

MIRECO  
Sustainability Report 2011/2012

A colorful illustration of a family—a man, a boy, and a girl—standing in a lush green field. The man is pointing upwards towards the word 'Mireco', which is written in a large, orange, hand-drawn font. The 'M' is shaped like a heart. In the background, there are green trees, a blue sky with white clouds, and a small white dove flying. To the left, there are some simple drawings of buildings.

Mireco



## About this Report

### About This Report

This is the first sustainability report to be released by Korea Mine Reclamation Corporation (MIRECO, the Corporation) to document activities and performance that are related to sustainable management, under the criteria of business, society, ethics and environment. Further, to ensure reliability of this report, a third party has assured all performance and activities and the result is included in the appendix. Both Korean and English editions are available for download on MIRECO's webpage.

### Reporting Standards & Application Level

This report has been documented in accordance with the guideline provided by GRI (Global Reporting Initiative) G3.1, with the level of application reaching A+.

### Assurance of Report

MIRECO's sustainability report has been published in compliance with the standards of assurance provided by ISO 26000, GRI G3.1 and AA100AS (2008) and has been confirmed by the third party assurance, conducted by the Institute for Industrial Policy Studies, that the level of application has reached A+.

### Reporting Period & Scope of Reporting

Reporting period dates from January 2011 to December of the same year and some of performance data of the first half of 2012 is included. Currency unit is based on Korean won (₩) and units such as Ton, TOE, m<sup>2</sup>, m<sup>3</sup>, cm<sup>2</sup>, g, inch, nm, and MWh are used to indicate quantitative data. Performance of the sustainable management in this report includes activities conducted by the Corporation's headquarter and regional offices, and part of overseas business activities as well. The Corporation looks forward to actively communicate with our readers by publishing its sustainability report on a regular basis. For more information on this report, please feel free to contact.

### [ Request for Additional Information & Feedback ]

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Department of Corporate Planning and Management  
Korea Mine Reclamation Corporation

### Application of GRI G3.1 Guideline

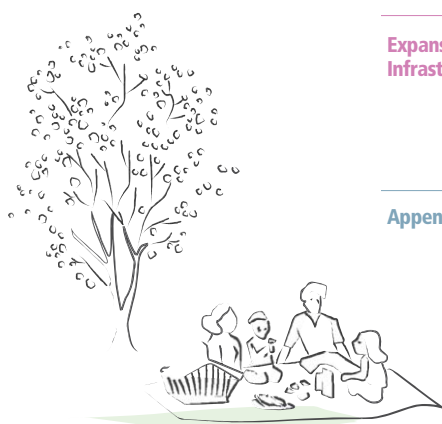
MIRECO Sustainability Report 2012 has been published in accordance with all the criteria of A+ level of GRI G3.1 Guideline. In addition, the level of application has been assured via the process of the third party assurance.





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## CEO Message

“Mine reclamation project for restoring damaged environment is about hope.  
Regional development to lead revitalization of local economy is about future.  
Coal/briquette assistance project for working class is about happiness.”



Dear stakeholders,  
I am very much delighted to present the first sustainability of Korea Mine Reclamation Corporation (MIRECO, the Corporation).

Established in 2006, MIRECO is a quasi-governmental agency to promote reclamation of environment damaged by mining and revival of economy of mining region after closure of mines.

In the past, mineral resources including coal played pivotal role in providing stable source of energy to buttress industrialization and economic growth of Korea. However, most mining areas that have seen closure of mines began to face issues related to downturn of regional economies and environmental damages caused by mining including ground subsidence, mineral wastes and leakage of mine waste water.

These days, the global society is increasingly paying attention to issues concerning “sustainable development.” MIRECO’s projects are based on pursuit of “harmony of development and preservation” and “co-existence of human and nature” and they are increasingly becoming the answers to resolve issues related to sustainable development. The Corporation believes that its projects will fulfill its social responsibility for future generations of the society and form a foundation for sustainable development; “Mine reclamation” aims to restore natural environment and revive eco-systems of regions affected by mining business, “Development of Abandoned Mine Areas” is designed to revive economy of local communities by promoting alternative industries, “Support for the Coal and Briquette Industries” intends to enhance accessibility to energy resources for working class and “Global Expansion of Mine reclamation Business” is formulated through development of mine reclamation technologies.

Based on a set of ethos, MIRECO aspires to become a corporation that is receives respect from stakeholders and trust from public by making commitments to the following;



### First, the Corporation will operate Mine reclamation Project.

As consumers are increasingly paying attention to eco-friendliness and society-friendliness and demand is increasing to comply with heightening environment standards and expectations from stakeholders, MIRECO pledges to ensure quality of performance in its environment restoration projects and create optimal natural environment. Further, for regions that have seen their projects completed, the Comprehensive Mine Damage Projects will be operated to guarantee optimal green living conditions.

### Second, regional development projects to secure foundation for economic autonomy will be executed.

As coal mining industry is on the decline, economy of mining regions is increasingly affected by abandonment of mines. To revive the economy of these regions, MIRECO will formulate a set of regional development models that is customized to circumstance in Korea. In fact, for revival of abandoned mine areas, it is essential to focus on establishing effective grounds for economic autonomy through mid and long term strategies, rather than on short-term, visible outcomes. MIRECO is committed to make its best efforts to establish policies to revive regional economy, customized for different types of abandoned mine areas and further, to contribute to balanced regional development, shared growth and job creation by creating a unique development model for abandoned mine areas that is customized to circumstances in Korea.

### Third, Mireco pledges stable supply of coal energy.

Every piece of briquette is a products of all efforts made by coal miners. For working classes in Korea, such briquettes make the most affordable and useful heating energy sources. To ensure stability in production and consumption of coal and briquettes, the Corporation will restore balance between supply and demand and market functions by maintaining adequate production facilities. Further, the Corporation will take proactive measures to increase accessibility to energy sources for low-income class by providing financial subsidy during winter seasons.

### Fourth, Mireco will develop leading mine reclamation technology.

In order to claim global leadership in mine reclamation, the Corporation will make its ceaseless efforts to enhance on-site applicability of core technologies, strengthen technological cooperation in both Korea and overseas and train human resources who balance between expertise and professional knowledge and thus are able to apply mine technology in a variety of sites around the globe.

### Fifth, MIRECO will expand its mine reclamation business to overseas market.

As the pace of resource depletion is accelerating, emerging economies are increasingly rushing in to develop mineral resources and incurs severe mine damage. Against such backdrop, the Corporation is conducting its efforts to build grounds for expansion of global mine reclamation business by conducting investigations on actual conditions of mine damage and waste water treatment in mines and mine slope stability projects in Mongolia and Vietnam. For continuity of mine reclamation to achieve sustainable development, MIRECO will secure growth momentum by proactive making its presence in global green market and in parallel, reach the goal of shared growth by promoting partnering companies in Korea in overseas expansion.

In order to fulfill these commitments, I would like to seek all of stakeholders' advice, interest and support. MIRECO will pursue to secure transparency in outcomes of commitments it makes and reflect feedbacks from active communications to achieve continuous growth and become an institution that gains trust from stakeholders.

November 2012

CEO of MIRECO

Hyuk In Kwon



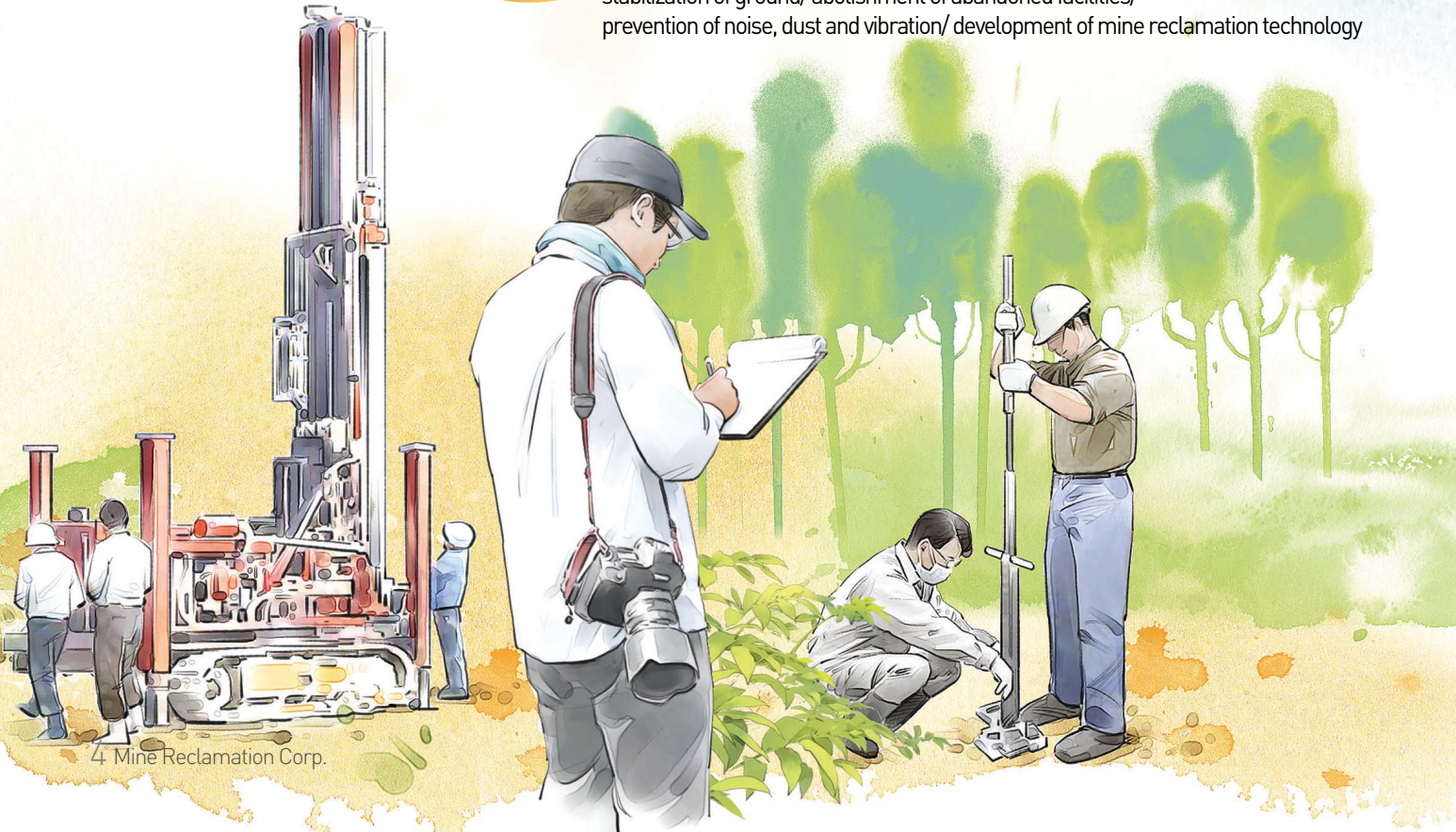
# MIRECO's Core Projects



## ● Mine Reclamation Projects

Prevention of mine damage likely to be caused by operating, idle or abandoned mines and mine reclamation projects.

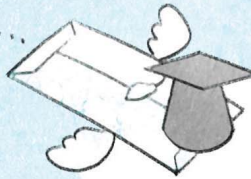
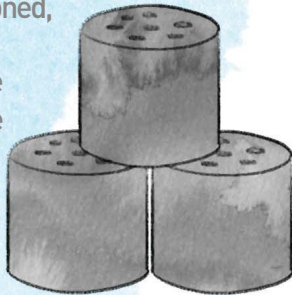
Improvement of water quality/ improvement of & restoration of contaminated soil/  
prevention of loss of mineral residues/ prevention of loss of debris/  
stabilization of ground/ abolishment of abandoned facilities/  
prevention of noise, dust and vibration/ development of mine reclamation technology





## ● Assistance Projects for Coal and Briquette Industries

Financial subsidies to stabilize coal price, financial subsidies to assist mines that are to be abandoned, assistance programs for low-income class to provide briquette, quality assurance tests of coal and briquette



Scholarship programs

Financial subsidies to ensure stabilization of coal price

Financial subsidies to ensure stabilization of briquette price



한국광해관리공단

## ● Regional Development Projects for Abandoned Mines

Regional development projects for abandoned mines via establishment of mutually invested companies, loan assistance programs for alternative industries

## ● Global Partnership Projects

Execution of various forms of global projects including cooperation and partnership to share relevant knowledge in mine reclamation technology, execution of mine reclamation projects and restoration projects from contamination and technological assistance programs





An institution that brings  
happiness to reality

# mireco

MIRECO aspires to make its contribution to eco-friendly growth of Korea by improving environment and promote cycling of resources. For sustainable growth and development, MIRECO makes its utmost efforts to assure happiness for public and continuance of its set of core values by establishing visions and strategies.



08\_ Introduction of Korea Mine Reclamation Corporation (MIRECO)

10\_ Sustainable Business Strategy

13\_ MIRECO's Performance in Sustainable Management

14\_ Corporate Governance

16\_ Materiality TestMateriality Test

18\_ Engagement of Stakeholders







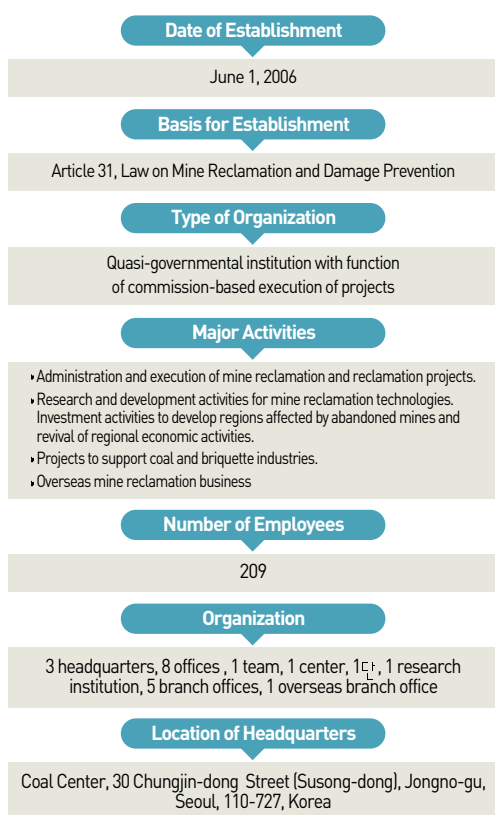
# Introduction of Korea Mine Reclamation Corporation (MIRECO)

## Overview

### The Corporation in Brief

MIRECO has been established to create pleasant living conditions in mining areas and vitalize economic activities in the region by efficiently administering and executing Mine reclamation Project, Development of Abandoned Mine and Support for the Coal and Briquette Industries. The Corporation seeks to become a future-looking public entity that earns trust from the public by prioritizing harmony of human and nature.

#### ● Overview of the Corporation



#### ● Major Business Activities

Mine reclamation Project	<ul style="list-style-type: none"> <li>• Mine reclamation project for operating properties and abandoned/idle mines and restoration of damaged areas.</li> <li>• Improvement of quality of polluted water and restoration of polluted soil.</li> <li>• Establishment, operation and management of mine reclamation facilities.</li> <li>• Investigation, research, technological development, education and partnership in both Korea and overseas for mine reclamation.</li> </ul>
Support for Coal and Briquette Industries	<ul style="list-style-type: none"> <li>• Provision of subsidies to stabilize coal price and financial support for abandoned mines.</li> <li>• Provision of briquettes for low-income class.</li> <li>• Quality tests of coal and briquettes.</li> </ul>
Development of Abandoned Mine Areas	<ul style="list-style-type: none"> <li>• Development projects of abandoned mines by establishing companies through mutual investment.</li> <li>• Loan assistance for alternative industries.</li> </ul>
Overseas Partnership Project	<ul style="list-style-type: none"> <li>• Technical partnership and exchange for mine reclamation.</li> <li>• Overseas expansion of business in mine reclamation, purification of oil pollution, technical assistance related to coal and briquette.</li> </ul>
National Certificate Examination	<ul style="list-style-type: none"> <li>• Licensing through examination and training qualified professionals to reflect demand from fields.</li> <li>• Follow-up training programs for licensees.</li> </ul>

#### ● MOU in Overseas

Country	Institution	Date of Signing	Details
Mongolia	Ministry of Mineral Resources and Energy	Jan. 20, 2009	Coal/briquette business and mine reclamation
	Petroleum Authority of Mongolia	April 7, 2009	Purification of oil polluted areas
	Tuv Aimag	April 9, 2009	Vegetation for mine reclamation
	National Audit Office of Mongolia	May 28, 2010	Establishment of standards for mine reclamation and quality test standards for coal and briquette
Vietnam	DGMV	Oct. 23, 2009	Investigation and analysis of environment in mining regions
	VINACOMIN	Mar. 13, 2010	Mine reclamation projects and development of coal mines
	VINACOMIN	Dec. 20, 2010	Mine reclamation projects and development of coal mines in Vietnam
Thailand	DPIM	Oct. 13, 2011	Agreement for cooperation in mine reclamation technologies and discussion on follow-up measures
	Electricity Generating Authority of Thailand	Nov. 28, 2011	Cooperation for mine recovery of Mae Moh
Kyrgyzstan	Ministry of Natural Resources	Aug. 3, 2009	Cooperation in coal/briquette industries and mine reclamation
	Ministry of Energy	Sept. 6, 2010	Eco-friendly development and utilization of coal/briquettes
United States	BIOGENESIS	Mar. 7, 2011	Establishment of technical partnership for purification of polluted soil and cleaning of tailing environment
Laos	Ministry of Energy and Mines	Dec. 22, 2010	Cooperation for mine reclamation for sustainable mine development

**May 31, 2005**

Enacted law on mine reclamation and prevention

**June 1, 2006**

Establishment of Mine Damage Prevention Organization

**Jan. 1, 2008**

Changed to Affiliated Center of Technology Research Center

**June 29, 2008**

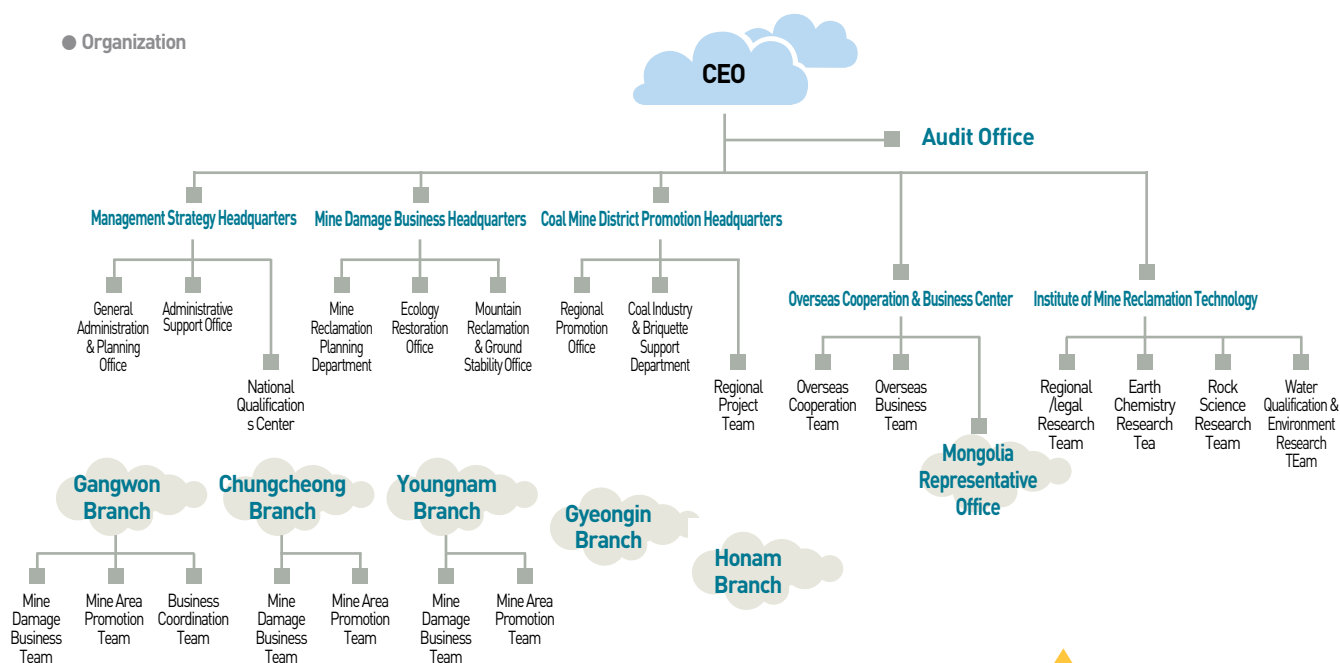
Changed the name to Korea Mine Reclamation Corporation

**Nov. 24, 2008**

Designated as a national testing organization



## ● Organization



## Awards

### Consolidated Financial Statement

Asset KRW **1.11054** trillion

Liability KRW **239.833** billion

Capital KRW **870.707** billion

### Consolidated Income Statement

Income KRW **416.099** billion

Expenditure KRW **340.468** billion

July, 2012  
Awarded in the category of Global Category, Public Sector of Korea Global CEO by Forbes Korea

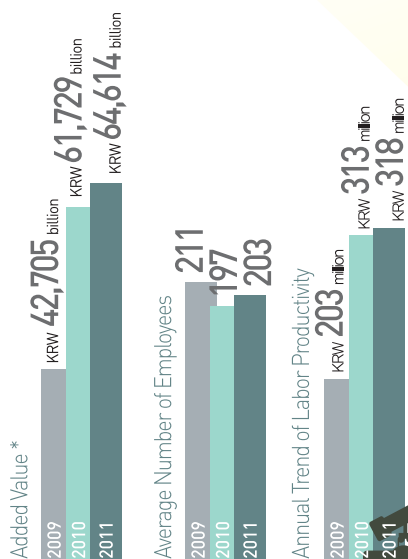
Dec. 2011  
Awarded Special Prize by the 6th Korea Sharing Awards

Oct. 2011  
Awarded for the Best Social Contributor in Local Community Development by Forbes Korea

Sept. 2010  
Received a presidential citation in Green Productivity in National Productivity Award

Aug. 2010  
Received a citation from the chairman of the Board of Audit and Inspection for advancement of public institution

## ● Labor Productivity



\*Added Value = Income before Income Tax + Personnel Expenditure + Net Interest Expenses + Taxes & Dues + Rent + Depreciation Expense

**Nov. 30, 2008**

Designated to be a special institution with specialty in soil

**Aug. 11, 2009**

Inauguration of National Qualifications Center (National Qualifications Center)

**May 27, 2010**

Opening of bureau in Mongolia

**Nov. 10, 2011**

Relocation of Institute of Mine Reclamation Technology (Cheonan)

# Sustainable Business Strategy

MIRECO has reestablished its set of vision and values in 2012. In particular, to grow into the top global institution with specialty in assistance energy resource development, the Corporation has recently made clear that it aspires to become a “global mine reclamation institution with leadership in green growth.”

## Vision and Strategy

To realize a set of visions, MIRECO proposed “business management by identifying with public to create future values via changes and innovations” as the core of its management philosophy. To carry out relevant actions, five strategic tasks have been set to incorporate the Corporation’s policy of sustainable management as part of securing global competitive edge—those include execution of comprehensive mine reclamation projects, execution of regional development projects to secure foundation for economic autonomy, stabilization of supply of coal energy, development of leading mine reclamation technology and global expansion of mine reclamation business. The Corporation is making its company-wide efforts to transform itself into a world-class institution with professional expertise in mine reclamation by establishing linkage with inter-organizational performance tasks.

## CEO's Management Policy

Business management by identifying with public to create future values via changes and innovations is a new set of values to transform MIRECO into a global institution with expertise in mine reclamation. The Corporation, in particular, has been placing its emphasis on “innovation management” to increase productivity of its organization and strengthen its competence and organizational culture that encourage mutual respect and interaction. As such, MIRECO is valuing business management philosophy based on comprehensive approach such as co-existence of nature and harmony of human and of development and preservation, and pursuing business philosophy that all members of organization can share and agree with.

### ● Structure of MIRECO's Strategy

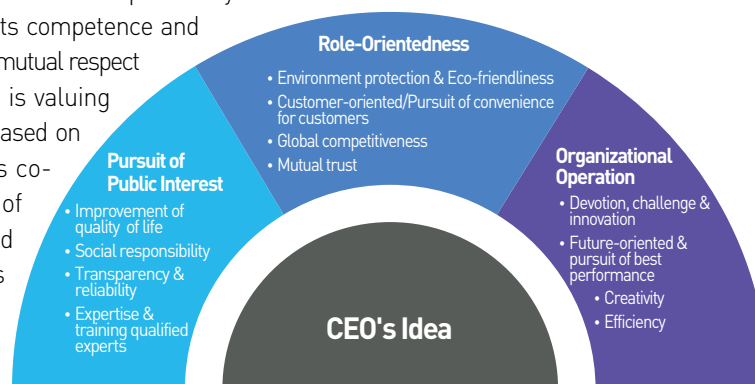
#### Core Value

- Global**  
Provision of world-class service  
(in terms of organizational operation)
- responsibility**  
Social responsibility for public  
(in terms of organizational operation)
- eco-friendly**  
Nature-friendly service  
(in terms of organizational operation)
- enthusiasm**  
Devotion to job performance  
(in terms of organizational operation)
- next generation**  
Future-oriented thoughts

Co-existence  
of Human and  
Nature

**Green  
mireco**

Harmony  
of Development  
and  
Preservation





## MIRECO's Strategic Goal

### Securing Competitive Edge of Korean Mine Reclamation Model

#### Integration of Sustainable Management and Corporation-wide Strategy

Strategic Task	Comprehensive Mine Reclamation Projects	Regional Development Projects to Assist Economic Autonomy	Management for Stability of Coal Energy Supply	Development of Advanced Mine Reclamation Technology	Global Expansion of Mine Reclamation Business	Expansion of Sustainable Infrastructure
Corporation-wide Tasks in Detail	<ul style="list-style-type: none"> <li>Enhancement of efficiency of mine reclamation projects</li> <li>Improvement of performance of environment restoration projects</li> <li>Securing stability of financial resource for mine reclamation projects</li> </ul>	<ul style="list-style-type: none"> <li>Research and development of regional development model customized for Korea</li> <li>Operation of development projects to promote economic autonomy of mines</li> <li>Enhancement efficiency of mutually invested companies</li> </ul>	<ul style="list-style-type: none"> <li>Assistance to ensure stability of coal business</li> <li>Increase of accessibility to energy resources for working class</li> </ul>	<ul style="list-style-type: none"> <li>Enhancement of applicability of four core technologies</li> <li>Strengthening of technological network in both Korea and overseas</li> <li>Qualified professionals in mine reclamation technology</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of business model by market types</li> <li>Strengthening of foundation for growth of global business</li> <li>Globalization of new technologies and comparative advantages</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of customer-centric business activities</li> <li>Establishment of performance-oriented management structure</li> </ul>
Tasks for Sustainable Management	<ul style="list-style-type: none"> <li>Expansion of nature-friendly mine reclamation</li> <li>Expansion of eco-friendly management</li> </ul>	<ul style="list-style-type: none"> <li>Increase of engagement of local communities</li> </ul>		<ul style="list-style-type: none"> <li>Cooperation for shared growth</li> </ul>	<ul style="list-style-type: none"> <li>Formulation of policies for mine reclamation for sustainable development</li> </ul>	<ul style="list-style-type: none"> <li>Internalization of ethics management</li> <li>Establishment of sound organizational culture</li> <li>Sustainable Labor-management relationship</li> </ul>

#### Mission

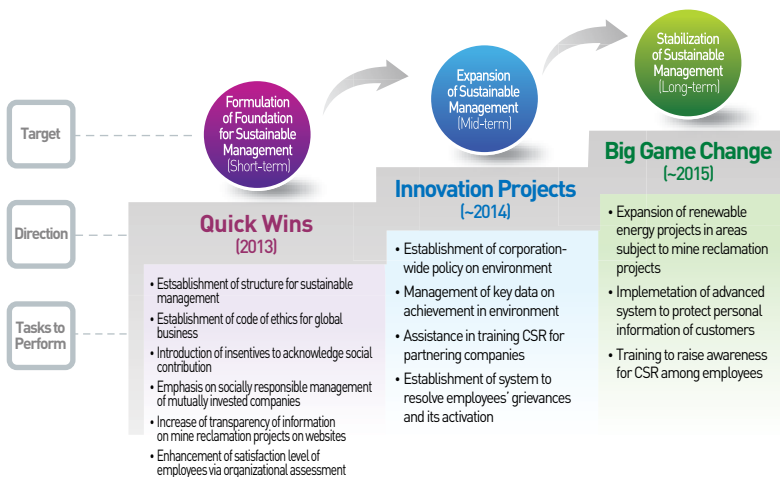
Contribution to happiness of public and leadership in sustainable growth of Korea with eco-friendly mine damage management and shared

#### Vision

Contribution to happiness of public and leadership in sustainable growth of Korea with eco-friendly mine damage management and shared

## Roadmap for Sustainable Management

MIRECO has established its roadmap for sustainable management and a set of relevant tasks to become "global mine reclamation organization with leadership in green growth." To earn respect and trust from all stakeholders, the Corporation is committed to report progress and performance of all related tasks.



