

CHALLENGES AND OPPORTUNITIES IN INDONESIA MINING AND MINERAL INDUSTRIES IN THE FUTURE

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ANTAM in the future:

GLOBAL MINING BASED CORPORATION, WITH HEALTHY GROWTH AND WORLD-CLASS STANDARDS

Indonesia Mining Industry:

OPPORTUNITIES AND CHALLENGES





Downstream Mining Industry:

TOWARDS INDONESIA ECONOMIC DEVELOPMENT ACCELERATION AND EXPANSION

Introduction: ANTAM SUCCESS STORIES



PERUSAHAAN NEGARA (PN) **TAMBANG EMAS** TJIKOTOK, was established based on Peraturan Pemerintah No. 91 Year 1961

BADAN PIMPINAN UMUM PERUSAHAAN-**PERUSAHAAN TAMBANG UMUM NEGARA** (BPU PERTAMBUN) was established

PN ANEKA TAMBANG was established by merging several state-owned single commodity companies

Listed in **INDONESIA** STOCK **EXCHANGE (IDX)**



Antam's status in ASX was upgraded to full listing

ANTAM change its corporate logo



1960

1962

1968

1974

1997

1999

2001

2003

2011

PERUSAHAAN TERBATAS (PT) **NIKKEL INDONESIA** was on Akte Notaris Mr. R.E.

established based Abdulkarnen in Makassar dated 16 Juli 1960 No. 32

PERUSAHAAN NEGARA (PN) **TAMBANG BAUKSIT INDONESIA**, was established based on Peraturan Pemerintah No. 89 Year 1961

1961

PERUSAHAAN NEGARA (PN) NEGARA LOGAM MULIA, was established based on Peraturan Pemerintah No. 218 Year 1961 jo Peraturan Pemerintah No. 29 Year 1962

Status Amandment from PN Aneka Tambang to **PT ANEKA TAMBANG** (PERSERO)



