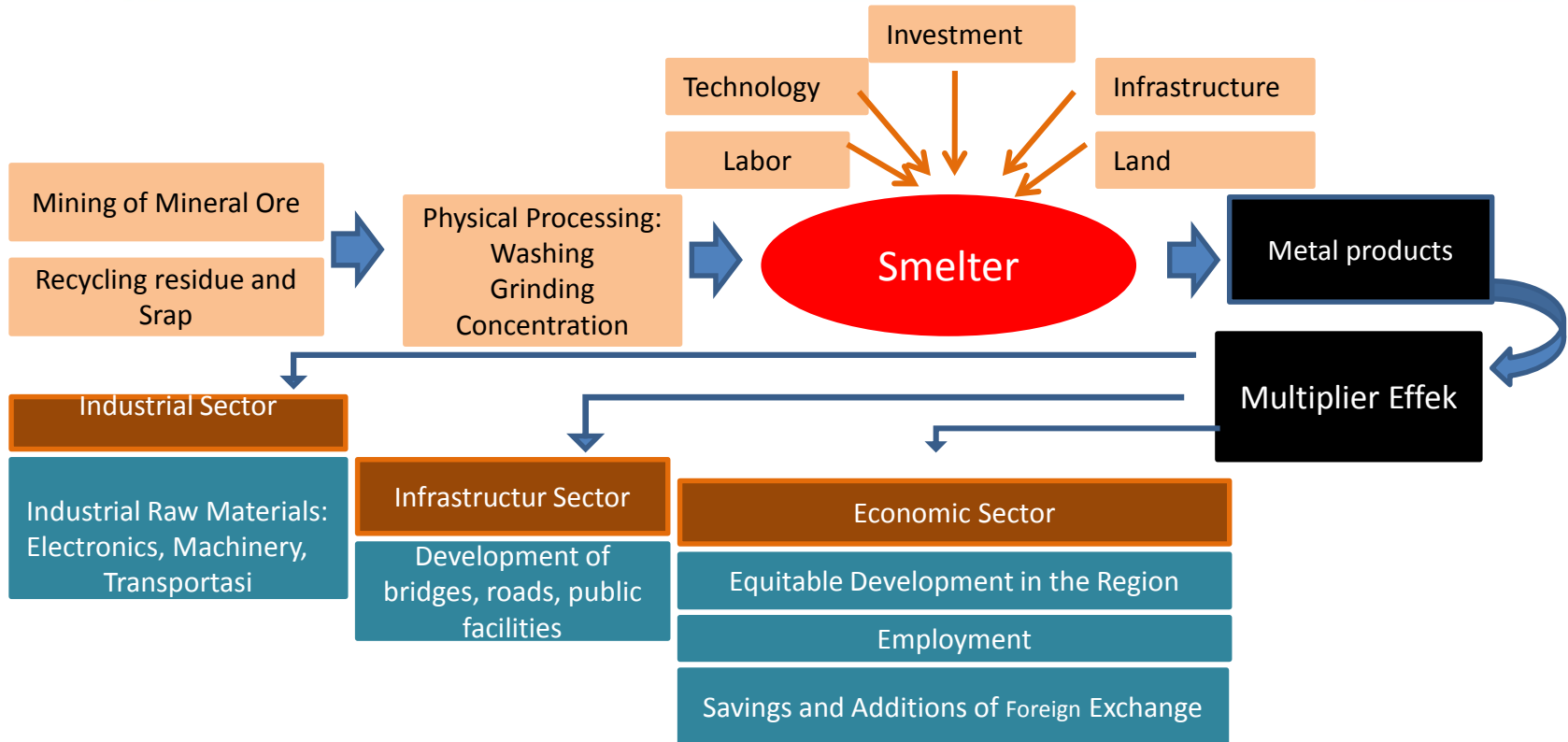


Multiplier Effect of Smelter Development





Framework Thinking for Basic Metal Industry Development





Indonesia Mining Challenges

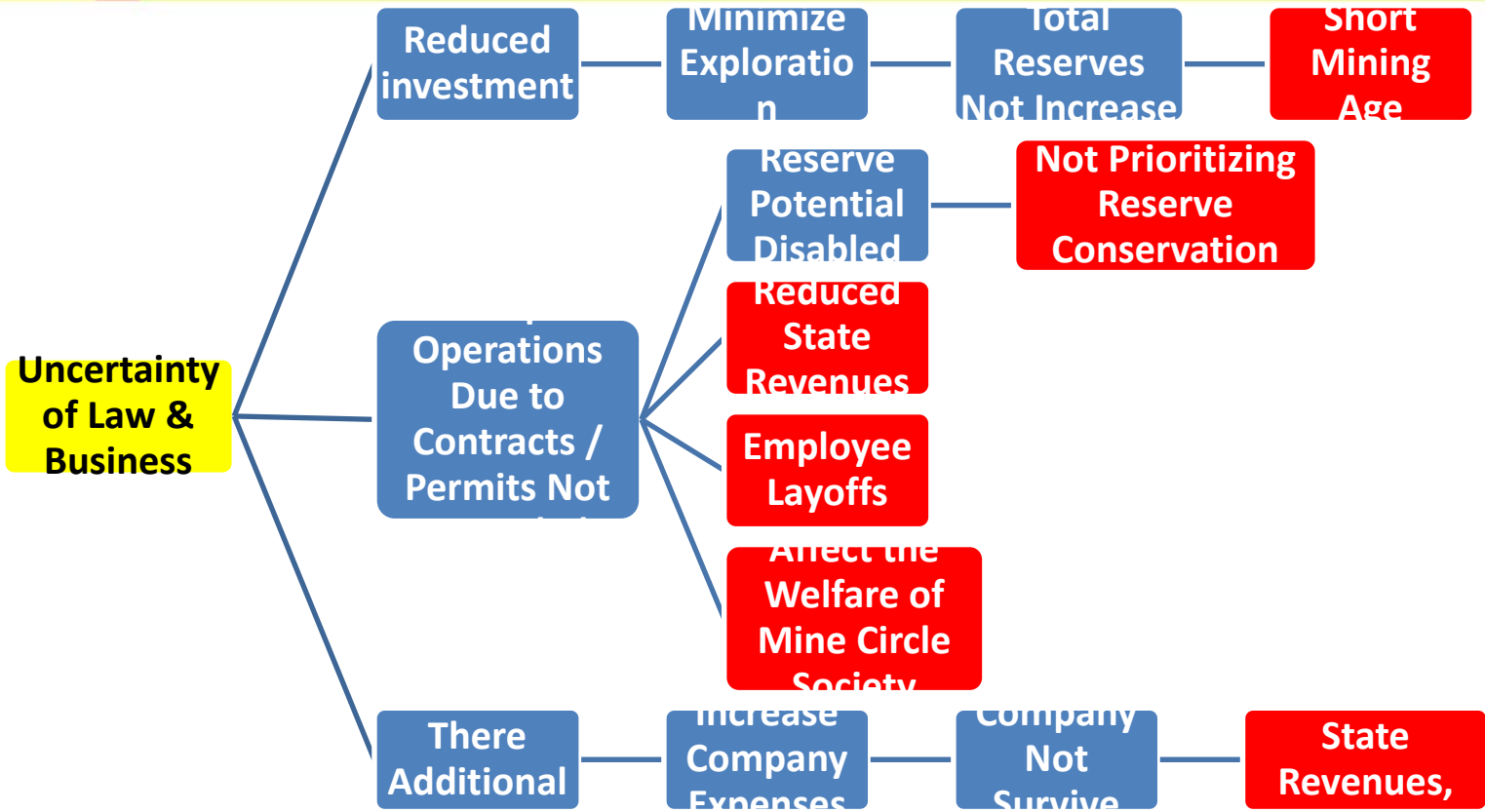


The Need for Legal Certainty & Business Certainty

- High risk mining industry
- Capital-intensive
- Preparation time is quite long, ranging from general investigation, exploration, FS, infrastructure development, until finally began production
- Long Pay Back Period
- Risk Taker to face the uncertainty of commodity prices
- Locations as well as commodity reserves are given and remote



Due to Legal & Business Uncertainty





Tax & Non-Tax Mine Industry Expenses

No.	Description
1.	Corporate Income Tax (Article 25, 29)
2.	Royalty
3.	Fixed fee
4.	Income Tax Article 21 for payment to Employees and other parties
5.	Income Tax Article 23 for the payment of services to the 3rd Party, Interest, Dividend - Domestic
6.	Income Tax Article 26 for the payment of services to the 3rd Party, Interest, Dividend - Foreign Affairs
7.	Final Income Tax
8.	Domestic VAT
9.	Import VAT
10.	VAT Import of luxury goods
11.	VAT Domestic luxury goods
12.	Import Duty
13.	customs
14.	Article 22 Income Tax on Import and Domestic Affairs
15.	Building taxes are fixed

No.	Description
16.	Land tax building a certain amount of Production
17.	Land tax on buildings and land
18.	Stamp Duty
19.	PKB-SWP3D
20.	Motor Vehicle Transfer of Title