Business Centered on Value

Business Philosophy

Business management by identifying with public to create future values via changes and innovations

Business Focused on Innovation

Business Pursuing Creation

Business Emphasizing Communication



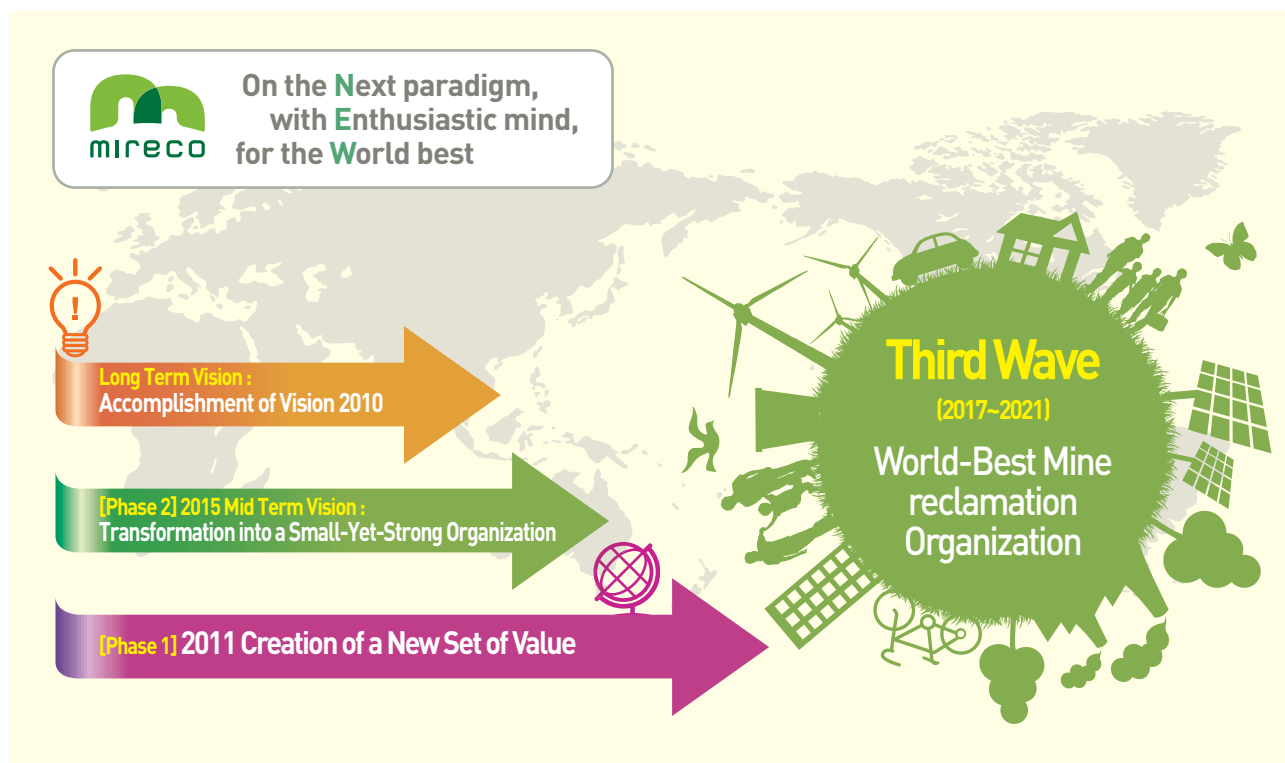
## Integration of Corporation-wide Strategy and Sustainable Management

As MIRECO's mine reclamation projects and development projects of abandoned mine areas are closely linked with sustainable development for future generations, the Corporation is fully aware that sustainable management should be integrated with corporation-wide strategy as part of setting a direction that it should be heading. To such extent, by infusing strategic tasks of sustainable management into corporation-wide strategy, the Corporation is making efforts to take more responsibility in environment-related projects for future generations, as well as to contribute to sustainable growth and social development with every activities conducted by employees and major decision making made at the managerial level. MIRECO makes its ceaseless efforts in order for sustainable management to secure grounds for making tangible outcomes and setting long-term direction.



## Mid & Long-term Roadmap

To accomplish the long term vision of "Global No.1 Organization in Assisting Green Energy Resource Development," MIRECO has globalized itself with its strategy of securing world-best mine reclamation technological capacity and strengthening of capacity in executing and operating global businesses. In addition, for efficiency in business activities, the Corporation has established mid and long term human resource allocation plan to secure a pool of human resource. At the same time, it is making its constant efforts to reinforce capability in execution at the organizational level.



# Performance Indicators on Sustainability Management of MIRECO

## Comprehensive Mine Damage Prevention Projects

Major Indicators	2009	2010	2011	Office in Charge
Quality of inlet water in comparison with outlet water(water pollution level: PI)	0.542	0.5081	0.483	Ecology Restoration Office
Soil Contamination (Score Points)	-	0.239	0.100	
Rate of Trees Rooted (%)	83	86	89.6	
Reforestation Rate (%)	7.0	8.7	9.2	
Mining Damage Prevention Funds (KRW billion/collection rate)	93.8 / 39	127.4 / 42	143.8 / 89	Mountain Reclamation & Ground Stability Office
Electricity Consumption (Mwh)	1,636	1,625	1,611	Administrative Support Office
Greenhouse Gas Emission (tCO2eq)	4,070	5,065	3,984	

## Regional Development Projects to Assist Economic Autonomy

Major Indicators	2009	2010	2011	Office in Charge
Loan Assistance in Alternative Industries (KRW billion/ Number of Businesses)	-	148 / 28	224 / 28	Coal Mine District Promotion Headquarters
Number of Jobs Created by Loans	-	843	255	
Social Contribution Activities (Number of Participants, Number of Activities Conducted, KRW billion)	-	470 / 98 / 3.05	609 / 103 / 45.2	General Administration & Planning Office

## Management for Stability of Coal Energy Supply

Major Indicators	2009	2010	2011	Office in Charge
Provision of Briquette Voucher (KRW billion/ Number of Households)	54 / 35,635	142 / 88,752	151 / 89,172	Demand/Supply of Anthracite (million tons)
Demand/Supply of Anthracite (million tons)	330 / 314	270 / 254	236 / 236	

## Development of Advanced Mine Reclamation Technology

Major Indicators	2009	2010	2011	Office in Charge
Budget Allocated for Collaboration in R&D (KRW billion)	-	3,296	3,309	General Administration & Planning Office
Amount of Expenditure for Purchase of Products from Small/Medium-sized Businesses (KRW billion)	-	815	763	Institute of Mine Reclamation Technology, Mine Reclamation Planning Department
Number of Participants in Professional Expertise Training Course(people)	143	88	85	Institute of Mine Reclamation Technology
Level of Technological Competence in Comparison with Advanced Countries (score points)	-	77.5	79.9	Overseas Cooperation & Business Center, Institute of Mine Reclamation Technology

## Global Expansion of Mine Reclamation Business

Major Indicators	2009	2010	2011	Office in Charge
Percentage of Increase of Budget for Expansion of Global Business out of Total Budget for Mine Reclamation Projects	0.17%	0.17%	3.3%	Overseas & New Project Office

## Expansion of Sustainable Infrastructure

Major Indicators	2009	2010	2011	Office in Charge
Number of Employees(Male/Female, Regular/Non-Regular)	158/43, 183/18	157/45, 175/27	162.5/ 46.5, 193/10	Administrative Support Office
Turnover Rate(%)	4.23	2.92	4.23	
Number of Hours Designated per Employee	36.65	35.46	16.62	
Satisfaction Level of Employees Benefit Package(%)	-	91	94	
Number of Employees Affected by Accidents/ Accident Rate(%)	0 / 0	4 / 2.0	0 / 0	General Administration & Planning Office
Level of Customer Satisfaction (Score Points)	95.5	98.4	98.2	
MEDEX (Score Points)	72.2	72.2	76.9	Administrative Support Office

# Corporate Governance

Board of Director (BoD) is the highest-ranking decision-making group consisting of four executive directors and five non-executive directors. The CEO is appointed by the Minister of Knowledge and Economy from a pool of candidates recommended by the Executive Recommendation Committee consisted of non-executive members and professional members from outside of the organization. The CEO is currently holding an additional position of the head of BoD according to the Article 6 of Regulations on Operation of Board of Directors Article 6 of Regulations on Operation of Board of Directors.

## Members of BoD and Operation

### Members of Bod

Executive members and non-executive members are appointed by the CEO of MIRECO and the Minister of Knowledge and Economy respectively. The positions of non-executive members are taken by the chief of the Ministry of Knowledge and Economy who is in charge of supervising tasks related to mine damage prevention. In the process of appointing board members, the Corporation mandates to have more than two members with expertise in environment-related fields to fulfill its commitments as a mine damage prevention organization.

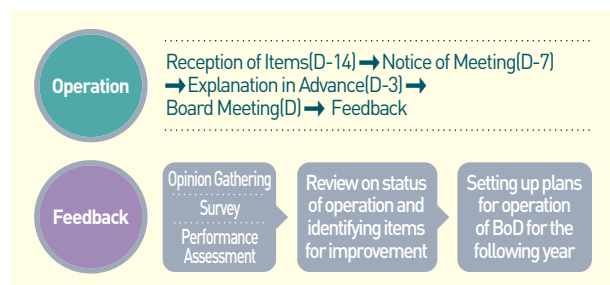
#### ● Members of BoD

	Name	Gender	Position
Executive Members	Hyuk-In Kwon	Male	CEO
	Hwang Myung-Ho	Male	Head of Management Strategy Headquarters
	Hyung-Ho Kwon	Male	Head of Mine Business Headquarters
	Dong-Rae Cha	Male	Head of Coal Mine District Promotion Headquarters
Non-executiv	Byung-Chan Park	Male	Chief of Coal Industry Division of the Ministry of Knowledge and Economy
	Young-Sang Park	Male	Professor Laureate of College of Media & Information, Hanyang University
	Dal-Ho Son	Male	Chairperson of Korea Coal Association
	Jae-In Lim	Male	Chairperson of Korea Refrigeration & Air Conditioning Assessment Center
	Jong-Chan Park	Male	Deputy Head Official of Federation of Korean Metalworkers' Trade Unions
Non-executive Auditor	In-Bae Kim	Male	Deputy Spokesperson of Grand National Party

### Operation and Invigoration of BoD

The Corporation is making its utmost efforts to ensure meticulous and efficient operation of BoD. In 2011, the Corporation started to post schedules in advance to increase

#### ● Operational Structure of BoD



attendance rate of board meetings by up to 11.2%. BoD organized nine board meetings and reviewed thirty-seven agendas including twenty-nine voting agendas and eight reporting agendas.

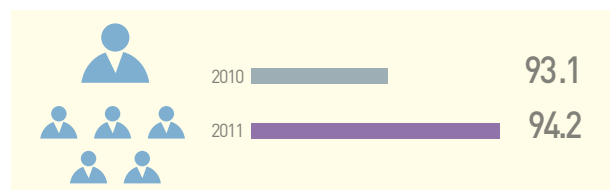
### Operation of Subcommittee

The Corporation operates Committee for Review on Agenda comprised of non-executive members within the BoD to strengthen the function of evaluation of agenda and ensure efficiency of decision making.

#### ● Performance of Subcommittee in 2011

Subcommittee	Performance and Achievement in 2011
Committee for Review of Agendas	Meticulousness in the process of preview of agenda concerning purchase of a new office building
	Incorporating function of essential business in individual organizations
	Comprehensive review of business budget and opinions on relevant regulations

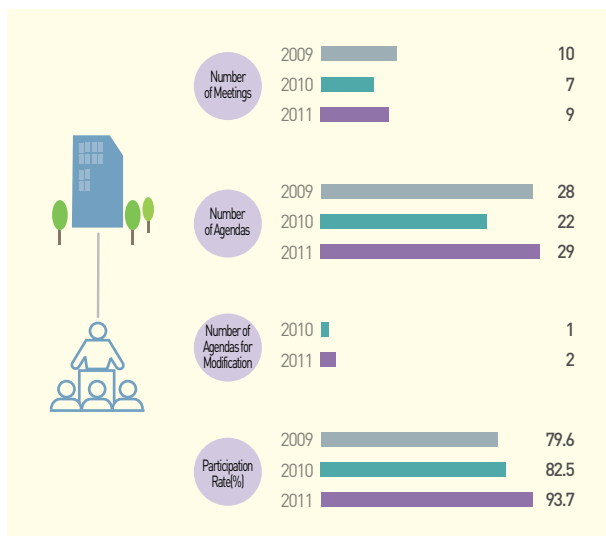
#### ● Satisfaction Level of Operation of BoD



\* Satisfaction survey is conducted for non-executive members once a year. The result of the survey is reflected in the process of establishing operational plans of BoD for the following year to seek improvement and boost in activities of BoD.



### ● Activities of BoD



### ● Policy Direction for Non-Executive Members

Organization Securing Expertise	A pool of experts to be in line with business environment
Reinforcement of Expertise	Formulation of support system to strengthen expertise
Utilization of Expertise	Business achievement through involvement in business activities

### ● Reinforcement of Infrastructure to Assist Involvement in Business Activities

System	Programs	Working Environment
System for provision of information on business issues	Utilization of personnel in charge of evaluation of Proposals	Office room for non-executive auditor
Assistance for legal advice	On-site board meeting and On-site program for experiencing business projects	Formulation of plans for providing financial subsidies for business activities

### ● Cases of Achievement after Suggestions Made by Non-executive Members

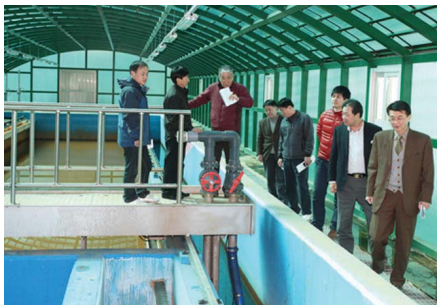
Suggestions	Follow-up Measures	Achievement
Need for improvement and research on Contribution Program for Mine Areas	Inauguration of a task force to make improvement on system	MIRECO to take responsibility for charging and collecting finance for Contribution Program for Mine Areas
Establishment of independent support group of coal and briquette business to ensure expertise	Organizational restructuring in the end of 2011	Inauguration of Coal Industry & Briquette Support Department and division of assignments by business parts
Assistance in establishing joint venture of investment projects in development of coal energy	Analysis and review of business potentials as part of new tasks for Overseas Business Center	Disclosure of agendas on development and supply of eco-friendly coal energy resource by Korea-Mongolian Resource Cooperation Committee
Expansion of loan assistance for alternative industries	Budget allocated for 2012	Securing of financial resource by the Corporation, other than governmental budget
Promotional activities to raise positive awareness for coal mining industries	Budget allocated for 2012	Formulation of plans for promotion to utilize opportunities in International Symposium on Mine Damage Prevention and raise positive awareness.

## Performance of BoD and Compensation

Compensation for executive members will be made in accordance with result of evaluation made by the Act of Management of Public Institutions and internal regulations of the Corporations. No separate compensation will be made on activities of BoD. Non-executive members receive no compensations but have a certain amount of activity cost paid since Jan. 1, 2012.



The 46<sup>th</sup> On-Site Board Meeting



On-Site Program for Experiencing Business Projects

## Mechanism of Collecting Opinions from Stakeholders in BoD

The resolution on agendas are made by approval of majority of members present at the meetings. To ensure fairness in decision-making, any members in relation with agenda, be it the president or board members, are not allowed to participate in the decision-making. These non-participating members in such cases are not counted in the number of members participating, which is necessary for voting.

# Evaluation on Materiality

According to the guidance made by ISO 26000 on “determining the relevance and significance of the core subjects to the organization,” MIRECO makes a set of evaluation on materiality to identify issues related to sustainability and listed core issues on the subject. As part of the evaluation, the Corporation interviewed employees including those at the managerial level and experts, made media analysis and benchmarked related businesses. This report is based on key issues derived from evaluation on materiality to make categories of report and all the results are to be disclosed.

## Identifying Social Responsibility

To identify core issues related to sustainable management, which are quintessential for business activities of the Corporation, analysis is made on both internal and external environments.



### Analysis on Related Businesses

Issues relating to MIRECO are identified by analyzing sustainability reports published by five businesses that are along the line of mine reclamation and mine reclamation industries in Korea and overseas on issues related to seven core subjects of ISO 26000.



### Media Analysis

To identify public perception on MIRECO and major issues related to sustainability management, 1,387 relevant articles from the total of 3,247 articles released from 2009 to 2011 (407 in 2009/ 426 in 2010/ 554 in 2011) to analyze and identify related issues.



### Assessment on Application Level of ISO 26000

Based on ISO 26000 assessment tools developed by the Ministry of Knowledge and Economy, MIRECO has assessed application level of social responsibility and identified issues that need further improvement.



### Analysis on Trend & Impact

Issues are identified by surveying chiefs and employees of MIRECO under the categories of trend/impact/qualifications of organization.



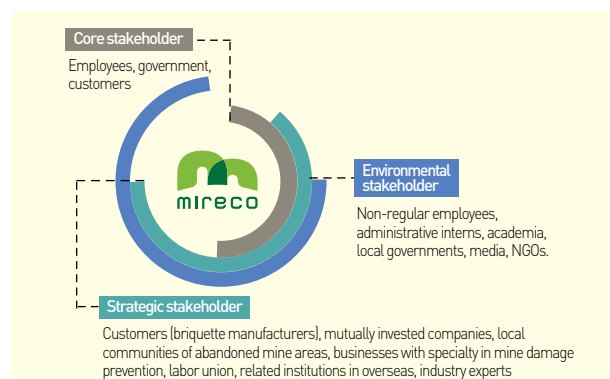
### Identification of Stakeholders and Engagement

To identify stakeholders within MIRECO, categorization has been made by legal obligations, influence, dependency and accessibility and relevant issues have been identified by interviews and surveys.

## Involvement of Stakeholders

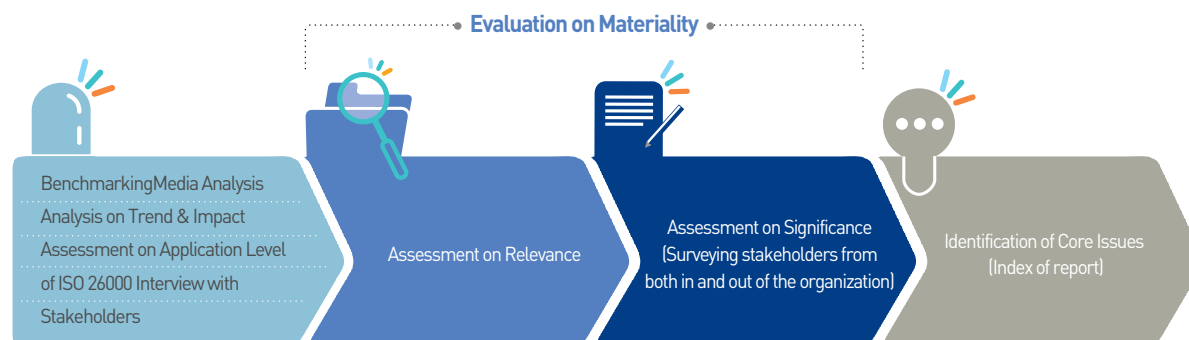
To categorize detailed issues related to the Corporation's sustainable management practices, eight core stakeholder groups are selected, and stakeholders representing each group have underwent in-depth interviews. In addition, one hundred fifty eight stakeholders from all groups of stakeholders are surveyed to take reference in assessing significance.

### ● Stakeholders of MIRECO



## Evaluation on Materiality

### ● Process of Identifying Core Issues

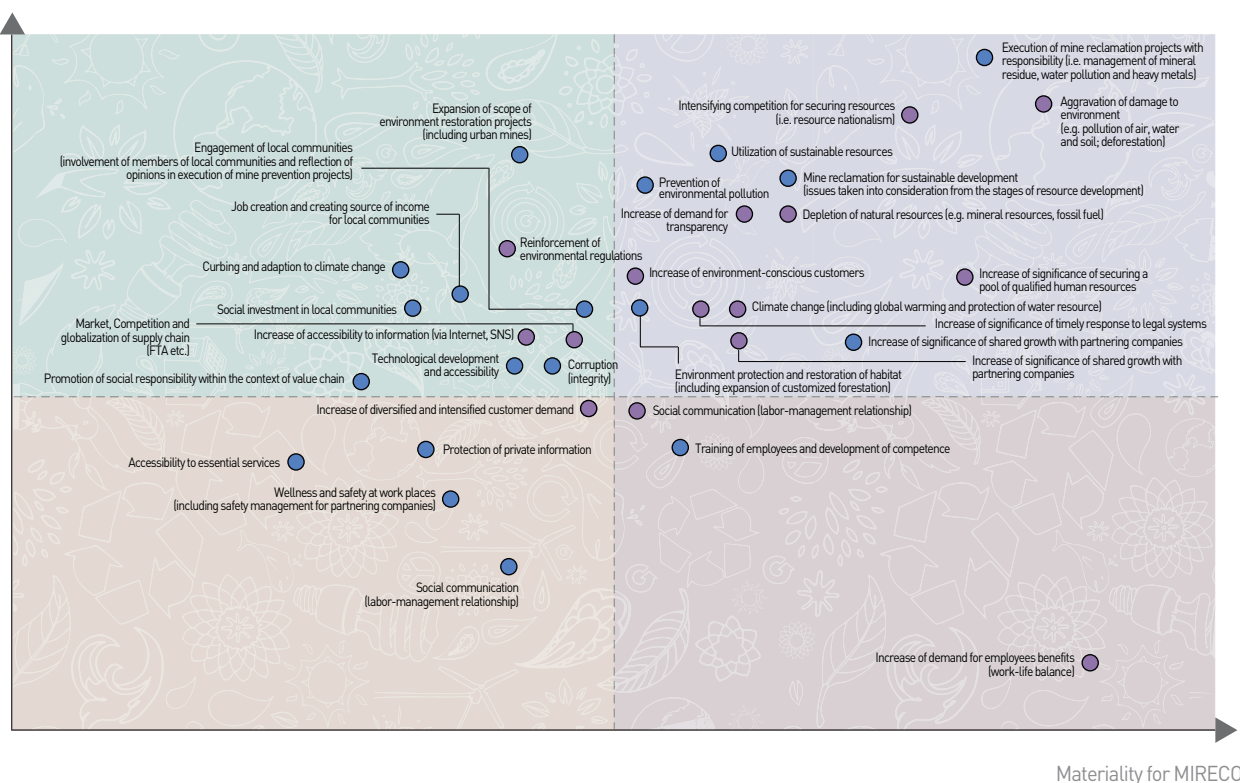


Evaluation on significance has been made by assessing the first eighty-one sustainability-related issues in terms of relevance and materiality. As a result, fifteen issues under the category of “Trend” and nineteen issues under the category of “Impact” have scored above 3.8 out of 5 and been finalized as the reporting issues.

### ● Result of Evaluation on Materiality and Reporting Issues

Materiality for Stakeholder

● Impact ● Trend



## Engagement of Stakeholders

MIRECO aspires to become an organization that receives trust and respect by opening to active communications with stakeholders, as seeking ways for mutual cooperation and development are essential for continuous growth of the Corporation. To ensure engagement of stakeholders from both in and outside of the organization, stakeholders have been categorized by evaluating influence on the Corporation, responsibility and typicality and interviews have been conducted. A variety of sustainability-related issues have been identified from stakeholders and they have been reflected in the process of strategy formulation. MIRECO is committed to make multilateral efforts to have opinions of stakeholders widely influence across its business activities.

### Government \_ Jin-Chul Kwak / Ministry of Knowledge Economy / Coal Industry Division / Deputy Director



**“Looking forward to increase of value for mine areas through mine damage restoration for sustainable development.”**

When the entire society was development-oriented in the past, issues related to mine damage did not receive enough attentions. However, with the launch of MIRECO, an organization with expertise in mine damage prevention, benign circle of mine development and reclamation is being established now. Because properties that causes mine damage such as mineral residues and mine water tend to give sever impacts on environment and last for long, mismanagement of will give lasting impacts in various forms. Thus meticulousness in management of mine damage restoration projects are all the more essential. In addition, by contributing to revival of economy of underdeveloped mining areas, MIRECO should secure its new growth momentum that would enhance value of mining areas and engage local communities.

### Owner of Business with Specialty in Mine Damage Prevention \_ Joong-Yul Kim / SOAM Consultant CO., LTD / CEO



**“Looking forward to pave way for growth of partnering companies with global mine damage business.”**

Mine damage prevention business can be utilized in many fields including environment, and can prevent various forms of accidents by using various forms of mine damage prevention technologies such as detection of water leakage from dams and measurement of earthquake magnitude. I am looking forward to see MIRECO actively promote these competent technologies and become part of the global trend to secure global competitive edge in mine damage prevention. Aggressive expansion of global mine prevention business would pave the way for partnering companies to make presence in the global market.

### Customer (briquette manufacturer) \_ Doo-Yong Kim / Samchully E&E CO., LTD / Managing Director



**“Coal industry should be continued to provide energy resources for low income class.”**

Coal is, in fact, the only natural resource that Korea has, but fossil fuels are increasingly falling out of the favor of the public these days. I would like MIRECO to advocate continuance of coal industry, an industry that provides the most affordable energy resources for low income and working classes. In addition, I am looking forward to find environment restoration projects to be better-orchestrated and more comprehensive with long-term views. In the process of reclamation, I wish the relevant projects could pass on valuable forests by diversifying species of trees that meet a variety of needs categorized by climate, soil and geographical features, instead of uniformly forming coniferous forests.



### Local Communities \_ Dae-Geun Kim / Suwon, Changhyeon High school / Teacher



**“MIRECO should actively promote the importance of environment restoration to future generations.”**

It is essential to perceive educational and educational activities for local communities, particularly environment education for future generations as part of MIRECO's social responsibilities. Thus MIRECO should partner with educational institutions to educate future generations about significance of environmental restoration and provide opportunities in experiencing mine areas through activities such as mine tours and volunteer activities. I hope that MIRECO can make its way to make positive influence on environment education by partnering with educational institutions to develop programs with focus on subjects such as sustainable development and environment preservation.

### Mutually Invested Companies \_ Sang-Gil Lim / Kangwon Land Foundation / Director



**“MIRECO should contribute to restoration of local communities with responsible efforts in mine reclamation.”**

Mine areas played roles in providing coal energy resources to Korea nationwide, but they are now entirely affected by the aftermath of environmental pollution. The Corporation is currently carrying out a series of purification projects financed by government budget, but mine areas still face challenges such as leakages of polluted water or withering of trees planted for environment restoration. I would like to see the Corporation be part of the local communities to fulfill their tasks and missions with responsibilities as if it is taking care of its own properties. In addition, I would like to ask the Corporation to show continuous interest and give support for development projects for local communities so that they can lead to job creation and restoration.

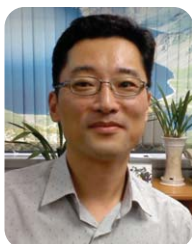
### Experts from Overseas \_ Mustapha Mohd Lip / Vice Chief of Minerals and Geoscience Department Malaysia



**“Strengthening network with institutions in overseas by taking full advantage of MIRECO's expertise.”**

Mining industry needs to pay more efforts to sustainable mine development. The industry needs to seek to find more greenness in mine industry by economically extracting active components and minerals and conduct more research activities in generation of non-active wastes. MIRECO, in fact, is taking its leading position in mine restoration and wastewater management. Well-trained professionals will more easily resolve issues related to polluted soil and management of industrial wastewater. I am looking forward to more business opportunities in the future by building close network with overseas institutions and conducting co-research activities, based on MIRECO's unique expertise.

### Labor Union \_ Yong-Joon Yoon / MIRECO Labor Union / Chairman



**“The management should take its responsibility and make efforts to resolve issues related to labor-management relationship.”**

To make sustainable management possible in public sector, autonomy for an individual institution in management and bargaining rights in labor-management negotiations should be secured. Uniformly applied performance assessment and budget policy for public institutions with strict focus on profitability are infringing rights for autonomous collective bargaining and basic labor rights and thus aggravate labor-management conflicts. Furthermore, as sustainable management not only highlights internal and external growth of an organization but also a set of values other than business performance such as communication and transparency, the management of the Corporation will need to take its responsibility and make efforts to resolve issues related to labor-management relationship.

# Execution of Comprehensive Mine Reclamation Projects

# mireco



## Management Principles

The Corporation has been established to serve the purpose of leading sustainable growth of Korean economy by forging eco-friendly mine reclamation and promoting shared growth with local communities. To such extent, the Corporation has categorized its business activities into three, Coal Economic Policy Support, Mine Reclamation and Coal Mine District Promotion, and is making ceaseless efforts to secure eco-friendly competitive edge by executing projects related to soil remediation, improvement of water quality and prevention of ground subsidence to accomplish recovery of eco-system and sustainable growth.

## Progress

- Achievement in research activities for development of global mine reclamation technology and increase of achievement in development of applicable technology
- Systemization of execution process of water quality improvement projects and establishment of standards for quality of discharged water
- Establishment of database for soil remediation and accumulation of relevant technology
- Standardization of projects with focus on stabilization of structure foundation and improvement of technological competence for deployment of new technology
- Formulation of ideas for efficient planning of reforestation and project execution

## Issues

- Execution of mine reclamation with responsibility
- Increase of customers paying attention to environment damage and various environmental and social issues
- Expansion of scope of environment restoration projects
- Prevention of environment pollution and reinforcement of environment regulations
- Sustainable use of resources

## Performances

Major Indicators	2009	2010	2011	Office in Charge
Quality of inlet water in comparison with outlet water [water pollution level : PI]	0.542	0.5081	0.483	Ecology Restoration Office
Soil Contamination (Score Points)	-	0.239	0.100	
Rate of Trees Rooted (%)	83	86	89.6	
Reforestation Rate (%)	7.0	8.7	9.2	
Mining Damage Prevention Funds (KRW billion/collection rate)	93.8 / 39	127.4 / 42	143.8 / 89	Mountain Reclamation & Ground Stability Office
Electricity Consumption (Mwh)	1,636	1,625	1,611	Administrative Support Office
Greenhouse Gas Emission (tCO2eq)	4,070	5,065	3,984	



22\_ Enhancement of Performance of Environment Restoration Projects

28\_ Improvement of Efficiency of Mine Reclamation Projects

29\_ Securing Financial Stability for Mine Reclamation Projects

30\_ Expansion of Eco-Friendly Management Activities



# Enhancement of Performance of Environment Restoration Projects

## Prevention of Pollution Caused by Water Leakage from Mines

### Water Leakage from Mines

In abandoned mine areas, underground water inundates mines and goaf\* to cause leakage of mine water\* and leachate with heavy metals dissolved and incurs soil and water pollution of local areas. As such, the Corporation is actively running water quality improvement projects to minimize effects of pollutions.

\*Goaf : part of a mine from which the mineral has been partially or wholly removed

\*Mine water : water from underground of mine generated in the process of mining

#### ● Amount of Mine Water Generated and Processed

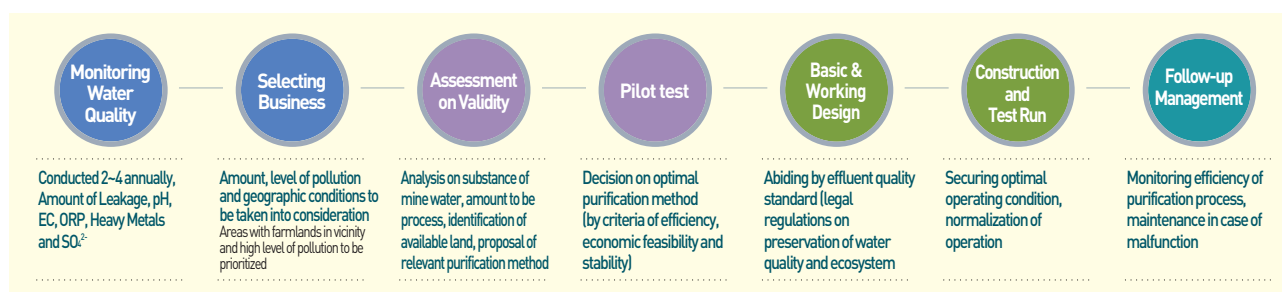
(Unit : m<sup>3</sup>/d)

Items	Gyeonggi Province & Incheon Area	Gangwon Province	Chungcheong Province	Jeolla Province	Gyeongsang Province	Total
Amount of Leakage	Mine Water	17	103	52	41	99
	Amount Generated	312	82,130	1,824	3,190	16,712
Amount of Polluted Water	Mine Water	1	80	11	22	33
	Amount Generated	197	60,507	692	2,295	9,869
						73,560

### Systematic Project Execution

In case of mines located in mountainous areas, amount and frequency of precipitation influence greatly on amount and quality of water discharged from mines, and thus long-term investigation on water quality becomes essential. The Corporation monitors amount and quality of water discharged from mines and makes analysis on a

#### ● Execution Process of Mine Water Purification Project



regular basis and based on results, water quality improvement projects are consecutively executed, with severely affected areas on priority. As of 2011, total of forty-four water purification facilities are operated.