Listed in **AUSTRALIAN SECURITIES EXCHANGE** (ASX) as Foreign Exempt



Issued US\$200 million bonds for funding the FeNi III smelter construction

Issuance of Rp 3 Trillions bonds for investment and business developments











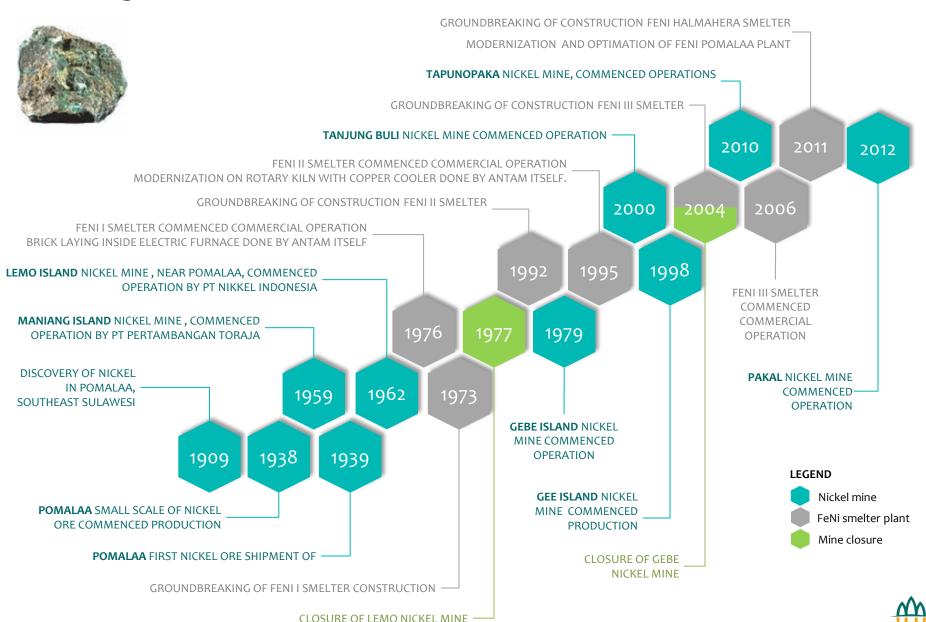




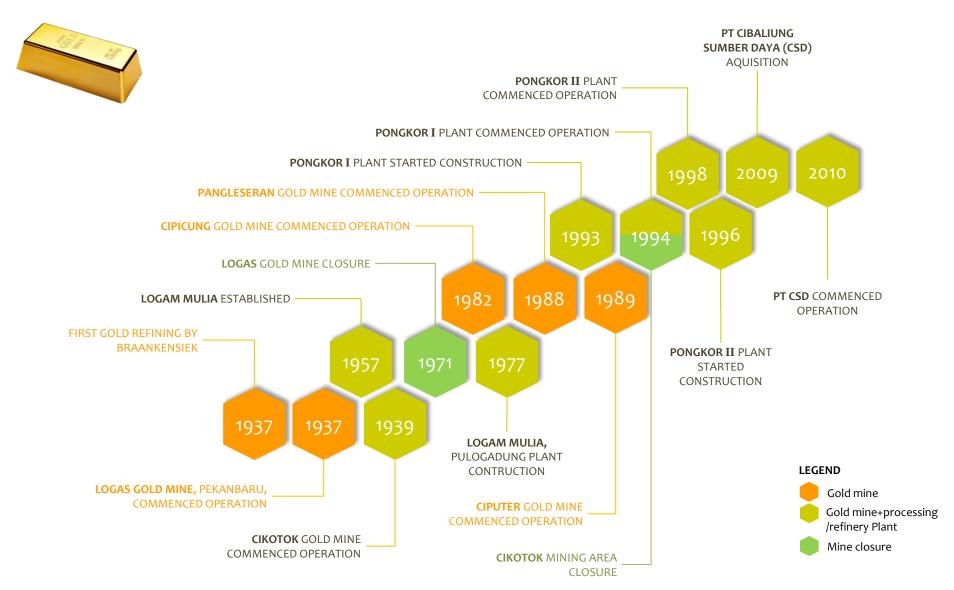




Long journey in nickel



Long journey in gold

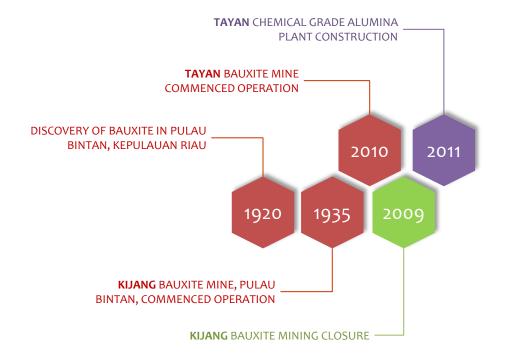






Long journey in bauxite





LEGEND

Bauxite mine

Alumina processing plant

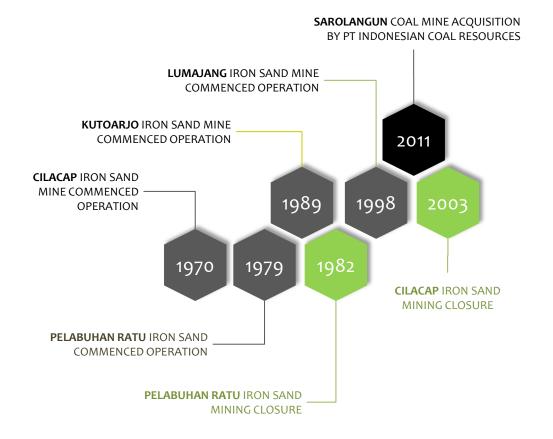
Mine closure





Long journey in iron sand and coal





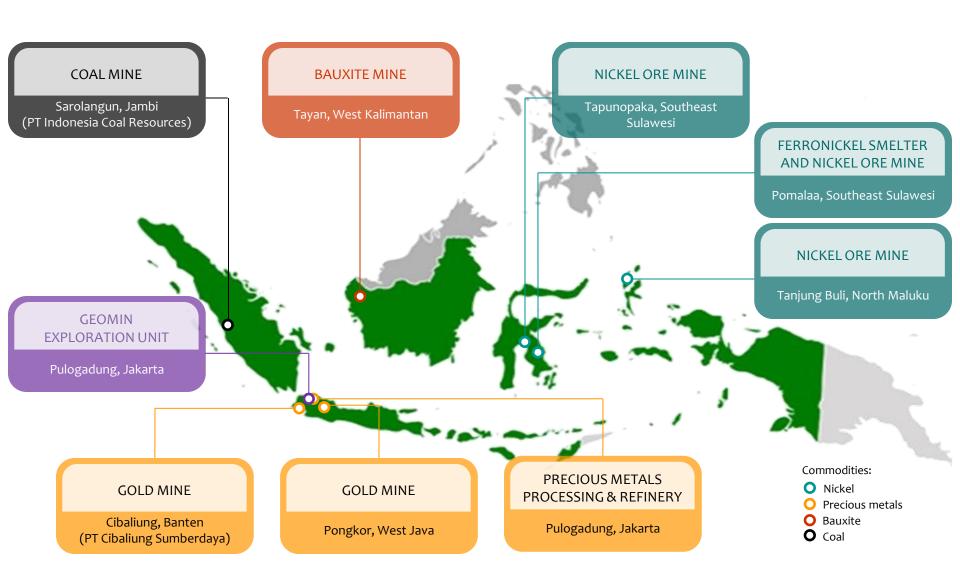
Iron sand mine Coal mine Mine closure



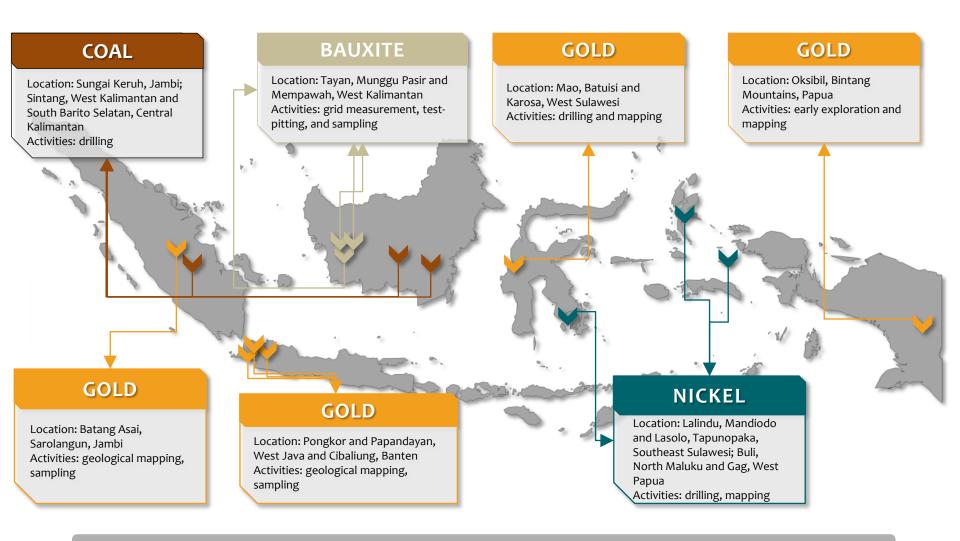


BAUXITE MINING CLOSURE IN KIJANG



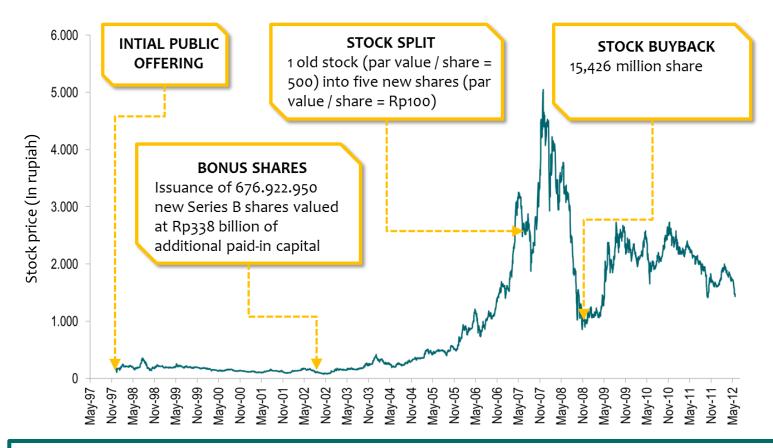






In 1H12, ANTAM spent Rp114.5 billion on exploration and mine development activities

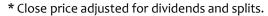




Since the IPO, the value per share increased 692% to Rp1.430 on May 22, 2012

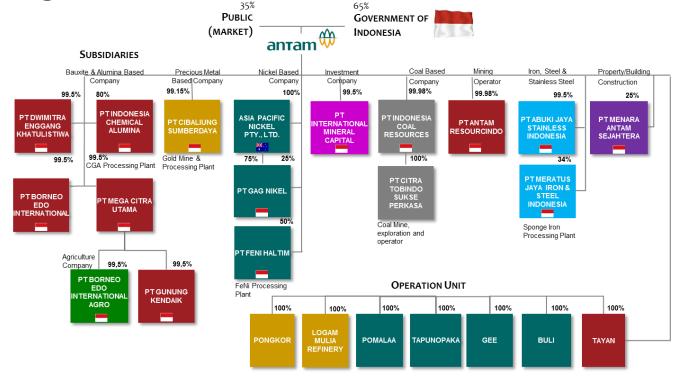
Current price (in rupiah)

Date	Open	High	High Low		Avg Vol	Adj Close*
Nov 1, 2012	1.290	1.310	1.220	1.250	4.963.400	1.250
Oct 1, 2012	1.340	1.380	1.260	1.280	8.405.500	1.280
Sep 3, 2012	1.250	1.430	1.220	1.350	16.130.100	1.350





- Antam is a vertically integrated, export-oriented, diversified mining and metals company
- We undertake all activities from exploration, excavation, processing through to marketing
