

# The Current Status & Prospects of Korea's Overseas Mineral Development

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December, 2004



**Korea Resources Corporation**

# The Role of Korea Resources Corporation

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- ◆ A government-owned organization under the control by Ministry of Commerce, Industry and Energy (MOCIE).
- ◆ Established in 1967 as a comprehensive support services organization for Korean Mining Industry.
- ◆ To secure overseas mineral resources as well as to aid in rational development of domestic mines.
- ◆ Contribution to the development of national economy through successful undertaking of two main jobs above (domestic and overseas).

# Korean Government's Policy

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Construction of Joint  
Committee with mineral  
resources rich countries

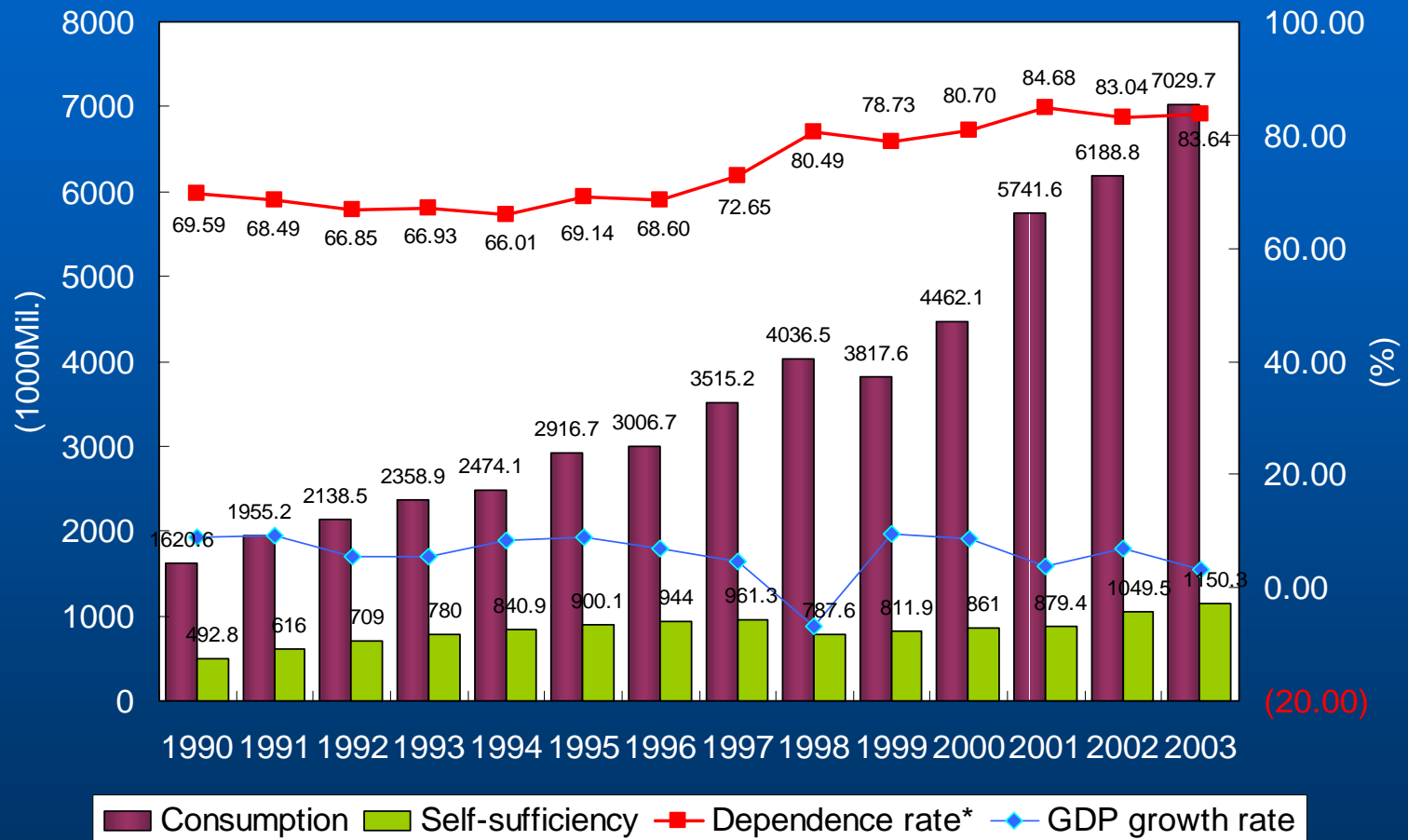
Providing support system to  
encourage Korean private  
sector's involvement