Items	Gangwon Province	Chungcheong Province	Gyeongsang Province	Jeolla Province	Total
Number of Facilities	29	1	9	5	44
Amount of Water Purified	31,810	410	4,160	1,069	37,449

※ Note : the amount of water purified indicates the average of 2011.

### Active Communication Among Stakeholders

In the process of project execution, the Corporation sufficiently collects opinions from local residents and local governments by taking opportunities to introduce projects via briefing sessions for local residents and visiting individual households. Further, the Corporation is making its best efforts for water purification facilities to be used as pleasant facilities for local residents, as well as to serve its core function of purifying pollutants. In addition, the Corporation is pursuing smooth project execution by establishing sound cooperative system with local governments.



Briefing session for local residents



On-site briefing session



Meeting with local government officials

### Improvement of Water Processing Technology

For improvement of water processing technology, the Corporation has constantly been conducting research activities to find solutions for reinforcing efficiency of purification facilities. In 2011, a new set of process was applied across all existing facilities to complement flaws and demonstrated its efforts in enhancement of expertise and technological competence. All these series of efforts made by the Corporation are anticipated to be helpful in cleaning river and make healthy environment.



## Achievement in Reducing Level of Water Pollution

MIRECO has designated responsible personnel for individual water purification facility to ensure integrity in management and standard of discharge for all facilities are managed in accordance with effluent quality standard of so called "clean areas." Also, facilities are constantly monitored that any facilities in deterioration or with low efficiency are subject to maintenance to ensure steadiness in functioning. Particularly, since 2011, all facilities have been systemized for efficient management and have closed-circuit televisions installed to enable remote monitoring. Establishment of purification facilities and management by experts are resulting in improvement of quality of inlet water in comparison with outlet water. The Corporation is committed to continue its efforts in constructing relevant facilities, management and development of technologies.

### ● Before and After Construction of Facilities



### ● Quality of Inlet Water in Comparison with Outlet Water

Year	Water Pollution Level (PI)
2009	0.542
2010	0.508
2011	0.483

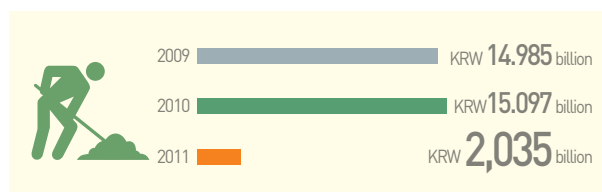
## Prevention of Pollution Due to Mineral Residue

### Operation of Mineral Residue Prevention Project

In the process of mine development, effective minerals are collected through concentration and smelting and the residues generated mostly contain harmful heavy metals. If these residues were mismanaged, they would cause water and soil contamination in the neighboring areas. The Corporation conducts detailed investigation on amount of mineral residues, geographical condition of coal yards and geological structure of coal yards of mine areas that are affected by pollutions or deemed to be subject to pollution. For mine areas that are considered to be subjected to mine reclamation projects, project plans are set up to prevent further pollution by

water management, soil remediation and forestation to prevent loss of mineral residues and generation of leachate. Since 2007, MIRECO has invested approximately KRW 60 billion in sixteen mines and completed mineral residue prevention projects and as of 2012, the Corporation is operating projects for seven mines.

### ● Amount of Annual Budget Allocated for Construction for Projects to Prevent Loss of Mineral Residues



### ● Business Goals

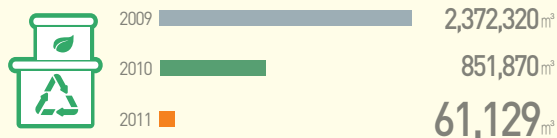


## Ensuring Internal Stability of Prevention of Generation of Mineral Residues

MIRECO makes its best efforts to formulate design and construction ideas by collecting basic information on scope and level of pollution for selecting optimal restoration method in the process of scrutiny and review of plans for placement of constructions, economic feasibility and maintenance in the design process. In addition, the Corporation actively communicates with local governments and local residents concerning approval of facility construction to set direction for project execution and have its facilities constructed with thorough management. As such, the Corporation has increased customer satisfaction level. In parallel, recently developed mine tailings detoxification has been applied to a number of mine reclamation projects for operating properties\* to bring pollution level caused by mineral residues below the baseline. Various other forms of technical cooperation is taken place to prevent generation of mineral residues by, for instance, recycling organic metals in case they are extracted from heavy metals in the process.

\*Operating property : a mine that have minerals or coal mined

#### ● Amount of Mineral Residues Subject to Prevention Projects



#### ● Before and After the Mineral Residue Prevention Project (the 2<sup>nd</sup> Yeonhwa Mine)



#### Enhancement of Efficiency of Project Execution



Discussion with full-time assistant supervisors

The Corporation hosted a session of discussion with full-time assistant supervisors\* in Feb. 2011, to ensure efficiency in mine reclamation projects. The discussion made grounds for

systemization of management and oversight process and efficient execution of mine reclamation projects by making resolution for improvement of quality in construction. The Corporation will seek further to establish cooperative relationship with local communities and collect opinions and feedback from site and

#### ● Road Map for Enhancement of Efficiency in Project Execution



local communities by hosting discussions with stakeholders.

\*Full-time assistant supervisors : an honorary position for retirees of MIRECO to encourage sharing of experience and knowledge and oversee mine reclamation projects.

#### Management of Source of Pollution and Eco-Diversity

The Corporation carries out careful examination on climate conditions and geographical conditions to select adequate species of plantation and thus form foundation for new vegetation to harmonize with existing ecosystems. All projects are under constant monitoring to secure eco-diversity.

#### Improvement in Establishing Plans for Follow-up Management



Site of trees taking root

For areas that saw completion of projects, the Corporation conducts annual inspections more than two times and undergoes carefully planned maintenance projects. Monitoring

wells\* are scheduled to be installed to monitor cracks in liners\* and leachate and follow-up monitoring will be taken place to monitor how newly planted trees are taking root\* and ensure stability in growth and thus take preemptive measures in spread of pollution caused by mineral residues. The Corporation will continue its efforts in ensuring stable functioning of existing facilities and creating safe living conditions for local residents.

\*Liner: a variety of materials (including bentonite, clay and slag) to prevent flow of water (including underground water, leachate and discharged water).

\* Monitoring well: a facility to monitor flow of underground water and measure the amount.

\* Monitoring trees taking root : monitoring growth of vegetation after the process of plantation onto new soil.

#### Restoration of Polluted Soil to Improve Public Health

##### soil contamination in Abandoned Mine Areas

soil contamination in local farming areas caused by debris from mines, mineral residues, waste water from mines with high acidity and leachate are increasingly becoming a social issue these days. As soil contamination in such abandoned mine areas result in imbalance of ecosystem of the area, producing harmful agricultural products and further, will pose threat to local economic activities, the Corporation is making its ceaseless efforts to improve performance of projects for restoration of polluted soil to ensure harvest of healthy agricultural products.

#### ● Execution Process of Soil Remediation Projects



#### Systematic and Efficient Soil Contamination Survey



A scene of investigating soil contamination (drilling investigation)

To ensure efficiency of soil remediation that is customized for individual region, understanding in basic topographical and environmental condition is all the more

essential. To such extent, the Corporation investigates past history of mine development and topographical feature of mine areas and thus establishes remediation plans optimized for the area via assessment on toxicity of soil pollutants, level of soil contamination and calculation and analysis of amount of polluted soil. Further, the Corporation is taking preemptive measures to prevent any potential pollution after soil restoration by seeking ways to eradicate sources of pollution identified in the process of establishing restoration plans and preventing further spread of pollutants.

#### Optimal Purification Method with Eco-friendliness and Cost Effectiveness

Heavy metals make up majority of sources of soil contamination in abandoned mine areas and because they cannot under go chemical break down, they are subject to eco-friendly and effective stabilization and covering-up methods for remediation. Stabilization method transforms heavy metals in soil into a form



Before and After Reforestation (Boeun Cheil Mine, Chungbuk Province)

with low toxicity, mobility and solubility to minimize potential risk. The Corporation selects the most effective stabilizing agents by investigating both chemical and physical properties of heavy metals in soil. For application of optimal purification method, a standardized distribution diagram for various scale tests is formulated and field scale test to evaluate applicability are operated.

#### Project Execution with Focus on Cultivator-friendliness and Customer Satisfaction

soil contamination restoration projects are mainly focused on privately-owned farmlands and thus cultivating pattern, harvest and percentage of farmlands cultivated need to be thoroughly taken into consideration. Across the entire process of investigation, design and construction, the Corporation is utilizing various forms of communicating tools to not only restore soil contamination but also provide optimal condition for cultivating, thereby enhancing cultivator friendliness and customer satisfaction level. In addition, the Corporation is assisting in carrying out diverse forms of restoration projects by for instance, suggesting cultivation of alternative crops or alteration of the purpose use.

#### Thoroughness in Management Before and After Project Executions

The Corporation conducts safety level of produce harvested from abandoned mine areas to measure amount of heavy metals and based on results, if a farmland is diagnosed to be inappropriate for cultivation, adequate amount of compensation is paid to farm houses. Such measures are taken to protect farmlands as well as prevent harvest and distribution of polluted produce. At the same time, for five years after completion of projects, follow-up measures are taken to assess stability and durability of method applied to farmlands. Post-execution assessment and continuous inspection on soil and harvest will not only promote wellness of local residents and farmhouses but also promote consumption of healthy produce and further, contribute to revitalization of local economic activities.



## Eco-friendly Reforestation

### Deforestation of Abandoned Mine Areas and Reforestation Projects

Deforestation and removal of earth and sand are undertaken prior to mine development and rocks and debris are generated in the process of selecting spots to dig through and installation of facilities. When these are mismanaged, forests will be affected by damages and further, mine damage will be incurred. Deforestation causes landslides, water and soil contamination by leachate, air pollution by dusts, various effects caused by debris being washed away, damages on landscapes and infertility of farmlands. To such extent, the Corporation is operating a series of reforestation projects including stabilization of ground surface of abandoned mines, prevention of debris being washed away and afforesting.

#### ● Before and After Reforestation (Boeun Cheil Mine, Chungbuk Province)



### Investigation on Forests to Enhance Environmental Improvement

Lack of preparation has led to insufficient review on geographical and topographical conditions of mines and policy direction for restoration and thus, a limited set of species typically planted for reforestation (e.g. false acacia, pinus rigida and alder tree) has been uniformly planted. As part of enhancement of capability in environmental improvement and achievement of goals in ecological restoration, the Corporation began to conduct multi-dimensional investigation in soil, ground surface and vegetation. The investigation includes investigation on geographical and topographical conditions, faunas, use of forests and land, mine damage of mine areas and stability of ground surface of mine slopes in mine areas. After investigation on soil characteristics in areas with mine wastes and borrow pits and soil condition, soil profile and soil horizon of areas around abandoned mine areas, adequate borrow pits will be proposed or guidelines are given for land improvement to enable trees take root. In parallel, proposals are made for comprehensive restoration vegetation by considering existing vegetation of area to suggest species that are feasible for plantation,

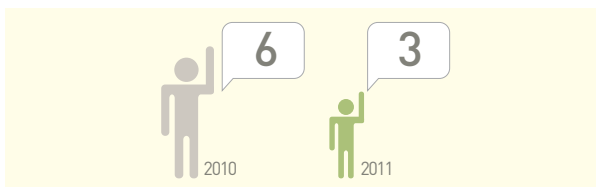
proposing plans for forestation, intervals of plantation and species to be planted in individual areas of restoration. All the process is carefully planned to guarantee full restoration of forests and ecosystems.

### Maximizing Effectiveness of Reforestation Projects

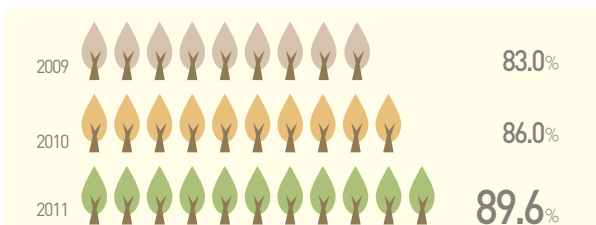
Forests in abandoned mine area conventionally serves its function of restoring ecosystems of forest, but most are known to be less sufficient in promoting public interest to serve recreational purpose. To make forests better serve recreational purposes, the Corporation carries out reforestation projects based on restoration policies set according to results of monitoring and investigation on mine areas with high pH level in soil due to debris and at the same time, to neutralize soil of forests with high pH level, adequate methods and restoration models have been developed to apply optimal reforestation models.

These series of measures has increased awareness for mine reclamation projects and reforestation projects by engaging local residents in selecting species of trees to be planted to result in increase of income. As a result, customized forestation rate and percentage of trees taking root are on the constant increase to provide local residents with forests that serve recreational purposes and number of complaints have reduced by 50% from the year before.

#### ● Number of Complaints Filed Against Reforestation Projects



#### ● Percentage of Trees Taking Root



#### ● Percentage of Customized Forestation (the project has been inaugurated since 2010)



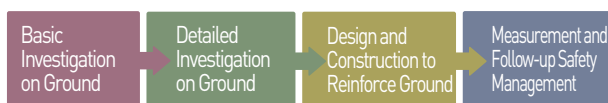
## Thoroughness in Follow-up Management

After completion of reforestation projects, the Corporation inspects conditions of ground surface and drains on a regular basis until the area enters its stage of stabilization. In case any problems are detected, measures are immediately taken to resolve. In addition, by boosting more trees to take root, the Corporation is continuously making its efforts to make restored forests to be utilized for recreational purposes for local residents.

## Projects to Stabilize Ground to Prevent Disasters

Ground subsidence refers to the motion of a surface as it shifts downwards relative to a datum and thus influence surface and cause collapse, crevice and subsidence. To prevent any effects from such ground subsidence, the Corporation is actively conducting projects to stabilize ground via investigations on ground stability, construction to reinforce ground and follow-up maintenance.

### ● Process of Project Execution



## Projects to Prevent Ground Subsidence



Area affected by subsidence in Euseong,  
Gyeongbuk Province (Tohyeon Mine)

For effective execution of projects, the Corporation prioritizes areas subject to projects by preemptively reviewing candidate areas and in case of sudden subsidence in mine areas, emergency measures are

considered as the top priority of the projects. For improvement in design and resolution of issues, the Corporation hosts meetings to discuss with businesses with expertise in mine reclamation and thus seeks to elevate quality level across all phases of projects including design, construction and follow-up management.

## Performance of Projects



Hydraulic backfill

Ground subsidence prevention projects are designed to execute contructions to reinforce ground stability of areas prone to subsidence by conducting investigation

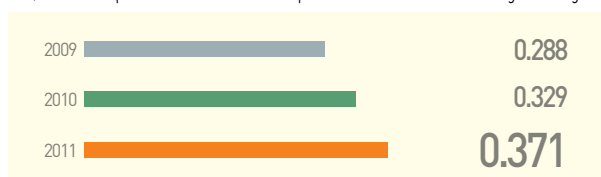
on for example, conditions in underground and geological structure. Seismic survey technology is used in the process to investigate conditions of underground that are difficult to detect with human eyes and evolution of relevant technologies will ease tasks of investigation and maximize effectiveness of projects. The Corporation seeks ways to enhance capabilities of personnel in charge of oversight by providing outsourced educational programs to train in geophysical survey both in theory and practice. In parallel, the Corporation has conducted "topographical and geophysical survey on three limestone mines in Chungwon area" and thus saved operational cost by KRW 115 million and saved additional KRW 198 million by readjusting costs of seismic survey and analysis by length and depth. Further, to enhance quality of construction, the Corporation is pushing ahead to develop and apply new technologies to complement and reinforce effectiveness of ground reinforcement technique. To such extent, technological improvement has been made to increase efficiency of hydraulic charging by inventing high-pressure hose. In parallel, the Corporation is operating its systems to enable timely response to emergency situations by monitoring ground motion real time and predict timing of subsidence.

## Performance Evaluation

MIRECO has improved quality of construction by enhancing efficiency of project execution and thus reduced operational costs by KRW 313 million in 2011. Efficiency index of projects to prevent ground subsidence in on the constant rise as well, and the Corporation will continue its pursuit of preventing subsidence by project execution and development of new technologies.

### ● Efficiency Index of Projects to Prevent Ground Subsidence

(Calculation: expenditure for construction in comparison with estimated costs at the stage of investigation)



# Improvement of Efficiency of Mine Reclamation Projects

The Corporation runs projects of technology development with its own budget and at the same time, it is contributing to cost reduction benefits by completing commissioned tasks and operating an institution with expertise in data analysis.

## Efficient Execution of Projects

### Reasonable Budget Allocation

The Corporation has managed to reduce cost by KRW 6.245 billion including via seventeen research projects such as “development of optimal system to reinforce efficiency of natural filtering technique” to save KRW 4.2 billion. In addition, considering the nature of technology

#### ● Process of Review on Budget Allocation



#### ● Performance of Research Activities

Items		Improvement of Water Quality	Soil Remediation/ Mineral Residues	Ground Subsidence/ Reforestation	Technological Cooperation/ GIS	Technological Cooperation/ Assistance in Analysis	Total
Number of Participants		4	7	5	1	8	25
Numb er of Tasks	Budget for Mine reclamation	3	4	2	1	-	10
	Internally Sourced Budget	5	7	7	1	-	20
	Total	8(1)	11(2)	9(1)	2(1)	-	30
Number of Tasks/Number of Participants		2.00	1.57	1.80	2.00	-	1.20 <sup>(Note 1)</sup>

※ ( ) : Five major technological tasks

Note (1) Number of tasks allocated for each of seventeen researchers, excluding eight members in charge of technological cooperation and assistance in analysis.

development projects, 70% of budget has been allocated for the first half of the year. Further, the Corporation has been actively involved in government-led projects to enhance its reputation.

### Efficient Human Resource Management

For reinforcement of technological competence through reasonable organizational reform, the Corporation has reshuffled its Technology Cooperation Team and Research & Development Team into Water Quality and Environment Research Team, Bedrock Engineering and Research Team and Earth Chemistry Research Team and hired additionally to now have twenty-five staff members. In addition, human resource is allocated by taking expertise, significance and size of projects into consideration and level of involvement and achievement of researchers have been improved by having Technology Cooperation Team taking charge in tasks of cooperation and utilizing analysis experts.

### Utilization of Overseas Expansion Committee Based on Partnership Between Private and Public Sectors

The Corporation is efficiently executing its overseas business via a cooperative organization based on partnership between public and private sectors to effectively cooperate in dealing mine damage related issues. The Corporation has built a network with KOTRA and KOICA to successfully run cooperation projects in new market and operated cooperation programs and other relevant programs in six countries including Algeria and Greece to increase potentials of business contracts and increase efficiency in task performance.

### Time Saving

The Corporation has inaugurated a team of investigators consisting of experts in topographic research and seismic investigation from its headquarters and research institute and conducted a series of investigation on ground subsidence in Cheongwon Reservoir. Such activity has reduced the lead time by seventy-four days, in comparison with an identical activity conducted by an individual team and at the same time, by establishing remote control system of water quality analyzer, waiting time has been reduced to near-zero. The Corporation is making its constant efforts in enhancing efficiency in task performance by, for instance, actively using a pool of experts from both in and outside of the organization.

#### ● Performance of Mine Reclamation Projects via Utilization of Overseas Expansion Committee

Country	Number of Participants	Projects Operated
Algeria	15	Strategic execution of the first cooperation program in the African continent (Algeria ranks the top in GDP among African nations)
Six Countries including Greece	9	Building human network in newly cooperating countries by operating customized programs linked with international symposiums on mine reclamation



# Securing Financial Stability for Mine Reclamation Projects

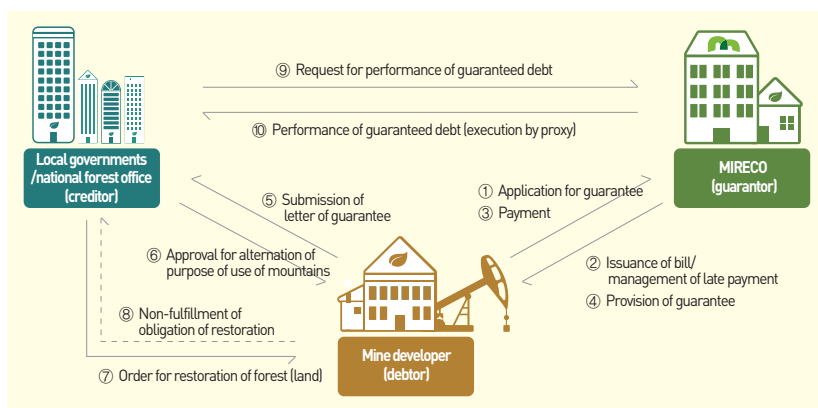
## Efficient Management Structure of Charges on Persons Responsible for Preventing Mining Damage

The Corporation is currently operating a financial program so called “Charges on Persons Responsible for Preventing Mining Damage” to secure financial resources and take preventive measures against mine damages due to mine development. The program consists of Charges on Restoration of Forests and Charges on Mining Damage Prevention Funds. Through the program, the Corporation assures fulfillment of liabilities of mining right holders and promotes sustainable mine development.

## Fulfillment of Liabilities Through Charges on Restoration of Forests

Contribution for Reforestation has been designed to lessen burden for mining right holders and ensure stability in mine reclamation projects by warranting fulfillment of liabilities by mining right holders, when these mining right holders make payments as much as 30 ~ 60% of deposit for restoration that they are obliged to pay local governments or Korea Forest Service to obtain approval for

### ● Process of Performing Guaranteed Liability



conversion from a mountainous district in the process of mine development. Guarantee Programs are to warrant fulfillment of liabilities of mining rights holders in the stages of mining, and reduce costs for insurance commission and miscellaneous costs they would otherwise have paid for other warranty programs. The Corporation on the other hand, is able to secure financial resource for Charges on Mining Damage Prevention Funds to maintain foundation for mining industry of Korea.

## Performance and Effects

The Corporation has so far guaranteed 243 mining spots of 116 mines, amounting up to KRW 536.1 billion and 24.3% of operating properties have subscribed to Guarantee Programs offered by the Corporation. As of 2011, 47% of mine production and 49% of limestone production are financed by the Corporation's Guarantee Program and mines, conversely, sees cost reduction of as much as KRW 5 billion annually to buttress enhancement of competitive edge for Korea.

## Charges on Mining Damage Prevention Funds

### ● Amount of Contribution Made

(unit : KRW million, %)

	Imposed		Collected		Gap		Collection Rate
	Cases	Amount (a)	Number of Cases	Amount (b)	Number of Cases	Amount	
2011	1,4571	13,271	1,108	11,833	349	1,438	89
2010	1,069	22,020	751	9,274	318	12,746	42
2009	1,068	15,349	736	5,968	332	9,381	39
2008	613	17,407	366	10,235	247	7,172	59
2007	478	17,924	273	10,510	205	7,414	59

※ Total amount is a sum of the amount of Charges on Restoration of Forests and Charges on Mining Damage Prevention Funds

※ Between 2007 and 2010, payment for shares for the following year was mandated to be made before the end of the year. Throughout these years, approximately half of the payments were made late, and against such backdrop, readjustment has been made to charge only for the same year and collection rate has significantly increased since 2011.

Charges on Mining Damage Prevention Funds is designed to contribute 70% of total budget for project while a mining rights holder pays 30% of total budget if it builds mine reclamation facilities. Mining Damage Prevention Fund is fully funded by mining rights holders and the fund is used in a variety of forms such as financing mine reclamation projects, compensation for mine damage, establishment, operation and maintenance of mine reclamation facilities in idle and abandoned mine areas, investigation prior to mine reclamation projects, research and development activities, technology development, training and cooperation with businesses in both Korea and overseas.

## Expansion of Eco-Friendly Management Activities

MIRECO is making its constant efforts to reduce greenhouse gas, one of the major causes of air pollution and increase energy efficiency, and realizes shared growth with small and medium-sized enterprises by purchasing eco-friendly products. During the year 2011, the Corporation has made no violation of environment regulation.

### Target Scheme for Greenhouse Gas and Energy

#### Efforts to Curb Greenhouse Gas Emission

In accordance with the Article 42 of the Basic Act on Low Carbon Green Growth, the Corporation is placing its focus on phased reduction of greenhouse gas emission to meet the target of curbing greenhouse gas emission by 20% by 2015. The amount emission has marked 3,984 tCO<sub>2</sub>eq in 2011, which is a reduction of 10% compared with the Baseline (average of 2007~2009), 4,443.33 tCO<sub>2</sub>eq.

#### ● Amount of Greenhouse Gas Emission (unit: tCO<sub>2</sub>eq)

Division			2009	2010	2011
Organization	Fuel Type	Type of Emission			
Headquarters	Building (Electricity)	Indirect	704	654	638
	Building (LNG)	Direct	195	197	221
	Vehicles	Direct	98	113	77
Gangwon	Building (Electricity)	Indirect	2,844	3,866	2,811
	Vehicles	Direct	66	56	52
Chungcheong	Vehicles	Direct	44	32	30
Youngnam	Vehicles	Direct	41	49	41
Gyeonggin	Vehicles	Direct	17	18	12
Honam	Building (Electricity)	Indirect	26* <sup>1)</sup>	49	53
	Vehicles	Direct	35	31	22
Institute of Mine Reclamation Technology	Building (Electricity)	Indirect	-	-	8* <sup>2)</sup>
	Vehicles	Direct	-	-	19
Total		Indirect	3,574	4,569	3,510
		Direct	496	496	474
		Total	4,070	5,065	3,984

\* 1) Data collected after Honam branch has begun to own its office space in 2009.

\* 2) Data collected after Institute of Mine Reclamation Technology has begun to own its office space in 2011.

#### Efforts to Reduce Energy Consumption of Vehicles

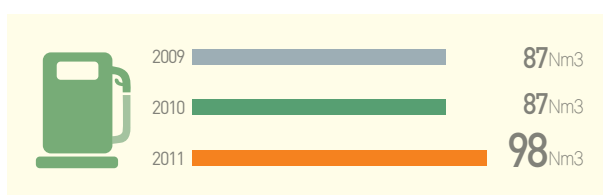
The Corporation has set up a set of guidelines for managing vehicles to take preemptive measures against energy wastes by, for instance, preventing "agency problems" related to refueling from occurring.

Against such backdrop, the Corporation notifies its employees the three gas stations that offer the most affordable gas prices every month and encourages refueling vehicles in these three locations. In addition, a guideline has been set up to obligate the employees to refuel their vehicles at the gas stations that offer the most affordable gas prices in case of business travel to a short distance.

#### ● Amount of Greenhouse Gas Emissions from Vehicles (unit: tCO<sub>2</sub>eq)

Division	2009	2010	2011
Headquarters	98	113	96
Gangwon Branch	66	56	52
Chungcheong Branch	44	32	30
Youngnam Branch	41	49	41
Gyeongjin Branch	17	18	12
Honam Branch	35	31	22
Total	301	299	253

#### ● Amount of Gas Consumption



※ Only headquarter vehicles have consumed LNG.

※ Consumption has increased along with increase of staff members in headquarters in 2011.

### Use of Energy-Efficient Products



Solar Energy Module

The Corporation's Chungcheong branch is enhancing efficiency of water purification by installing calculation device on oxidation tank of mine water purification facilities and operate them with electric power generated by solar power and water fall. Such

measures are taken as part of securing stability in electricity generation by converging hydroelectric power generation and solar power generation and thus improve purification capabilities and cost reduction in maintenance costs.

#### ● Amount of Electricity Generated

Division	Wattage
Wattage in Outlets	15W
Dump Power of Solar Energy Module	30W
Additional Construction of Solar Energy Module	600W
Total	645W

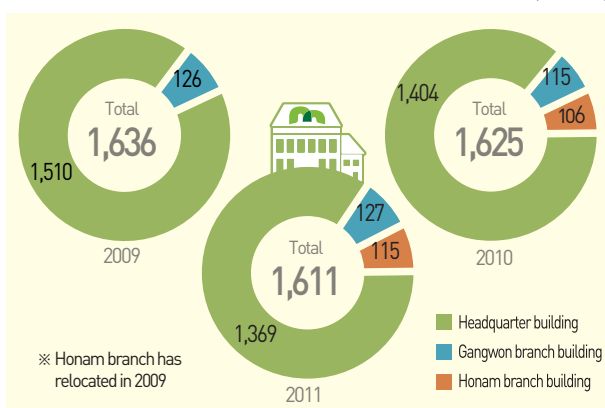
## Managing Energy Efficiency of Buildings

### Actions to Curb Energy Consumption of Buildings

The Corporation has mandated its employees to use 90% of electricity during four hours of peak time from the year before and banned the use of neon signs during afternoon peak hours (17:00 ~ 19:00). For summer time, the office buildings have been air-conditioned at the temperature no less than 29 degrees Celsius and for winter time, heated no more than 18 degrees Celsius. To further encourage energy saving and minimize consumption of electricity, the Corporation has purchased blankets and desk lamps.

#### ● Amount of Electricity Consumption

(unit: MWh)



#### ● Performance of Eco-friendly Management (Headquarters & Branches)

Water Consumption	Electricity Consumption	Energy Consumption		
		Gas	Diesel	Gasoline
m³	KWh	m³	TOE	TOE
22,439	7,656,780	101,409	77,762	20,539

※ Including data collected after Honam branch has begun to own its office space in 2009.

## Efforts to Promote Purchase of Green Products

### Raising Awareness for Green Products



Awareness program on green products

During the year 2011, the Corporation had its employees take part in government-led awareness programs to promote sales of green products and organized educational programs to spread ideas within the organization. Altogether eleven educational programs have been run throughout the year and through these programs, the Corporation has assisted its employees in considering green products on the top priority when making their

purchase decisions throughout their work process. The Corporation places its constant efforts on maintaining its leadership in purchase volume of green products over other public agencies by raising awareness for significance of using green products.