- Operations spread throughout the mineral-rich Indonesian archipelago
- Many licensed exploration areas and joint venture projects
- Diversified product/commodities.
 Our current business portfolio:
 - NICKEL based commodity
 - GOLD based commodity
 - BAUXITE based commodity
 - COAL based commodity
 - IRON AND STEEL based commodity
 - CPO/PLANTATION based commodity
 - INVESTMENT based company
 - PROPERTY based company



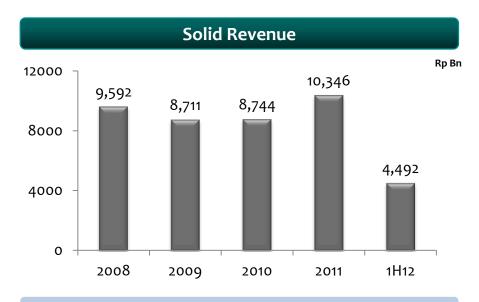


Creating Sustainable Growth

Maintaining Financial Strength

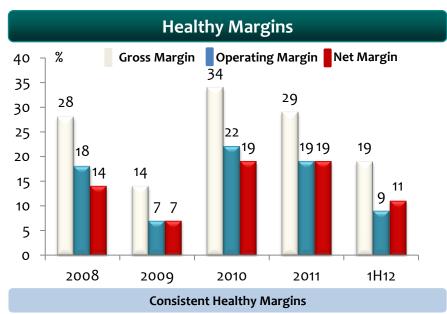
- Focus on segments that it knows best: Nickel, Gold and Bauxite
- Adding value by moving away from selling raw materials & increasing processing activities
- Expanding capacity to increase cash generation and lower unit costs
- Continuously striving to obtain cost efficiencies and being environmentally and socially sustainable
- Maintaining diversified customer base
- Developing strategic alliances
- Focus on long-term and sustainable profitability, and flexible dividend policy at 30 40% of profits
- Maintain solid balance sheet and healthy debt leverage (Debt/Equity of 2.0x)
- Maintain healthy liquidity–ensuring debt maturity well spread out over the next 5 years & focusing on long term financing with matching maturity profile against cash flow generation
- Development of growth projects without burdening balance sheet