Government's various  
support through **KORES** by  
providing them with  
technical & financial  
assistance



Establishing a foundation for long-term  
and stable supply  
through overseas mineral resources development

# Korea's Demand and Supply of Mineral Resources ( The rate of dependence on imports )

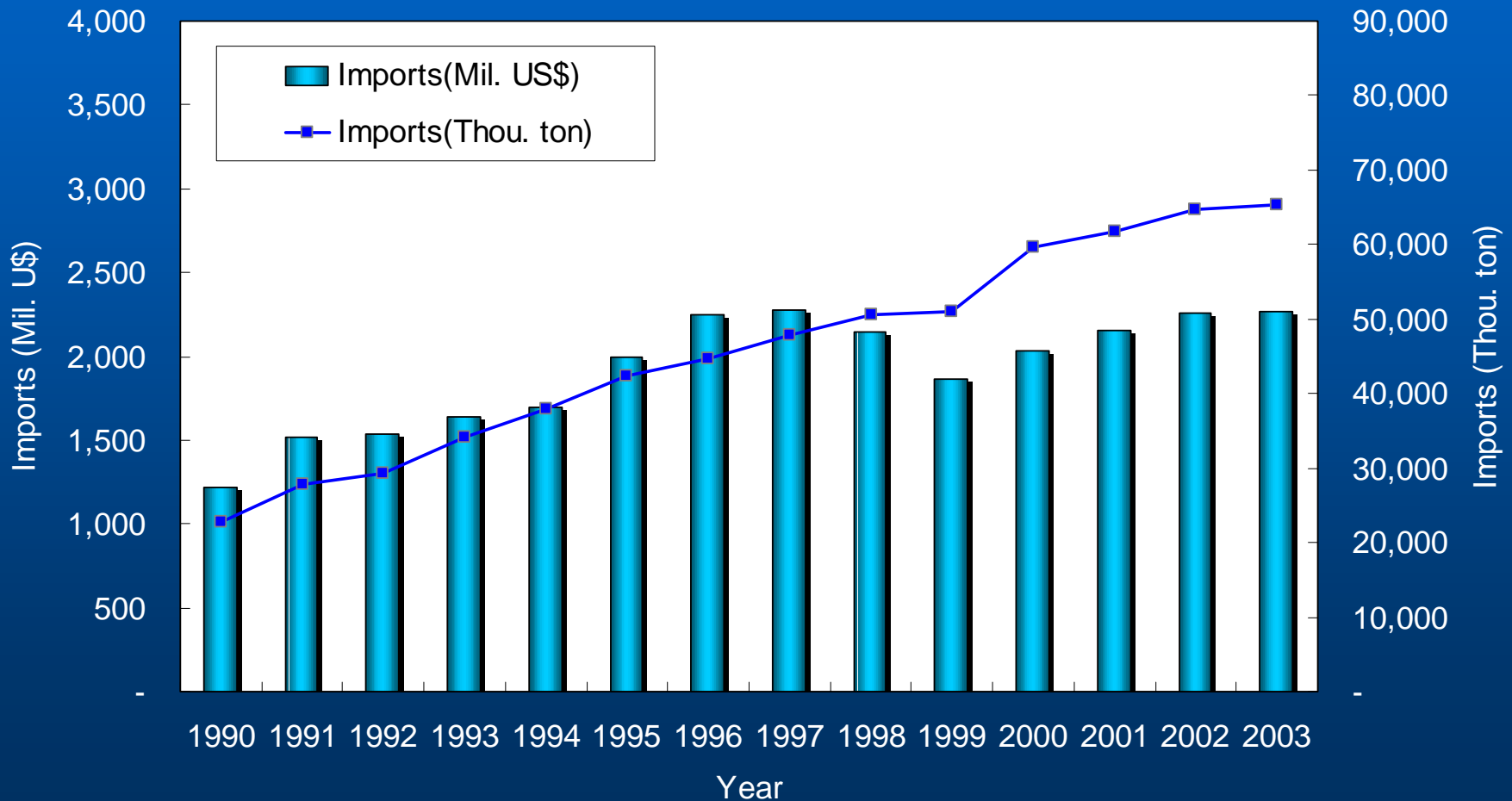


\*Dependence rate (the rate of dependence on imports) = (consumption-self sufficiency)/consumption