### Improvement of System to Promote Purchase

For promotion of efficient purchase of green products, MIRECO hosted rounds of discussion for procurement managers from headquarters and branches to seek ways to enhance efficiency in procurement process. In addition, the Corporation has added information on green products in the process of tender notice and contracts to encourage contracting companies to purchase and actively use green products. Additionally, the Corporation to improve relevant systems to encourage active use of green products in entire work process by for instance, publishing a revised edition of guidebook on list of items recommended by government to reflect revision of environment laws and list of items obligated for purchase and creating direct link on webpage of the organization's information system to provide easy access to information on green products.



Direct link to webpages that provide information on green products

### Proactive Measures to Encourage Purchase

The Corporation demonstrates constant rise in number of times green products have been purchased and amount of expenditure by having all its employees take part in purchasing green products, continuously improving system and carrying out relevant actions. The Corporation's purchase rate of green products, in particular, is leading ahead of many other public agencies. MIRECO looks forward to increase of green products by having its partnering companies follow suits.

#### ● Amount of Green Products Purchased

Division	2010	2011	MISC
Number of Times Green Products Have Been Purchased	142	177	Increased 1.3 times
Amount of Expenditure on Purchase of Green Products (KRW million)	163,640	262,741	Increased 1.6 times
Purchase Rate (%)	97	99	Increased by 2%



# Regional Development Projects to Assist Economic Autonomy

# mireco

## Management Principles

MIRECO has established six mutually invested companies in Korea nationwide to promote economic revival of abandoned mine areas and improvement of quality of life for local residents. In parallel, the Corporation is making its best efforts in contributing to balanced growth across all regions by operating Loan Assistance Program for Alternative Industries to provide loan assistance for start-up businesses and enterprises that seek ways for business expansions in abandoned mine areas. The mutually invested corporations named MIRECO Members, in particular, are making their presence by reviving economic activities of abandoned mine areas and serving their pivotal roles in elevating quality of life of local residents.

## Progress

- Establishment of strategic partnership and network with mutually invested companies
- Establishment of strategic partnership with resorts in overseas
- Social contribution activities under five major themes and activities customized for individual region

## Issues

- Increase of income for local communities
- Technological development and enhancement of accessibility for local communities
- Social investment for local communities
- Engagement of local residents and reflection of feedback in the execution process of mine reclamation projects

## Performances

Major Indicators	2009	2010	2011	Office in Charge
Loan Assistance in Alternative Industries (KRW billion/ Number of Businesses)	-	148 / 28	224 / 28	Coal Mine District Promotion Headquarters
Number of Jobs Created by Loans(people)	-	843	255	
Social Contribution Activities (Number of Participants, Number of Activities Conducted, KRW billion)	-	470 / 98 / 3.05	609 / 103 / 45.2	General Administration & Planning Office





- 34\_ Research and Development Activities to Formulate Regional Development Models Customized for Korean Mining Regions
- 37\_ Enhancement of Efficiency of Management of Mutual Investment Companies Expansion of Scope of Engagement of Local Communities
- 36\_ Increase of Engagement of Local Communities



# Research and Development Activities to Formulate Regional Development Models Customized for Korean Mining Regions

MIRECO is making contributions to economic revival of mine areas by efficiently executing mine reclamation projects and regional development projects and assisting businesses in coal industries.

## Regional Development Projects Customized for Individual Regions

The Corporation has categorized regional development projects as part of its strategic projects and makes outcomes, both directly and indirectly, by attracting investment projects and contributing to job creations. As part of the efforts, the Corporation has expanded the scope of financial support and training programs for mutually invested companies to secure grounds for job creations.

## Organizational Reform for Execution of Regional Development Projects

For efficiency in execution of regional development projects, the Corporation has recently reformed Administrative Support Office and Domestic Business Development Team that had formerly taken responsibilities. They are thus divided into Administrative Support Office, Coal Industry & Briquette Support Department and Regional Business Team to take charge of regional development. In particular, teams have been divided by function of policy formulation and project execution to strategically carry out regional development projects. Furthermore, independent operation of Coal Industry & Briquette Support Department has emphasized responsibility in management. All these efforts were made to draw distinctive line among teams with responsibility in policy formulation and project execution and thus gave new motivations for regional development projects.

## Regional Development Models Customized for Korean Mining Regions

### Backgrounds for Establishment of Development Model for Abandoned Mine Areas

According to the Special Act on Assisting Development of Abandoned Mine enacted in 1995, KRW 2 trillion has been invested in reviving economy of abandoned mine areas. However, the economy of these regions has not seen any turnarounds and thus calls for overhaul of development projects and shift of focus of policy. MIRECO has thus planned establishment of regional development

models customized for Korean mining regions to assist formulation of regional development policies customized for individual regions and further, design development models for abandoned mine areas.

### Development Model for Abandoned Mine Areas

In the process of establishing regional development models, the Corporation attempts to analyze cases in overseas, identify key elements in regional development and categorize regions to suggest relevant policy directions. As of 2012, these development models are being formulated under collaboration with contractors and in parallel, the Corporations plans to execute projects to promote regional development by establishing relevant frameworks, deriving regional development models customized for Korean mining regions and applying to other abandoned mine areas in overseas.

## Efficiency in Loan Assistance Programs for Alternative Industries

### Overview of Loan Assistance Programs for Alternative Industries

Loan Assistance Programs for Alternative Industries have first been designed to promote economic activities of abandoned mine areas that are affected by decline of coal industry by providing loan assistance at low interest rates for alternative industries. The potential beneficiary of the programs are enterprises that seek to start or expand in manufacturing business, mining businesses other than coal mining industry and tourism and recreation industries in abandoned mine areas. Funds are provided in the forms of funds for equipment (no more than KRW 5 billion) and working funds (no more than KRW 500 million).

#### ● Loan Conditions

(unit : %)

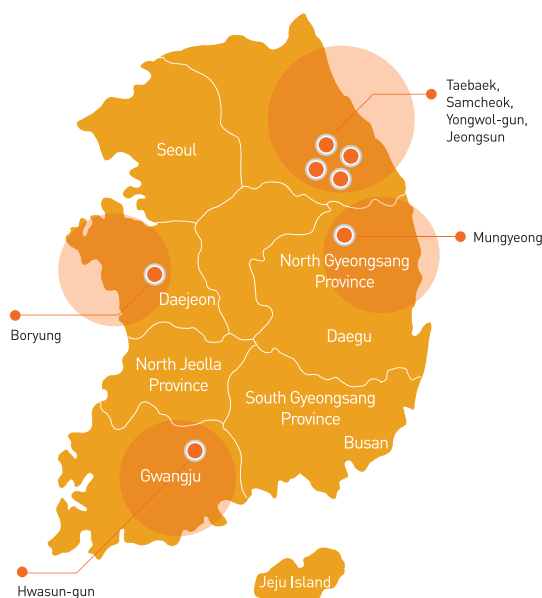
Division	Term of Loan	Interest Rate
Funds for Equipment	5 years of grace period/ 5 years of repayment period	0.25/0.75 (variable interest rate, adjusted every quarter)
Working Funds	2 years of grace period/ 3 years of repayment period	0.25/0.75 (variable interest rate, adjusted every quarter)



### ● Execution Process



### ● Areas Subject to Loan Programs



## Performance of Special Fund for Energy and Resource Businesses and Self-Sourced Fund

The Corporation has been funding KRW 175.1 billion for Performance of Special Fund for Energy and Resource Businesses between 1996 and the end of 2011. However, because the budget was not found to be sufficient to meet demands from abandoned mine areas, the Corporation began to operate its self-sourced fund using dividends from Kangwon Land since 2009 and as of the end of 2011, KRW 42.429 billion has been funded.

## Efforts for Adequate Execution of Loans and Enhance Customer Satisfaction Level

For efficient execution of loan programs, evaluation methods for

### ● Performance of Special Fund for Energy and Resource Business (unit: KRW billion)

Year	Amount
2007	5,000
2008	5,000
2009	5,000
2010	4,750
2011	4,300
Total	24,050

### ● Performance of Self-Sourced Fund (unit: KRW billion)

Year	Amount
2007	-
2008	-
2009	14,300
2010	10,000
2011	18,129
Total	42,429

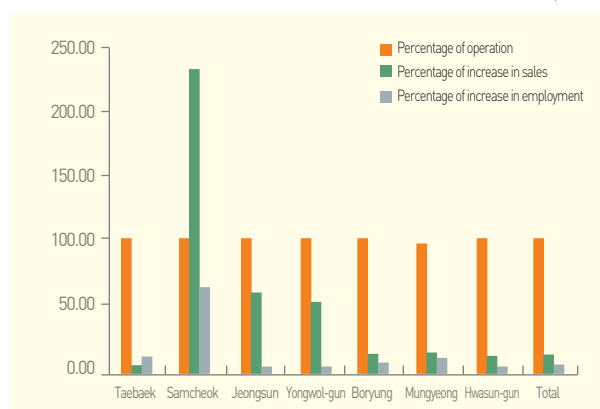
business execution capabilities have undergone improvement. In parallel, the Corporation is making its best efforts to provide loans as immediately as possible by concurrently providing funds from both Special Fund for Energy and Resource Businesses and Self-Sourced Fund. Simultaneously, constant efforts for improvement are made on system by continuously monitoring recipients of loans and collecting opinions from customers. The Corporation continues its efforts in maximizing efficiency in service by analyzing performance of loan assistance programs and establishing database of beneficiaries to provide relevant information for customers.



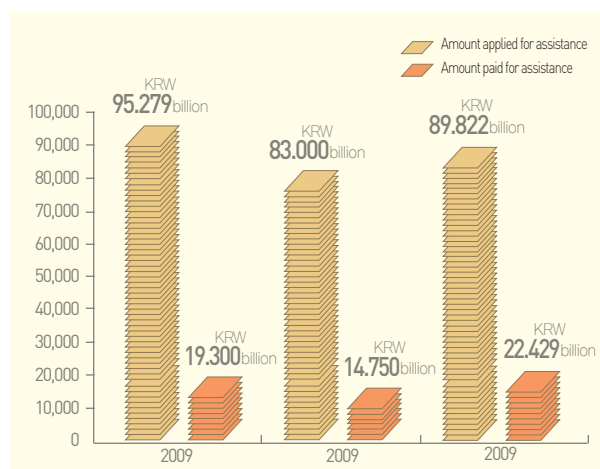
Loan assessment meeting

### ● Major Indicators of Loan Assistance Program

(unit : %)



### ● Amount Assisted in Comparison with Amount Applied (Recent Three Years)



# Enhancement of Efficiency of Managing Mutually Invested Companiesa

## Management of Mutually Invested Companies

### Establishment of Mutually Invested Companies

As economy of abandoned mine areas are largely affected by execution of Rationalization of Coal Industries by government Rationalization Policy of Coal Industries (1989~1995), a Special Act on Assisting Development of Abandoned Mine areas have been enacted in Dec. 1995. According to the new legal obligation, the Corporation established Kangwon Land Co. Ltd., a business with focus on casinos for domestic customers in Jeongsun, Gangwon Province, in June 1998. Further, in accordance with "Investment Plan for Abandoned Mine Areas - Phase 2" which was established in Nov. 2002, with fund sourced from dividends from Kangwon Land, the Corporation has established additional mutually invested companies in other abandoned mine areas (Samcheok, Gangwon Province; Yongwol-gun; Mungyeong, North Gyeongsang Province; Hwasun-gun, South Jeolla Province) to assist balanced regional development, realize share growth and create new jobs.

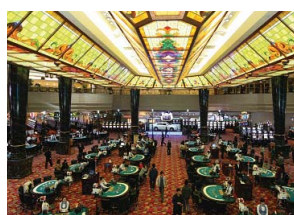
#### ● Mutually Invested Companies

Organization	Year of Establishment	Location	Percentage of Share (%)				
			Total	MIRECO	Kangwon Land	Local Government	Others
Kangwon Land	1998	Jeongsun	100	36	-	15	49
Mungyeong Leisure Town	2003	Mungyeong	100	36.3	27.3	27.3	9.1
Black Valley CC	2004	Samcheok	100	11	17	72	-
Donggang Cistar	2006	Yongwol-gun	100	25.2	25.0	25.9	23.9
Daecheon Resort	2007	Boryung	100	38.1	33.3	28.6	-
Hwasun Resort	2012	Hwasun-gun	100	52		48	

### Funding and Management of Mutually Invested Corporation

The Corporation has established a corporation named "MIRECO Members" to place focus on promoting tourism industry, an industry to revive economic activities of abandoned mine areas.

The mutually invested corporation consists of altogether six companies including Kangwon Land, Mungyeong Leisure Town, Samcheok Black Valley CC, Yongwol Donggang Cistar, Boryung Daecheon Resort, and Hwasun Resort. All businesses are based on close partnership and cooperation among the Corporation, local governments and investors. Kangwon Land, in particular, has made its significant contribution to finance of central government and local governments by contributing KRW 3.43 trillion by for instance, creating Fund for Development of Abandoned Mine Areas with 20%(25% since 2012) of EBITDA. Mungyeong Leisure Town and Black Valley CC are taking part in invigorating local economic activities by profiting from their own business. Donggang Cistar and Daecheon Resort, which opened in the later half of 2011, are anticipated to play their pivotal roles in making turnaround for economy of abandoned mine areas.



Casino in Kangwon Land



High 1 Resort Convention Hotel

#### ● Financial Contribution by Kangwon Land

(unit : KRW billion)

		2009	2010	2011	Total
Central Government	Tax	148,079	155,762	137,866	441,707
	Tourism Fund	115,611	125,116	118,090	358,817
	Subtotal	263,690	280,878	255,956	800,524
Local Government	Regional Tax	17,451	18,376	16,275	52,102
	Abandoned Mine Fund	111,452	124,603	115,654	351,709
	Subtotal	128,903	142,979	131,929	403,811
Total		392,593	423,857	387,885	1,204,335

### Shared Growth of Mutually Invested Companies

To seeks ways for shared growth of alternative industries in abandoned mine areas, the Corporation has inaugurated "MIRECO Members Shared Growth Council" and encourages companies to share ideas and experience among member companies. Further, the Corporation has established strategic partnership among mutually invested companies and resort chains in overseas to create synergies and promote balanced development in abandoned mine areas.

# Increase of Engagement of Local Communities

The Corporation began its meticulous approach to its engagement with local communities encouraging active involvement of volunteer groups since 2009, and the effort has continued with formulation of strategies linked with long-term vision in 2010.

## Policy Direction and Strategy of Social Contribution Activities

MIRECO has been actively involved in social contribution activities customized to meet diversity of needs. It has announced its new strategy for social contribution in 2011, and forged five major themes, under the slogan “Beautiful MIRECO People Receiving Respect from Public” and carried out relevant projects abiding by the guidelines provided. By making constant review on its own activities and themes, the Corporation will continue to make its contribution to society.

### ● Structure of Social Contribution Activities



## Four Major Themes and Social Contribution Activities

### MIRECO Edu

Educational projects, part of MIRECO's core social contribution activities, are targeting school age children living in abandoned mine areas. Assistance Program for Artistic Talents in Abandoned Mine Area (Assistance Program for Artistic Talents in Abandoned Mine Area) has started in 2011 to host provide training camps for students referred by school teachers to benefit from mentorship and lessons. Participants have reported high level of satisfaction for the program. The Corporation is planning to expand its educational programs to train aspiring scientists.

### MIRECO Culture

The Corporation has hosted a series of cultural events for local residents of abandoned mine areas. Starting from Samcheok in 2009, cultural events including concerts held at areas such as Hwasun, Youngwol and Mungyeong created a stir among local residents.

### MIRECO Eco

Since the core function of MIRECO is environment restoration, the Corporation places its focus on social contribution activities centered at volunteer activities for environment. Activities are mainly focused on cleaning activities in the neighborhood areas and mountains of office buildings and management of profit-sharing forests (profit-sharing forest) which gained approval from Korea Forest Service.

### MIRECO Welfare

**Sisterhood Relationship With Mining Towns** The Corporation has first set up sisterhood with Ongjeong-ri, Hanbando-myeon, Youngwol-gun in 2007 and with six additional mining towns. Through the sisterhood relationship, the Corporation conducts activities such as giving out helping hands for farmhouses, purchase of local produce and donation of daily necessity to community halls.

**Briquette Sharing in Love Movement** The Corporation has been providing “Briquette Vouchers” for eighty thousand low-income households since 2007. In addition, for households that are not subject to welfare services, the Corporation operates so called Briquette Sharing in Love Movement to deliver free briquettes.

## Performance of Social Contribution Activities

The Corporation has made consistent effort in making contributions to local communities to receive rewards such as the 4th Korea Sharing Award 2010, Forbes Korea Social Contribution Award 2011 and the 6th Korea Sharing Award. Rather than being complacent, the Corporation will continue with its social contribution activities with commitments.

### ● Performance of Social Contribution Activities

	2010	2011	Number of Increase
Number of People Participated	470	609	139
Number of Events Participated	98	103	5
Budget (KRW million)	305,925	452,684	146,759



# Management for Stability of Coal Energy Supply

## mireco

### Management Principles

MIRECO is taking various measures to carry out projects for promoting stability of coal and briquette industries in Korea. At the same time, the Corporation strives for fair distribution of high-quality coals to meet all demands by managing supply chains and quality assurance process. In addition, by providing briquette vouchers for working class, the Corporation is making its ceaseless efforts in securing stable supply of energy.

### Progress

- Maintaining adequate production infrastructure for coal and briquette industries
- Supply chain management of anthracites and quality assurance of briquettes
- Projects to provide subsidies for low-income class in purchasing briquettes
- Increasing accessibility to energy resources

### Issues

- Access to essential services
- Social investment in local communities

### Performances

Major Indicators	2009	2010	2011	Office in Charge
Provision of Briquette Voucher (KRW billion/ Number of Households)	54 / 35,635	142 / 88,752	151 / 89,172	Coal Economic Support Office
Demand/Supply of Anthracite (million tons)	330 / 314	270 / 254	236 / 236	



40 Assistance to Ensure Stability in Coal and Briquette Business

42 Enhancement of Accessibility to Energy Resources for Working Classes





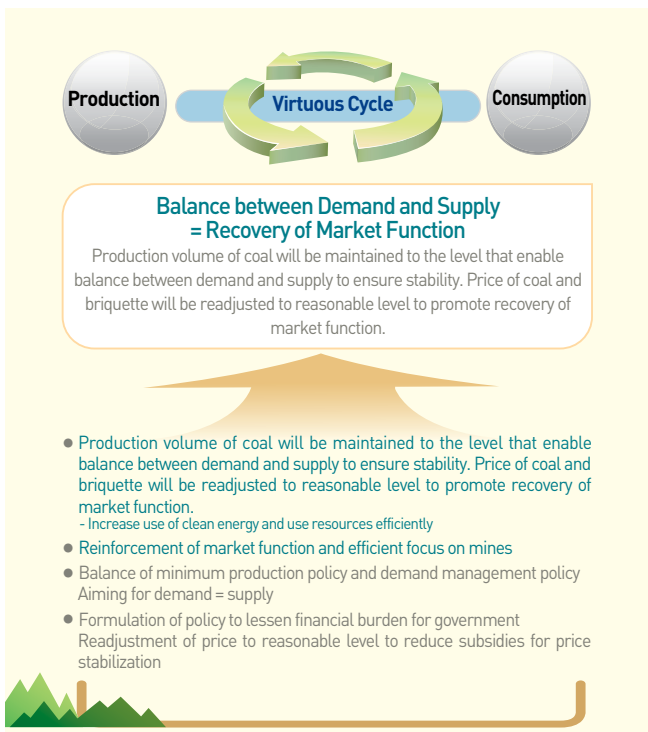
# Assistance to Ensure Stability in Coal and Briquette Business

## Maintaining Adequate Production Infrastructure for Coal and Briquette Industries

### Projects to Promote Stabilization of Coal Prices

Projects to Promote Stabilization of Coal Prices has been designed and inaugurated in 1989 to stabilize consumer prices and protect working class from inflation by posting highest sales price for coal and briquette and compensate gas between manufacturing cost and sales price. Through this project, the Corporation provides subsidies for stability of production, insurance for industrial accidents and school expenses for children of employees (three per employee). Further, the Corporation is providing assistance for briquette manufacturers and logistics companies to ensure fair price.

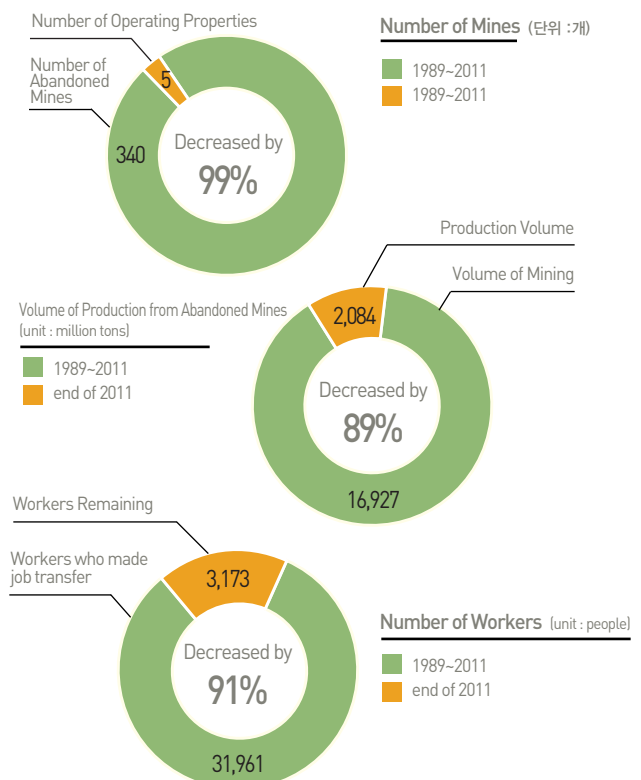
#### ● Ideas of Stabilize Supply of Briquettes



### Countermeasure Projects for Abandoned Mine Areas

The Corporation is inducing mines that face limit in production volume due to increase of cost and low efficiency into reduction of production and disuse and in parallel, promoting stability of income level for workers who are subject to job changes. On receipt of application for disuse of mine, Deliberation Committee for Mine Disuse selects mines subject to provision of finance for disuse of mine by examining supply and demand status of coal and available budget. The Corporation ensures meticulousness in execution by conducting on-site inspection prior to final decision and payment of budget.

#### ● Current Status of Abandoned Mine Areas





## Management of Supply and Demand of Anthracite

According to the Article 24 of Coal Industry Act, the Korean government has designated eleven long-term operating properties in 1995 to determine production quotas for an individual mine and categorize anthracite into supply for domestic use (for manufacturing briquettes) and energy generation. The difference between anthracites mine in Korea inland and imported anthracites are compensated through subsidies from Funds for Electric Power Industry. As a result of continuous execution of policy for rationalization of coal industry, as of 2011, five operating properties are producing approximately two hundred ten thousand anthracites every year. The Corporation is making its relentless efforts to monitor supply and demand in the wake of reduction of production.

## Quality Assurance for Coal and Briquette

All process of quality control for coal and briquette are based on encouraging fair trade among trading agents in the industry. All the process related to quality assurance is undertaken and the data makes useful reference for formulating policies related to coal industries. Relevant activities are conducted to prevent low-quality coal products and thereby ensure stable supply of high-quality coal and briquette products for consumers. Five operating properties in Korea nationwide and fifty-one operating briquette manufacturing facilities are subject to the Corporation's quality control process under

the category of amount of heat generated, volatile matter, and size (weight, diameter, height, downfall-Strength). Other processed coal products are examined under the categories of amount of heat generated, sulfur content, size and amount of powdered coal. All these measures are taken to encourage fair trade among all businesses in the industry.

### ● Annual Coal Inspection Data

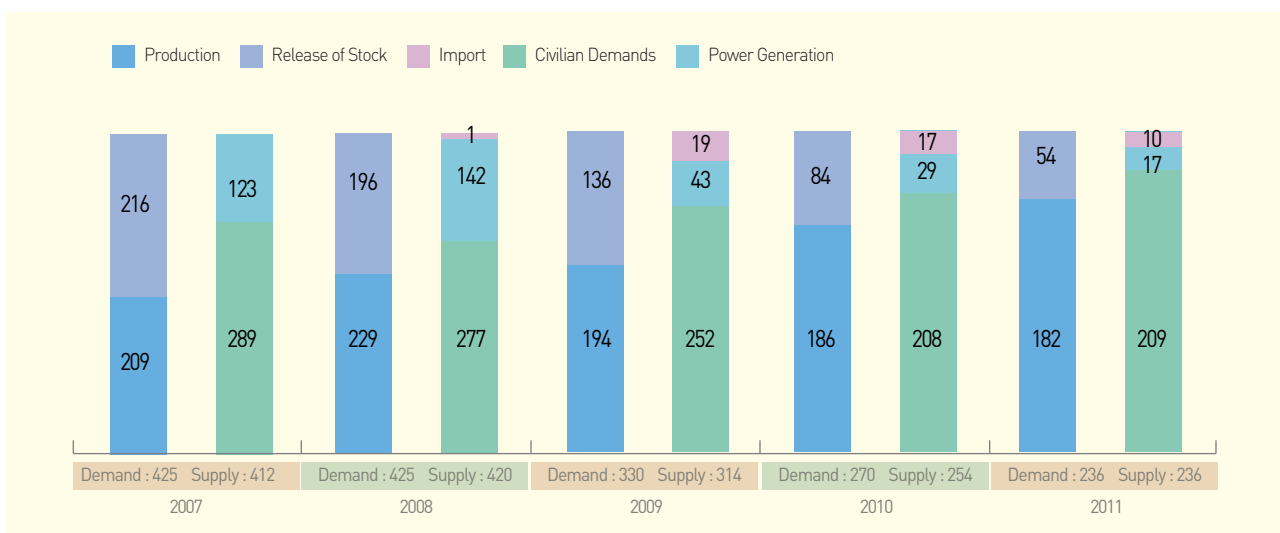
Division	Amount of Coal Transported (tons)	Amount Inspected		Percentage of Coal Inspected (%)	Amount of Calories Inspected (kcal/kg)	Inconsistent (Quantity of Heat)
		Lot	Tons			
2007	2,687,097	2,745	412,531	15.35	5,027	309
2008	2,775,589	2,468	446,522	16.09	4,901	541
2009	2,590,933	1,700	421,880	16.28	4,890	329
2010	2,117,726	1,704	396,810	18.74	4,750	408
2011	2,087,808	1,829	455,902	21.84	4,645	299

### ● Annual Briquette Inspection Data

Division	Categories of Inspection			Amount of Calories Inspected (kcal/kg)	Inconsistent (Quantity of Heat)
	Amount of Heat Generated	Weight	Size		
2007	429	429	1,287	4,606	26
2008	423	423	1,269	4,531	63
2009	456	456	1,326	4,502	83
2010	555	555	1,665	4,480	95
2011	641	641	1,923	4,489	85

### ● Demand and Supply of Coal

(unit : 10,000 tons)



# Enhancement of Accessibility to Energy Resources for Working Classes

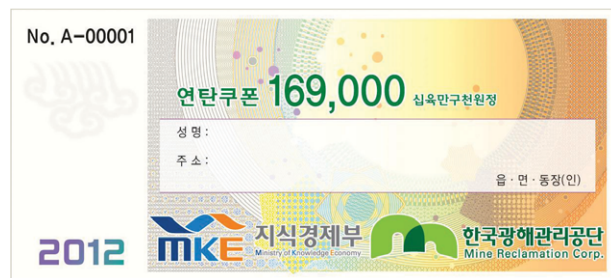
## Proactive Measures to Increase Accessibility to Energy Resources

### Subsidies of Briquette for Low-Income Class

Because oil price has hiked and briquette price, on the other hand, has been frozen for a long time, consumption of briquette has increased to cause imbalance of supply and demand. Korean government is taking phased measures to readjust briquette prices to realistic level as it faces increase of financial burden caused by such imbalance of supply and demand.

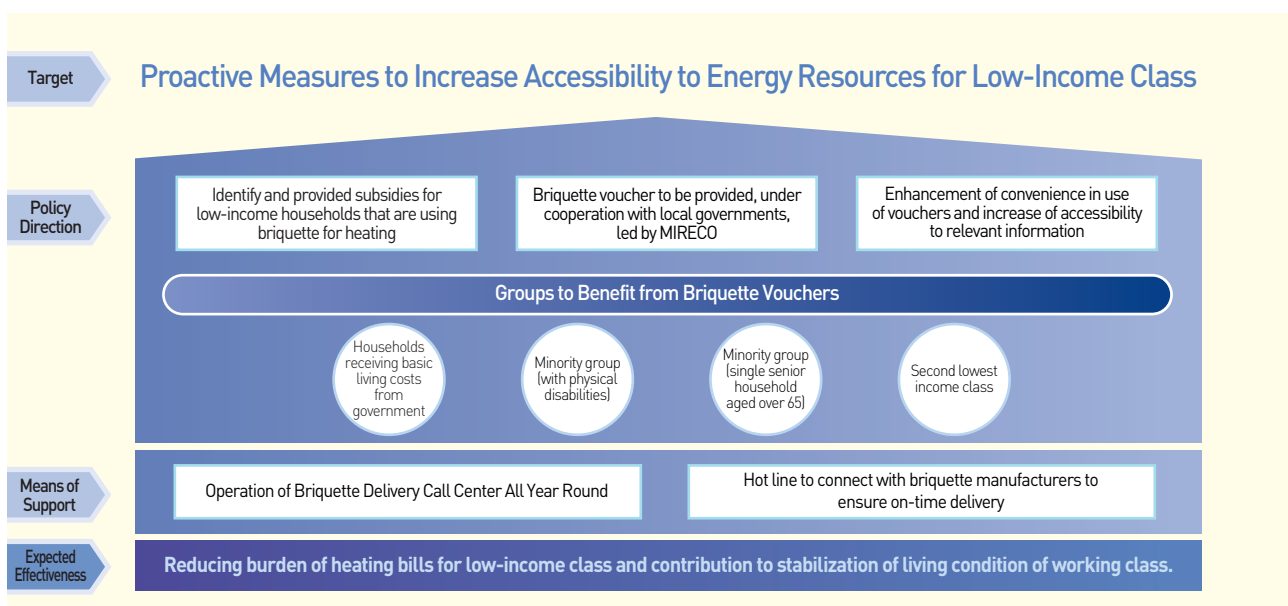
As part of readjustment of briquette prices, MIRECO has started providing vouchers for low-income class to compensate price increase. The vouchers are currently given

to approximately eighty thousand low-income households. The Corporation constantly seeks ways to alleviate burden of expenditure on heating for household that use briquette during winter season and contribute to stable supply of affordable energy fuel for working class.



