



**Asia-Pacific
Economic Cooperation**

2012/SOM1/MTF/003

Agenda Item: 6

Sustainable Mineral Resources Development Policy

Purpose: Information
Submitted by: Korea



**6th Mining Task Force Meeting
Moscow, Russia
7-8 February 2012**

Sustainable Mineral Resources Development Policy

FEB. 2012

Korea Resources Corporation(KORES)



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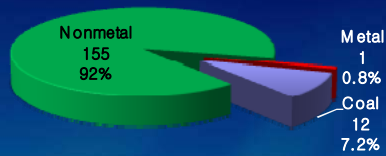
VI . Experience Sharing and Spread

I . Korean Mining Industry Status

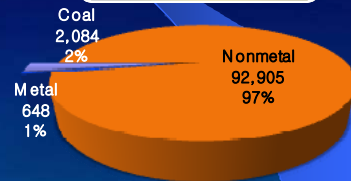
Korean Mining Industry Status

- ◇ concentrate on nonmetal mining development
- ◇ produce coal, metal on a small-scale

reserve
(1,000MT)



Capacity
(K Tonnes)



Section	Reserve (1,000MT)	Mine	Workers	Capacity (K Tonnes)
Coal	12.3	5	4,050	2,084
Metal	1.3	15	343	648
Nonmetal	155.1	402	3,227	92,905
Total	168.7	422	7,620	95,637