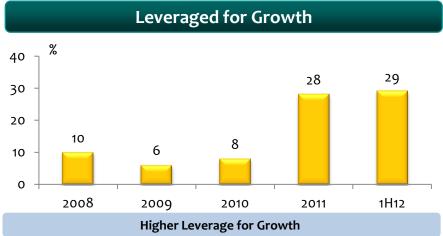
Financial performance



Strong Revenues Supported with Solid Operational Performance

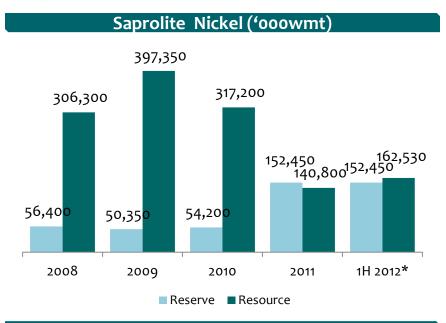


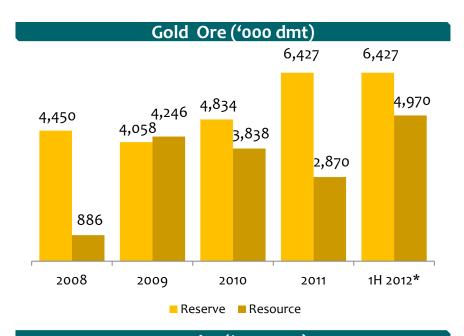




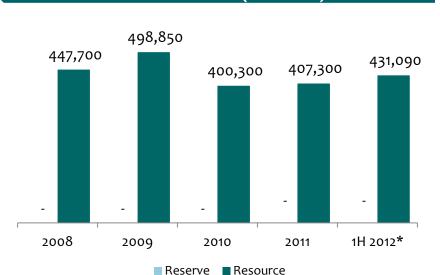


Reserves and resources

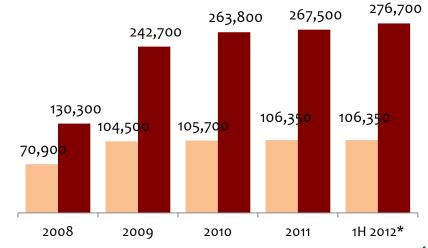




Limonite Nickel ('ooowmt)







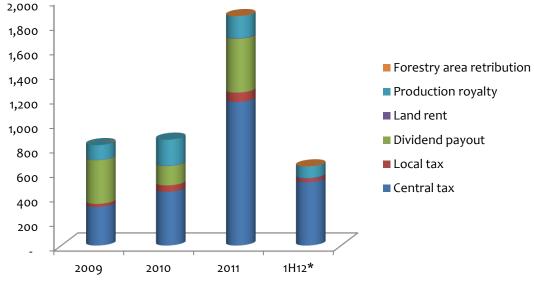
■ Reserve ■ Resource



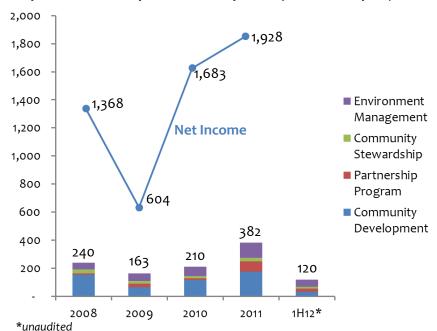
ANTAM contributions to nation and community

Tax and Non Tax (in billions rupiah)

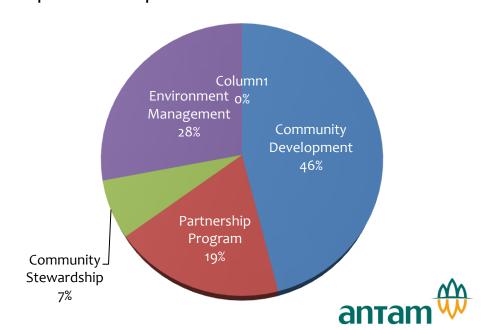
CONTRIBUTION	2009	2010	2011	1H12*
Central tax	315	438	1,170	517
Local tax	24	52	75	25
Dividend payout	356	157	438	-
Land rent	2	3	5	8
Production royalty	120	211	178	94
Forestry area retribution	-	-	1	0
TOTAL	817	862	1,868	645



Corporate Social Responsibilities Expenses (in billions rupiah)







^{*}unaudited

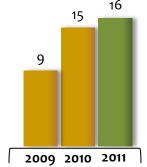


Total employee based on status

FOR CONTROL OF CONTROL								
Status Kepegawaian	Periode Pelaporan Reporting Period							
Status	2009	2010	2011					
Pegawai Tetap Permanent Employee	2,517	2,251	2,392					
Pegawai Tidak Tetap Non-permanent Employee	166	284	298					
Jumlah Total	2,683	2,535	2,690					

Our value BUSINESS EXCELLENCE | OPERATION EXCELLENCE **20 BEHAVIOURS** Live by ANTAM's Values Human Capital Excellence **PIONEER BEST** PRINCIPLE BEYOND EXPECTATION ENVIRONMENTAL AWARENESS SYNERGIZED PARTNERSHIP **VISION** How Leader Lead Leadership Attribute IMAM **TARIF**

HR Productiviy



per Employee (TNi/Employee)

Productivity FeNi

2009 2010 2011

Productivity Gold per Employee (Kg Gold/employee)

Employees are one of ANTAM's main assets.

ESELAMATAN KERJA DAPAT MENNISKATKAN PRODUKTIVITAS DAN EFISIENSI KERJA

27 AGUSTUS 1992

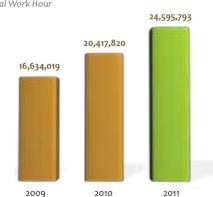
ANTAM puts occupational health and safety for the employees as top priority

Safety record

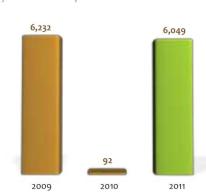
Jumlah Kecelakaan Kerja | Total Working Accident [LA7]