Briquette voucher

### ● Target and Policy Direction of Subsidies of Briquette for Low-Income Class



● Number of Households Benefited from Briquette Voucher

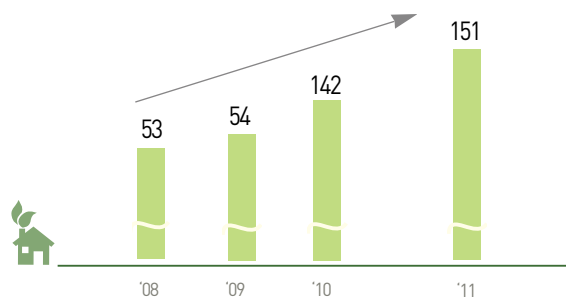
Year	Provision of Briquette Vouchers	
	Voucher Price (KRW per piece)	Number of Households
2008	77,000	67,812
2009	150,000	35,635
2010	1H of 2010 (150,000 per household)	43,907
	2H of 2010 (169,000 per household)	44,845
	Subtotal	88,752
2011	1H of 2011 (169,000 per household)	32,856
	2H of 2011 (169,000 per household)	56,316
	Subtotal	89,172

● Current Status of Project to Increase Accessibility to Energy Resources

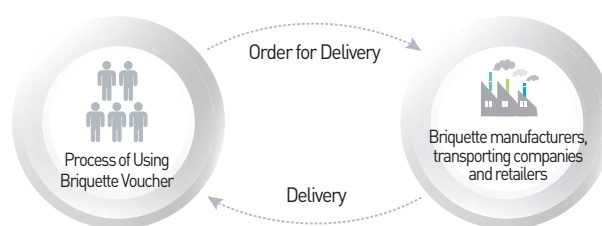
Division	Items
Basis for Assistance	Article 2 of Law on Stabilization of Consumer Price (on setting the highest sales price) Article 29 of Coal Industry Act (assistance for stabilization of coal industry)
Schedule	2008 ~
Total Expenditure	Total expenditure as of 2012 : KRW 66 billion
Size of Project	Targeting eight hundred low-income households
Target Groups	Low-income households that use briquette for heating
Condition for Assistance	Current subsidies for private sector 100% government expenditure (provision of briquette voucher)

● Provision of Briquette Voucher by Year

(unit : KRW billion)



● Process of Using Briquette Voucher





# Development of Advanced Mine Reclamation Technology

# mireco

## Management Principles

Under the circumstances that Korean mine damage management market is facing its limit in growth and significance of securing resources from global market is increasing, MIRECO is making its ceaseless efforts for continuous growth by expanding its global business and improving its business performance. Simultaneously, the Corporation has been pursuing shared growth with small and medium-sized enterprises and other partnering entities by conducting research on demand and making relevant programs. The Corporation will continue to show its commitment to become an institution with expertise in mine damage management that can achieve shared growth with small and medium-sized enterprises.

## Progress

- Offering training programs to nurture human resources with global mindset
- Contract in industrial cooperation projects and global cooperation project
- Securing experts in global business and execution of global partnership programs
- Contract system to ensure fairness and transparency

## Issues

- Expansion of global mine reclamation business
- Increase of significance of shared growth with partnering companies
- Promotion of social responsibility within value chain
- Encouragement of sustainable management of mutually invested companies and partnering companies

## Performances

Major Indicators	2009	2010	2011	Office in Charge
Budget Allocated for Collaboration in R&D (KRW billion)	-	3,296	3,309	General Administration & Planning Office
Amount of Expenditure for Purchase of Products from Small/Medium-sized Businesses (KRW billion)	-	815	763	Institute of Mine Reclamation Technology, Mine Reclamation Planning Department
Number of Participants in Professional Expertise Training Course(people)	143	88	85	Institute of Mine Reclamation Technology
Level of Technological Competence in Comparison with Advanced Countries (score points)	-	77.5	79.9	Overseas Cooperation & Business Center, Institute of Mine Reclamation Technology



46\_ Enhancement of Applicability of Five Core Technologies

48\_ Strengthening Network of Technological Cooperation in both Korea and Overseas and Training Qualified Professionals

51\_ Cooperation for Shared Growth



# Enhancement of Applicability of Five Core Technologies

technology, in particular, are essential for resource development in overseas and making presence in developing countries and the Corporation became aware of significance of relevant development strategies.

## Mine Damage Prevention Technology Project in Brief and Future Plans

From 2007 to 2011, in accordance with Development Strategies for Mine Damage Prevention Technologies-Phase 1, technology development projects have been carried out for thirty five sub-tasks out of eighteen tasks in seven categories. The projects have made achievements in various forms such as patent application and registration, registration of new technologies and publication of academic articles. Technological competence has been improved that it is scoring 78% of the level of advanced countries. Five core technologies including measurement technology of ground subsidence using optic fiber and technology of detoxing mineral residues are especially regarded to be leveling with or leading over those of advanced countries.

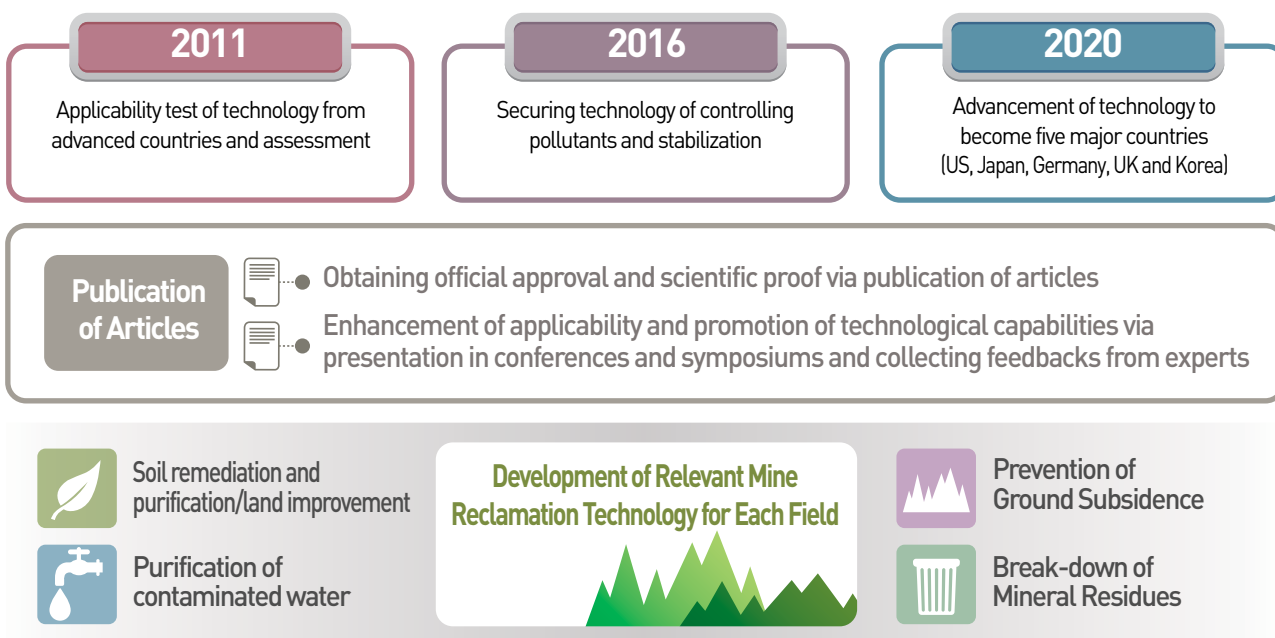
Natural water purification technology, in particular, is an innovative technology that does not require energy consumption and is currently introduced in thirty mine water purification facilities to improve water quality while reducing maintenance costs of facilities. measurement technology of

## Securing Highly Efficient Mine Reclamation Technologies

### Motivation Behind Securing Mine Reclamation Technologies

Since the establishment of MIRECO in 2006, competence of Korean mine damage management technology reached only 63% of advanced countries. Inefficiency and malfunction of mine damage prevention facilities incurred costs and projects were at the nascent stage that they showed little difference from carrying out civil engineering projects, with relevant technologies imitating from those of advanced countries. The Corporation faced urgent need for developing its own technologies, by benchmarking those from advanced countries. Mine prevention technology and reclamation

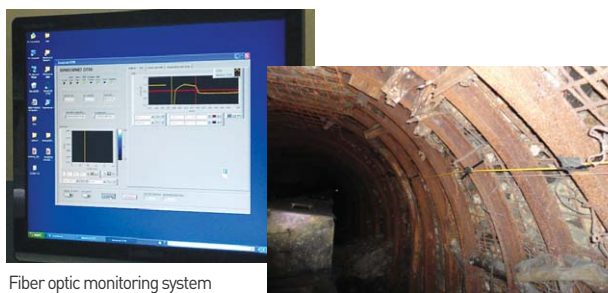
#### ● Mid and Long-term Strategy for Development of Mine Reclamation Technology







Passive treatment of Acid mine drainage



Fiber optic monitoring system

Installation of fiber optic through the adit

ground subsidence using optic fiber draws a distinct line from conventional technology as it has paved the way for establishment of remote monitoring system. In particular, because measurement system can be controlled by smartphone devices, the technology enables remote controlling areas facing risk of subsidence in real time. The Corporation has established the automated system in Kyungdong Mining Station for monitoring and deployed the system in other sites including Moolgeum Mine and Keumjwa Mine to conduct monitoring activities.

The Corporation has invested KRW 32 billion for Development Strategies for Mine Damage Prevention Technologies-Phase 2 Development Strategies for Mine Damage Prevention Technologies-hase 2 (2012 ~ 2016) to execute relevant technology development projects. The projects are designed for early stabilization of seven mine damage prevention technologies based on five core technologies and invest approximately 5% of budget for mine damage prevention projects in technology development and establishing infrastructures. Furthermore, the Corporation will maximize efficiency of projects by actively sharing technologies via technological transfer to businesses with expertise in relevant areas.

#### ● Achievement in Technology Development

(unit: KRW billion)

Patent Application	Patent Registration	New Technology Registration	Publication of Articles
31	24	1	53

※ As of the end of 2011.

## Securing Public Confidence in Mine Damage Investigation and Result of Analysis

### Motivation Behind Securing Public Confidence

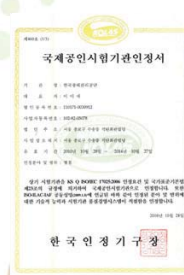
The Corporation is putting its emphasis on securing public confidence for results on analysis of samples collected before and after mine damage prevention projects. The Corporation has faced demand for objective evaluation results and limit in reliability after a series of evaluation on skill levels. Thus efforts are made to culminate effectiveness of project execution and improve reputation through securing public confidence.

### Current Status and Future Plans

The Corporation was designated as a institution with expertise in soil science by the Ministry of Environment in Nov. 2007 and has maintained its status after undergoing the process of evaluation of skill level every year. In addition, the Corporation has officially been recognized as an international testing institution in Feb. 2010 and in December of the same year, it has received a "quality control statement" to be recognized for excellence in measurement and analysis, within the framework of law enforcement regulation on environment technology development and assistance. The Corporation will participate in skill level evaluations certified by KOLAS, at least twice for every category every year and continue its efforts to secure public confidence and enhance capabilities in analysis by actively involving in commissioned tasks from outside of the organization.



Quality control statement



Recognition as an international testing institution



# Strengthening Network of Technological Cooperation in both Korea and Overseas and Training Qualified Professionals

Most information on mines and mine damages has been kept in paper form in the past. However, MIRECO has faced increasing need for systematic management of its data due to concern for loss of information and accidents related to mismanagement of information.

## Establishment of GIS\* and Utilization

### Motivation Behind Establishment of Mine GIS

MIRECO has faced increasing need for effective tools for decision-making as it faced challenges in providing relevant information in the process of establishing plans for mine damage prevention projects or problems in the process of SOC projects caused by lack of relevant information on potential environment damage due to mining. Against such backdrop, the Corporation has inaugurated a series of projects to establish GIS to enhance accessibility to information and convenience in management by systemizing database of relevant information.

\*GIS : Geographic Information System

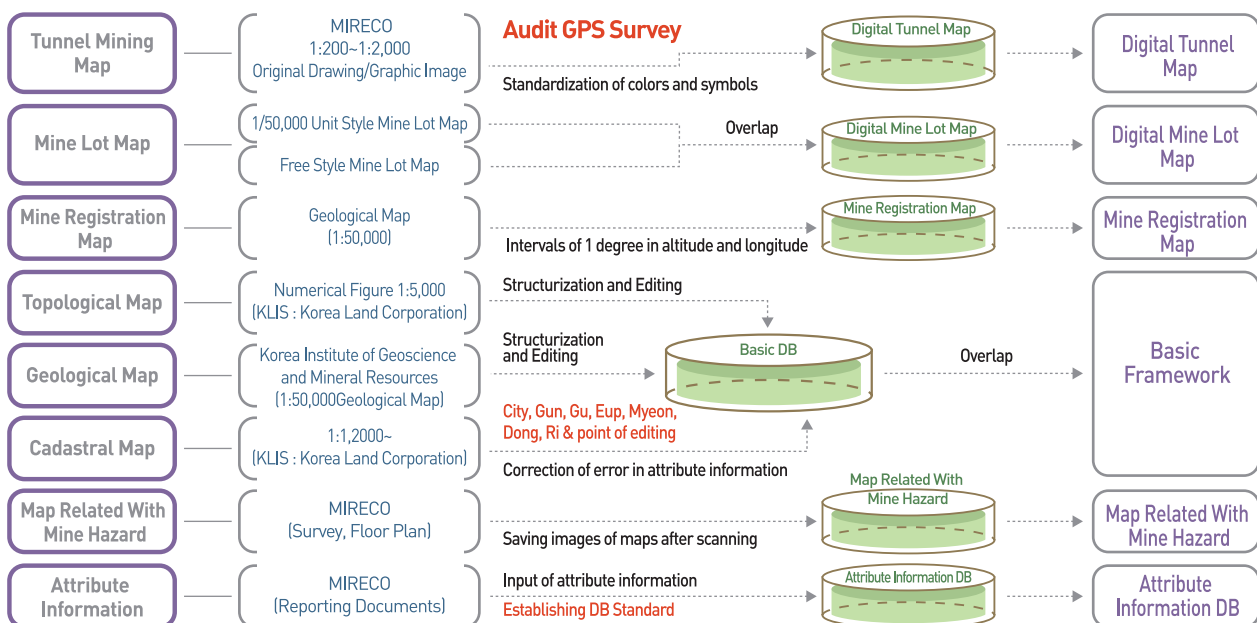
### Current Status and Future Plans

The Corporation has begun to establish GIS for all mines across Korea since 2003 and completed for all coal mines in 2009. Mineral and non-mineral mines have been undergoing GIS establishment since 2010. The Corporation has scheduled to have seven hundred mineral and non-mineral mines deploy GIS by 2016. Furthermore, the Corporation plans to make full use of GIS by reinforcing analysis function of GIS and applicability.

#### ● Deployment of Mine GIS

2009	Deployment of GIS in all coal mines in nationwide (349 mines)
2010	Inauguration of deployment projects for 152 mines (metal and non-metal)
2011	Deployment in 160 mines (metal and non-metal)
2012	Under process of deployment projects for 180 mines (metal and non-metal)

#### ● Detailed Information on GIS Database



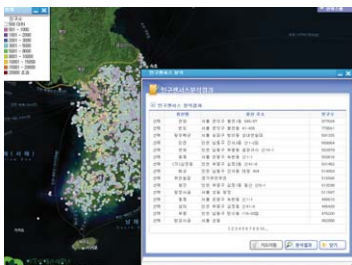
## Establishment of Database

GIS provides basic information on mines (nationwide), underground maps, aerial photographs, geological/topographical maps, land registration maps, maps of mining areas and research materials on actual conditions of mine damage.

## Web GIS and Mobile GIS



Underground map

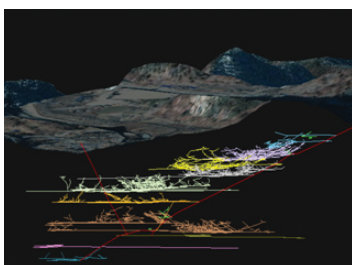


Data analysis using census

GIS is developed into a system suitable for sites of mine damage via continuous analysis on trend in GIS and IT industries and collection of users' opinions and demand. GIS enables space analysis and query on information such as database of mine damage, underground maps, research materials on actual conditions of mine damage and reports on mine damage prevention

projects. The System has reinforced convenience in service by providing information sourced from other institutions such as census and topographical information. In addition, mobile system has been developed and is undergoing pilot tests to provide instant access to relevant information and thereby reinforce efficiency of on-site works.

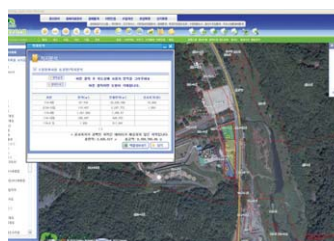
## Utilization of GIS in Mine Reclamation Projects



Three dimensional underground map

The Corporation makes full use of information sourced from GIS when conducting investigation on actual conditions of mine damage and executing mine damage prevention projects.

Furthermore, three dimensional underground map and cross-sectional diagram are actively used in ground subsidence prevention projects and topological information is used in the process of decision-making in selecting sites for construction of water purification facilities.



Analysis on sites for construction of water purification facilities

## Utilization of GIS in SOC Projects

The Corporation provides relevant information and floor plans for SOC projects, evaluation on stability of Dong Won Corporation's abandoned mine tour organized by Kangwon Land and follow-up research activities.

### ● Utilization in SOC Projects

	Inquiries	Project
The Ministry of Environment, Wonju Office	Provision of underground maps	Inquiry of reference material for review of waste processing business proposal
Chonnam University	Provision of underground maps	Evaluation on stability of Dong Won Corporation's abandoned mine tour organized by Kangwon Land and follow-up research activities
National Agricultural Products Quality Management Service	Provision of information on current status of mines	Request for information to link information with abandoned metal mines

## Professional Training Programs for Experts in Mine Damage Prevention



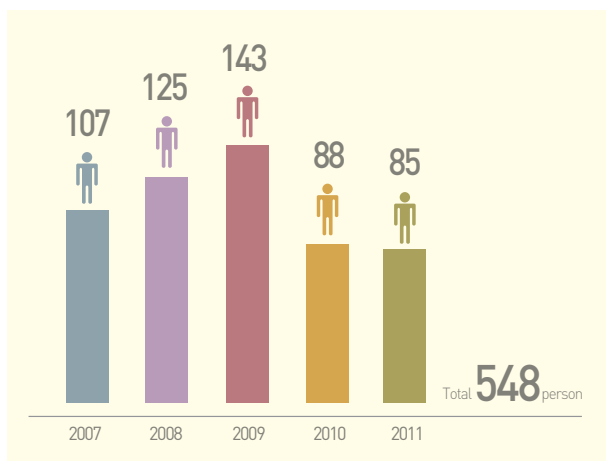
Training program for experts in mine damage prevention

The Corporation is partnering with Gangwon National University to offer professional training programs for experts in mine damage prevention. The Corporation reinforces applicability of the

program at working sites by balancing theory and practice in reclamation technology for businesses with expertise in mine damage prevention, mining rights holders, students studying geological and resource engineering and experts in mine damage prevention and resource management. The Corporation continues its efforts in meeting needs of participants by receiving feedbacks after completion of each training program. Further, the Corporation promotes networking among experts in mine damage prevention through professional training programs and thus elevates its reputation as the sole institution with expertise in mine damage management in Korea.



● Number Participants in Professional Training Programs



## Establishment of Network of Technological Cooperation in Korea

### Mine Reclamation Technology Forum

MIRECO hosts Mine Reclamation Technology Forum every year, inviting experts from industries and academia to promote technical cooperation and networking. Institute of Mine Reclamation Technology discloses performance in development project of mine damage prevention technology in the event, and provides grounds for discussion among experts to draw ideas for advancement of mine damage prevention technologies. Agendas and items discussed during the forum are later reflected in the process of mine damage prevention technology development. As such, Mine Damage Prevention Technology Forum continuously takes its part in establishing foundation for cooperation in mine reclamation technology among experts from industries and academia.

## Establishment of Network of Technological Cooperation in Overseas

### International Symposium on Mine Reclamation



2011 International Symposium on Mine Reclamation

The Corporation hosts a biannual international symposium since 2007 to promote networking and technical cooperation among experts in mine reclamation from around the globe to create market opportunities in overseas resource development and mine reclamation. In International

Symposium on Mine Reclamation in 2011, three hundred fifty participants from nineteen countries have taken part to discuss mine reclamation technologies of different fields and sustainable mine development. In parallel, the symposium organized a program to visit mine reclamation project sites in Korea to demonstrate potentials of Korean mine reclamation technology and provide grounds for building global network in global mine reclamation. The Corporation will show its commitment to expand the scope of assisting academia and businesses in building global network and promote Korean mine reclamation technologies.

### Execution of Technological Cooperation Projects on Mine Damage Prevention

The Corporation is conducting a variety of cooperative projects related to mine reclamation in overseas by signing MOUs with related institutions in overseas, executing global mine reclamation projects and providing technical training programs. In particular, to provide assistance for developing countries to make presence in global mine reclamation market, the Corporation has signed MOUs with DPIM in Thailand and thus secured grounds to make footage in mine reclamation market in Thailand. Additionally, the Corporation has signed with VINACOMIN in three mine reclamation projects to make presence in Vietnamese market.



MOU with DPIM



Contracts with VINACOMIN of Vietnam

Further, the Corporation is conducting a series of pilot tests for processing sewage from mines in Malaysia to expand its business to the country. In addition, the Corporation has been commissioned by KOICA to train public servants in mining industry from Algeria and seven other ASEAN member countries and offers invitational training programs in mine reclamation technology for employees of VINACOMIN to provide opportunities of experiencing Korean mine reclamation technology. Through various efforts, the Corporation has secured its leading position in mine reclamation and foundation for global expansion.

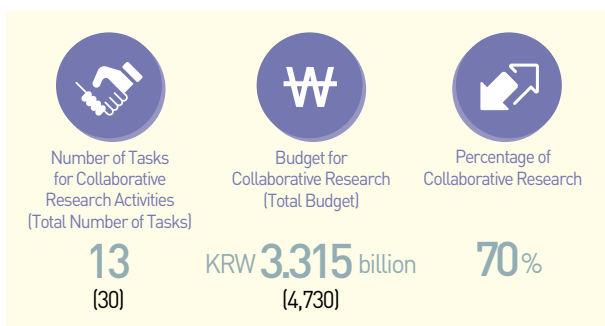
## Cooperation for Shared Growth

### Expansion of Technical Assistance and Cooperation in Research Activities

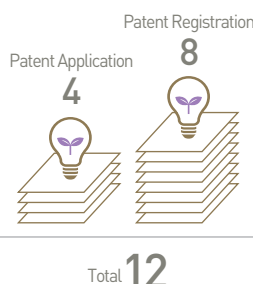
#### Shared Growth Made Possible by Collaborative Research Activities Between Academia and Industries

To accelerate advancement of mine reclamation technology and reinforce applicability, collaborative research activities are conducted among experts from academia and industries. During the 2011 alone, thirteen out of thirty technology

##### ● Achievement in Collaborative Research Activities (2011)



##### ● Patent Application/Registration (2011)



##### ● Publication of Articles (2011)



development tasks have been performed under collaboration with academia and related businesses and expenditure for research has amounted KRW 3,315 billion, which is 70% of total budget allocated for research. These research activities have made remarkable achievements such as publication of articles and patent registration. The Corporation is in its process of technology transfer to private enterprises to share technological achievement and promote cooperation for shared growth.

### Customized Education Service to Reinforce Technological Competence

The Corporation offers customized education service to reinforce professional skills of engineers and thus nurture experts that can apply their knowledge in working fields. Such professionals are playing their pivotal roles in numerous mine reclamation businesses. Furthermore, the Corporation publishes a technical journal to promote new technology and deliver updated news on recent trend in industry and thus culminates its efforts in sharing and promoting up-to-date mine reclamation technology.

### Business Assistance by Utilizing Mine Reclamation Technology

MIRECO has been the only institution with expertise in mine reclamation in Korea and based on its technological capabilities, it is providing eco-friendly and sustainable business assistance for mining and other related enterprises. The Corporation has recently completed formulation of mine reclamation for Sang Dong mine (Korea Zinc Company Inc., 2011) and is conducting research activities to find ideas of using coal ashes as part of mine damage prevention projects (KOSPO, 2010 ~ 2013)

## Reinforcement of Capabilities of Small and Medium-Sized Enterprises in Mine Damage Prevention

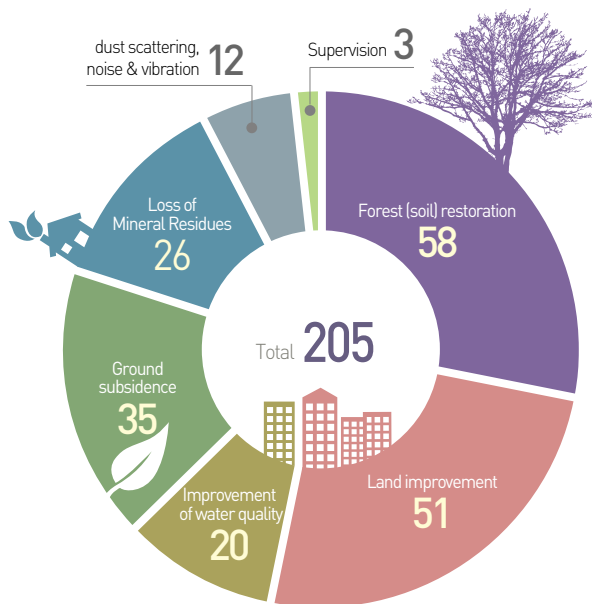
### Overview of Businesses with Expertise in Mine Damage Prevention

The Corporation is making its relentless efforts to realize shared growth and development, as well as reinforcing efficiency and securing expertise by managing enterprises with professional technology and relevant experience in managing.

#### ● Criteria for Registration of Businesses with Expertise in Mine Damage Prevention

	Criteria for Registration
Capital	KRW 100 million in each field of expertise
Technological Capability	Technological capabilities in each field of expertise (six in each, nine for supervising)
Equipment	Furnished with essential tools
Restrictions	Registration is allowed in less than three fields (except supervision)

#### ● Number of Professional Mine Damage Prevention Business (as of Nov. 2011)



### Coherence in Establishing Foundation for Project Execution

Based on result of research on mine damage in Korea nationwide, MIRECO has conceived Basic Plan for Mine Damage Prevention-Phase 2 (Mining Damage Prevention Mater Plan : 2012~2016) to earn approval from the Ministry of Knowledge and Economy and secured grounds for mine reclamation projects. In parallel, the Corporation is assisting small and medium-sized partnering companies with expertise in mine damage prevention by providing relevant information essential for long-term business plans.

#### ● Number of Mines Affected by Mine Damage

(mines affected by mine damage/ mines undergoing development)

	Mines			Coal Mine	Total
	Metal	Non-metal	Subtotal		
Operating Property	26/56	208/531	234/587	6/6	240/593
Idle Mine	7/21	36/101	43/122	0/0	43/122
Abandoned Mine	1,268/2,089	1,041/2,198	2,309/4,287	279/394	2,588/4,681
<b>Total</b>	<b>1,301/2,166</b>	<b>1,285/2,830</b>	<b>2,586/4,996</b>	<b>285/400</b>	<b>2,871/5,396</b>

※ Note : he amount of water purified indicates the average of 2011.

#### ● Basic Plan for Mine Damage Prevention-Phase 2

(unit: KRW billion)

Types	2012		2013		2014		2015		2016	
	Location	Budget	Location	Budget	Location	Budget	Location	Budget	Location	Budget
Operating Property	66	195	81	188	71	180	78	181	90	186
Abandoned Metal Mine	90	475	64	487	45	421	102	402	122	501
Abandoned Coal Mine	34	247	35	204	30	244	53	256	68	151
Abandoned Asbestos Mine	11	107	11	230	6	216	7	259	6	223
<b>Total</b>	<b>201</b>	<b>1,024</b>	<b>191</b>	<b>1,109</b>	<b>152</b>	<b>1,061</b>	<b>240</b>	<b>1,098</b>	<b>286</b>	<b>1,061</b>

## Shared Growth with Professional Businesses with Expertise in Mine Damage Prevention

### Customized Professional Training Courses for Professional Business



Customized Professional Training Courses

To ensure competitive edge of partnering companies essential for shared-growth, the Corporation has opened ground for technical corporation, training and communication and thus secured foundation for

shared growth. In addition, by offering basic courses and advanced courses in its training programs, the Corporation's training programs have met needs from a variety of professional businesses.

#### ● Customized Training Courses Based on Research on Demand

	Schedule	Items
Basic Course	Phase 1 (July 12 ~ 13, 2011)	Basic theory and practice
Advanced Course	Phase 2 (July 14 ~ 15, 2011)	Advanced course and presentation on case studies



### ● Curriculum of Customized Professional Training Courses

	Curriculum
Enhancement of Supervisory Capabilities (Professional Training)	Review and reporting construction-related documents
	Training in calculation of construction costs
	Technical improvement for effective ground reinforcement
	Understanding basics of waste processing and related legislations
	Purification method of soil and ground water
Presentation (Communication)	Practicing session to experience on-site supervision works
	Policy direction of Basic Plan for Mine Damage Prevention-Phase 2
	Case studies on mine reclamation projects and discussion
Professional Skills	Ideas for effective mine reclamation projects and win-win strategies
	Acquiring better knowledge in mine reclamation project assistance system

### Workshop on Shared Growth for Professional Businesses



Workshop on Shared Growth

The Corporation has hosted Workshop on Shared Growth for Professional Businesses to strengthen network and cooperative relationship with professional businesses with expertise in mine damage

prevention and mining rights holders of operating properties. The workshop held introductory sessions on mine reclamation technologies, business information sessions, and presentations on partnership in global business and discussion with CEOs. The Corporation has increased awareness for shared growth and laid foundation for sustainable development.

### Efforts to Purchase Products from Small & Medium-Sized Enterprises

#### System Improvement to Promote Purchase of Products from Small & Medium-sized Enterprises

To increase volume of purchase of products from small and medium-sized enterprises, the Corporation hosted discussions with procurement managers from the headquarters and branches to seek ways to enhance efficiency in procurement process. The Corporation has recently added favorable conditions for small and medium sized enterprises to boost sales of their products. In addition, the Corporation ensures increase of volume of purchase from small and medium-sized enterprises by establishing close cooperative system among the headquarters and branches. For instance, the Corporation sets up procurement plans in the beginning of every year to purchase products from small and medium enterprises and undergoes monthly check-up by reviewing procurement records linked with database provided by Small and Medium Business Administration

(SMBAs) to maintain procurement volume to a certain level.