21.	Motor Vehicle Fuel Tax
22.	Mineral Tax C
23.	Electric Taxes (including self-built power stations)
24.	Surface Water Tax
25.	Underground Water Tax
26.	Deadrent
27.	Contribution of Rights of Forest Entrepreneur
28.	Non tax state income Lease (Forestry Committee)
29.	Non tax state income Sea Port
30.	Non tax state income Air Port

OTHER OBLIGATIONS

1. LOCAL COMMUNITY DEVELOPMENT
2. CSR
3. Watershed Rehabilitation

4. Rehabilitation & Reclamation of ex-mining land
5. Land Recognition



Royalty & Income Tax Competitiveness

No	Negara	ROYALTI			Corporate Income Tax
		Copper	Gold	Coal	
1	Australia	2.7-3%	1 - 2.5%	7 - 10%	30%
2	Argentina	3%	3%	3%	35%
3	Brazil	2%	1%	2%	34%
4	Congo	3%	5%	3%	30 - 34 %
5	South Africa	0.5 - 7%	0.5 - 5%	0.5 - 7%	28%
6	Indonesia	4%	3.75%	3.5 - 13.5%	25% - 45%



Progress in Mining & Engineering

Changing Conventional mining engineering :

- ❖ Fulfillment of the National Electricity and End Product with Highest Penetration Price
- ❖ Preparing Basic Industry, Electric, Machinery,
- ❖ Continuing the production of coal and mineral to participate in inter. Community
- ❖ Improvement in material science processing
- ❖ To develop the Process of mineral dressing to material science
- ❖ Beginning of the Action from open pit to under ground
- ❖ Development of Soft skill : communications ability, entrepreneurship thinking, curiosity
- ❖ Enhancement in financial engineering, understanding of law mitigation

Thank you