<i>~2,50505050505050505050505050505050505050</i>									
	Periode Pelaporan Reporting Period								
Unit Bisnis Business Unit	2009			2010			2011		
	R/Mi	В/Ма	F	R/Mi	В/Ма	F	R/Mi	В/Ма	F
UBPE Pongkor UBPE Pongkor	1	1	1	5	0	0	3	o	1
UBPN Sultra UBPN Southeast Sulawesi		1	0	3	1	0	1	1	
UBPP LM UBPP LM		0	0	0	2	0	1	0	0
UBPN Malut UBPN North Maluku		0	0	0	0	0	1	1	0
Unit Geomin Geomin Unit	0	0	0	1	0	0	0	0	0
Proyek Bauksit Tayan Tayan Bauxite Project	0	0	0	0	0	0	1	0	0
Proyek Tapunopaka Tapunopaka Project	0	0	0	0	0	0	1	0	0
Jumlah Total	10	2	1	9	3	0	8	1	1
Keterangan Notes: Ri/M (Ringan/Minor), B/Ma (Berat/Major), F (Fatal)									

Total Jam Kerja Total Work Hour



Hari Kerja Hilang karena Kecelakaan Kerja Day Loss due to Occupational Accident



External accolades and recognition

CORPORATE IMAGE AND LEADERSHIP

GOOD PERFORMANCE & BRONZE ACHIEVEMENT

BEST IN BUILDING & MANAGING CORPORATE IMAGE 2011 & 2012

GREEN CEO

VERY BEST FOR NON-BANK SOE

BEST FOR HC INITIATIVE IN PEOPLE DEVELOPMENT

BEST CEO COMMITMENT

MOST ORGANIZED INVESTOR RELATIONS

STRONGEST ADHERENCE TO CORPORATE GOVERNANCE

BEST SUSTAINABILITY REPORTING ON WEBSITE 2011

RUNNER UP-2 BEST SUSTAINABILITY REPORTING 2010 CATEGORY

"NATURAL RESOURCES"

Indonesia Quality Award | Nov 2012

Corporate Image Award (IMAC) | June 2012

Warta Ekonomi | July 2012

Infobank Award | Oct 2012

Indonesian Human Capital Study Award | Oct 2012

Alpha Southeast Asia Magazine | Sept 2011

Indonesia Sustainability Reporting Award | Dec 2011

HEALTHY AND SAFETY ENVIRONTMENT







BEST OVERALL

IICD, Corporate Governance Award | Dec 2011

THE BEST GCG IMPLEMENTATION 2011

Business Review Award | Dec 2011

MOST TRUSTED COMPANY

CGPI Award | Dec 2011



UPAKARTI UTAMA

✓ UBPN Southeast Sulawesi

UPAKARTI PRATAMA

✓ UBPE Pongkor

PROPER HIJAU

✓ UBPE Pongkor

PROPER BIRU

✓ UBPN North Maluku

√UBPP Logam Mulia ✓ UBPN Southeast Sulawesi ✓ PT CSD

√ UBPP Logam Mulia

Mining Safety Awards 2011, Ministry of Energy & Mineral Resources | Nov 2011

SRI KEHATI Award | June 2012

✓ UBPN North Maluku

Ministry of Environment | Nov 2011



CORPORATE SOSIAL RESPONSIBILITIES

INDONESIA GREEN AWARDS 2011

PLATINUM

✓ Development Program of Biodiversity Center of Halimun-Salak Mountain National Park

✓ Revitalisation Program and Dev't Program of Community Areas of Bajo Tribe

GOLD

✓ Community Empowerment Program in Former Iron Ore Mining Areas)





Indonesian CSR Award 2011 | Dec 2011

ANTAM in the future:

GLOBAL MINING BASED CORPORATION, WITH HEALTHY GROWTH AND WORLD-CLASS STANDARDS





The same	

ANTAM vs competitors

COMPANY	FORTUNE 500 RANK	REVENUE (USD BILLIONS)	EBITDA (USD BILLIONS)	ASSETS (USD BILLIONS)	NPM	ROA	ROE	DEBT TO EQUITY
аптат	-	1,0	0,3	1,3	19%	14%	18%	28%
RioTinto	140	56,6	26,0	112,4	25%	13%	25%	93%
bhp billiton	159	52,8	38,1	88,9	24%	14%	26%	83%
VALE	186	45,3	35,5	129,1	38%	13%	25%	87%
xstrata	315	30,5	18,5	69,7	15%	7%	12%	73%
**	331	28,9	0,0	56,8	0%	0%	-1%	1380%
*	465	21,0	3,6	39,3	1%	1%	2%	189%
NORILSK NICKEL	-	12,8	6,8	23,9	24%	13%	17%	33%
FREEPORT-MCMORAN COPPER & GOLD	-	19,0	12,2	29,3	23%	1%	35%	134%
NEWMONT. The Gold Company	_	9,5	5,3	25,6	24%	1%	17%	92%





Build capacity for downstream diversification (2012-2016)

Increase scale & complexity of operation (2017-2020)

Current 2011 (Projection) Asset: ~USD 1,15 Bio Revenue: ~USD 1,25 Bio World class standard Asset: ~USD 6,8 Bio Rev: ~USD 4,7 Bio

Exploration

- Strengthening Geomin's core competencies to boost reserves and discover world-class resources
- Expansion in scale of resources and project capacity

Mining

- Development of in-house mining's core operation and strengthening competencies
- · Increase in competitiveness of production and cash costs to meet global standards

Processing

- Expansion of current capacity and improvement of process efficiency
- Development of long-term strategic growth projects

Marketing & Distribution

- · Strengthening downstream marketing and distribution channels to accommodate the growing capacity and additional downstream products
- Market expansion and customer focus through effective use of business intelligence

Supporting Key Platform Strengthen existing functions: 1) manpower competencies, 2) integration of CSR management within value chain, and 3) strong R&D function backed-up by universities

Improving organization, GCG, and corporate management: 1) Holding structure, 2) Investment arm, 3) Marketing distribution and Business Intelligence