\*Except Coal

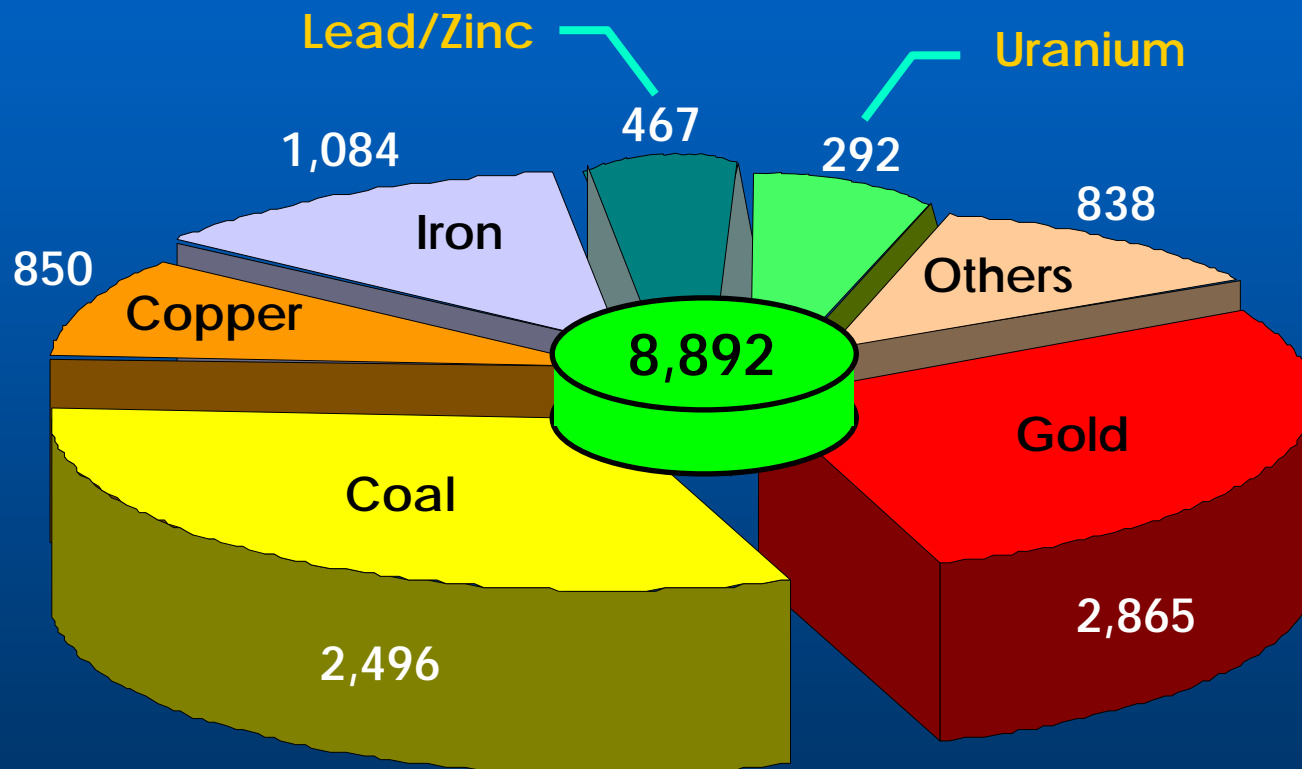
# Korea's Demand and Supply of Mineral Resources