II . Problem of Development in Mining

The Problem of Development in Mining

Environment

- forests damage
- river pollution
- dust, noise



Labor

- mining site go underground
- roof falls



Economy

- shortage of added value improvement technology on mineral



III. Changing Perception of Mineral resources

Changing perception of mineral resources

Change to Advanced Functionalities & High value-added industry



1960-70s



1980-90s

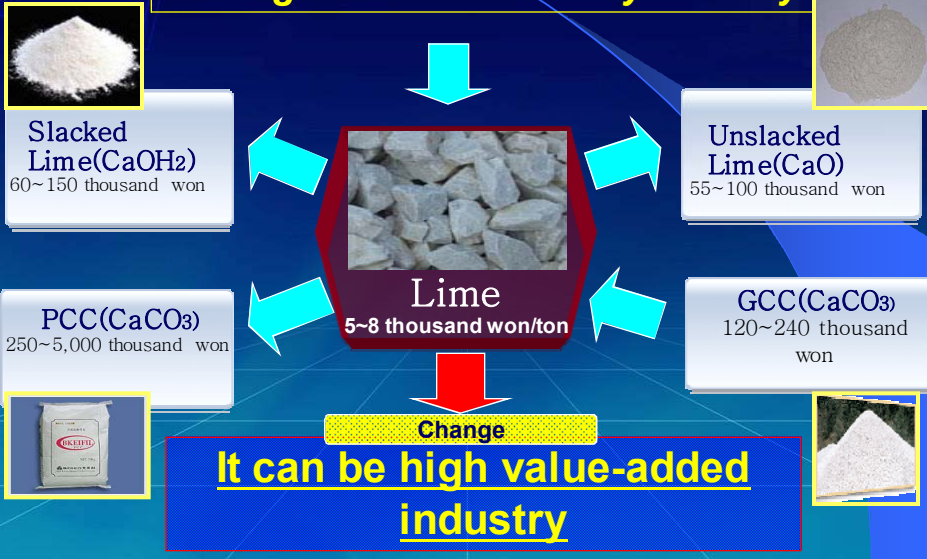


2000-10s

Increasing demand of high efficiency raw materials

Changing perception of mineral resources

Mining is no more Primary Industry

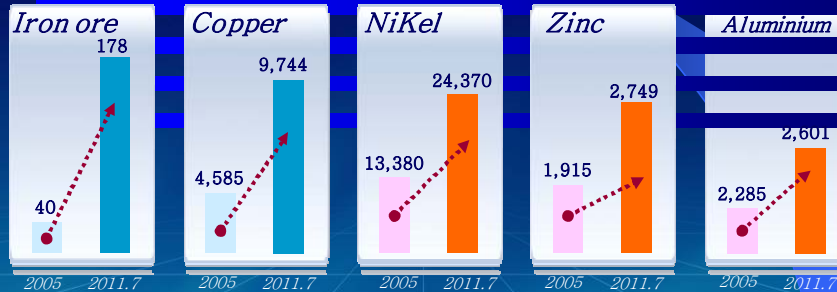


Changing perception of mineral resources

Continuous decreasing metal mineral price in 90's

➔ **Mine close due to economic feasibility**

❖ **Global Price trend of major Mineral (US\$/mt)**



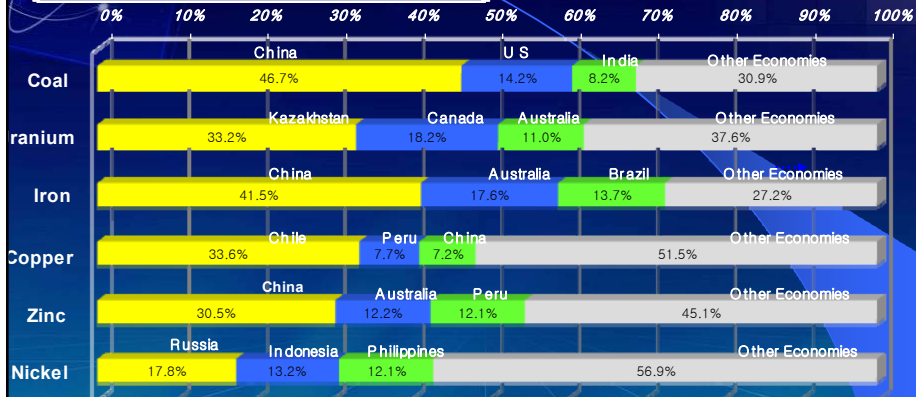
Rising necessity of redevelopment

Increasing value of domestic metal mineral mining

Continuous increasing price of MR

Changing perception of mineral resources

Major mineral deposits in the world



Dependence on Imports of mineral

Annual Growth Rate



Changing perception of mineral resources

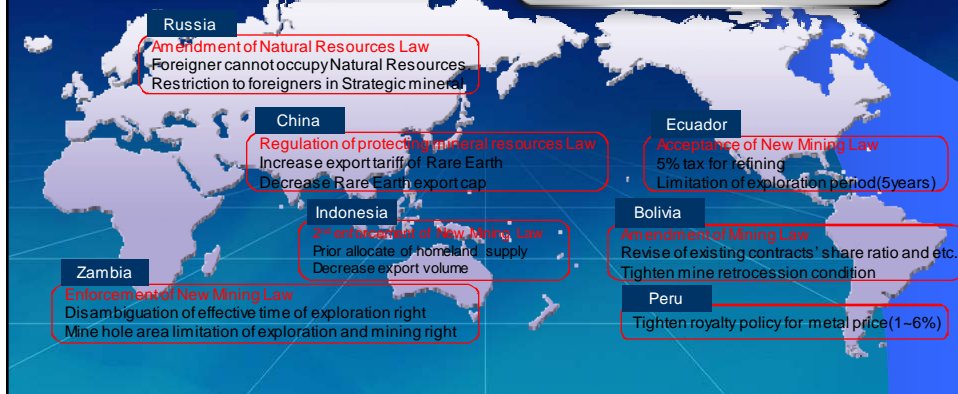
Weaponized natural resources, Neo-Resource nationalism

Resources nationalism

Reflect developing economies' opinions who want to independent from developed economies

Neo-Resource nationalism

- The economy which has plenty resources use their natural resources to improve their economic status
- Forming new kind of Cartel -GECF



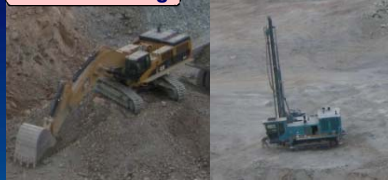
IV. Sustainable Development in Mining

Environment-Friendly Mine Development

- ❖ Support development of environment-friendly mine
 - Underground mining equipment & underground installation of crushing, transport, processing facilities

Support underground mining equipment

Surface mining



Underground mining



Support underground crushing & transport facilities

Outer



Underground



Human Friendly Mine Development

❖ Support equipment & facilities for accident prevention

- Facilities for preventing roof fall & rock reinforcement
- Training for mine disaster reduction

facilities



shotcrete



equipment



rock bolt



Human Friendly Mine Development

❖ Support accident prevention & improve work environ.