### Win-win Strategies for Small and Medium Enterprises Run by Minority Groups

Small and medium-sized enterprises run by minority groups such as people with severe disabilities or women face challenges, big or small, maintaining business relationship with other businesses. The Corporation pursues win-win strategies for these businesses by encouraging them throughout all business process, offering relevant awareness programs for employees and enabling new businesses searchable in the organization's information system. As a result, the Corporation sees constant rise in number of activities and expenditure related to cooperation with small and medium-sized businesses. The Corporation will continue to show its commitment to be perceived as "MIRECO that pursues win-win with small and medium-sized enterprises."

#### ● Performance in Cooperation with Small and Medium-Sized Enterprises

	2010	2011	MISC
Number of Purchase from Businesses Run by People with Severe Physical Disabilities	306	323	Increased approximately 1.1 times
Amount of Purchase (KRW million)	140,156	227,614	Increased approximately 1.6 times
Number of Purchase from Businesses Run by Women	69	86	Increased approximately 1.2 times
Number of Companies	17	25	Increased approximately 1.5 times
Social Enterprises	160	271	Increased approximately 1.7 times
Amount of Purchase (KRW million)	174,858	210,467	Increased approximately 1.2 times
Number of Cases of Purchase Made from Veteran's Community	4	15	Increased approximately 3.8 times
Amount of Purchase (KRW million)	703	1,082	Increased approximately 1.5 times

#### ● Diagram to Increase Procurement Rate



# Global Expansion of Mine Reclamation Business

# mireco

## Management Principles

MIRECO has sought ways to pair mine development for securing natural resources, the very foundation for industrial development, with mine reclamation to respond to resource nationalism. On the other hand, the Corporation is actively conducting activities related to sustainable development by balancing mine development and environment preservation to maximize effectiveness of resource use and minimize environmental pollution. Further, the Corporation will show its commitment to reinforce foundation for growth of global business and secure growth momentum.

## Progress

- Inauguration of Overseas Cooperation & Business Center and reinforcement of its function
- Formulation of vision and expansion strategy of global business
- Unearthing high value-added businesses to invigorate global business expansion

## Issues

- Intensified competition to secure resources (e.g. resource nationalism)
- Mine damage management for sustainable development
- Globalization of market, competition and supply chain

## Performances

Major Indicators	2009	2010	2011	Office in Charge
Percentage of Increase of Budget for Expansion of Global Business out of Total Budget for Mine Reclamation Projects	0.17%	0.17%	3.3%	Overseas & New Project Office



56\_ Reinforcement of Foundation for Global Business

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# Reinforcement of Foundation for Global Business

## Reinforcement of Foundation for Global Businesses

### Purpose of Global Expansion

Sustainable development has been placed at the center of attention in international society these days. Mining industry is no exception from the recent trend. To make sustainable development possible for mining industry, environmental sustainability has to be ensured through mineral production and manufacturing processed products and in parallel, social sustainability to resolve inequality in local communities. To such extent, MIRECO has contributed to spread of keynote for green growth by making timely response to demand from new mine reclamation market in Asia, Latin America and Africa and further, it is making its global expansion to play its part in enhancing competitive edge in global resource development.

### Establishment of Vision and Expansion Strategy for Global Business

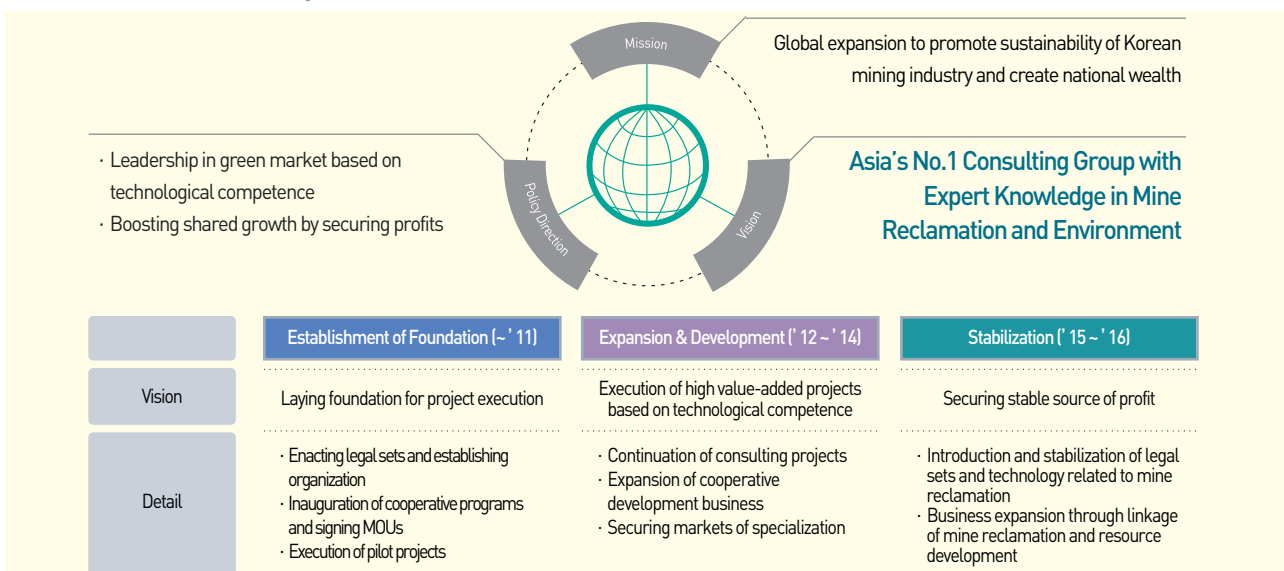
The Corporation has recently established vision and expansion strategy

for global business to set policy direction and reinforce effectiveness of global expansion. The foundation has been laid by refurbishing legal sets, establishing new organizations and inaugurating exchange and cooperation with countries that the Corporation plans to make its presence in. In particular, since 2009, the Corporation has signed with thirty-three institutions and governmental agencies related to mining industry and mine reclamation from fourteen countries. To identify and create demand for mine damage prevention, the Corporation has invited two hundred public servants in related fields from twenty-seven countries to participate in twenty-two training programs (fourteen of them commissioned by KOICA and APEC).

### Academic Activities and Preparation for Operation of Global Business

The Corporation has collaborated with related academic associations to host a biannual event, "International Symposium on Mine Reclamation" and especially in 2011, the event has seen its success having one hundred forty participants from twenty countries. The participants were as diverse as scholars, lawmakers of countries the Corporation is attempting to make presence in, ministers, deputy ministers, working-level officials and experts from academia and industries. Furthermore, the Corporation began to provide consulting service on "balancing demands from mining industry, local communities and environment sector for sustainable mine development" for APEC. It has recently won a contract for an ODA project to conduct investigation on actual condition of mine damage and establishment of database on mine damage in Mongolia from KOICA as well. As such, based on its own capabilities, the Corporation is preparing for global expansion and expand base of mine reclamation.

#### ● Structure of MIRECO's Global Project Execution



# Establishment of Business Models by Market Types

## Listing Market to Focus and Formulation of Strategies

For MIRECO, this year has marked the first year to start “expansion and development” of global business, according to global expansion strategies forged by the Corporation itself. To maximize effectiveness and efficiency of global expansion, the Corporation has undergone scrutiny over overseas market that it has been seeking to make its presence in.

### Setting Priorities in Overseas Expansion

Global mine reclamation market is estimated to be KRW 9 trillion and KRW 536 trillion in terms of mine deposit. In order to set priorities to make footage in global mine reclamation market, the Corporation has carefully listed potential markets under the category of size of mine reclamation market, level

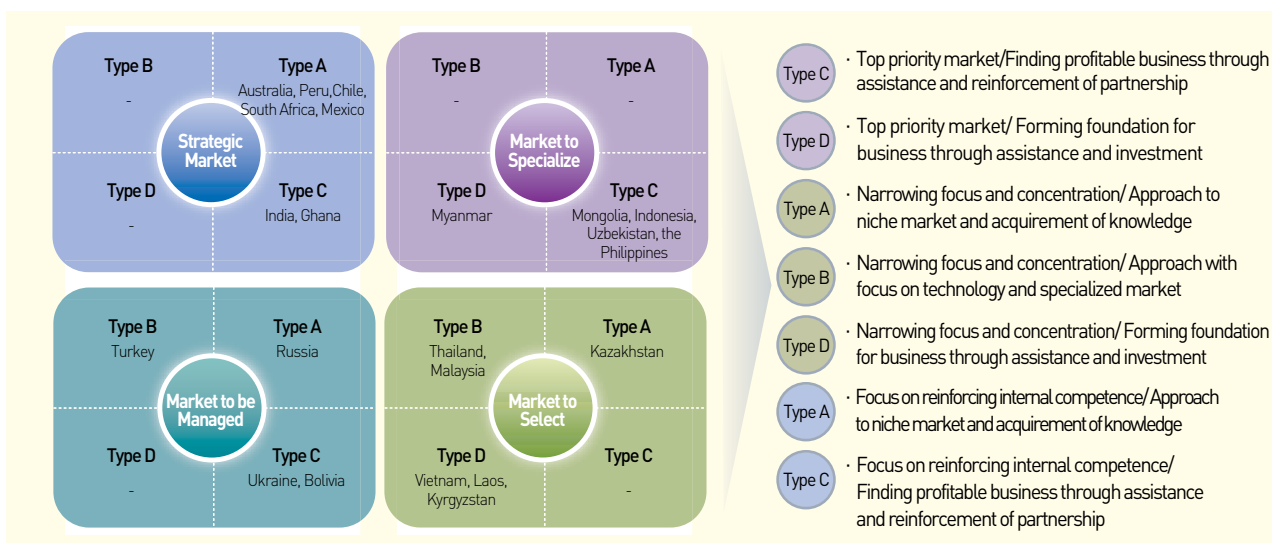
of economic freedom and level of awareness for environment. These countries are again categorized into four markets by attractiveness and appropriateness. In conclusion, the Corporation has selected five countries high in both attractiveness and appropriateness, Mongolia, Indonesia, the Philippines, Myanmar and Uzbekistan.

## Unearthing High Value-Added Businesses for Development of New Market

The Corporation has listed five core mine reclamation technologies that have global competitive edge, based on survey conducted with experts from industries and academia. For success in global market, high value-added businesses such as EIA (environment impact assessment), investigation and design should be the subjects of pursuit, based on technology-intensive and high value-added capabilities.

Against such backdrop, the Corporation is actively utilizing “Technology of Mine GIS and DB Establishment,” one of five core technologies in investigating mine damage and building database system in Mongolia. Also, the Corporation is executing its projects in Kyrgyzstan and Vietnam by fully utilizing five core technologies. The Corporation will continue to unearth high value-added businesses.

### ● MIRECO' s Global Expansion Model by Types (Strategy)



# Mine Damage Management for Sustainability in Development

## Intense Competition to Secure Resources

Developing countries of Asia, Africa and Latin America have recently begun to claim sovereignty over resources produced in their own countries and expand rights for dominance. Such phenomenon is referred as resource nationalism and it is increasing emerging as social issues. The Corporation is responding to the issue by concurrently carrying out projects of mine development to secure resources and mine reclamation.

## Sustainable Development

In the wake of global warming, energy crisis and formulation of “green growth” policy by the government, the Corporation is

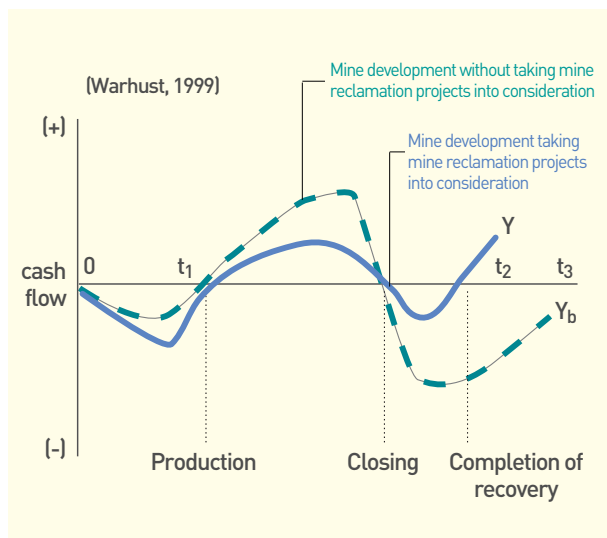
proactively materializing its ideas for sustainable development to minimize environmental pollution and maximize benefits of effective use of resources by balancing between mine development and environmental protection.

In fact, without consideration for mine reclamation projects from the stage of mining, a mining business can make profit as it has invested relatively less but after disuse of the mine, cash flow will drastically drop to cause more loss (Economic Benefits from Sustainable Development/Warhust, 1999). As such, the Corporation is executing sustainable development projects to balance between two core values, resource development and protection of environment and is providing assistance in various forms via numerous projects and systems.

### ● Sustainable Development Through Mine Development And Environment Protection



### ● Economic Gains From Sustainable Development



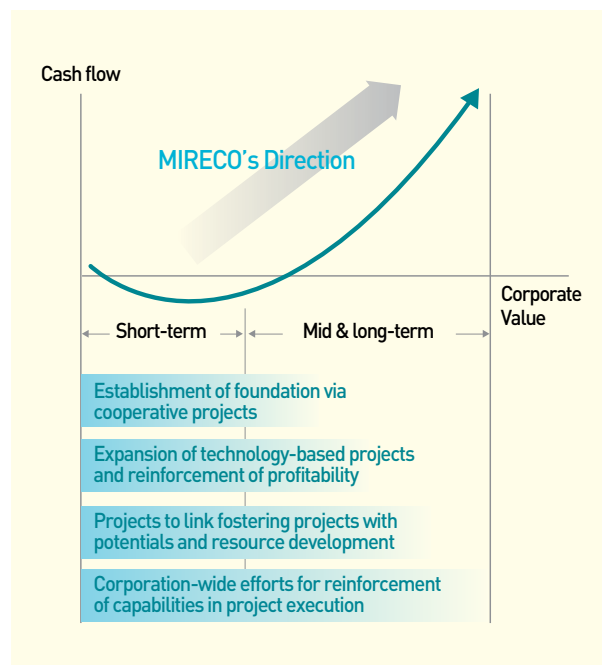


## Mine Damage Management for Sustainable Development

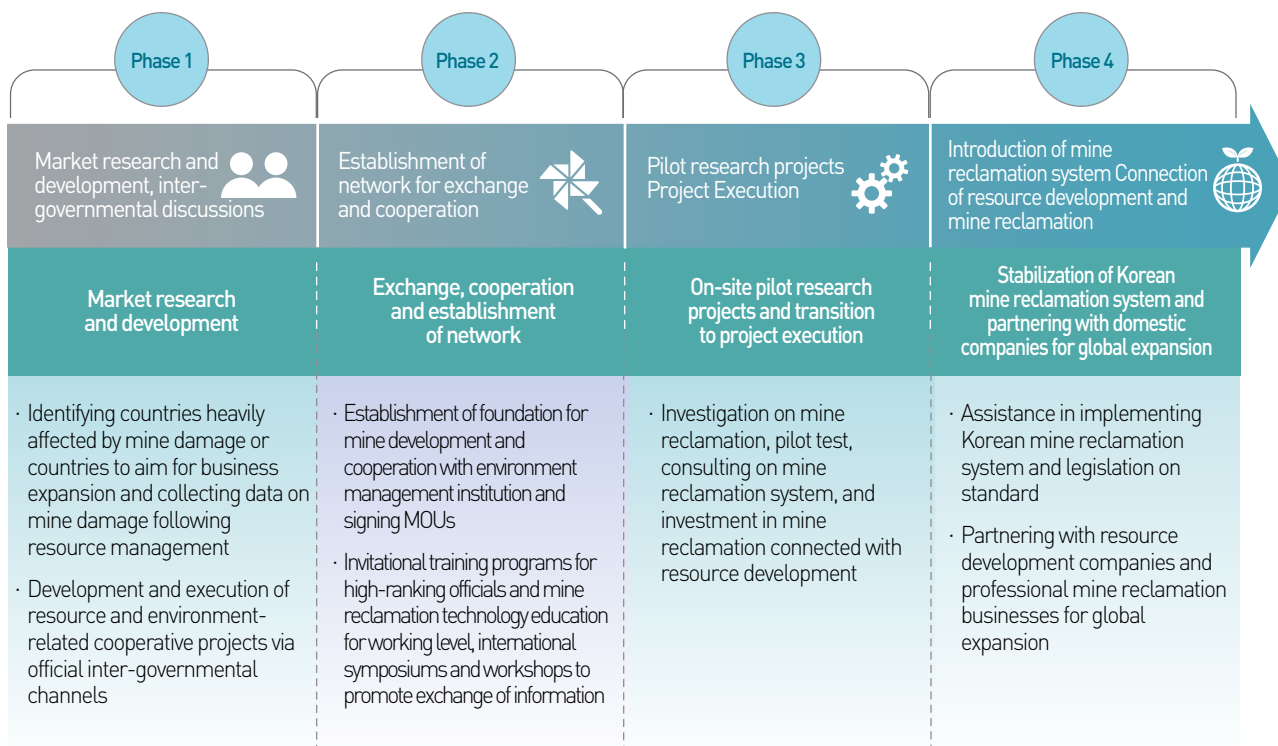
The Corporation is developing cooperation projects and promoting international cooperation in mine reclamation by introducing mine reclamation system, mine reclamation projects and case studies in Korea.



### ● Policy Direction of MIRECO's Overseas Cooperative Projects



### ● Phases Of Cooperative Projects In Overseas



# Expansion of Sustainable Infrastructure

# mireco

## Management Principle

In order to transform MIRECO into a productive organization, an enjoyable workplace, and an entity loved by the people, MIRECO has introduced the GWP (Great Work Place) corporate culture program to realize a happy workplace through harmony and communication. MIRECO also promotes a fair HR policy by establishing HR strategies for continually developing the capacities of our employees and establishing a culture of coexistence between work and family. As a result of our efforts on customer-centric empathy management, MIRECO was selected as leading institution in customer satisfaction for four consecutive years since 2008. Going forward, we will continue to strive to improve the satisfaction of our employees and customers alike.

## Progress

- Selection of customer satisfaction initiative leader and improvement of voice-of-customer (VOC) satisfaction
- Customer satisfaction and hospitality in phone call response survey conducted by the Ministry of Strategy and Finance and MIRECO
- Internal monitoring and development of MIRECO Ethics Index (MEDEX)
- Reinforcement of human resource development


## Issues

- Increase of diverse and intensified demands from customers
- Protection of customers' personal information
- Increase of demand for welfare benefit and balancing of work-life balance from employees
- Training and reinforcement of capacities for employees
- Health and safety at workplace

## Performances

Major Indicators	2009	2010	2011	Office in Charge
Number of Employees(Male/Female, Regular/Non-Regular)	158/43, 183/18	157/45, 175/27	162.5/ 46.5, 193/10	Administrative Support Office
Turnover Rate(%)	4.23	2.92	4.23	
Number of Hours Designated per Employee	36.65	35.46	16.62	
Satisfaction Level of Employees Benefit Package(%)	-	91	94	
Number of Employees Affected by Accidents/ Accident Rate(%)	0/0	4/ 2.0	0/0	
Level of Customer Satisfaction (Score Points)	95.5	98.4	98.2	General Administration & Planning Office
MEDEX (Score Points)	72.2	72.2	76.9	Administrative Support Office



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- 62 Expansion of customer-centric empathy management activities
  - 64 Establishment of Open Employment and Performance-based Management Structure
  - 66 Internalization of ethical management
  - 68 Formulation of GWP
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## Expansion of Consumer-centric Empathy Management Activities

MIRECO constantly strives to maintain our status as a leading customer satisfaction (CS) organization. As part of the efforts to enhance the voice-of-customer (VOC) satisfaction, the Corporation has designated the staff in charge of the customer contact department as the CS initiative leader.

### Customer Satisfaction Management System

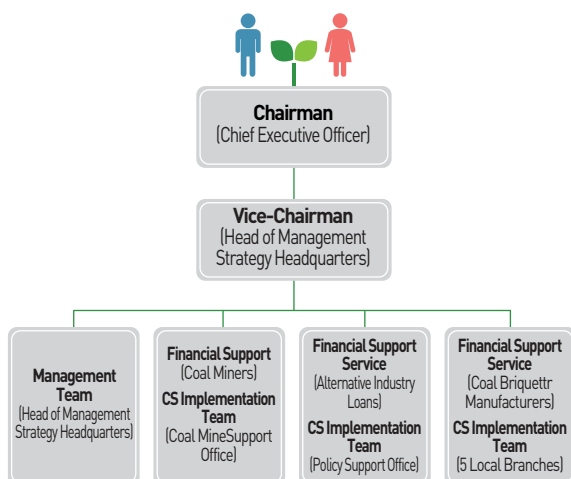
#### Selection of Customer Satisfaction Initiative Leader

MIRECO is working hard to improve customer management in many ways. Through CS initiative leader meetings held every quarter, the Corporation identifies and inspects the current state of customer satisfaction and shares the activities conducted by each of local branches. In order to enhance the capacities of CS initiative leader, workshops are held to analyze the causes of customer churn and types of complaints, and to discuss ways to resolve these issues.

#### Customer Satisfaction Survey Conducted by the Ministry of Strategy and Finance

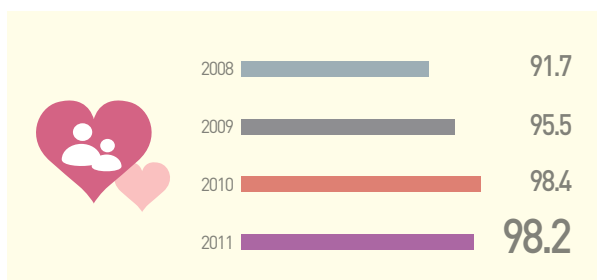
Every year, the Corporation undergoes a public service customer satisfaction survey that is supervised by the Ministry of Strategy and Finance (MOSF). The survey is conducted in the form of one-on-one individual interview of adult males and females over the age of 19 who have received the services one or more times. The 2011 survey polled mine workers and heads of coal briquette

#### ● Customer Satisfaction Management Organization



manufacturers and companies that received alternative industry loans. The survey score was derived in the form of quality index, satisfaction index and performance index according to the answers of the survey that was conducted based on the PCSI (public service customer satisfaction index) model. As a result of continued efforts to improve the quality of our services, THE CORPORATION has been rated as a leading customer satisfaction organization for four consecutive years since 2008 and will continue to be committed to customer satisfaction in the future.

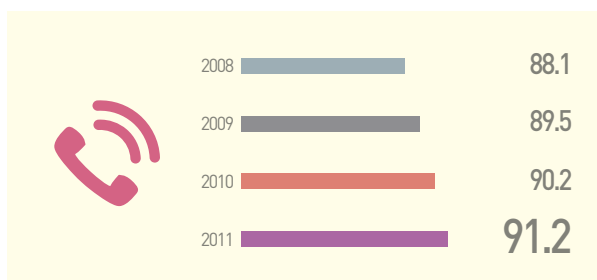
#### ● Result of Customer Satisfaction Survey



#### In-house Customer Satisfaction and Corporate Image Survey

In addition to MOSF's customer satisfaction survey, the Corporation also conducts an in-house customer satisfaction and corporate image survey of mine reclamation businesses. The voices of customers that are collected are analyzed and subsequently used to manage each of the customer groups.

#### ● Result of Phone Call Response Hospitality Survey



#### Phone Call Response Hospitality Survey

The Corporation is currently striving to enhance the standards in responding to customers' phone calls at all times by providing response education and manuals to each of our local branches. Phone call response hospitality surveys of not only customer contact departments, but also all employees are conducted every year to check the status of the Corporation's customer response. The level of the response hospitality has steadily been on the rise since 2008.

#### Inspection of Customer Service Charter Compliance

The Corporation has established customer service charters for

all business services. The compliance of the implementation standards of core services is inspected at the end of every year. There are four items subject to the inspection including soil contamination and water pollution standards within our mine damage prevention and reclamation businesses. Every year, an accurate diagnosis of the data and compliance is conducted. At the company-wide level, implementation standards for customer response services have been established in the efforts to best serve our customers at all times.

## Reinforcement of Personal Information Protection

The Corporation strictly prevents the leakage, forgery and alteration of customer information through various ways. In 2011, there have been no instances of customer personal information protection breaches, as well as no civil complaints and law violations related to private information that have been brought against THE CORPORATION.

### Personal Information Protection And Management

The Corporation abides by the Act on the Protection of Personal Information. Under user consent, the Corporation collects a minimal amount of personal information, which is then encrypted to enhance security. In addition, a separate personal information protection staff and officer are designated to prevent hacking or personal information leakage accidents. In case of outbound services, we have incorporated the I-PIN service for active use. We are also focusing our efforts on enhancing cyber-security by quickly responding to hacking through such means as blocking harmful websites and IPs in connection with the Ministry of Knowledge Economy's Cyber Security Center. Moreover, THE CORPORATION is constantly updating our existing user certification, network security and external device control systems, while also striving to establish an integrated management system of internal and external customer personal information.

## Reinforcement of Customer Communication

Going beyond the existing form of delivering information one-way, the Corporation is strengthening interactive communication through customer participation.

### Management Disclosures and Public Information

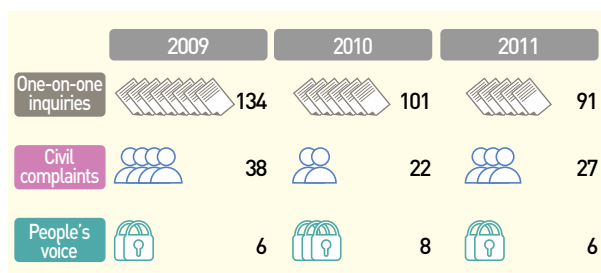
The Corporation actively discloses management information through the homepage (www.MIRECO.or.kr) and ALIO (www.alio.go.kr), a public service management information site. The pertinent staff in-charge is indicated in all disclosure so that

customers can easily communicate with the Corporation. The Corporation also makes sure that the disclosures are managed efficiently by following the integrated disclosure manual of MOSF.

### Customer Communication

The Corporation resolves customer inconveniences by providing a feedback on all complaints filed on our website's civil complaint and people's voice (Sinmoongo) page. The webpage also allows access to the visually impaired and hearing-impaired people. MIRECO is constantly striving to provide optimal services on the web by improving the fallbacks discovered through web accessibility certification evaluation every year. In addition, MIRECO has also created and operate a Facebook fan page called MIRECO Story and MIRECO twitter in the efforts to expand information and communication channels on social network services. Through such SNS activities, the Corporation aims to promote activities in a more friendly way and also actively induce the participation of customers through event promotions and various fun contents.

#### ● Annual number of customer complaints filed



#### ● MIRECO Story (Facebook page)



#### ● Twitter account of MIRECO



# Establishment of Open Employment and Performance-based Management Structure

## Employees

As of the end of 2011, there are a total of 209 employees at MIRECO including 31 new employees and 4 executives. The staff is comprised of 193 regular employees, 10 non-regular employees and 6 interns. The Corporation aims to enhance work efficiencies by maintaining an adequate workforce. Currently, there are 107.5 employees\* at the head office, 73 employees at the 5 local branches, 26.5 employees at the technology institute and 2 employees at the Mongolia branch office. The number of female employees is 43, representing 21% of our workforce. Since 2009, the average employee turnover rate has been 3.8% over the past 3 years with average service period 8 years and 8 months. We maintain a single compensation scheme that does not discriminate against gender.

\* MIRECO counts a part-time employee as 0.5 according to the government's policy. Currently, there are 3 part-time employees at the head office and 1 at the technology institute.

### ● Number Of Employees

(unit : person)

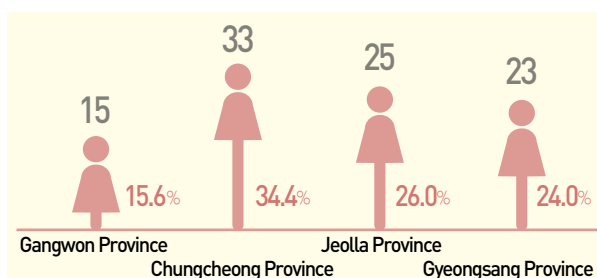
Category		2009	2010	2011
Number of Employees at present	Executives	4	4	4
	Employees	189	171	189
	Total	193	175	193
Gender	Male	158	157	162.5
	Female	43	45	46.5
Employment	Regular	183	175	193
	Non-regular	18	27	10
	Interns	-	-	6
Work Place	Domestic	122	142	140
	Local Regions	79	58	67
	Overseas	-	2	2
Employment Period		8 years	9 years	8 years 8 months
Turn Over Rate		4.23%	2.92%	4.23%

※ Number of retirees (including honorary retirement) is excluded in turnover rate.

## Realization of Open Employment through Equal Opportunity Recruitment

The Corporation strives to actively recruit local talents and discover outstanding engineers in order to foster a socially balanced workforce. In addition, the Corporation provides equal employment opportunities regardless of academic background in our recruitments and plays a leading role in maintaining social equity by facilitating jobs for the disadvantaged and young interns.

### ● Number Of Local Recruits



※ As of the end of 2011

96 of our employees are local talents, composing 50.7% of our total workforce. 135 or 65% of our employees are science and engineering majored securing technical manpower infrastructure for mine reclamation technology development and overseas expansion. Meanwhile, the Corporation has also created jobs for

### ● Number Of New Recruits In 2011

(unit : person)

Category		2009	2010	2011
Regular Employees	Female	-	-	6.5
	Local	-	-	15
	Science & Engineering	-	-	23
	High School Graduates	-	-	1
Non-regular Employees	Non-regular Employees	18	27	10
	Interns	-	-	6

※ No new recruits in 2009~2010 due to public institution privatizations

### ● Expansion Of Socially Equal Employment Opportunities

Employment	Improvement of Employment System
Interns : 7 (26%) - Achieved government employment target	Additional points given to the following candidates. - Employment aid recipients including patriots & veterans and people with physical disabilities
Female Employees : 7	
Local Employees : 15	
Science & Engineering Employees : 23	
Patriots & Veterans : 1	



high school graduates, while completing the human resource policy reform of the organization and compensation scheme.