## ( Imports of Bituminous Coal )



# Korea's Imports by Mineral Commodities (incl. ore. conc.) (Mill. US\$)

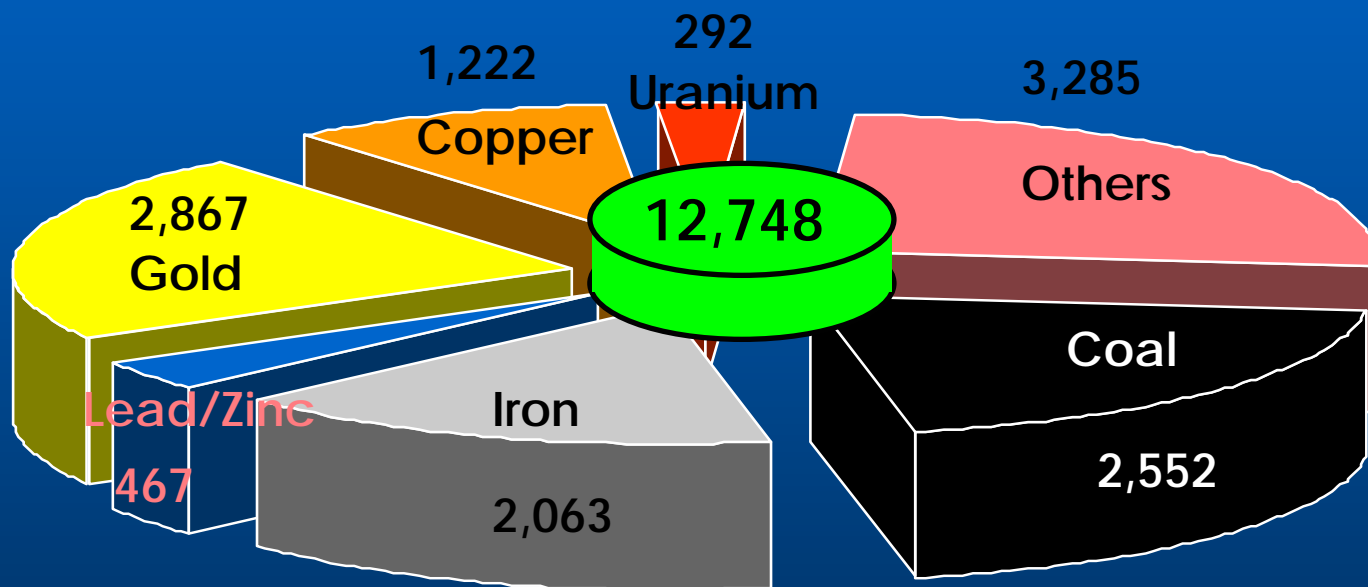
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As of the end of 2003

# Korea's Imports by Mineral Commodities (incl. ore, conc., ingot, billet etc.) (Mill. US\$)

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As of the end of 2003

# Imports of Mineral Commodities by Major Countries (Year 2003)

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Minerals	Quantity	Major Import Countries
Coal (‘000 tons)	71,728.4	Australia, China, Indonesia, Canada
Iron (‘000 tons)	43,068.7	Australia, Brazil, India, Chile, S-Africa
Copper (‘000 tons)	1,324.2	Indonesia, Chile, Peru, Argentina
Lead/Zinc (‘000 tons)	1,483.6	Australia, Peru, USA, Canada, Chile
Uranium (ton U)	3,588.0	Russia, Australia, USA, Kazak, Canada
Rare Earths (ton)	4,980.0	China, Japan, USA, UK

# Coal Imports of Korea by Countries

(Quantity : Thou. Ton, Amount : Mill. US\$)

Countries	2001			2002			2003		
	Quantity	Amount	%	Quantity	Amount	%	Quantity	Amount	%
Australia	24,161	902	41.8	26,074	1,008	44.7	25,333	951	42
China	24,767	790	36.6	25,292	796	35.3	26,530	833	36.8
Indonesia	4,625	131	6.1	5,794	152	6.7	6,465	195	8.6
Canada	5,451	223	10.3	4,543	204	9.1	3,767	170	7.5
Russia	1,887	66	3.1	2,894	92	4.1	3,034	112	4.9
Others	967	45	2.1	52	2	0.1	189	5	0.2
Total	61,856	2,157	100	64,640	2,254	100	65,318	2266	100