- Training for accident prevention & safety
- Ventilation shaft excavation for improving work environment

Training

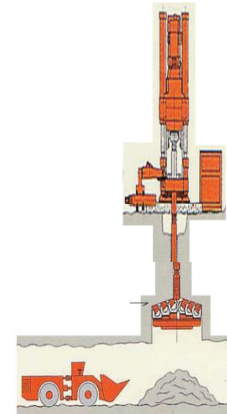
Safety training



Accident prevention training



Ventilation shaft



Economic Mine Development

- ❖ Increased productivity through large-scale equipment
 - ❖ Improve value added of non-metal & localization of raw materials
- Support value added facilities

Large-scale equipment

Mine truck



Explosive charger



Value added facilities

Infrasizing equip.



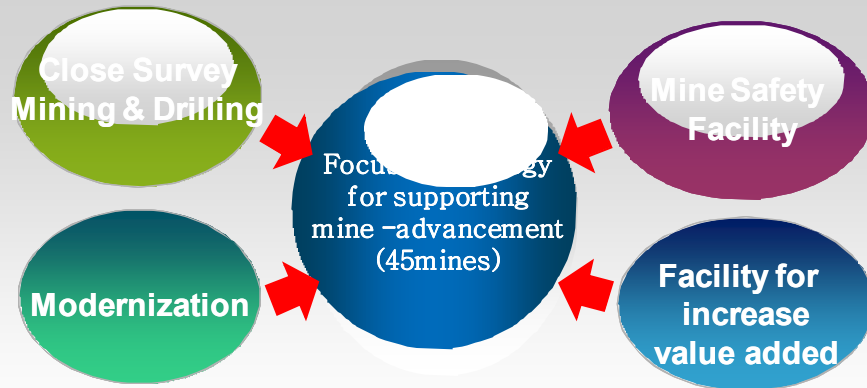
Centrifugal separator



V . The Major Policy

Major policies

Promote large and middle size mines by focusing strategy



Promoting systematically and comprehensive support
by relating Exploration, Development, Safety and Refinery industry

Major policies

Convert mining, crushing, milling, transporting and refining facility installation to inside of mine for Green Mine



Major policies

Expending exploration of domestic natural resources



Mine accident prevention and working environment improvement

Reinforce mine safety training

Sharing roles between private sector and economy

Equipment and facility Support for mine accident prevention

Major policies

Boost mining competitiveness by improvement of value-added

Technology Improvement
(Build Mineral Industry Cluster)

High Value-Added Material
(Industrialize base material)

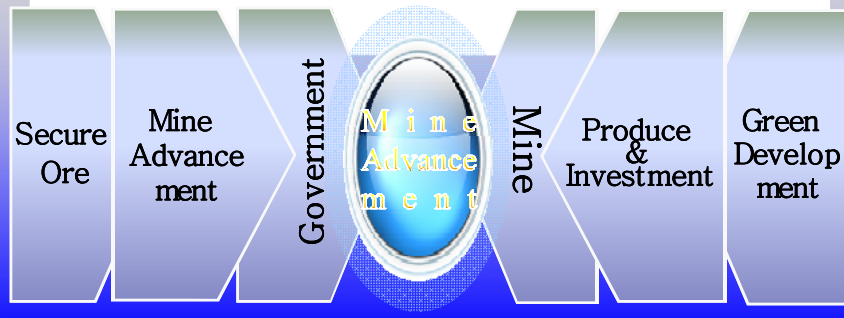
Boost Mining Competitiveness

Domestic 5 Major Non-metallic Minerals
(Limestone, Quartz, Feldspar, Agalmatolite, Kaolinite)

Reinvestment
(Establish Virtuous Circle Structure)

Major policies

Sharing roles between private sector and member economy government to promote domestic natural resources industry