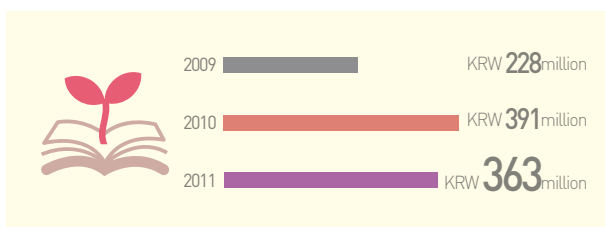
## Reinforcement of Human Resource Development

In order to internalize the value of collective goal including vision and mission, THE CORPORATION is expanding knowledge education provided to all of the employees. The Corporation has also identified the capacities required by each job and position in response to the changing business environment, and has developed and implemented an education program for such. At the same time, the Corporation is providing mandatory job capacity education through our in-house training program and has institutionalized a corporate-wide education system by establishing a regular learning culture through year-round outsourced external education. In addition, the Corporation is fostering a talented workforce able to dynamically cope with the rapidly changing external and internal environments by enhancing the understanding of the employees on the overall work of the company through cross-courses of business, humanities & social sciences, and technical education.

### ● Education And Training Hours Per Employee In 2011



### ● Annual Expenditure on Education (KRW)



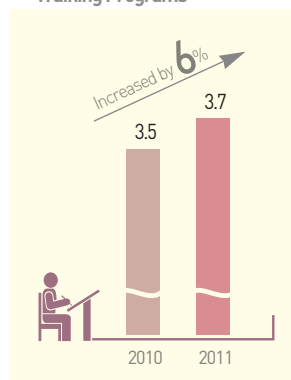
## Fairness in Performance Evaluation

A fair performance evaluation can improve the motivation and work quality of constituents of an organization. In this respect, THE CORPORATION conducts multi-dimensional evaluation of our employees to assess the current position and improve their

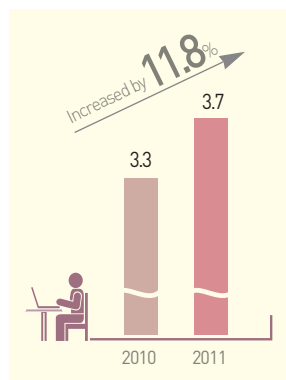
### ● Number Of Employees By Education Period and Job Position

Category		2009	2010	2011
Education Period	Less than 1 day	25.3	14.9	7.4
	1-5 days	19.0	65.3	42.9
	1week-1month	49.4	15.3	35.7
	1-6 months	1.6	0.3	10.4
	7-12 months	0.0	0.3	0.0
	1 Year or More	4.7	3.9	3.6
Job Position	Grade 1	2.8	3.2	4.7
	Grade 2	7.0	7.8	9.3
	Grade3	18.7	27.9	18.7
	Grade4	31.6	26.6	18.4
	Grade 5 or below	39.9	34.4	48.9

### ● Increase Of Satisfaction Level In Training Programs



### ● Increase In On-Site Applicability



capacities. Support for self-improvement and relationship reform is also provided. THE CORPORATION has also established an institutional mechanism for a fair compensation scheme based on a bottom-up individual performance evaluation system and corporation culture centered on ability and performance by expanding performance-based salaries. In order to enhance the performance of each of the functional organizations, THE CORPORATION is developing capacities for achieving a balance performance by providing compensation for improving departments, while also providing separate performance improvement programs for low performance organizations.

### ● Increase of Proportion of Performance-Based Salary

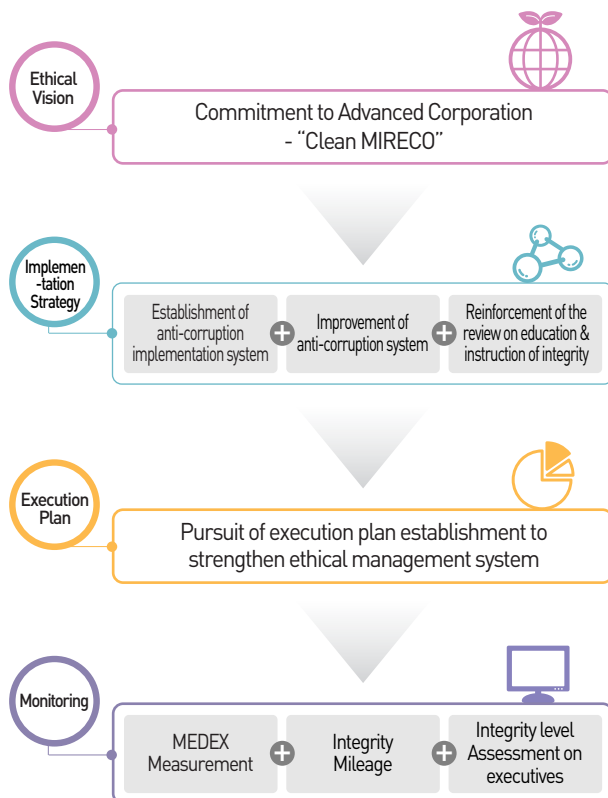


# Internalization of Ethical Management

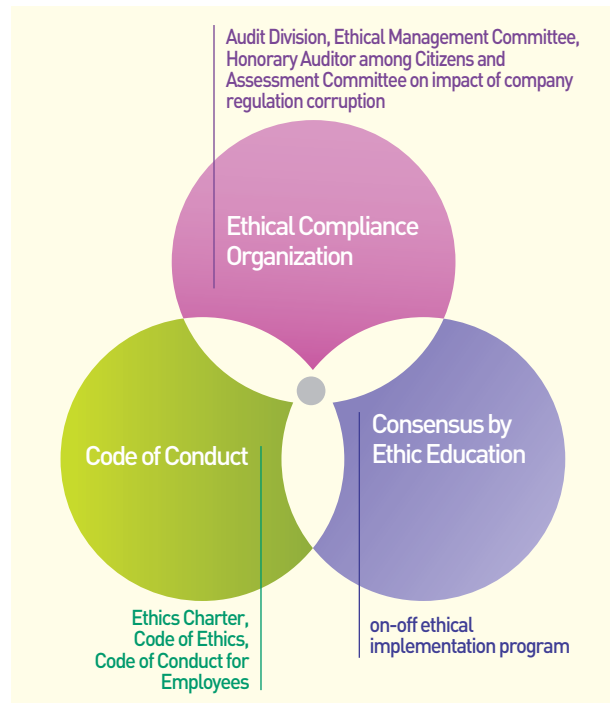
## Ethical Management of MIRECO

MIRECO is committed to realizing green growth in which our customers, stakeholders, local communities and citizens can all coexist together and future generations can enjoy a rich life by being at the forefront in creating a culture of ethical management, transparent management, anti-corruption & culture of integrity, and practicing environment-friendly management and social contribution.

### ● Ethical Management Implementation Strategy



### ● 3C-based Ethical Management System



## Respect for Human Rights

MIRECO abides by the labor regulations of the Labor Standards Act and prohibits the political activities of its employees. The Corporation also forbids any form of child or forced labor according to the UN Global Compact principles and ILO's guidelines. Through the employee conduct code, the Corporation also prevents discrimination against gender, age and employment type by sharing sexual harassment prevention guidelines and non-regular worker protection guidelines on a company-wide level. During 2011, the Corporation has not been subject to any corrective measures for human rights related civil complaints arising from discrimination, unfair competition or antitrust violations.

## Ethics Education Program

MIRECO worked to expand the corporate-wide consensus on ethical practices by holding an ethical management oath ceremony in November 2011 and conducting various education programs for the entire employees. 20 management-level staff received a total 226 hours of anti-corruption education in 2011, equaling to an average of 11.3 hours per person.

#### ● Off-Line Ethics Education In 2011

Title of Education Session	Hour(s)
Special Lecture: Ethical Management in the competitive edge	2
Improvement of awareness for integrity among public officers	1
Human's Ethical Dilemma for Righteous Society	1
Anti-corruption & Integrity Education	1
Integrity Education for Middle Managers	7
Public Office Discipline Education	1

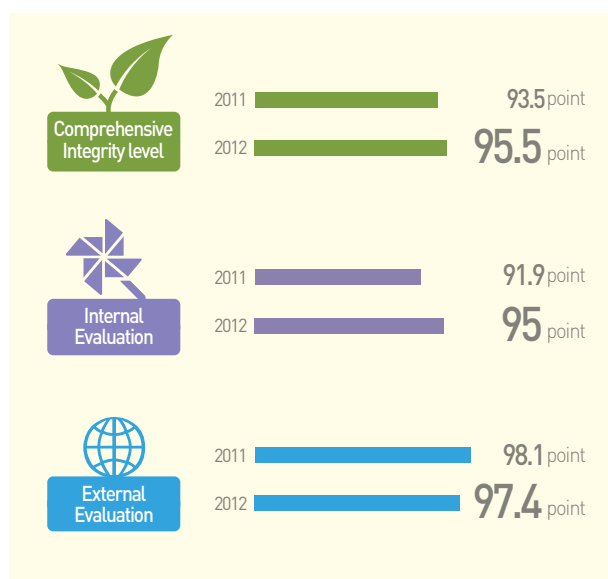
#### ● On-Line Ethics Education In 2011

Title of Education Session	Hour(s)
Case Studies : Code of Conduct for Public Office	8
Video Clip : Anti-corruption	1
Route to Ethical Management	4
Gender equality, Sexual Harassment Prevention	1
First Step to Ethical Management	20
Ethical Decision Making for Sustainable Corporations	20

## Anti-corruption Program

In April 2011, the Corporation introduced the integrity mileage program in order to institutionalize the anti-corruption ethics culture within the organization. The program provides substantial mileages for reporting actions that violate employee conduct code and various awards for integrity

#### ● Management-Level Anti-Corruption Evaluation Results



activities. From June to July 2011, an integrity evaluation of management-level staff was conducted in order to promote the actual practice. In October, a contest for best practices in anti-corruption was held to share model cases of corruption prevention measures among all employees.

## Ethical Management Monitoring

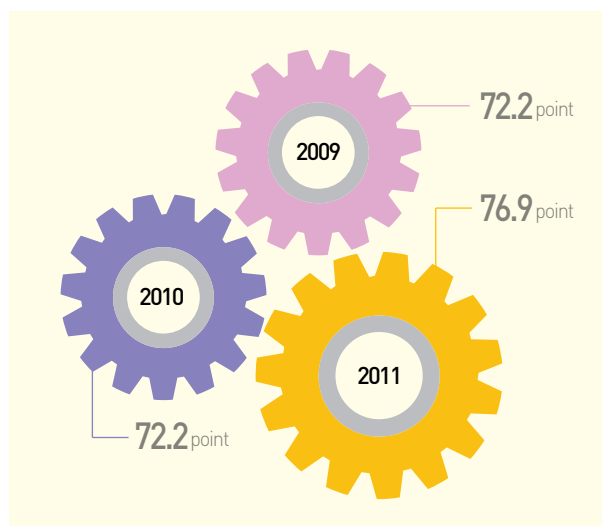
### Internal Monitoring System

The ethical management monitoring system within MIRECO is comprised of MIRECO Ethics Index (MEDEX) and integrity mileage. In order to increase the in-house ethics index of MEDEX, the Corporation strived to improve the ethical management supervision and evaluation structure that was singled out as a vulnerable area in 2010. Accordingly, MIRECO incorporated the integrity mileage in 2011 and conducted a corporate-wide management and improvement of MEDEX by linking it with internal business performance evaluations. As a result, the ethics index improved by 4.71 points compared to 2010.

#### ● Monitoring evaluation system

Category	Contents	Period	Performance	Result of 2011
MEDEX	Ethics Index of MIRECO	Once a Year	Once	76.9/100
Integrity Mileage	Mileage is given to each item of integrity activity evaluation criteria for employees	Once a Year	Once	The Best Tea (Gangwon Branch)

#### ● Increase of MEDEX





# Establishment of Sound Organizational Culture

## Efforts for a Balanced Work and Life

### Diverse Support Programs

In order to maintain a balance between work and lives of our employees, the Corporation strives to improve the labor conditions and external working environment. Accordingly, 67 or 35% of our employees currently utilize our flexible working program created to give time for childcare, housework and self-improvement. In addition, every Wednesdays are designated as Family Fun Day for our employees to get off work punctually to enjoy leisure time and activities. The corporation also operates the Smart Working program for enhancing productivity by designating a certain time out of the day as focused working time. A balance between work and life is provided by creating and providing support for various institutional foundations which include flexible operation of rest time for maternity protection, creation of baby nursing time, expansion of spouse maternity leave from 3 days to 5

days, and leave-of-absence approval for all employees eligible for parental leave.

### Operation of Help Support Channels

The Corporation is committed to relieving the grievances and enhancing the satisfaction of its employees through the labor-management consultation committee and help support committee (3 labor-management members). The corporation also operates a separate help support channels. In order to revise the rules related to the employment stabilization and compensation improvement of non-regular employees, the corporation is currently in the process of establishing and improving the institutional framework upon going through the labor-management consultation committee and discussions at the practical level. The resolved rate of grievances in 2011 was 84% with most of the unresolved grievances being issues related to employee job transfers. The corporation will continue to be committed to on listening to the voices of its employees.

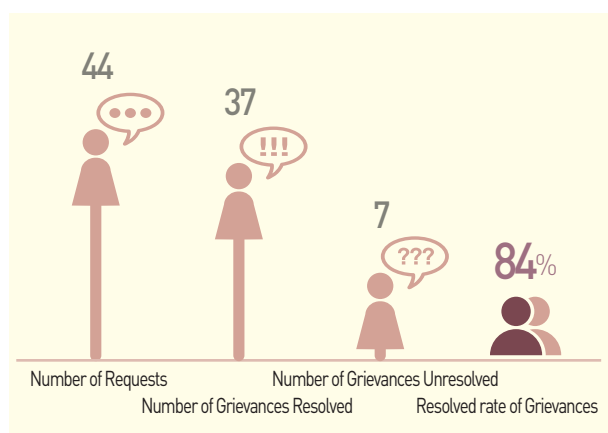
### Employment Stabilization And Compensation Improvement Of Non-Regular Employees

The Corporation has removed all discriminatory measures in the support and benefits between regular and non-regular employees by establishing the HR management rules for non-regular workforce and rationalizing the compensation and welfare benefit program. As a result, the corporation was able create the basis for converting non-regular employees to indefinite contract employees upon due evaluation procedures and review of the HR committee. The corporation also continued to strive to improve the compensation and employment status of non-regular employees by reforming the related system to allow for non-regular employees to receive the same welfare point and labor welfare fund benefits as regular employees. The corporation further provides re-employment education to expand the employment of young interns. The corporation operates a recruitment procedure established for regular and non-regular employees.

### Education and Learning Program for Supporting Retired Employees

The Corporation provides opportunities for retired employees to adapt to the society through training at private institutions or

● Results Of Help Support Channel Operation In 2011



## ● Employees benefit program

### Customized Welfare Benefit Program

Combine all welfare cost including medical check expenses and provide it as 'Welfare Points' for free-use of beneficiaries (continued since 2007)

### In-house Labor Welfare Fund

- Group insurance subscription to secure safety of employees (Total Benefit : 74,552,000 KRW)
- Support family occasions (Marriage, Funeral and etc.)
- Support sports activities and others

### Child Birth /Care Support

- Provide child birth support fund
- Spouse maternity leave (5 days)
- Maternity leave (90 days)
- Maternity leave program (1 year)
- Education Expenses (Fund)
- Family allowances, Middle/High school tuition fee

### Living Support

- Housing loan, College student loan for employees' children
- Operation of leisure facilities (2 days a year)
- Group activities (Learning and Hobby)
- Encouragement of use of annual vacation days (Additional points given in internal evaluations)

special graduate schools (life-long education institutions) and domestic and overseas field tours. The corporation also provides support for lectures on health and hobbies, as well as opportunities for personal activities such as travel, rest and memoir writing. The support provided by the corporation to enhance the social adaptability of upcoming retirees is made for the actual costs within the limits of financial support.

### Maternity Leave and Reinstatement Rate

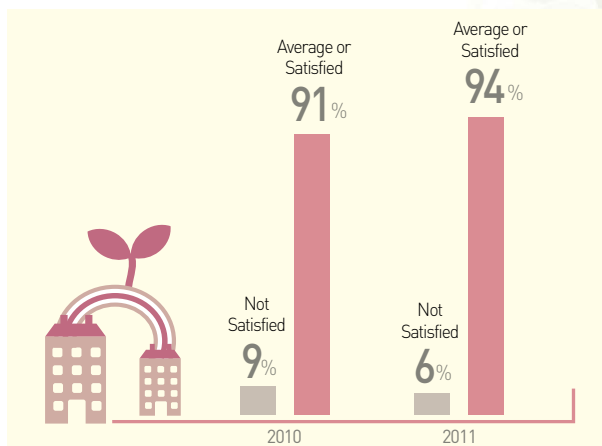
During the last 3 years (2009~2011), the number of women that went on maternity leave was 4. All were reinstated after the end of their leave to record a reinstatement rate of 100%. In addition, the subscription rate of retirement pension and national pension insurance of MIRECO's employees is 100% as of the end of 2011.

## Welfare Benefit Program

### Utilization Of In-House Labor Welfare Fund

The in-house labor welfare fund created since 2005 by

## ● Employees benefit satisfaction



MIRECO is a program in which the company contributes a certain amount of its profits for its employees. Through the fund, the Corporation currently provides support for insurance coverage work-related accidents of employees (including non-regular employees), education cost for self-improvement, and sports & cultural activities for family ties. The program has brought about tax benefits in the form of tax reduction to the company, improved the welfare of our employees, increased the stability of employee lives, and enhanced employee satisfaction.

### Welfare Benefit Program Reflecting Employee Needs

In order to satisfy the diverse welfare need of our employees, the Corporation has been operating a cafeteria-type welfare benefit program since 2007 in which employees are able to select their welfare benefits within the limit of their welfare points. In addition, the Corporation also operates various welfare benefit programs including housing purchase and rent loan program for employees who do own a home, in-house condominium membership program, hobby activities support and benefits expansion of non-regular employees.

# Labor-Management Relations of Coexistence

In order to promote coexistence and harmony between labor and management, the Corporation strives to establish a culture of labor-management partnership for sustainable growth through the development of a new labor-management rationalization strategy in connection with the corporation's vision.

## New Labor-Management Rationalization Strategy Structure

Under the labor-management vision of "establishment of partnership labor-management culture for sustainable growth," the Corporation utilizes performance indices and strategic tasks to rationalize labor-management relations. As a result, the corporation has been selected as a leading customer satisfaction organization for 4 consecutive years from 2008 to 2011. In addition, the corporation also received a grade of A in the government's business management evaluation in 2011.

## Reinforcement of Communication Between Labor and Management

### Onsite communication-oriented business management

MIRECO is strengthening its onsite communication-oriented business management. The corporation operates the 'MIRECO Performance Forum,' a meeting for discussing and gathering the opinions of employees in order to review and

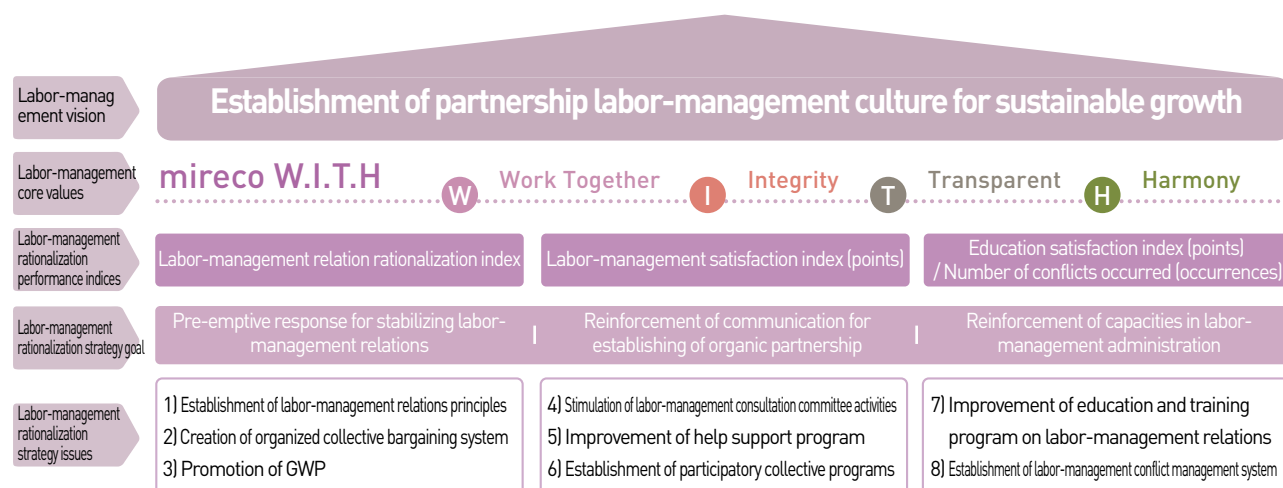
resolve major issues and obstacles. The corporation also listens to the difficulties encountered at the worksites, shares the issues faced by MIRECEO and looks for ways to resolve the challenges at hand through local branch visits, Smile Leader meetings and generational meetings. In addition, the corporation continuously conducts activities to facilitate the communication between labor and management which includes encouraging the voluntary participation of employees by sharing and spreading the business philosophy and thoughts of MIRECO's CEO through the CEO blog.

### Two-way Communication

The Corporation listens to the opinion of the labor union through practical level discussions with the labor-management consultation committee. The Corporation has also reformed its rules and system for improving the labor conditions for its employees. In particular, the Corporation operates a communication channel to address major management issues such as recruitment of new employees, compensation improvement of non-regular employees, organizational restructuring to streamline core businesses, and introduction of individual evaluation system for performance-based compensation.

## Cooperation to Promote Partnership between Labor and Management

To promote partnership, the labor and management of the Corporation is collectively participating in various social responsibility activities. These include book donations to elementary schools, concerts, scholarship support and wall paintings in the abandoned mine regions. Volunteer labor work at mining villages, tree planting, CSR activities in overseas





country of operation such are other examples of such activities.

### Increased Cooperation Between Labor and Management to Invigorate Corporate Culture

By stipulating the plans to invigorate the Corporation's organizational culture in the collective agreement between the labor and management (article 29), MIRECO was able to evaluate the organizational culture and leadership of department heads, as well as benchmarking domestic and overseas GWP programs and model overseas labor-management culture. In addition, the labor and management collectively conducted various activities to promote the Corporation's organizational culture which includes holding sporting and hiking competitions, and constantly managing labor-management conflicts through the labor-management consultation committee.

### Wages and Collective Agreement

Every year, MIRECO negotiates wages and collective agreement with the labor union. As of the end of 2011, the unionization rate is 80%.

### Minimum Period for Notifying Important Issues (Collective Agreement)

The agenda of the collective bargaining between the labor and management of MIRECO is notified to union members at least 7 days before the negotiation talks. Any postponement of negotiations is notified at least 3 days in advance. In the case an unjust disciplinary action occurs or is deemed to have occurred, the person concerned may request to hold a labor-management consultation committee meeting within 7 days of the occurrence. Discharge of union members is notified 30 days prior to the employment termination to the person

concerned and the labor union. Layoffs arising from urgent business reasons or any change in the status of union members arising from closure, spinoff, merger, sell-off, and change in main business must also be notified to the union 60 days in advance.

### Safety & Health

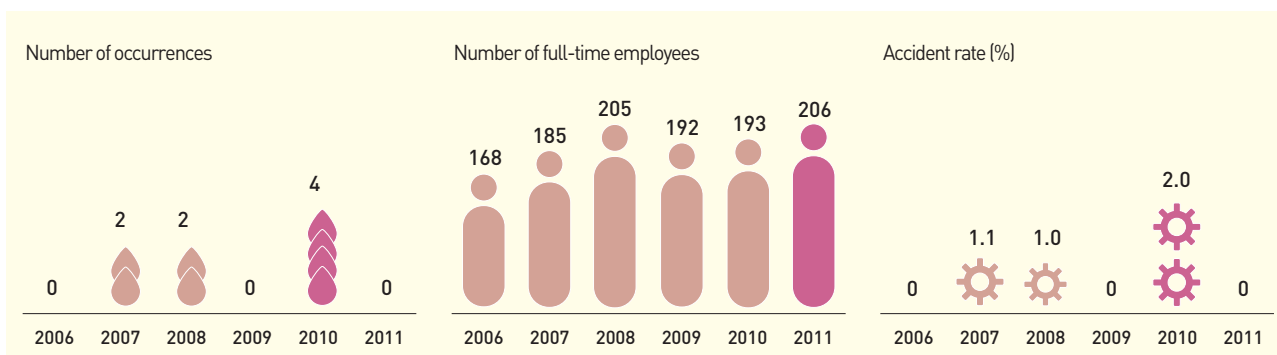
MIRECO manages the issues related safety and health of its employees in accordance with the Occupational Safety and Health Act and related laws. Accordingly, the Corporation exempts all time spent for occupational safety activities from work hours. In addition, the Corporation has also specified the provision on vocational rehabilitation training of industrial accident victims in articles 35-37 of the collective agreement. The labor-management consultation committee agreed to revise and strengthen article 35 (safety and health) of the employment rules in the 2011 4Q meeting to create the institutional foundations for the safety and health of its employees.



Collective wage bargaining agreement ceremony in 2011 (December 14, 2011)



#### ● Number of Work-related Accidents by Year



# Appendix

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GRI G3.1/ISO260000 Index

UNGC Index

Independent Assurance Statement

Assessment on Application Level of ISO 26000

GRI Application Level Check

Readers Survey



# GRI G3.1 / ISO 26000 Index

● Fully Reported   ● Partially Reported   ○ Not Reported   ◇ Not Applicable

GRI Index	Indicator no.	Description	ISO 26000	ISO 26000 key social responsibility topic and theme	Satisfaction	Reporting Section
Principle of stakeholder involvement			6.8.2	Community Involvement	●	16
Border protocol			6.6.5	Promotion of social responsibility in the value chain	●	About this Report
Strategy and analysis	1.1	Statement from the most senior decision-maker of the organization (e.g. CEO, chair, or equivalent senior position) on the relevance of sustainability to the organization and its strategy Organization governance	6.2	Organizational Governance	●	2-3
	1.2	Description of key impacts, risk and opportunities			●	2-3
Organizational Profile	2.1	Name of the organization			●	8
	2.2	Primary brands, products, and/or services			●	8
	2.3	Operational structure of the organization, including main departments, operating companies, subsidiaries, and joint venture companies	6.2	Organizational Governance	●	9
	2.4	Location of organization's headquarters			●	About this Report
	2.5	Number of countries where the organization operates, and names of countries with either major operation or that are specifically relevant to the sustainability issues covered in the report			●	9
	2.6	Properties of ownership and legal form			●	8
	2.7	Markets served (including geographic division, business sector, and types of customers/beneficiaries)			●	8-9
	2.8	Scale of the reporting organization			●	8-9
	2.9	Significant changes during the reporting period regarding size, structure, or ownership			●	About this Report
	2.10	Awards received in the reporting period			●	9
Organizational Governance	3.1	Reporting period (e.g., fiscal/calendar year)			●	9
	3.2	Date of most recent previous report (if any)			●	About this Report
	3.3	Reporting cycle (annual, biennial, etc.)			●	About this Report
	3.4	Contact point for questions regarding the report or its contents.			●	About this Report
	3.5	Process of defining the contents in the report			●	16-17
	3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures) Refer to the GRI boundary regulation for additional guideline.			●	About this Report
	3.7	Any specific limitations on the scope or boundary of the report			●	About this Report
	3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations			●	8-9, 36
	3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report			●	About this Report
	3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement			●	About this Report
	3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report			●	About this Report
	3.12	Table identifying the location of the Standard Disclosures in the report			●	73-77
	3.13	Policy and current practice with regard to seeking external assurance for the report.	7.5.3	Validation	●	78-79



● Fully Reported   ● Partially Reported   ○ Not Reported   ◇ Not Applicable

GRI Index	Indicator no.	Description	ISO 26000	ISO 26000 key social responsibility topic and theme	Satisfaction	Reporting Section
Governance, Commitments & Engagement	4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight	6.2	Organizational Governance	●	14-15
	4.2	Indicate whether the Chair of the highest governance body is also an executive officer	6.2		●	14
	4.3	For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and/or non-executive members	6.2		●	14
	4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body	6.2		●	63, 69-70
	4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance)	6.2		●	15
	4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided	6.2		●	14-15
	4.7	Process for determining the composition, qualifications, and expertise of the members of the highest governance body and its committees (gender and other indicators of diversity)	6.2		●	15
	4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation	6.2		●	66-67
	4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles	6.2		●	14
	4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance	6.2		●	14-15
	4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	6.2		●	11
	4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	6.2		●	73-77, 80-81
	4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations	6.2		○	-
	4.14	List of stakeholder groups engaged by the organization	6.2		●	16
	4.15	Basis for identification and selection of stakeholders with whom to engage	6.2		●	16
	4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	6.2		●	16, 18-19, 63
	4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns	6.2		●	15, 18-19, 63, 69-71
Economic	EC1	Economic value generated and distributed (e.g. revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments) Engagement in the community and its development/engagement in the community/creation of wealth and profit/social investment	6.8/6.8.3/6.8.7/6.8.9	Community involvement and development/ community involvement/ creation of wealth and profit/ social investmenta	●	9
	EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change Mitigation and adaptation of climate change	6.5.5	Mitigation and adaption of climate change	●	27, 30
	EC3	Coverage of the organization's defined benefit plan obligations	6.4.4/6.8		●	69
	EC4	Significant financial assistance received from government			○	-
	EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation Working condition and social care/ Engagement in the community and development	6.4.4/6.8	working condition and social protection/ Community involvement and development	●	64
	EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation Promotion of social responsibility in the value chain/ Engagement in the community/ job creation and function development/ creation of wealth and profit	6.6.6/6.8/6.8.5/6.8.7	Promotion of social responsibility in the value chain/ Community involvement and development/ job creating and functional development/ creation of wealth and profit	○	-
	EC7	Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation Engagement in the community and its development/engagement in the community/creation of wealth and profit/social investment	6.8/6.8.5/6.8.7	Community involvement and development/ job creating and functional development/ creation of wealth and profit	○	-
	EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement Economic, social and cultural rights/ Engagement in the community and its development/engagement in the community/ Education and culture/ technology development and approaches/ creation of wealth and profit/ social investment	6.3.9/6.8/6.8.3/6.8.4/6.8.5/6.8.6/6.8.7/6.8.9	Economic, social and cultural right/ Community involvement and development/ community involvement/ education and culture/ technology development and approach/ creation of wealth and profit/ social investment	●	23-28
	EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts Economic, social and cultural rights/ Promotion of social responsibility in the value chain/ Respect the property rights/ approach to vital services/ Engagement in the community and its development/ job creation and function development/ technology development and approaches/ creation of wealth and profit/ social investment	6.3.9/6.6.6/6.6.7/6.7.8/6.8/6.8.5/6.8.6/6.8.7/6.8.9	Economic, social and cultural right/ Promotion of social responsibility in the value chain/ respect for right of property/ access the required service/ / Community involvement and development/ job creating and functional development/ technology development and approach/ creation of wealth and profit/ social investment/ social investment	●	23-28