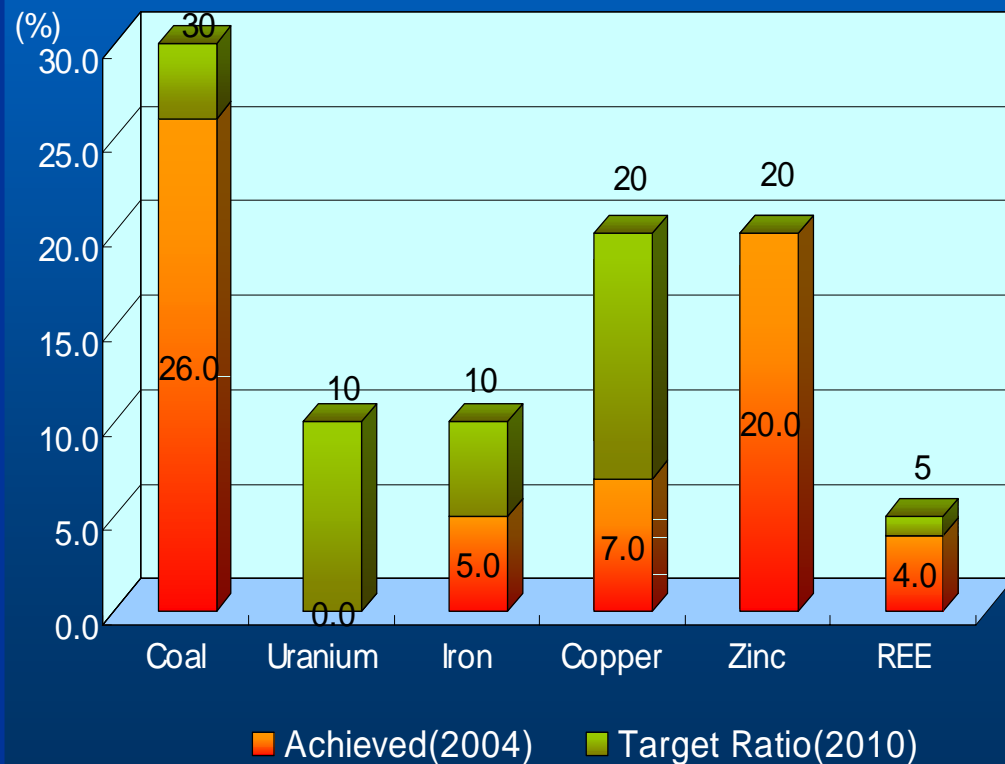
Others : U.S.A, India, S.Africa.....

# Coal Imports of Korea by Countries



# Six Strategic Minerals and Direct Development-import Target Ratio

Minerals	Demand* (Target Ratio)	Achieved 2004
Coal	91.1Mil.T (30%)	26%
Uranium	4,883TU (10%)	-
Iron	43Mil.T (10%)	5%
Copper	1,104Thou.T (20%)	7%
Zinc	1,012Thou.T (20%)	38%
REE	6,503T (5%)	4%



\* Expected demand for 2010

# Current Status of Overseas Mineral Projects

- Since 1977
- Total 162 projects in 39 countries
- 22 projects are ongoing to production, 22 projects are going to develop, and 55 projects are in exploration stage

As of the end of 2003

(Unit : Mill. US\$)

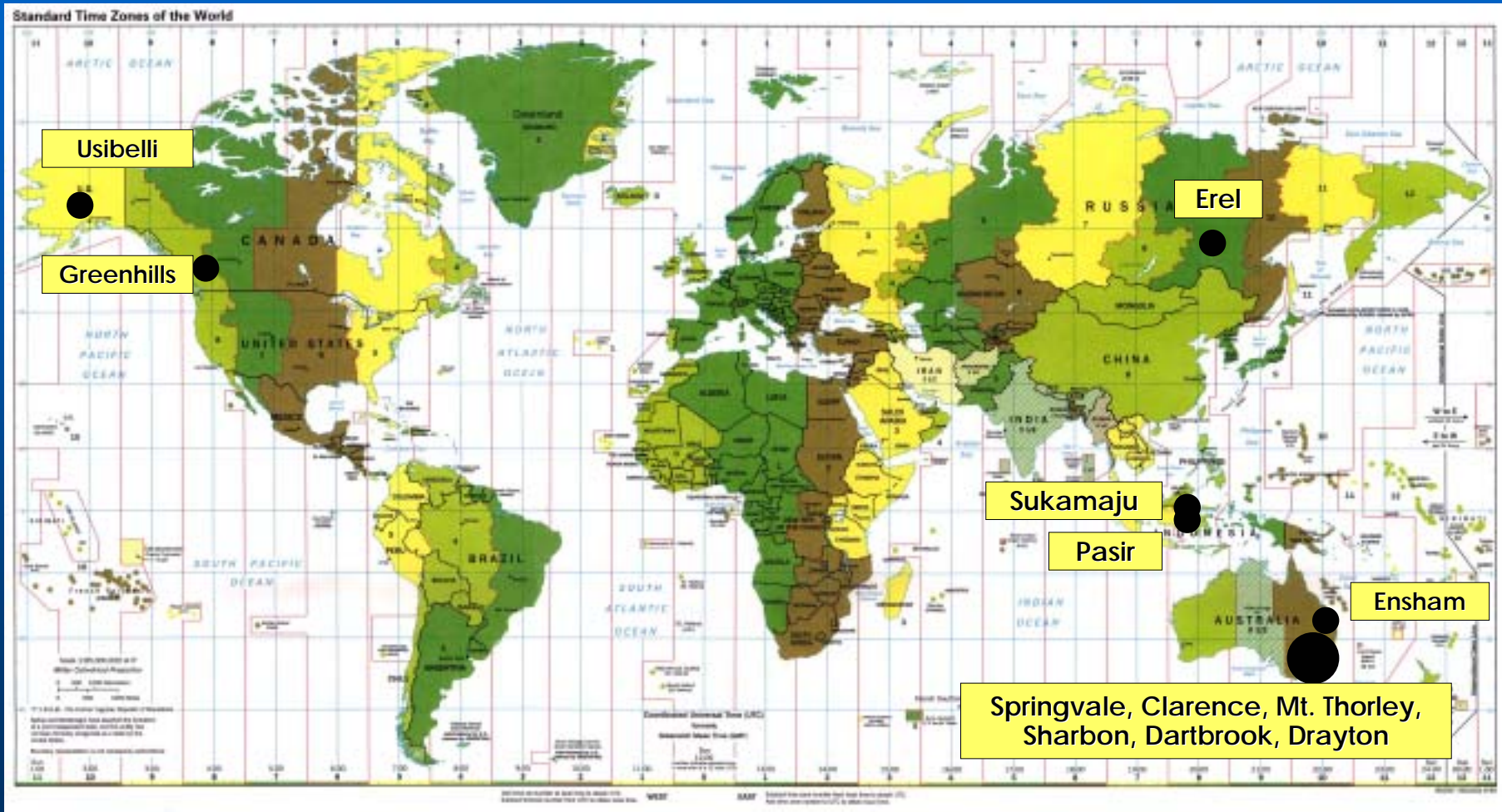
Mineral	Project	Investment	Major Countries
Bituminous Coal	37(19)	824(713)	Australia, Indonesia, Canada, China, Russia
Copper	18( 9)	235(193)	Kazakhstan, Zambia, Peru, etc.
Lead & Zinc	12( 6)	506(498)	Australia, Canada, U.S.A
Others	95(65)	146( 79)	Brazil, etc.
Total	162(99)	1,711(1,483)	