Adequate financing which supports strategic growth projects







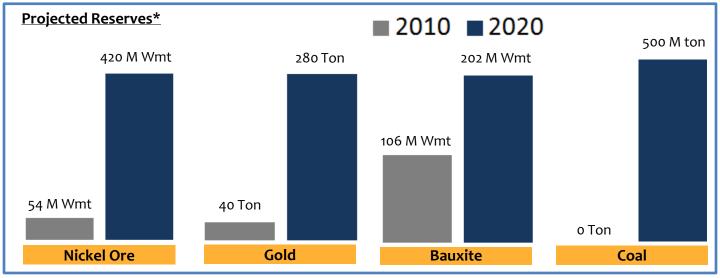
Diversification, reserves and production capacity growth focuses

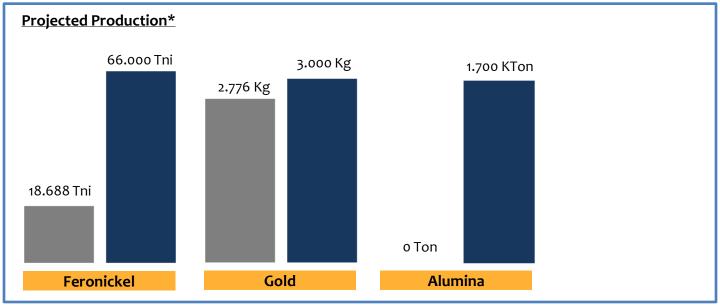
Organic growth initiatives:

- 1. Strategic projects: FHT, SGA, CGA
- 2. Capacity enhancement and optimalization project: MOP-PP
- 3. Targeted replacement rate of reserves from existing resources

Inorganic growth initiatives:

- Joint venture and partnerships
- 2. Acquisition of government shares
- Acquisition of new IUPs, mining assets or processing facilities







Current development projects

PROYEK PENGEMBANGAN ANTAM MENUJU HILIRISASI PERTAMBANGAN







Development projects updates







Financing plan for our development project



• Indonesia Financing Institution and Equity Injection

Total project cost US\$70 million funded by US\$49 million loan and equity injection US\$21 million, ANTAM's share 34%

ECA Financing and Equity Injection

Total project cost US\$450 million funded by ECA Financing US\$292 million and equity iinjection US\$157 million, ANTAM's share 80%

- Total project cost US\$ +/-1,332.3 million will be funded by 65% debt and 35% Equity
 - ECA Financing and/or investment loan +/- US\$854.3 million
 - Equity injection and/or strategic partnership +/-US\$460.14 million
- ECA Financing, Investment Loan and Bond
 - > Total project cost US\$ +/- 500 million funded by combination of ECA Financing, Investment Loan and Bond.
 - ➤ ANTAM will issue up to Rp 4 T Bond where Rp 3 T (or equivalent with +/- US\$ 323 million) of the Bond will be used to finance MOP PP Project, while the rest of project cost or +/- US\$ 177 million will be funded by ECA Financing and or Investment Loan

Indonesia Mining Industry:

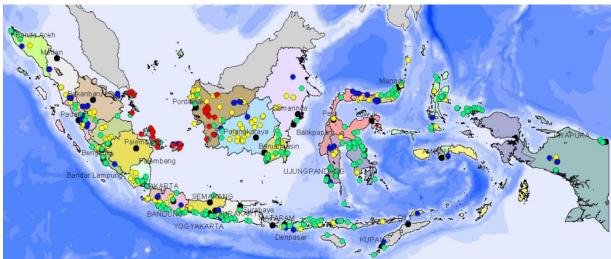
OPPORTUNITIES AND CHALLENGES





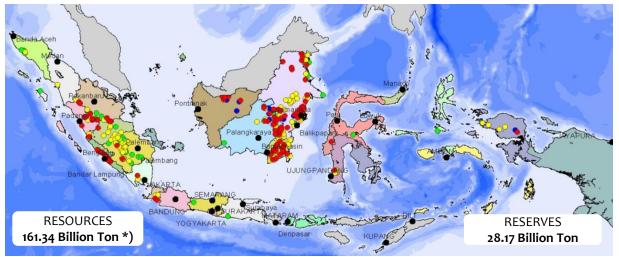
Mineral dan coal potency

MINERAL POTENCY



- Ferro and Associates, a.l.: Nickel, Iron, Nickel, Cobalt, Mangaan, Chromit
- Precious Metal, a.l.: Gold, Silver and Platina
- Base Metal, a.l.: Zinc, Copper, Tin, reciprocal
- Rare metal, a.l.: Bauxite, Monazite

COAL POTENCY



- Very High (anthrasit) (> 7.100 cal/gr)
- High (Bituminus) (6.100 7.100 cal/gr)
- Medium (Sub Bituminus)(5100 6100 cal/gr)
- Low (Lignite) (< 5.100 cal/gr)</p>
- *) Including 41 billion tons U/G





Challenge & opportunity to regulation

To build domestic metals processing and refining due to Law of the Republic of Indonesia No. 4 Year 2009

Export of Ore May Continue Under Specific Terms and Conditions

Minimum Requirement of Metals Processing and Refining

- Clear and Clean (C&C) Status on Its Mining Permits
- No outstanding financial obligation to the state
- Signing the Integrity Pact
- Export tax burden
- Mineral export quota
- Ni Matte > 70% Ni
- FeNi (saprolite) > 20% Ni
- FeNi (limonite/blended) > 10% Ni
- NPI > 6% Ni
- SGA > 99% Al2O3
- CGA > 99% Al2O3
- CGA > 99% Al(OH)3
- Al > 99%

The regulation requires mining companies to obtain the necessary approvals to continue to export ore until 2014

• PERATURAN PEMERINTAH (PP)/GOVERNMENT REGULATION No. 9/2012 sets royalty (non-tax charge) on processed products such as aluminum, alumina & FeNi