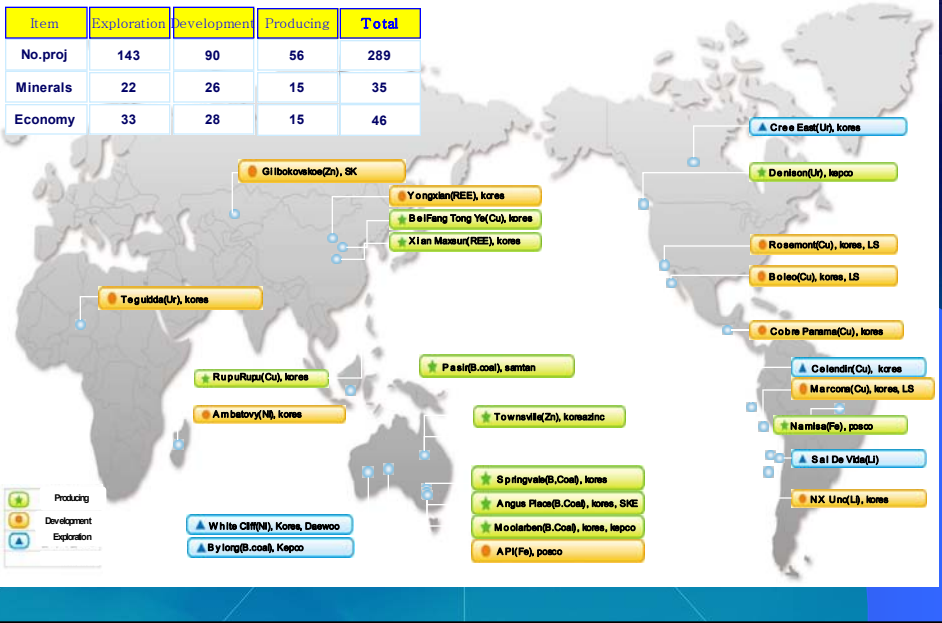


- Member economy government : Supporting infrastructure and producing environment
- Private sector : producing, investing and forming infrastructure

VI. Experience Sharing and Spread

Overseas Project Location

Item	Exploration	Development	Producing	Total
No.proj	143	90	56	289
Minerals	22	26	15	35
Economy	33	28	15	46



Korean Win-Win Model- I

Developing Value-added Mineral Resources with **Infrastructures**

Case in Madagascar

Korea

- Huge capital investment
- Training local labour
- Mine and plant construction

Madagascar

- Mineral (Nickel, Cobalt)
- Government support for foreign investment



Project For Humans and Environment

Eco-environmental protection & Community Development

- Constructing Pipeline, Minimizing Impact
- Ensuring Water Quality
- Building homes
- Community health care & education

Conducting Overall safety training

- Fire prevention Program & Safety Training
- Chemical Accident prevention Program & Safety Training

Effects

- Environmental hazards management for Earth
- Operating Sustainable Safety Program for Human

mine development model for Human & Environment

Korean Win-Win Model - II

Linking Mineral Resources Exploration Projects with Port, Infrastructures

Case in DR Congo

Korea

- Capital support
- Build-Operating-Transfer
- Tech & Manpower exchange
- Economic Development

DR.Congo

- Mineral (Copper, Cobalt)
- Mineral Exploration rights

Banana Port Construction



✓ \$500Mil of Construction value

Copper Exploration



✓ Offer 4 copper projects

Human & Environmental friendly Development

Crisis Management Training for safety

Environment Management



Managing Social Impacts



Experience sharing and spread Model - III

Prevention environmental disruption technology & sharing business experience
And tighten cooperation in environmental disruption field

Case in Mongolia

- MIRECO signed MOU about Mongolia's environmental disruption (Jan. 25. 2010)
- **Korea** Research on the actual condition of environmental disruption and build informatization campaign (Dec.2010~ Mar.2014)
- **Mongolia** Baganuur coal mine's vegetation restoration campaign(Dec.2010.~Dec. 2020)



- ❖ Sharing Korea's environmental disruption technology and business experience
- ❖ Tighten cooperation between two economies in environmental disruption field
- ❖ Complete full package: Mine development → construct infrastructure → Prevention environmental disruption

promotion / ... based on partnership ...

Proposal of Korea



- **Purpose of suggestions**

Promotion of official cooperation based on partnership in field of mineral resources & energy
- **Current status in Joint Committee on Mineral Resources & Energy**
 - 36 economy governments worldwide
 - 9 APEC economies in field of energy & resources
APEC members
(Australia, Viet Nam, Russia, Peru, Chile, Etc)
- **Suggestions**

Building mechanisms of cooperation with non-member economies among APEC members

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