● Fully Reported   ● Partially Reported   ○ Not Reported   ◇ Not Applicable

GRI Index	Indicator no.	Description	ISO 26000	ISO 26000 key social responsibility topic and theme	Satisfaction	Reporting Section
Environmental Performance Indicators	EN1	Materials used by weight or volume	6.5/6.5.4	environment/sustainable resource uses	●	31
	EN2	Percentage of materials used that are recycled input materials			◇	-
	EN3	Direct energy consumption by primary energy source			●	30
	EN4	Indirect energy consumption by primary source			●	31
	EN5	Energy saved due to conservation and efficiency improvements			●	31
	EN6	Initiatives to provide energy-efficient or renewable energy based products and services and reductions in energy requirements as a result of these initiatives			●	30-31
	EN7	Initiatives to reduce indirect energy consumption and reductions achieved			●	31
	EN8	Total water withdrawal by source			●	31
	EN9	Water sources significantly affected by withdrawal of water			○	-
	EN10	Percentage and total volume of water recycled and reused - No use of recycled water			◇	-
	EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	6.5/6.5.6	environment/environmental protection, restoration of diversity and natural habitats	○	-
	EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas			●	25
	EN13	Habitats protected or restored			●	25
	EN14	Strategies, current actions, and future plans for managing impacts on biodiversity			●	25
	EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk			●	25
	EN16	Total direct and indirect greenhouse gas emissions by weight	6.5/6.5.5	Environment/ Mitigation and adaption of climate change	●	30
	EN17	other relevant indirect greenhouse gas emissions by weight			●	30
	EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved			●	30
	EN19	Emissions of ozone-depleting substances by weight	6.5/6.5.3	Environment/pollution prevention	◇	-
	EN20	NO <sub>x</sub> , SO <sub>x</sub> , and other significant air emissions by type and weight			◇	-
	EN21	Total water discharge by quality and destination			●	23-24
	EN22	Total weight of waste by type and disposal method			○	-
	EN23				●	24
	EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally			◇	-
	EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff	6.5/6.5.4/6.5.6	environment/sustainable resource uses/ Promotion of social responsibility in the value chain/ Sustainable consumption	◇	-
	EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	6.5/6.5.4/6.6.6/6.7.5	Environment/use of sustainable resource/promote social responsibility in the value chain/sustainable consumption	●	23-29
	EN27	Percentage of products sold and their packaging materials that are reclaimed by category	6.5/6.5.4/6.7.5	environment/sustainable resource uses/ Sustainable consumption	◇	-
	EN28	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations - No violations	6.5	Environment	●	30
	EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	6.5/6.5.4/6.6.6	environment/sustainable resource uses/ Promotion of social responsibility in the value chain	●	23-29
	EN30	Total environmental protection expenditures and investments by type	6.5	Environment	●	24, 29

● Fully Reported    ● Partially Reported    ○ Not Reported    ◇ Not Applicable

GRI Index	Indicator no.	Description	ISO 26000	ISO 26000 key social responsibility topic and theme	Satisfaction	Reporting Section
Social: Labor Practices & Decent Work	LA1	Total workforce by employment type, employment contract, and region, broken down by gender	6.4/6.4.3	Custom of labor relations/ Employment and employment relationships	●	64
	LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region			●	64
	LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	6.4/6.4.3/6.4.4	Custom of labor relations/ Employment and employment relationships/ working condition and social protection	●	68-69
	LA4	Percentage of employees covered by collective bargaining agreements	6.4/6.4.3/6.4.4 /6.4.5/6.3.10	Custom of labor relations/ Employment and employment relationships/ working condition and social protection/ social communication/ basic principle and right of labor	●	71
	LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements	6.4/6.4.3/6.4.4/6.4.5	Custom of labor relations/ Employment and employment relationships/ working condition and social protection/ social communication	●	71
	LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees	6.4/6.4.6	Custom of labor relations/ health and safety of labor	●	71
	LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender			●	71
	LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases	6.4/6.4.6/6.8 /6.8.3/6.8.4/6.8.8	Custom of labor relations/ health and safety of labor/ Involvement in the community and development/ involvement in the community/ education and culture/ health	●	71
	LA9	Health and safety topics covered in formal agreements with trade unions	6.4/6.4.6	Custom of labor relations/ health and safety of labor	●	71
	LA10	Average hours of training per year per employee by gender, and by employee category	6.4/6.4.7	Custom of labor relations/ human development and training at the work place	●	65, 67
	LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	6.4/6.4.7/6.8.5	Custom of labor relations/ human development and training at the work place/ job creation and function development	●	65
	LA12	Percentage of employees receiving regular performance and career development reviews, by gender	6.4/6.4.7	Custom of labor relations/ human development and training at the work place	●	65
	LA13	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	6.3.7/6.3.10 /6.4/6.4.3	discrimination and vulnerable group/ basic principle and right of labor/ Custom of labor relations/ Employment and employment relationships/ working condition and social communication	●	14, 64
	LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	6.3.7/6.3.10 /6.4/6.4.3/6.4.4	Prohibition on discrimination for vulnerable group/ guarantee the rights of economy, social and culture for company and members in the community	●	64
	LA15	Return to work and retention rates after parental leave, by gender		Discrimination and vulnerable group/ basic principle and right of labor/ Custom of labor relations/ Employment and employment relationships	●	69
Human Rights	HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening	6.3/6.3.3/6.3.5/6.6.6	Human rights/ actual inspection/ evasion of conspiracy/ Promotion of social responsibility in the value chain	○	-
	HR2	Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening, and actions taken	6.3/6.3.3/6.3.5 /6.4.3/6.6.6	Human rights/ actual inspection/ evasion of conspiracy/ Employment and employment relationships/ Promotion of social responsibility in the value chain	○	-
	HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	6.3/6.3.5	Human rights/ evasion of conspiracy	●	67
	HR4	Total number of incidents of discrimination and corrective actions taken - No discrimination	6.3/6.3.6/6.3.7 /6.3.10/6.4.3	Human rights/ Ombudsman/ discrimination and vulnerable group/ basic principle and right of labor/ Employment and employment relationships	●	66
	HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights	6.3/6.3.3/6.3.4 /6.3.5/6.3.8/6.3.10 /6.4.3/6.4.5	Human rights/ actual inspection/ human rights in danger/ citizenship and political rights/ basic principle and right of labor/ Employment and employment relationships/ social communication	●	68-69
	HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor- No risk of child labor	6.3/6.3.3/6.3.4 /6.3.5/6.3.7 /6.3.10	Human rights/ actual inspection/ human rights in danger/ evasion of conspiracy/ discrimination and vulnerable group/ basic principle and right of labor/ Employment and employment relationships/ social communication	●	66
	HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of all forms of forced or compulsory labor- No forced or compulsory labor		Human rights/ evasion of conspiracy/ Employment and employment relationships/ Promotion of social responsibility in the value chain	●	66
	HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations	6.3/6.3.5/6.4.3/6.6.6	Human rights/ Ombudsman/ discrimination and vulnerable group/ basic principle and right of labor/ Employment and employment relationships	○	-
	HR9	Total number of incidents of violations involving rights of indigenous people and actions taken - No violations	6.3/6.3.6/6.3.7 /6.3.8/6.6.7	Human rights/ Ombudsman/ discrimination and vulnerable group/ citizenship and political rights/ Respect the property rights	●	66
	HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments		Actual inspection/ / human rights in danger	●	62-63
	HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms		Ombudsman	●	67



● Fully Reported ● Partially Reported ○ Not Reported ◇ Not Applicable

GRI Index	Indicator no.	Description	ISO 26000	ISO 26000 key social responsibility topic and theme	Satisfaction	Reporting Section
Society	S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs	6.3.9/6.8/6.8.5 /6.8.7/6.6.7	Economic, social and cultural rights/ Community engagement and development/ job creation and function development/ creation and wealth and profit/ respect the property right	●	34-36
	S02	Percentage and total number of business units analyzed for risks related to corruption			●	67
	S03	Percentage of employees trained in organization's anti-corruption policies and procedures	6.6/6.6.3	Fair operating practices/ anti-corruption	●	67
	S04	Actions taken in response to incidents of corruption			○	-
	S05	Public policy positions and participation in public policy development and lobbying			●	31, 34
	S06	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country	6.6/6.6.4/6.8.3	Fair operating practices/ Responsible political engagement/ community engagement	◇	-
	S07	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes	6.6/6.6.5/6.6.7	Fair operating practices/ fair competition/ respect the property right	◇	-
	S08	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations	6.6/6.6.7/6.8.7	Fair operating practices/ respect the property right/ creation of wealth and profit	◇	-
	S09	Operations with significant potential or actual negative impacts on local communities		Community engagement and development	●	34-36
	S10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities		Community engagement and development	●	34-36
Product Responsibility	PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement and percentage of significant products and services categories subject to such procedures	6.3.9/6.6.6/6.7 /6.7.4/6.7.5	Economic, social and cultural rights/ Promotion of social responsibility in the value chain/ consumer issue/ protection of consumer's health and safety/ sustainable consumption	●	62-63
	PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes			◇	-
	PR3	Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements.	6.7/6.7.3/6.7.4 /6.7.5 /6.7.6/6.7.9	Consumer issue/ Fair marketing, realistic and unbiased information and fair contract practices/ protection of consumer's health and safety/ sustainable consumption/ consumer service and support; solution to the complaint and dispute/ improvement of education and awareness/	●	62-63
	PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes			◇	-
	PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	6.7/6.7.4/6.7.5/6.7.6 /6.7.8/6.7.9	Consumer issue/ protection of consumer's health and safety/ sustainable consumption/ consumer service and support; solution to the complaint and dispute/ improvement of education and awareness/	●	62
	PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship	6.7/6.7.3/6.7.6 /6.7.9	Consumer issue/fair marketing, realistic and non bias information and fair contract practice/consumer service, support and resolution of complaint and dispute/improve education and awareness	●	63
	PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes- No violations			●	63
	PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	6.7/6.7.7	Consumer issue/ protection of data and privacy	●	63
	PR9	Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services	6.7/6.7.6	consumer issue/ consumer service and support; solution to the complaint and dispute	●	63

## UN Global Compact



mireco is a signatory to the Global Compact. The Compact challenges business to operate abiding by its ten principles covering the four areas of labor standard, environment and anti-corruption.

## The Ten Principles

**Human Rights**

Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights; and  
Principle 2 make sure that they are not complicit in human rights abuses.

**Labor Standard**

Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;  
Principle 4 the elimination of all forms of forced and compulsory labor;  
Principle 5 the effective abolition of child labor; and  
Principle 6 the elimination of discrimination in respect of employment and occupation.

**Environment**

Principle 7 Businesses should support a precautionary approach to environmental challenges;  
Principle 8 undertake initiatives to promote greater environmental responsibility; and  
Principle 9 encourage the development and diffusion of environmentally friendly technologies.

**Anti-Corruption**

Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.

# Independent Assurance Statement

## To the Management of MIRECO

The Institute for Industrial Policy Studies (hereafter “Auditor”) was engaged by MIRECO to review information specified in its 2012 Sustainability Management Report (hereafter “Report”) to provide an independent third-party assurance on the reported content. On the basis of the above, the Auditor presents the following independent statement of assurance.

### ● Responsibility and Objective

MIRECO is responsible for all information and claims contained in the Report regarding the establishment of its sustainability management goals, performance management etc. The responsibility of the Auditor is to deliver the findings from its assurance undertaking to the management of MIRECO. The key objective of the assurance is to check whether there are any material bias or errors present in the Report; assess whether the underlying data collection system is in proper working order; while undertaking in an overall review of the Company’s process for identifying issues of material importance to sustainability management as well as the produced results so that the Auditor may deliver recommendations that can help improve the quality of future reporting.

### ● Assurance Type and Scope

For the purpose of this assurance, the Report was reviewed against the following reporting criteria.

1) AA1000 Assurance Standard (2008)<sup>1</sup>

2) GRI G3.1 Sustainability Management Reporting Guidelines<sup>2</sup>

Scope of Assurance	Assurance Type/Level	Assurance Criteria
Compliance with the three core AA1000S (2008) principles of Inclusivity, Materiality, and Responsiveness	Type I/ Moderate	The three AA1000AS (2008) principles and IPS Assurance Manual standards
Review of performance indicators outlined in AA1000AS (2008)	Type II/ Moderate	IPS Performance Indicators Assurance Criteria TM
GRI-checked GRI reporting level	Moderate level	GRI G3.1 Sustainability Management Reporting Guidelines

### ● Work Undertaken and Scope

The Auditor was engaged to assess 1) the inclusiveness, materiality, and responsiveness of the reported content; 2) the reliability of the reported performance data; and 3) the level of compliance relative to the GRI sustainability management reporting guideline by undertaking in the following processes.

- Written interviews with persons in charge of collecting the performance data specific to each of the sustainability dimensions to review the adequacy of the reported information
- Review of MIRECO’s process for materiality testing and testing outcomes
- Review of MIRECO’s stakeholder engagement processes
- On-site audit of the HQ office to assess raw data sets for sustainability management indicators, and the underlying data collection and reporting

system/processes

- Review of evidentiary data supporting key economic, social, and environmental performance outcomes
- Review of the completeness and accuracy of reported information by sample testing key issues
  - ▶ Economic performance data : B/S, P/L
  - ▶ Social performance data : Financial lending project, professional training project, current status of intra-regional new hires, receipt of customer complaints, current status of SME purchasing, social contribution activities, ethics training, integrity survey, satisfaction levels of BOD operations, notification of key labor and management issues
  - ▶ Environmental performance data : Environmental restoration project, green procurement, power usage, GHG emissions

### ● Limitations

For the purpose of this assurance, among the range of local and global workplaces that the Company manages, the Auditor chose to carry out an on-site review of the Company’s Headquarters in Seoul. The review was based on available and disclosed data for the relevant reporting period and did not include online data. Financial information validated by a third party auditor and greenhouse gas-related data was not included within the scope of this assurance.

### ● Assurance Findings

Based on the assurance scope and criteria outlined above, we provide the following conclusions. The Auditor did not find the Report to contain any material misstatements or bias. The reported performance data was also found to be adequately derived and reported upon without distortion based on the Company’s underlying system for data collection and reporting. The material findings from the Auditor are included herein, and a detailed account of the results and follow-up recommendations has been submitted to MIRECO.

### ■ Inclusivity

**Are procedures for stakeholder strategy-setting and engagement adequate at MIRECO?**

The Auditor confirmed continuous efforts by MIRECO to develop processes to better engage with its stakeholders based on the recognition that stakeholder engagement is crucial to the implementation of sustainability management. MIRECO has defined different stakeholder groups while introducing a process for stakeholders to voice their comments in order to assess issues of key material interest to all stakeholders.

1. AA1000AS is an assurance standard for social and sustainable reporting developed by the U.K.-based Institute of Social and Ethical AccountAbility in November 1999 that promotes corporate social responsibility, business ethics and responsible business practices, aiming to improve the quality of social and ethical accounting, auditing and reporting. The 2008 amended version entered into effect as of 2010.

2. The Global Reporting Initiative (GRI)®’s Sustainability Reporting Guideline was jointly convened by the Coalition for Environmentally Responsible Economies (CERES) and UNEP in 1997. Building on the G3 version which was launched in Oct. 2006, the newly revised G3.1 version was released in Mar. 2011 with an expanded emphasis on human rights, gender, and the local community. G4, the fourth version is set to be introduced in 2013.

Moreover, we affirmed proactive efforts by the Company to encourage stakeholder participation to drive its sustainability management initiatives forward. The following points were found to be particularly commendable.

- In-depth interviews with stakeholder after defining them into key, strategic, environmental stakeholder categories to more actively encourage stakeholder input while introducing a process for stakeholder participation
- In-depth interviews with stakeholder after defining them into key, strategic, environmental stakeholder categories to more actively encourage stakeholder input while introducing a process for stakeholder participation;

In-depth interviews with stakeholder after defining them into key, strategic, environmental stakeholder categories to more actively encourage stakeholder input while introducing a process for stakeholder participation

### ■ Materiality

**Does the Report contain information of the highest material importance to MIRECO stakeholders across the economic, social, and environmental dimensions?**

It is the Auditor's view that the Report neither omits nor excludes issues of material importance to the stakeholders of MIRECO. We verified efforts by the Company to analyze its internal and external environment via the following: a comparative peer analysis, media analysis, diagnosis of compliance levels relative to ISO 26000, trend and impact analysis, stakeholder identification and engagement, materiality assessments etc. Based on these findings, the Company was able to assess the relevance and materiality of key issues so that it could provide key performance outcomes as required by its stakeholders. The following points were found to be particularly commendable

- Reporting on issues assessed to be of the highest level of importance to MIRECO in an effort to provide important performance information to all stakeholders
- Efforts to identify key material issues through materiality testing while providing a detailed account of the underlying assessment processes and outcomes

Going forward, the Auditor suggests developing an internal system that can support the clear identification and ongoing management of key issues for MIRECO, to allow stakeholders to better understand the Company's key activities and future plans regarding those issues and to enable a fuller Report. Also, the Auditor recommends keeping track of all issues identified through materiality assessments in this year's first Report, to see how they may vary compared to issues identified in future Reports.

### ■ Responsiveness

**Does the Report provide an adequate response to stakeholder demands and areas of interest?**

It is the Auditor's view that MIRECO has been working to be more responsive to the demands and interests of its stakeholders by assessing their needs and incorporating them into its Report. The following points were found to be particularly commendable.

- Providing a DMA account of organizations in charge of responding to various issues to highlight efforts by the Company to provide a responsible response to reflect stakeholder views into its management activities
- Providing an account of various issues identified to be of interest to stakeholders through stakeholder interviews as well as MIRECO's relevant response and activities

Going forward, the Auditor suggests enhancing the level of responsiveness further by sharing MIRECO's position and plans regarding issues and interests identified to be of high importance to its stakeholders while reporting on actual case studies where MIRECO reflected these plans into its management activities. Also, it is recommended that information on any negative impacts also be provided to improve responsiveness.

### ■ Performance Indicators

Pursuant to an assessment of the validity of the reported data underlying the Report's performance indicators, the Auditor found the data collection system to be adequate and free of any material errors that may compromise the reliability of the results or otherwise bias MIRECO's views.

### ■ Level of Application

Relative to the GRI G3.1 Guidelines, the Report was found to conform to a A+ level of application.

### ● Recommendations

The Auditor found MIRECO's first "Sustainability Management 2012 Report", commendable on the following counts. The Report 1) reflects findings not only from expert interviews but interviews conducted with various stakeholders reflecting efforts to provide diverse perspectives and balanced communication results; and 2) provides a full account of its activities and outcomes regarding issues identified via materiality testing.

For future reports, the Auditor suggests the following considerations.

- Strengthening the linkage between its management strategy and goals, key issues, and performance indicators
- Broadening its stakeholder engagement channels to crystalize its processes for stakeholder participation
- Strengthening reporting on qualitative and quantitative information regarding its DMA goals, performance outcomes, and future plans
- Strengthening the development and management of general-use terminology used for reporting on performance outcomes
- Strengthening the comparability of performance data for better management of readers' level of understanding toward MIRECO
- Strengthening reporting on any negative issues and underperforming outcomes

### ● Independence

Apart from this independent assurance undertaking, the Auditor was not involved in the preparation of any part of the Report, and has no commercial affiliation with MIRECO that might compromise our independence.

### ● Qualifications of the Auditor

Commissioned by MIRECO as the Auditor for this assurance undertaking, the Institute for Industrial Policy Studies (IPS) was established in 1993 and has since developed into a specialized institution with broad expertise in the areas of business ethics, CSR, and sustainability management since 2002. The Auditor is composed of experts in business management, accounting, and environmental science including professors at Korea's top universities and practitioners with professional accreditation and extensive experience in sustainability management.



November 30, 2012

**Kim, Jae-Eun**

President, The Institute for Industrial Policy Studies



# Assessment on Application Level of ISO 26000

## ● Assessment Standards

Korea Standards Association (KSA) created a checklist to assess the level of fulfilling social responsibility based on the international standards for social responsibility, ISO 26000 as a part of the service requested by the Korean Agency for Technology and Standards (KATS) of the Ministry of Knowledge and Strategy. This report assessed social responsibility management processes and achievements of seven core subjects of MIRECO based on assessment checklist prepared by KSA.

## ● Assessment Scope

KSA assessed processes of fulfilling social responsibility and relevant achievements by MIRECO including mid and long-term strategies & execution activities, participation of shareholders and social responsibility activities.

## ● Assessment Methods

KSA has conducted the followings to collect relevant documents based on the checklist of application level of ISO 26000.

- Review of mid and long-term strategies and management performance report
- Review of the interview of the personnel in charge of social responsibility management of MIRECO & reporting documents on achievement
- Identification of recent sustainability issues on mine development and mine reclamation

## ISO 26000 Social Responsibility Assessment Results by Process

MIRECO's objectives of foundation, 'Eco-friendly Mine Damage Management' and 'Revitalization of Abandoned Mine Areas', are closely related to suitability of society, the ultimate goal of sustainable management. Distinct projects implemented by MIRECO including restoration of environment in abandoned mine areas, establishing foundation for economic autonomy of mine areas and enhancement of accessibility to energy resources for low-income class are evaluated as sustainable business models that achieve balance between development and environment conservation and balanced development of the region. However, since execution of business projects does not necessarily means fulfilling all the social responsibility requirements of MIRECO, it is requested that MIRECO analyze and review whether social responsibility principles and subjects

(including seven core subjects of ISO 26000) are appropriately applied across the entire value chain.

## Assessment Results for Seven Core Subjects of ISO 26000

### ● Organizational Governance

Decision making structure is required to be reorganized to have social responsibility issues thoroughly discussed in final decision making process and ideas of social responsibility incorporated across all organizational activities.

### ● Human Rights

MIRECO leads its business as it establishes its relationship with various stakeholders such as investment companies, loan companies for alternative industry, professional mine reclamation companies and residents in abandoned mine areas. It is advised that MIRECO conduct due diligence on stakeholders' social responsibility foundation, which is vulnerable to human rights risks.

### ● Labor Practice

The Corporation is executing mine reclamation projects in abandoned mine areas with professional mine reclamation companies. Given the specific characteristic of the business handling processing of mineral residues, contaminated water in shafts and soil contaminated with heavy metals, safety management can be regarded as an important social responsibility activity. Not only MIRECO but also partners are advised to establish safety management system to monitor accident rate.

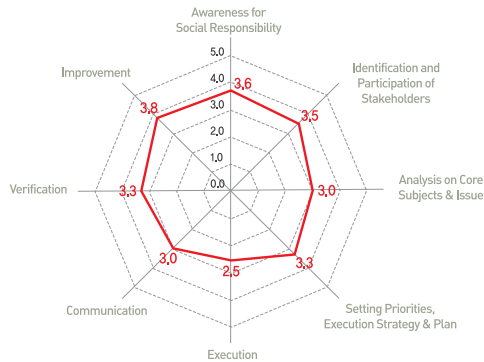
### ● Environment

MIRECO is carrying out its environment restoration projects by purifying the pollutants in abandoned mine areas. Efforts should be made to transform abandoned mine areas into healthy and pleasant areas through 'Responsible Mine Reclamation', as mentioned in Materiality Assessment [중요성 평가]. Moreover, environment-friendly activities should be expanded to operation of MIRECO's own organization.

### ● Practice of Fair Operation

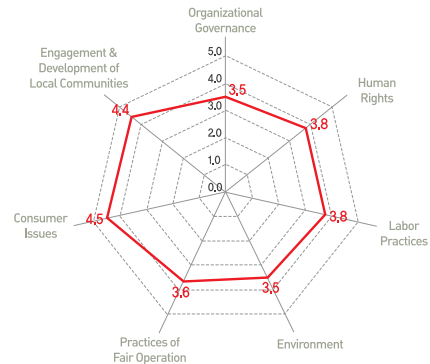
To enter the global mine reclamation market, strategic priority lies in strengthening global competitiveness including signing MOU with related agencies and institutions in resource-rich

## ▼ Social Responsibility Process Assessment Result



Awareness for Social Responsibility	Review the status of the organization based on the commitment of the CEO
Identification and Participation of Stakeholders	Review interests and demands of stakeholders and establish participation strategy
Analysis on Core Subjects & Issue	Prepare a list of issues by reviewing issues and analyzing internal capability
Setting Priorities, Execution Strategy & Plan	Set-up priority of issues, targets and execution plans to improve and manage after considering capability of the organization
Execution	Follow strategies, visions, objectives and execution plans and monitor social responsibility achievements
Communication	Communicate with stakeholders by preparing reports
Verification	Activities and reports to improve credibility of achievement
Improvement	Lead to continuous improvement by reviewing achievement regularly

## ▼ Social Responsibility Achievement Assessment Result



Organizational Governance	Activities to integrate existing system, policy and practices while respecting principles of social responsibility
Human Rights	Activities to protect, respect, comply with and realize human rights within and within the influence of the organization
Labor Practices	Policy and practices, which impact labor environment for the internal organization and partners
Environment	Activities to access comprehensively by considering meanings of decisions and activities of the organization to reduce environmental impacts of the organization
Practices of Fair Operation	Activities to focus on ethical behaviors on deals between the organization and external organizations such as partners, suppliers and etc.
Consumer Issues	Activities to protect consumer rights including consumer education, fair & transparent marketing information & contracts, and promotion of sustainable consumption.
Engagement & Development of Local Communities	Activities to maximize supports and opportunities while recognizing and respecting the rights of the regional society.

countries, particularly emerging countries. It is recommended that policy development for global mine damage management to be encouraged by settling 'Responsible Participation in Politics' while promoting transparency in political participation.

## ● Consumer Issues

The Corporation is executing nationwide mine reclamation projects. If an opportunity is given to explain the status and purpose of those on-going projects, characteristics, and expected effects to clients including the residents in mine abandoned areas via company homepage, it can promote participation of stakeholders.

## ● Engagement and Development of Local Communities

It is advised that MIRECO establish a cooperative system to prepare fundamentals for regional development by providing various communication channels for residents to actually participate in mine reclamation and development projects and

pursuing projects which reflect the needs and characteristics of the local residents.

## ● Final Conclusion

The value of MIRECO's existence heavily relies on the level of its social contribution and evaluation of its stakeholders. KSA hopes that MIRECO will grow into a company recognized and trusted by all of its stakeholders by applying and integrating ideas and principles of social responsibility into the overall organization so that its goal for the public benefit as a mine damage management company can steadily be realized even more based on the ISO 26000 standards.



September 2012  
Korean Standards Association President  
**Chang Ryong Kim**

*Chang Ryong Kim*

Korean Standards Association (KSA), a special corporation duly organized and existing under the Industrial Standardization Laws of Korea in 1962, is knowledge service institution supplying and expanding industrial standardization, sustainable management and KS/ISO certifications to corporations. In particular, KSA is contributing to sustainable development in our society as National Secretary of ISO 26000, GRI Education Institution, AA1000 Verification Institution, Korean Sustainability Index (KSI) Operation Agency, US CDM Operation Agency and Greenhouse Gas Target Management System Verification Institution.



## Statement GRI Application Level Check

GRI hereby states that **MIRECO** has presented its report "MIRECO Sustainability Report (2012)" to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A+.

GRI Application Levels communicate the extent to which the content of the G3.1 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3.1 Guidelines.

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 28 December 2012

  
Nelmara Arbex  
Deputy Chief Executive  
Global Reporting Initiative



The "+" has been added to this Application Level because **MIRECO** has submitted (part of) this report for external assurance. GRI accepts the reporter's own criteria for choosing the relevant assurance provider.

*The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. [www.globalreporting.org](http://www.globalreporting.org)*

**Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 21 December 2012. GRI explicitly excludes the statement being applied to any later changes to such material.



# Reader Survey

**MIRECO** would like to hear your valuable comments.

Please complete the following page and send it to the address or fax number at the bottom. Your comments will be highly appreciated and reflected when implementing sustainability activities and making improvement on the report.

## Q1. Which of the following groups do you belong to?

- ☐ Clients
 ☐ Employees
 ☐ Shareholders
 ☐ Investors
 ☐ Partners
 ☐ Government & Public Officers
 ☐ Industrial Sector  
☐ Academia
 ☐ Press & Media
 ☐ Local Residents & Local Governments
 ☐ Civic & Social Organizations including NGO  
☐ Professional Experts in Sustainability
 ☐ Others \_\_\_\_\_

## Q2. Does this report help you understand the sustainable activities of MIRECO?

- ☐ Very Helpful
 ☐ Helpful
 ☐ Neither
 ☐ Unhelpful
 ☐ Very Unhelpful

## Q3. Which is/are the most interesting part(s) of this report? (You may check more than 1 answer)

- ☐ Introduction of Korea Mine Reclamation Corporation (MIRECO)
 ☐ Comprehensive Mine Damage Prevention Projects  
☐ Regional Development Projects to Assist Economic Autonomy
 ☐ Management for Stability of Coal Energy Supply  
☐ Development of Advanced Technology of Mine Damage Management
 ☐ Global Expansion of Mine Damage Management Business  
☐ Expansion of Sustainable Infrastructure
 ☐ Others \_\_\_\_\_

## Q4. Which is/are the most satisfying part(s) of this report? (You may check more than 1 answer)

- ☐ Introduction of Korea Mine Reclamation Corporation (MIRECO)
 ☐ Comprehensive Mine Damage Prevention Projects  
☐ Regional Development Projects to Assist Economic Autonomy
 ☐ Management for Stability of Coal Energy Supply  
☐ Development of Advanced Technology of Mine Damage Management
 ☐ Global Expansion of Mine Damage Management Business  
☐ Expansion of Sustainable Infrastructure
 ☐ Others \_\_\_\_\_

## Q5. How useful was the information contained in this report?

	Very useful	Useful	Neither	Unuseful	Very unuseful
• Introduction of Korea Mine Reclamation Corporation (MIRECO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Comprehensive Mine Damage Prevention Projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Regional Development Projects to Assist Economic Autonomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Management for Stability of Coal Energy Supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Development of Advanced Technology of Mine Damage Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Global Expansion of Mine Damage Management Business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Expansion of Sustainable Infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Q6. How useful was the information contained in this report?

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
• The contents are clear and easy to understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The contents are well organized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The contents provide useful information on major issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Easy to searching for desired information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The contents are credible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The design is good and helps understand of the contents better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Q7. Please write your comments about this Sustainability Report.





This report has been printed with soy ink on eco-friendly paper.

Mireco



**mireco**  
Mine Reclamation Corp.

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