Non tax state revenue in Ministry of Energy and Mineral Resources Revenue from services providing data information system of mineral & coal

Revenue from fixed fees for metallic mineral mining and coal

Revenue from the production fee / royalty

- Considering the competitiveness of national industries and strategic value of certain pioneer industries, the Ministry of Finance (MOF) Government of Indonesia (GoI) may grant a tax holiday facilities
 - This income tax exemption or reduction for pioneer investment regulation No. 130/PMK.011/2011 dated 15 August 2011 gives opportunity to ore processing industry to get exemption from corporate income tax for a period start from 5 years
- UU No. 32/2009 REGARDING ENVIRONMENTAL PROTECTION AND MANAGEMENT

RPP OF WASTE THAT WILL REVISE PERATURAN PEMERINTAH No. 74/2001 REGARDING HAZARDOUS AND TOXIC MATERIAL (B3) MANAGEMENT and PP No. 18 JO 85/1999 REGARDING B3 WASTE MANAGEMENT

- Enclose Amdal and UKL/UPL
- Certified Amdal and Licensed Amdal Committee
- Environmental Risk Analysis
- Periodic Environmental Audit
- Criminal offence and fine for violation
- Tighter B3 Waste Category



OPPORTUNITIES AND CHALLENGES

Supreme Court Decision on Permen No. 7/2012

Supreme Court (MA) decision on judicial review filed by the Association of Nickel Indonesia (ANI) on 12 April 2012, MA granted in part the petition article ANI. The decision revoked

- ARTICLE 8 SECTION (3),
 - × "Cooperation plan for processing and/or refining/smelting as referred to in Article 8 section (2) may only be implemented after obtaining approval from the Director General on behalf of the Minister"
 - Article 8 section (2): "The cooperation for processing and/or refining/smelting as referred to in section (1) can be: a. sale and purchase of ore or concentrate; b. services for processing and/or refining/smelting; or c. joint development of facilities for processing and/or refining/smelting"
 - Article 8 section (1): "In the event that the holders of IUP Production Operation and IUPK Production Operation as intended by Article 7, due to economical reason, may not conduct their own processing and refining/smelting of mineral, they may conduct the cooperation for processing and/or refining/smelting with other parties who hold: a. IUP Production Operation; b. IUPK Production Operation; or c. IUP Production Operation specifically for processing and refining/smelting."
- ARTICLE 9 SECTION (3)
 - × "The partnership as referred to in Article 9 section (1) may only be implemented after obtaining approval from the Director General on behalf of the Minister"
 - Article 9 section (1): "The holders of IUP Production Operation and IUPK Production as intended by Article 7 may conduct a partnership with other entities to build the facilities for processing and/or refining/smelting"
- ARTICLE 10 SECTION (1).
 - * "Based on the feasibility studies, the holders of IUP Exploration and IUPK Exploration who cannot do their own processing and refining/smelting due to economical reason and/or cannot conduct the cooperation or partnerships as referred to in Article 8 and Article 9, shall consult with the Director General to implement this Minister Regulation"
- ARTICLE 21
 - x "Upon effectiveness of this regulation, the holders of IUP Production Operation and IPR issued before the operation of this Regulation of the Minister are prohibited from selling ore (raw material or ore) abroad within 3 (three) months of the operation of this Regulation of the Minister"

DITJEN MINERBA ARE NO
LONGER AUTHORIZED TO
REGULATE THE EXPORT QUOTA

CREATES AN OPPORTUNITY FOR MINING COMPANIES TO SUE DITJEN MINERBA FOR THEIR LOSSES

GOVERNMENT ENSURES
SUPPORT TO CONTINUE
DOWNSTREAM MINING
PROGRAM





OPPORTUNITIES AND CHALLENGES

Opportunities & challenges & to develop new business

- 4:
- Lack of infrastructures, particularly in regions other than Java island.
- Scarcity of human resources, especially in the professional and expert level.
- De-centralization of authority due to sovereignty (autonomous) of regional Governments.
- Based on current publications (July 2011-Jan 2012), issues raised up regarding to the Indonesian Mining Industries can be categorized into 8 segment, such as Production (21%), License Overallap (20%), Environmental (18%), Contract Renegotiation (15%), State Income (10%), labour (8%), Divestment (4%) and Mining Licenses (4%).

5

ONE CONCEPT OF MINING BUSINESS LICENSE SYSTEM

- An integrated approach involving central and local governments as well as local parliament in issuing license
- Avoid overlapping mining license
- Specific penalties, both financial and criminal, for any authorities that do not follow the law

SPECIAL MINING AREAS

- The government will set a special State Reserves Area (SRA)
- State owned enterprise (SOE) and local government owned enterprises are given priorities to develop the SRA

OBLIGATION FOR DOMESTIC ORE PROCESSING

 Mining licenses holders have to process and refine the minerals domestically

 Higher degree of certainty for ANTAM's mining licenses

- Additional output and product diversification given ANTAM's status as SOF
- Potential increasing exploration properties for ANTAM

- Enhanced performance profile as ANTAM can take advantage in processing minerals from other mining license holders as well as reserves conservation
- Potential risk in revenue loss from ore sales

INSTRUKSI PRESIDEN No. 41 YEAR 2004 REGARDING LICENSE OR AGREEMENT OF MINING AREA INSIDE THE FOREST

Assign 13 (thirteen) permits or agreements in mining that has existed prior to the enactment of Law No. 41 Year 1999 on Forestry as stated in Appendix decree, to continue its activities in the forest until the end of the license.