( ) : On-going Projects

# Coal Developing Projects by Korea's Investment

Country	Mine	Company	Start Year	Interest (%)	Total Investment (mill \$)	Production (mill t/yr)
Australia	Dartbrook	Ssangyong	1994	7	64	4.0
	Drayton	Hyundai, Daesung	1979	5	29	4.9
	Mt. Thorley	POSCO	1980	20	51	3.1
	Charbon	SK	1995	5	3	0.7
	Springvale	KORES, SK	1991	50	116	2.3
	Ensham	LG	1984	5	13	6.2
	Clarence	SK	1990	15	16	1.5
Indonesia	Pasir	Samtan	1982	90	337	15.0
Canada	Greenhills	POSCO	1981	20	74	4.0
Russia	Erel	LG	1996	34.2	2	0.5
USA	Usibelli	Hyundai	1993	Loan	2	1.5

# Location Map of Coal Developing Projects by Korea's Investment



# Forecast for Coal Demand of Korea

(Unit : million t)

Use	'03	'04	'05	'06	'07	'08	'09	'10
Thermal	42.2	43.2	47.0	48.9	51.1	57.6	63.2	62.1
Metallurgical	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Cement	5.9	6.1	6.3	6.5	6.6	6.6	6.6	6.6
Other	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4
Total	70.4	71.6	75.7	77.8	80.1	86.6	92.2	91.1

【Source】 1. Thermal Coal : (Korean Electricity Power Corp., 2002.8)  
2. Others : (Korean Energy Economic Institute, 2002.12)

# Economic factor analysis of overseas coal development

(Unit : US\$/MT)

Country Factor	Sakha (Erel)	China (Heilongjiang)	Australia (QLD)	Australia (NSW)	Indonesia (Pasir)
Operating Cost	12.6	13.9	20	20	10
Transport Cost	10.45	12.6	5	5	2
Port Charge	3.04	3	1.5	1.75	2
Shipping Expense	10	8	*18	*20	18
Total	36.09	37.5	44.5	46.75	32

\* Capesize

# Prospects & Recommendation

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- Due to international resources crisis, unstable world mineral market and rise of shipping cost.
  - ➔ Coal imports from Russia will be increased
  - ➔ Continue project finding for new investment in Russia
- Request Russian side for Korean companies' future participation based on mutual benefits
  - information on prospective coal projects in East Siberia

**Thanks for Listening!**