INSTRUKSI PRESIDEN (INPRES) NO. 10 TAHUN 2011 REGARDING NEW LICENSE GRANT POSTPONEMENT AND IMPROVEMENT OF NATURAL FOREST GOVERNANCE OF PRIMARY AND LAND PEAT

 Delay granting new permits in primary natural forest and peatland inside conservation forest, protected forest, production forest and other used areas that are set out in Peta Indikatif Penundaan Izin Baru

ANTAM in KEPPRES No.41/2004 granted permission to continue mining activities in the area of protected forest, but in INPRES No. 10/2011, ANTAM mining permits were included in Peta Indikatif Penundaan Izin Baru

Showstopper in ANTAM mining activities and operations

■ The obligation to Clear and Clean (CnC) based on UU No. 4/2009 dan PP No. 23/2010

For companies that have announced CnC, the CERTIFICATE CnC can be obtained by fulfil following condition:

- 1) Administrative Aspects
- 2) Technical Aspects
- 3) Financial Aspects

Within 30 days after the CnC announcement, it shall: **Stages of Exploration:**

- Submit proof of deposit of dues remained until last year

Stages of Production Operations:

- Convey the approval of UKL, UPL / EIA
- Submit a report complete exploration and feasibility study
- Submit proof of deposit of fixed fees and production fees (royalties) until last year.

Documentation related to the licensing and administration of documents should be more integrated

Other issues

- Bureaucracy
- Overlapping with palm oil and or overlapping permit itself
- · Building permit (Izin Mendirikan Bangungan-IMB)



- KEPUTUSAN PRESIDEN REPUBLIK INDONESIA (KEPPRES)/PRESIDENTIAL DECREE NO. 59 / 1972 REGARDING FOREIGN LOAN
- (Article 3 dan 4(1) KEPPRES No. 59 / 1972 revoked in KEPPRES No. 24 / 1998)
- KEPPRES NO. 39 / 1991 REGARDING COMERCIAL FOREIGN LOAN MANAGEMENT COORDINATION
- PP NOMOR 10 / 2011 REGARDING PROCEDURES FOR FOREIGN LOANS AND GRANTS

Coordination for all commercial foreign loans which is

- Not include in the responsible framework of Intergovernmental Group on Indonesia (IGGI) / Consultative Group on Indonesia (CGI) and other official loans required by the Government,
- State Owned Enterprises (including State Bank and Pertamina); and
- Private Owned Enterprises (including banks and non-bank financial institutions)

is conducted by "Tim PKLN"

Tim PKLN is headed by the Cordinating Minister for Economic Affairs involving other Ministry and Bank Indonesia

Foreign loan

"Will be misleading if the government handling private law, such as arrange SOE foreign loans which is should have a permit from Tim PKLN headed by Cordinating Minister of Economy. Though commercial loan is the business of the corporation,"

"Obviously that legal product was inappropiate. Many laws are involving government into private law. It is also improper, but has become the law"

- Herman Hidayat • Law Bureau Head in Ministry of SOE Bulletin Edition 58/ Year VI Date 29 Februari 2012-





Lack of domestic technology innovation

- The role of technology is essential in the production of the world's mining operations. In addition to lower production costs, the technology can increase the value of the Company's mineral reserves.
- Enormous budgets for mining technology research and the slow technology to be obstacles to innovation in mining

PERUSAHAAN

R&D HIGHLIGHTS



- R & D is focused on the Alcoa Technical Center in Pittsburgh, Pennsylvania, USA which is the largest light metals research center in the world
- Alcoa developed the Global Innovation Network which is an R & D collaboration with leading universities (Moscow State University, St. Petersburg State Mining Institute), research institutes (India's Council of Scientific and Industrial Research-CSIR), etc.



- Single global model for R & D activities in which the function of mineral exploration and development cycle of integrated technology to accelerate the discovery of new mineral. Technology development activity centered in Mineral Development Center (CDM), Minas Gerais, Brazil while exploration activities focused in five regional locations
- Focus in Ni, Vale has integrated R & D center, Vale Technological Center (VTC, ex-Inco) in Ontario, Canada
- Vale also has the Vale Technological Institute (ITV) in Brazil, a non-profit research and graduate education aimed at supporting R & D companies, especially in the field of mining and sustainable development.
- Activities in the CDM, ITV, and VTC done in conjunction with international research institutions and universities to enhance their access to the latest technological developments



- Antam has a unit that serves to conduct research and technology development.
- This unit is under the Directorate of Development.
- Some of the research conducted to support the development of the mining business into downstream



Downstream Mining Industry:

TOWARDS INDONESIA ECONOMIC DEVELOPMENT ACCELERATION AND EXPANSION



TOWARDS INDONESIA ECONOMIC DEVELOPMENT ACCELERATION AND EXPANSION Mutual beneficial relationship

Wishes for the success of state-owned enterprises (SOE) and private company with the government to promote the establishment of high economic growth, balanced, equitable and sustainable so that the positive effects of economic development of Indonesia can be felt by the entire community around the archipelago,

Downstream mining industry toward economic development across Indonesia that create a solid economic independence and economic competitiveness should be supported from many aspects:

INTEGRATED COOPERATION BETWEEN SOE + PRIVATE COMPANY AND LOCAL AUTHORITY

- · Good mining practice, reclamation and post mining
 - Corporate social responsibility program
 - Local employment
 - Local content



INTEGRATED "ONE ROOF SERVICES" PERMIT ARRANGEMENT

- IUP/Mining Licenses
 - Forestry Permit
 - Port Permit •
 - and other permit •





HEALTHY AND PROFITABLE INVESTMENT ENVIRONMENT

- Royalty Policy
- Tax Holiday

MINING TECHNOLOGY DEVELOPMENT COLLABORATION

- Industry
- Government of Indonesia
- International Research Center/Engineering Design Consultant
- Academic/University





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THANK YOU

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